

**Targeting one Attitude to Change Another:  
Lateral Attitude Change as a Mechanism to Indirectly Influence Evaluations  
of Products, Policies, and Values**

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In accordance with PhD regulations of Bielefeld University some (but not all) of the results presented in Part I of the present thesis have already been published in Linne, R., Glaser, T., Pum, K., & Bohner, G. (2020). Lateral attitude change: Stalking the elusive displacement effect. *Social Cognition*, 38(4), 324-353. For the purposes of the current thesis I have rewritten the report of these Experiments in order to fit the global structure of the text.

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## Summary

Over the course of six experiments (total  $N = 1024$ ) I tested whether the Lateral Attitude Change Model (LAC; Glaser et al., 2015) provided a promising approach to explain indirect (=lateral) attitude change in general. Furthermore, I extended the LAC model and applied it to different domains of attitude change: attitude change toward consumer goods, policies and values. Finally, I discuss the LAC model in its current state and put forward suggestions to modify aspects of the model or overhaul the model entirely.

The LAC model describes different aspects of indirect (=lateral) attitude change with the same set of assumptions regarding underlying processes. According to the LAC model, every attempt to change one's attitude toward a given object results in associative attitude change in line with the influence attempt; this change in evaluation is subsequently transferred to related topics. Subsequently, associative attitude change toward the targeted (=focal) and related (=lateral) topics may be propositionally affirmed. If associative attitude change is confirmed, the result is generalization, that is, explicit attitude change toward the focal as well as toward lateral topics.

According to LAC, there can also be attitude change toward lateral topics if focal attitude change is rejected as a result of additional information that invalidates the initial influence attempt. Associative change to lateral objects may be affirmed, while invalidating information would not be applied to the evaluation of lateral topics. This process is called displacement. The LAC-model further specifies several concepts (e.g., similarity, preference for consistency, and hierarchy) that are assumed to moderate LAC.

In Part I of the present research, I was able to present evidence indicating that focal attitude change toward products generalized to related yet unmentioned products as a function of

similarity to the focal product. Furthermore, one experiment also returned tentative evidence in favor of displacement effects as a result of discrediting a previously presented influence attempt. The same experiment also returned indications for stronger LAC effects when participants' levels of preference for consistency (Pfc) were high. Whereas explicit data were generally in support of most tested LAC assumptions, implicit data were less conclusive.

In Part II, I tested LAC in another domain of attitude change: attitudes toward socially relevant policies and values. Furthermore, I attempted to expand on the original concept of LAC by introducing the process of lateral contrast, describing the notion of indirect effects of a contradictory valence compared to focal effect. In Part II of this thesis I was able to show that focal attitude change toward values such as equality or toward policies such as (gender-related) affirmative action generalized to several related policies. As expected, some results further suggested stronger LAC when the focal object had been a value (vs. a policy) and thus was on a higher (vs. lower) hierarchical level. In addition, I also found some evidence in favor of the theorized lateral contrast, but results were not conclusive. In particular, questions regarding the underlying associative versus propositional processes of lateral contrast could not be resolved satisfactorily. In the final experiment I modelled populist influence as a process of LAC. A right-wing populist source which was rejected by a majority of participants was more influential regarding topics that had not been mentioned in its initial attempt at persuasion. A conservative source elicited a similar effect, albeit with generally more success in changing participants' attitudes.

In general, I found strong evidence in favor of explicit generalization and moderation by similarity. Additionally, the data also returned some evidence in favor of LAC being moderated by Pfc and hierarchy. However, evidence for underlying implicit effects, displacement as proposed by LAC, and lateral contrast was not as convincing.

I discuss implications for the LAC model in its current state as well as potential revised versions of specific aspects of LAC and make suggestions for a complete overhaul of the model.

I conclude that although results show the considerable importance of lateral attitude change in general, there is not enough evidence to accept the LAC model as currently conceptualized. However, some adjustments may allow it to fulfill the promise of being a comprehensive model to explain different expressions of the everyday phenomenon that is lateral attitude change.

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Condition in Experiment 4

### **Targeting one Attitude to Change Another:**

#### **Lateral Attitude Change as a Mechanism to Indirectly Influence Evaluations of Products, Policies, and Values**

Attitude change is an everyday occurrence. An advertisement listing good reasons in favor of a specific product can be successful in changing one's opinion toward it; one might take a liking to a song just because the radio station plays it around the clock; one fantastic day can change the attitude toward a city one had previously disliked. There are many examples of attitude change – and, indeed, more than a few scientific studies on the subject (cf. Albarracin & Shavitt, 2018; Böhner & Dickel, 2011). One of the most influential domains of attitude change is that of politics. At least in democratic systems, attitudes toward policies, toward politicians, and so forth provide the foundation of the process (elections; e.g., Krosnick, 1988; Visser, 1994) that decides leadership and may have consequences for legislation. Therefore, (from a somewhat naïve and simplified point of view) attitudes are quintessential for the decisions deciding how a country is run, and attitude change is the precursor of political change.

In many cases people are aware of their attitudes changing and know who or what is responsible for it. A charismatic politician with appealing policy suggestions can probably be traced to be the source of attitude change (e.g., Pornpitakpan, 2004). Similarly, a product review about a special consumer good may be recognized as the unequivocal source for the attitude change toward the specific product (cf. Li & Zahn, 2011). In other cases, reasons for attitude change are less obvious. The advertisement for a specific product may have also influenced an individual's attitudes toward other products of the same brand. Charismatic politicians may have

influenced not only the opinion toward them but also toward their party; the policy suggestion has the potential not only to change the attitude toward the specific policy but also to related policies, perhaps even related values or ideologies. Attitude change that is not the result of a direct influence attempt is indirect, or, lateral attitude change (LAC; Glaser et al., 2015). For once, LAC encompasses the notion of generalization. Generalization – in the context of attitude change – means a spreading of evaluation (i.e., attitude change) from one topic to another. For example, the above-mentioned politician might argue in favor of banning plastic bags from supermarkets. Although not mentioned, this can also lead to attitude change on related subjects such as introducing a CO<sub>2</sub>-tax. In this specific case, a relation was potentially established by both policy suggestions sharing the superordinate category of environmental policies; attitudes toward policies are inferred from pro-environment values. Of course, LAC is not limited to any specific ideology. Just as attitude change can generalize from one pro-environment policy to another, a right-wing politician degrading immigrants might induce attitude change not only toward immigrants but also toward other minority groups.

Even more interesting than the idea of generalization is the notion that there could be LAC even in the absence of direct attitude change. Very often, people do not want to be influenced. Most people are aware of the fact that the aim of advertising is not to help them make informed decisions but rather to make them buy things they may not even need. Therefore, the attempt to resist the influence of advertising is practically an everyday occurrence, albeit not always a successful one (cf. Tormala & Petty, 2004). In general, many sources of information are distrusted, especially if a vested interest is obvious. In a similar vein, if a politician belongs to an opposed party, people might not want to be convinced by the politician's message, irrespective of the actual message content (cf. Ziegler & Diehl, 2003). Arguably, this approach is further reinforced if political polarization is high or if the source of the message belongs to a party that is

strongly rejected. In these situations, the notion of lateral effects in the absence of direct effects would be especially powerful. Advertising which is rejected could affect attitudes to related products despite recipients' wishes not to be manipulated. Politicians arguing in favor of unpopular policies or from the point of rejected minorities (progressive or conservative) would be able to change attitudes – at least attitudes toward unmentioned subjects.

### **The Present Research**

The aim of the present research is to shed light on processes of indirect (=lateral) attitude change. In 2015, Glaser and colleagues published a proposal for a comprehensive model with the aim to describe and predict different instances of lateral attitude change not only within a specific domain, but rather across all possible domains of attitude change: The Lateral Attitude Change model. Deduced from several empirical works of other researchers, the LAC model describes an assumed process that underlies all different instances of lateral attitude change. In short, according to LAC any influence attempt will lead to associative attitude change toward the targeted (=focal) object. This attitude change toward the focal object will then (a) on an associative level spread to related (=lateral) objects, and (b) be affirmed or rejected on a propositional level. This process can result in either generalization, where attitudes toward focal and lateral attitude objects change in line with the influence attempt on an associative and a propositional level, or in displacement, where propositional attitude change occurs only toward the lateral objects but not the focal object.

Since its publication, some premises of LAC have been tested (Brannon et al., 2019), discussed (e.g., Maris et al., 2016), and used as an explanation in more applied contexts such as lateral attitude change on environmental issues (Cruz, 2019). However, so far, the majority of the specific predictions of LAC have not been tested extensively. Overall, the present thesis comprises two parts. The first part consists of an empirical testing of the most important premises

of LAC within one specific domain – the evaluation of products in an e-commerce context. The second part is based on the assumption that LAC principles can be helpful in understanding attitude change in the domain of social and political attitudes. Therefore, besides testing additional LAC-related hypotheses, the second part examines LAC as a mechanism of attitude change within systems of political attitudes and related values. Before describing LAC itself in more detail, some necessary concepts are discussed.

### **Attitudes and Attitude Change**

At their core, attitudes are psychological concepts describing evaluations of an object of thought (Bohner & Dickel, 2011). The object of thought might be a person, a group, or an abstract idea (Albarracín & Shavitt, 2018). It can be a specific product that one may or may not be interested in, a policy suggestion, a political party, and so forth. To name one specific example, it might be the evaluative judgment of a given person toward a ban on plastic bags in supermarkets. When an object of thought is being evaluated, that is, when positive and / or negative valence is attributed, it is an attitude object. If the attitude object is associated with a solely positive (or negative) valence, the resulting evaluation is positive (negative). If the attitude object is attributed with both positive and negative valence, the evaluation is ambivalent (Priester & Petty 1996; Wood, 2000). While attitudes have been a core concept of (social) psychology for a long time (see Schwarz & Bohner, 2001), definitions of the concept have changed. Whereas early definitions were broad, including cognitive, affective, motivational, and behavioral aspects (e.g., Allport, 1935), more recent definitions have emphasized the evaluative content of attitudes. For example, Bem (1970) described attitudes straightforwardly as “likes and dislikes” (p.14); Petty & Cacioppo (2018) stated that an attitude was “an enduring positive or negative feeling about some person, object, or issue” (p. 7); and Eagly & Chaiken (1993) defined attitudes as “a



psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (p. 1).

Despite the existence of a general agreement on the evaluative nature of attitudes (Bohner & Dickel, 2011), more elaborate conceptualizations of attitudes differ. The most contentious difference in perspectives deals with the conceptualization of attitude representation. The constructionist perspective conceives attitudes as in-the-moment evaluations, based on situationally activated information (e.g., Conrey & Smith, 2007; Schwarz, 2007; Schwarz & Bohner, 2001; Schuldt et al., 2011). The memory perspective (e.g., Fazio, 2007; Petty et al., 2007) conceives attitudes as stored, or crystallized in memory, connected to global evaluations and included the assumption that attitudes can be retrieved if necessary. Hybrid models assume a combination of both perspectives, suggesting attitudes are partly memory based and partly on-the-spot creations (Albarracín et al., 2005; Eagly & Chaiken, 2007; Cunningham et al., 2007) or that some attitudes are memory-based whereas others are situationally created (moderated by attitude strength; Nayakankuppam et al., 2017).

From the viewpoint of LAC there is no need to choose one perspective over the other; indeed, aspects of both perspectives are incorporated (See Glaser et al., 2015). The idea of lateral attitude change, that is, the construction or change of attitudes toward non-targeted objects rather stems from a constructionist perspective. Attitudes toward lateral objects are created as a consequence of a changed context (i.e., focal attitude change). On the other hand, memory processes are also relevant to LAC. For example, a propositional acceptance or rejection of associative attitude change can be influenced by prior knowledge about the subject or the source. While, in the present thesis, I do not attempt to gather support for either position, I follow the basic assumption that (lateral) attitudes are not static but dependent on context and outside influence.

Attitude change can be defined in absolute terms as “movement from one evaluative category to another (e.g., favor to disfavor)” (Albarracin & Shavitt, 2018, p. 4.3) or in relative terms and more broadly as “any change in the evaluation of an object of thought” (Glaser et al., 2015, p. 258). When attitudes are viewed in any applied setting, from advertising to policy making, attitude change is usually the real goal. A company pursues the goal of a more positive evaluation of its products (expecting the behavior to follow suit; see Glasman & Albarracin, 2006), a politician aims for both public and political support for their suggestions. For example, when politicians want to ban plastic bags, they will need support from their peers to push the policy suggestion through and public support in order to exert pressure and to make sure that the policy suggestion does not result in negative attitude change toward themselves. Thus, companies or politicians will make attempts to change attitudes of potential customers or voters.

But how likely is attitude change anyway? Empirically, years of (social) psychological research have shown that attitude change is certainly possible. Whether by persuasion (Chaiken et al., 1989; Kruglanski & Thompson, 1999; Petty & Cacioppo, 1986), evaluative conditioning (Hofmann et al., 2010), embodied evaluation (Niedenthal et al., 2005), or otherwise, attitude change is real. However, this does not necessarily mean it is strong. In their review on attitudes and attitude change, Albarracin and Shavitt (2018) presented effect sizes for explicit and implicit attitude change in field experiments and in the laboratory, gathered in psychological research between 2010 and 2017. In general, effect sizes were small to moderate, indicating that attitude change exists and works as a consequence of experimental manipulation - but only to a limited degree.

From the viewpoint of examining LAC, perhaps the most important aspect of attitude change is the assumed process underlying it. One theoretical account of the processes of attitude change is the Associative-Propositional Evaluation (APE) model by Gawronski and Bodenhausen

(2006a, 2011). These processes, however, are not independent of an assumed structure of attitude representation.

### **Attitude Structure**

Although there have been suggestions (e.g., Converse, 1970, 2000) that attitudes are so inconsistent as to have no more internal coherence “than a bowl of cornflakes” (McGuire, 1989, p. 50), a relational structure of attitudes is generally assumed (e.g., McGuire, 1989). Thus, attitudes are not independent of one another. The underlying assumption is that there are connections between attitudes. Some attitudes “go together”; there is a “gestaltian tenet” (Simon et al., 2004, p. 815) of mutual interactions between pieces of cognition.

Classical network approaches (Anderson, 1983; Collins & Loftus, 1975; cf. Gawronski, 2007, p. 578) represent knowledge as a pattern of relations of cognitive concepts in the form of an associative (semantic; Anderson & Pirolli, 1984) network. The network consists of nodes that represent concepts such as attitude objects which are connected with associated nodes (representing related concepts) via dyadic edges (links). Distances between nodes represent relations between the respective concepts, that is, the strength of association between them. For example, if two attitude objects were closely related, an associative network would display them as two connected nodes within a short distance from each other. Importantly, the edges between nodes “define access paths for traversing a structured knowledge base” (Pirnay-Dummer et al., 2012, p. 3025) and allow for the spreading of activation from one node to another (Anderson, 1983). While usually more broadly conceived with nodes representing objects of cognition (often with a focus on memory processes, e.g., Collins & Loftus, 1975), semantic networks can also describe the structural representation of attitude networks, their weights and interrelations. Indeed, the assumption made by semantic network theories (Anderson, 1983; Anderson & Pirolli, 1984) of a spreading of evaluation from one mental concept (e.g., a focal attitude object) along

edges to another mental concept (e.g., a lateral attitude object) provides grounds for some basic assumptions of the LAC model (see Postulate 2; Glaser et.al., 2015).

Whereas most network approaches represent spatial knowledge structures, Thagard's (2010, 2015) work on Cognitive-Affective Mapping (CAM) focuses on attaching valence (negative, neutral, positive, varying quantity) to each concept. The CAM approach specifies the nature of relations between concepts. According to Thagard (2006, cited after Thagard, 2010) any two concepts might be either supportive or conflictive. For example, "Two goals are supportive if accomplishing one helps to accomplish the other, i.e. one is a subgoal of the other" (p. 79). Supporting vs. conflicting concepts are also defined in terms of affective reactions, two concepts are supportive if positive affect toward one leads to positive affect toward the other and conflictive if positive affect toward one leads to negative affect toward the other.

Furthermore, hierarchical relations between attitude objects can easily be encompassed within network approaches. Indeed, the first (known) semantic network (Porphyry, 300 CE, cited after Sowa, 2015) was a definitional network, representing a hierarchical definition of objects drawing from Aristotelian syllogisms. The network describes what properties of a superordinate category define the subordinate category, for example, rationality divides animals into men and beasts whereas on the next higher level, sensitivity divides animals from plants (Sowa, 2015).

From the viewpoint of connectionist models (e.g., Rumelhart & McClelland, 1986), attitudes are not represented by nodes but rather as a pattern of node activation. Similar to pixels of a TV-screen showing a picture only by their specific configuration, attitudes are states of simultaneously activated units (Gawronski, 2007; Smith & Conrey, 2007). In contrast to semantic networks, similarity is not represented by edges between nodes but by overlapping patterns of activation – similar patterns represent similar concepts (Smith, 1996; cf. van Overwalle & Siebler, 2005).

### **Implicit Attitudes and the APE Model**

Most researchers (e.g., Brownstein et al., 2019; Greenwald et al., 2002; Nosek et al., 2007; but see Kruglanski & Dechesne, 2006; Albarracin et al., 2006) differentiate between explicit and implicit attitudes. Indeed, for an understanding of the LAC model, which explains attitude change via interactions of explicit and implicit attitudes, this differentiation is necessary. Given that hypotheses regarding expected processes underlying LAC draw heavily on the APE model (Gawronski & Bodenhausen, 2006a), I discuss implicit attitudes in conjunction with APE. Nonetheless, the definition of what implicit attitudes actually are is not unambiguous. Some researchers (e.g., Fazio et al., 1995) have dubbed implicit attitudes true attitudes because they reflect participants' response patterns that are less controlled and less influenced by social norms and social desirability. Some researchers (e.g., Banaji et al., 2001; Devos et al., 2012) conceive implicit attitudes as unconscious and not available to introspection. Greenwald and Banaji (1995) defined implicit attitudes as "introspectively unidentified (or inaccurately identified) traces of past experience" (p. 5). For a recent discussions of the nature of implicit attitudes see Brownstein et al. (2019), Gawronski et al., (in press), Corneille and Hütter (2020) and De Houwer et al. (2020).

In the present thesis, I follow the definition of Gawronski and Bodenhausen (2006a) stating that explicit attitudes are based on propositions, whereas implicit attitudes are based on associations.

Taking up two-process models of the mind (e.g., Kahneman, 2003; Strack & Deutsch, 2004; for a metacognitive perspective see Thompson, 2009) that propose the notion of a division of associative and propositional processes, Gawronski and Bodenhausen (2006a) argue that attitudes should be understood on the basis of underlying processing. Therefore, as stated above, explicit attitudes are based on a propositional processes and implicit attitudes are based on

associative processes. Explicit attitudes are obvious to people, they are a given proposition of a positive, negative or ambivalent valence, linked with a truth value declaring the proposition true or false (Gawronski & Bodenhausen, 2006a; cf. Petty, 2006). Implicit attitudes, on the other hand, are viewed as automatic and spontaneous affective reactions based on associative processes, holding neither truth value nor propositions per se. Importantly, according to APE, affective reactions are converted into propositional statements with a positive truth value as the default reaction, thus, while implicit and explicit attitudes are based on different underlying processes, they often converge.

According to Gawronski and Bodenhausen (2006a), the spontaneous affective reactions that characterize implicit attitudes are based on specific associations that are activated when relevant stimuli are encountered. As previously stated, unlike propositional evaluations, associative reactions are independent of truth values. That is, associative evaluation can be activated even when a person considers them wrong. For example, Devine (1989) showed that negative evaluations toward African Americans can be activated even though participants regard them as false. Thus, implicit evaluations are not based on endorsement of a given object as a result of a process of reasoning but rather based on association, that is, the given topic's similarity and spatiotemporal contiguity with a valenced stimuli (Gawronski & Bodenhausen, 2007; Smith & DeCoster, 2000). Associative processing also retrieves information from learned pattern activation. If newly acquired information activates a pattern similar to an already learned pattern, pattern completion might lead to an evaluation of the newly encountered stimulus (c.f., connectionist memories e.g., Rumelhart & McClelland, 1986). For example, when meeting a member of a minority group, the person's skin color might elicit the retrieval of racial stereotypes that have been learned over a lifetime (even if they are propositionally rejected), influencing the associative evaluation of that person.

According to Gawronski and Bodenhausen (2006a, 2007), explicit evaluations are based on propositional reasoning. Following Strack and Deutsch (2004), the authors argue that, first, associative reactions are transformed into propositions: For example, a positive affective reaction toward a steak results in the proposition “I like steak”. Second, syllogistic reasoning is used to test the resulting propositions for validity. Validity is generally assumed to be given if the proposition is consistent with other propositions considered to be relevant for the judgment. For example, the proposition “I like meat” supports the validity of the proposition “I like steak”. Although propositional affirmation of an associative evaluation is assumed to be the default reaction (Gawronski & Bodenhausen, 2006a; Gilbert, 1991), it is not unconditional. For example, an automatic positive affect toward steak might not be affirmed if the person in question also holds inconsistent propositions such as “eating living beings is wrong” and “this steak was once part of a living being”.

Since LAC is an attitude change model, the processes of implicit and explicit attitude change as well as their interplay as proposed by APE are of special interest. First, according to APE, implicit attitude change is equivalent to changes in associative evaluations. Changes in associative evaluations, in turn, are assumed to be changes in the associative structure or a temporal change in the activation of existing patterns. Associative structures are changed by (repeated) exposition to stimulus combinations. Gawronski & Bodenhausen (2006a) cite literature on evaluative conditioning (EC; e.g., De Houwer et al., 2005; Hermans et al., 2005; but see Kruglanski & Dechesne, 2006), which reported that the combination of a given neutral stimulus (conditioned stimulus; CS) with positive or negative stimuli (unconditioned stimuli, US) led to implicit attitude change toward the CS in line with the valence immanent to the US. A temporal change in pattern activation is the result of a changing context. Depending on the situation, different associations are recalled from memory. Contexts such as categorization (e.g.,

athlete or member of a minority), surroundings (e.g., garden vs. prison), social role relations (e.g., superior vs. subordinate roles), motivational states (goal pursuit) and even fictional scenarios change which associations are activated. For example, Foroni & Mayr (2005) showed that telling participants to imagine living in a post-apocalyptic world where flowers are noxious and insects the main food source reverses the usual implicit evaluations of flowers and insects. Depending on activated patterns the implicit attitude toward a given object might change. For more details and literature, see Gawronski & Bodenhausen, 2006a.

According to APE, explicit attitude change is the result of one of three processes. First, explicit attitude change can be the result of changes in associative evaluations. Evaluative propositional judgments are often based on their affective reaction to a given attitude object. Therefore, changes in the affective reaction can also change explicit evaluations. Second, explicit attitude change can be the result of changes in the set of considered propositions. New propositions, such as persuasive arguments that are relevant to the evaluation of an attitude object might lead to explicit attitude change. Third, explicit attitude change can be the result of changes in the strategy to achieve consistency. Cognitive dissonance theory (Festinger, 1957) claims that holding contradictory or otherwise incompatible cognitions leads to significant discomfort. Thus, the aim to reduce inconsistency may lead to a change of explicit evaluations when attitudes are changed to re-establish consistency, that is, by rejecting the propositional implications of associative evaluations (Gawronski & Bodenhausen, 2006a).

Importantly, implicit and explicit attitude changes are not separate systems but may influence each other. While propositional affirmation of associational attitude change is regarded as the default, there may also be other cases. There could be only implicit attitude change, only explicit attitude change or explicit attitude change that induces implicit attitude change (Bohner & Dickel, 2011; Bohner et al., 2008; Gawronski & Bodenhausen, 2006a, Cases 1 to 8).



The basic assumption of APE, that attitude change is based on two separate processes of information processing: associative and propositional processes, provides the theoretical basis for attitude change in the LAC model (see below). Furthermore, some more specific predictions of LAC relate to the interplay of associative and propositional processes.

### **Indirect Attitude Change**

The LAC model examines attitude change toward another attitude object than the object that was targeted. LAC, or “indirect attitude change”<sup>1</sup>, however, is not a novel subject of social psychology per se. Indeed, indirect attitude change effects have been found in several different research areas. For example, researchers on intergroup contact as a means of stereotype reduction found that contact with one group can lead to indirect attitude change toward another group (secondary transfer effect, STE; Pettigrew, 2009; Tausch et al., 2010). In a related domain, the stereotype suppression rebound effect (e.g., Macrae et al., 1994) describes a specific kind of indirect attitude change as a result of deliberate suppression of one negative stereotype (leading to negative stereotypes toward another attitude object).

One domain in which researchers have repeatedly studied indirect attitude change is minority influence. For example, in a meta-analysis, Wood et al., (1994) showed that minorities could elicit indirect influence even in the absence of direct influence. Some of the research on indirect minority influence found evidence that the ingroup status of the source was a necessary requirement (e.g. Self-Categorization Theory; David & Turner, 1996; De Dreu & De Vries, 1996; De Vries et al., 1996). Other research found indirect minority influence even when the researchers did not manipulate group status (Wood et al, 1994; Martin & Hewstone, 2008). While minority influence has its own set of various theoretical explanations, results show that groups

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<sup>1</sup> Indirect attitude change and lateral attitude change can be used interchangeably. Nonetheless, in this section I use “indirect attitude change” because it is the term used by the researchers I cite.

which are unable to wield direct influence, due to being resisted by their targets, are still influential on indirect (lateral) attitude objects. Most explanations of indirect attitude change within the domain of minority influence are based on Moscovici's (1980) proposition that minority influence appears due to conflict (Crano & Prislin, 2006) and elaboration rather than majority consensus.

There are, however, also very specific theoretical accounts. For example, the leniency contract theory (LCT; Alvaro & Crano, 1997; Crano & Alvaro, 1998) states that ingroup minorities will not be derogated (for reasons of group solidarity) and that their message will be elaborated and not strongly counter-argued. Nevertheless, as part of this leniency contract which allows the minority the chance to argue, it is also implicitly clear that nothing will be conceded to the minority. Thus, indirect (but no direct) attitude change occurs because a minority source is listened to and its message is being elaborated and, thus, can indirectly affect related attitudes, whereas focal attitudes are "protected" by the contract.

To sum up, indirect attitude change effects have been found across several domains, they have also been explained with a variety of theoretical approaches.

### **Lateral Attitude Change**

When an attempt to change a person's attitude toward one specific object (the focal object X), such as a specific product or a policy suggestion, results in that person changing their attitude toward another object which is related to the actual target (a lateral object, Y; e.g., another product similar to the one targeted) but was not mentioned in the initial influence attempt, LAC occurs. Therefore, LAC is indirect attitude change. The LAC model (Glaser et al., 2015), however, proposes a specific framework which describes the interplay of associative and propositional processes (see above) underlying different outcomes of LAC across several domains of attitude change. Thus, if proven correct, the LAC model would allow for predictions

of the particular indirect consequences of a given influence attempt. Specifically, the model describes two types of LAC: generalization and displacement. When an influence attempt succeeds in changing the attitude toward the focal object and also results in attitude change toward lateral objects, that process is called generalization. According to LAC, generalization is characterized by implicit and explicit attitude change toward focal and lateral objects.

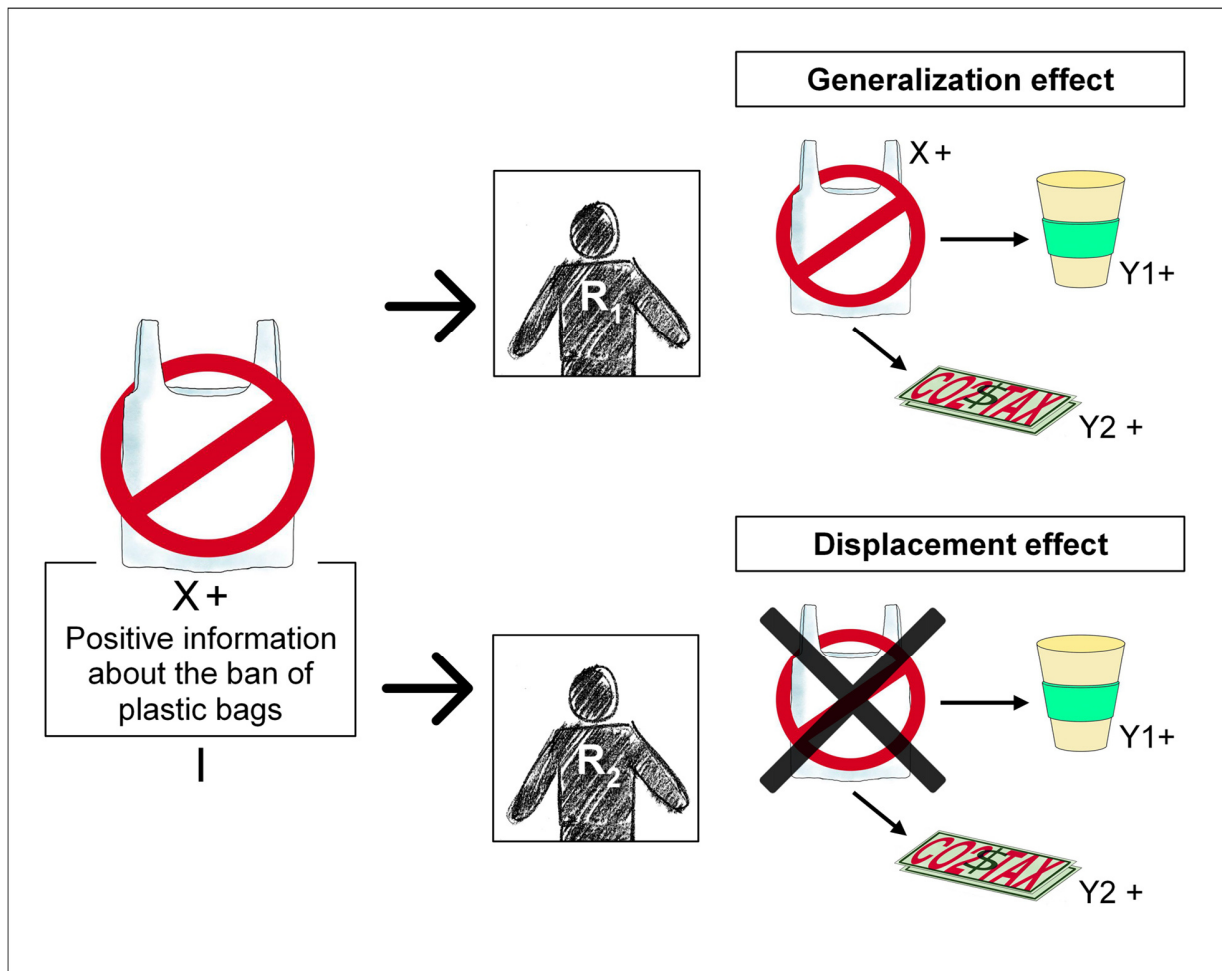
Displacement occurs when an influence attempt fails at producing focal attitude change but results in LAC nonetheless. The LAC model proposes that as for generalization, there is also implicit focal and lateral attitude change for displacement. However, explicit attitudes change only toward the lateral but not the focal object.

For example, one's attitude toward a ban on plastic bags in supermarkets might be challenged by an attempt at persuasion, invoking the bags' negative impact on the environment. On the one hand, the influence attempt might succeed in changing one's attitude toward a ban on plastic bags as their role in harming the environment is accepted as a valid problem; in this case, focal attitude change would occur. On the other hand, the influence attempt might fail, for example, because the source of the persuasion was untrustworthy (e.g., a lobbyist of the paper-bag industry; an environmentalist deemed too extreme) or simply because forgoing plastic bags was just too impractical. In this case, there would be no focal change. Importantly, Glaser et al. (2015) would assume that, in either case, there might be attitude change toward lateral attitude objects. For example, the influence attempt aimed at a ban on plastic bags might also affect attitudes toward reusable coffee mugs (lateral object 1; Y1), or a CO<sub>2</sub> tax (lateral object 2; Y2). In line with the LAC model, I would assume that the positive valence toward a ban on plastic bags, immanent to the influence attempt, would automatically transfer to related topics, independently of the process of accepting or rejecting focal attitude change. If there was a focal change, that is, an affirmation of a positive evaluation of a ban on plastic bags, the attitude change might

generalize to lateral attitude objects. If, however, there was no focal attitude change toward a ban on plastic bags, there may still be an automatic spread of the evaluation, immanent to the initial influence attempt, to reusable coffee mugs and a CO<sub>2</sub> tax. Therefore, explicit lateral attitude change might occur even in the absence of focal attitude change (Figure 1).

**Figure 1**

*Generalization and Displacement*



*Note.* Recipients (R1 and R2) receive information (I) about the benefits of a ban on plastic bags (X).

R1 propositionally affirms the associative attitude change which results in a focal effect and generalization to lateral objects (reusable coffee mugs, Y1; a CO<sub>2</sub> tax, Y2). R2 rejects the influence attempt and retains their initial attitude toward X. However, associative attitude change is automatically transferred to Y1 and Y2, resulting in explicit attitude change toward Y1 and Y2, thus a displacement effect.

### *Attitude Generalization and Displacement*

Attitude generalization is not a novel concept and there are numerous reports of findings in the literature. Besides examples of generalization in “indirect attitude change” as described above, generalization effects can, for example, also be found in research on evaluative conditioning (EC; De Houwer, 2007). Firstly, EC describes a transfer of evaluation from a US to a CS, which in itself can be viewed as a generalization. Furthermore, there is also evidence showing that attitude change toward the CS generalized to other stimuli that were not part of the conditioning procedure but were pre-associated with the CS (Walther, 2002), only allegedly associated with the CS (Gast & De Houwer, 2012) or similar in appearance to the CS (e.g., morphed faces; Verosky & Todorov, 2010, 2013). For further examples of generalization see Glaser et al. (2015).

While there is plenty of evidence in favor of generalization, there is far less evidence in favor of the suggested displacement effects in literature. In the previously mentioned research by Alvaro and Crano (1997) on their proposed “leniency contract”, an ingroup minority failed to elicit attitude change toward, for example, the topic of gun control when arguing about gun control. However, the minorities’ arguments resulted in participants’ attitude change toward a lateral topic (e.g., allowing gay men to serve in the military). Described in LAC terms, participants rejected focal attitude change because they did not want to be associated with the source. However, LAC as a function of associative generalization (not tested by Alvaro & Crano, 1997) occurred nonetheless as the reason to reject focal attitude change was not applied to lateral topics.

Another study which can be interpreted as an indication of displacement was conducted by Steele and Ostrom (1974). In their study, participants were asked to assume the role of a judge and sentence the offenders in two criminal cases. Participants received no information apart from

a case file to judge the first case. However, afterward they were told that a professional judge had passed a very harsh sentence. Following this information, participants were asked to make another sentencing decision on the first case and then judge a second case (without receiving any further information). Steele & Ostrom (1974) reported that participants judged the second case significantly more harshly than the first case. From the perspective of LAC, the first case can be viewed as the focal object and the second case as the lateral object. Whereas Steele and Ostrom (1974) regarded the result as a shift in perspective, in line with LAC (Glaser et al., 2015), I rather interpret the result as participants' rejecting an obviously extreme influence attempt (the judge's ruling). Following the rejection of the influence attempt, participants did not exhibit focal attitude change. However, the rejection of the persuasive attempt pertained only to the first case. Thus, reasons to reject the influence attempt were not applied toward the judgment to the second case allowing for a displacement effect.

### ***LAC Postulates***

The authors of The LAC model suggest that the same basic principles can explain all examples of LAC, generalization and displacement, found in existing literature. These principles are based on the theorized interplay of associative and propositional processes underlying attitude change (APE; Gawronski & Bodenhausen, 2006a) and are formulated within six postulates (Glaser et al., 2015). The primary focus of the present research is on basic LAC processes as described in Postulates 1 to 3 as well as on some additional factors expected to moderate LAC. Nonetheless, as I occasionally also refer to LAC Postulates 4 to 6, all six Postulates are described below.

The first Postulate states that any influence attempt which targets the focal attitude object X can lead to implicit attitude change toward the focal object X. Perception of the influence attempt (e.g., persuasion, conditioning) will produce an association of the focal object with the

valence incorporated in the influence attempt. For example, the attitude object “a ban on plastic bags” will be associated with the positive valence immanent to an environmentalist’s attempt at persuasion. Postulate 2 states that the (changed) evaluation of X would automatically spread to objects that are associated with the focal object, that is, to the lateral objects Y1, Y2, Y3, and so on. Therefore, Postulate 2 describes associative generalization; implicit lateral attitude change occurs, which should become evident on implicit attitude measures. As a result of the spreading of evaluation, the attitude objects “reusable coffee mugs” and “a CO<sub>2</sub> tax” are then also associated with the positive valence immanent to the initial persuasion. According to the combined Postulates 1 and 2 every influence attempt will result in attitude generalization at an implicit level. This associative generalization is the basis for explicit LAC.

Postulate 3, the most central Postulate of LAC, states that although the implicit evaluation of a focal attitude object is an automatic reaction to a valenced influence attempt, this attitude change may be deliberately affirmed or rejected. Propositional thinking about the focal object may affirm or reject implicit attitude change toward X, resulting in an (un)changed explicit attitude. Thus, the spontaneous affective reaction toward X may be converted into a propositional statement with a positive truth value. In the case of LAC, affirmation of associative focal change would result in a generalization effect, that is, explicit attitude change toward the focal and toward lateral attitude objects and is considered to be the default case. Nevertheless, propositional thinking may also result in a rejection of the automatic evaluation of X. There might be a reason why an automatic evaluation is not being affirmed, for example, when the source of the influence attempt is perceived as being untrustworthy (cf. Alvaro & Crano, 1997). Newly acquired or retrieved knowledge may be used to update the evaluation and, thus, reject implicit attitude change.



If the associative evaluation of X is propositionally rejected, the result may be a displacement effect. Explicit attitude change toward the lateral objects occurs as a function of associate generalization but, as a result of rejection, there is no attitude change toward the focal object. Importantly, information that pertains to the affirmation or rejection of implicit attitude change toward X is less likely to result in a propositional rejection of implicit attitude change toward lateral objects because it relates not to the lateral objects but solely to the focal object. However, whether invalidating information regarding X may also influence lateral attitude objects to any extent depends on the similarity between X and the lateral objects, Y1, Y2, and so on (see Moderators). For example, the information that the person trying to dissuade someone from using plastic bags was a paper bag salesman does not relate to the evaluation of a CO<sub>2</sub> tax, which is a comparatively dissimilar attitude object.

Information that invalidates the automatic evaluation as X is regarded as propositional negation which, according to APE, is expected not to produce new associations (Gawronski & Bodenhausen, 2006a, Case 4). Thus, rejection of attitude change toward X is not expected to produce another implicit spread of evaluation to lateral objects, which might be the case if the invalidation led to a novel association of X with valence immanent to the rejection-information. Therefore, negation should not result in a generalization of the negation's content but rather in an elimination of (explicit) attitude change toward the focal object; this would consequently allow for displacement effects.

On an explicit level, whether generalization or displacement occurs depends on propositional processing of the automatic evaluation of X. For example, if individuals receive positive information about a ban on plastic bags, their attitude toward banning plastic bags may change in line with the influence attempt if there is no reason to reject the affirmation of associative attitude change. Evaluations of the lateral objects of reusable coffee mugs and a CO<sub>2</sub>

tax may also change and become more positive as associative changes are declared valid; there would be a generalization from X to Y. However, the attitudes toward a ban on plastic bags might not change if the environmentalist arguing in favor of it was deemed untrustworthy and therefore associative attitude change was rejected. Whether lateral attitude objects were evaluated more positively as a result of the initial (positive, focal) persuasive attempt, would depend on the relation of the focal and the lateral objects. Since the environmentalist was not mentioning either lateral topic, it is possible that reasons to reject X were not applied to Y1 and Y2 and hence attitude change toward Y1 and Y2 would not be rejected. However, the close semantic relation between X, a ban on plastic bags, and Y1, the use of reusable coffee mugs, might result in persons applying reasons to reject X also rejecting Y1. In the case of these specific topics, both X and Y1 represent individual solutions to protect the environment. If attitude change toward X was rejected because of the believe that individual solutions were ineffective, this reason might transfer to also rejecting Y1, but not to Y2 which represents a solution on a societal level. Thus, there would be no focal attitude change, no lateral attitude change toward Y1 but a displacement effect regarding Y2 because the reason to reject associative attitude change toward X was not applied to Y2.

To sum up the first three postulates: First, as a result of an influence attempt, an X-valence association is formed (Postulate 1). Then a Y-X-valence association is formed (Postulate 2). Subsequently, propositional processes either affirm or reject these valence associations (Postulate 3).

Postulate 4 states that the deliberate decision to affirm or reject the automatic evaluation of X may trigger motivational or cognitive processes that can influence the evaluation of the lateral objects (Glaser et al., 2015). Thus, the invalidation of the attitude change toward X might affect the evaluation of Y even though participants are assumed not to be able to trace their

evaluation of Y back to the invalidation itself. For example, a deep elaboration of the pros and cons of the use of plastic bags might bring novel thoughts to light, which, in turn, can affect the evaluation of a CO<sub>2</sub> tax. Postulate 5 states that if individuals become aware of changes of the automatic evaluation of Y they might affirm or reject the evaluation on a propositional level. Similar to the processes described in Postulate 3, for Postulate 5 affirmation is also seen as the default result. This expected default outcome is even more likely because of the fact that reasons to reject attitude change specifically aimed at the focal evaluation might not be valid for Y. Nevertheless, processes of propositional reasoning might still lead to an invalidation of attitude change toward Y, for example when there were opposing propositions stored in memory (cf. Gawronski & Bodenhausen, 2006a, Case 5). Finally, Postulate 6 states that, similar to the sleeper effect (e.g., Kumkale & Albarracin, 2004), reasons to reject focal attitude change might be forgotten over time. Thus, displacement effects might turn into delayed generalization.

### ***Processes Underlying Generalization and Displacement Effects***

The assumption of a spreading of evaluation is based on the cognitive representation of attitudes. According to semantic network theory (e.g., Anderson, 1983), nodes, which may represent attitude objects, are connected with each other via associative links (edges). Activation of a node spreads to related nodes, depending on the closeness of the edges connecting them (Postulate 2). According to connectionist network theory (e.g., Smith & Conrey, 2007), similar objects share overlapping patterns of activation. Evaluations of one pattern can be derived from evaluations of a pattern with overlapping activations (Smith, 1996). On a propositional level, generalization can be inferred from several theoretical models. Consistency theories (e.g. Festinger, 1957<sup>2</sup>) state that people are motivated by the goal to achieve consistency among

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<sup>2</sup> For a discussion on whether cognitive consistency is an associative and propositional or a purely propositional phenomena, see Gawronski & Strack (2012) and Greenwald et al. (2002).

cognitions. When one cognition implies the opposite of another, the need to reestablish consistency between them emerges. In terms of LAC, attitude change toward one attitude object might result in inconsistency and lateral attitude change would provide a means to reestablish equilibrium. Furthermore, according to the unimodel of persuasion (Erb et al., 2003; Kruglanski & Thompson, 1999), all attitude change is a result of syllogistic reasoning. When new knowledge is evaluated, prior knowledge is used to match the novel evidence. Since the activated prior knowledge might also be of relevance to the evaluation of any lateral attitude object, changes toward X might also generalize to Y. Furthermore, when attitude objects are related hierarchically, the evaluation of the attitude object on a higher hierarchical level (e.g., the value unity with nature, cf. Sagiv & Schwartz, 2007) can also pose as the premise relevant to evaluate lateral attitude objects (e.g., the use of plastic bags in a supermarket).

Importantly, according to Gawronski and Bodenhausen (2006a), associative and propositional processes are interrelated. When associative generalization occurs as a result of associative links between attitude objects, propositional processes are used to evaluate whether the attitude change is valid or invalid. Additionally, propositional processes such as persuasion may result in associative attitude change which might then spread along associative connections to related attitude objects.

### ***LAC Moderators***

The LAC model features several moderators which are presumed to influence the quality and quantity of generalization and displacement.

**Similarity (Strength of Association).** The LAC model includes the assumption that generalization and displacement are moderated by the strength of association between focal and lateral attitude objects. The occurrence of LAC as a result of an influence attempt aimed at X depends on the association between X and Y. In general, associations between X and Y may be

based on various kinds of relation such as spatiotemporal contiguity (e.g., Walther, 2002) or shared category membership (e.g., Crawford et al., 2002; Glaser & Kuchenbrandt, 2017). For the purpose of the present thesis, strength of association will be represented by similarity (e.g., Verosky & Todorov, 2013) between the focal and lateral objects. Similarity can be measured by the magnitude of feature overlap of focal and lateral attitude objects (Fazio et al., 2004). Furthermore, subjective judgments of similarity, while not necessarily corresponding to context-independent objective measures (cf. Tversky, 1977), are also relevant to participants' consistency in behavior (Furr & Funder, 2003). In order for any kind of LAC effects to occur, there has to be an association between attitude objects; after all, lateral attitude objects are per definition related to focal objects. The extent of lateral attitude change, however, is a function of the strength of association between the focal and lateral objects (Glaser et al., 2015).

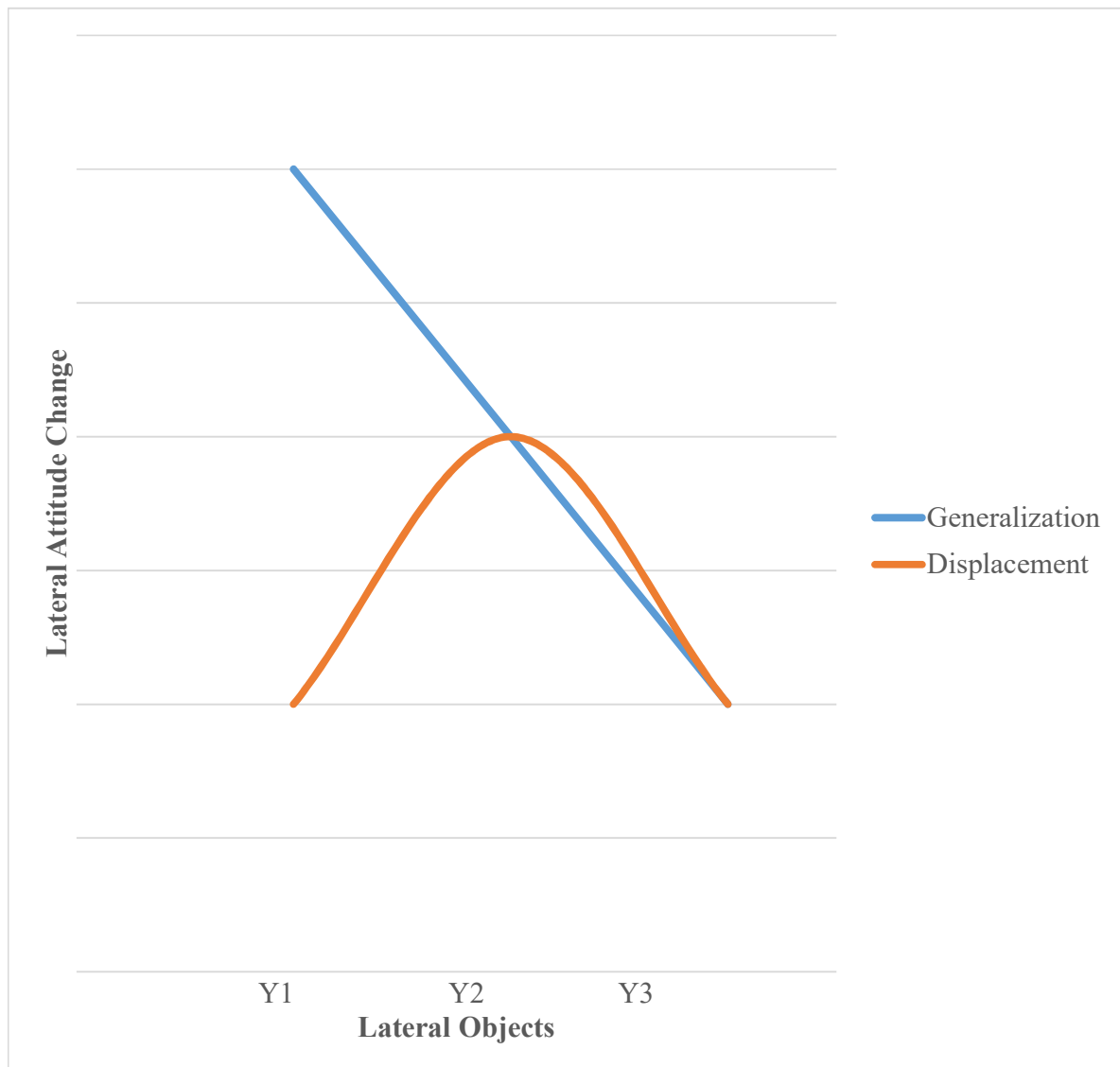
For generalization, predictions are straightforward. Higher similarity, thus higher strength of association, between focal and lateral attitude objects is expected to result in stronger generalization from X to Y. Thus, a linear effect is predicted; generalization to lateral objects decreases with declining similarity to the focal object (Figure 2). The higher the similarity the higher the likelihood of generalization. Indeed, previous research reliably showed stronger generalization to more (vs. less) similar objects (e.g., Crawford et al., 2002; Pettigrew, 2009).

For displacement, however, predictions are different. Instead of a linear relationship between similarity and lateral attitude change, I expect the strongest LAC toward a lateral object of medium similarity to the focal object and smaller effects for objects of high similarity and low similarity, respectively. Thus an effect pattern resembling an inverted U-shaped relationship (Figure 2) should emerge. The rationale for this prediction is that lateral objects which are very similar to focal objects are also likely subjected to reasons to reject the focal object. If X and Y1 are very similar, a person's reasons for resisting focal change may also apply to the lateral object,

which would then be affected in a similar way. As illustrated above, if attitude change toward a ban on plastic bags is rejected, the same reasons might also be applied to evaluations of reusable coffee mugs but not necessarily to the less similar CO<sub>2</sub>-tax. On the other hand, if similarity is very low, there would be little associative spreading of evaluation in the first place and LAC would also be unlikely. Therefore, in line with LAC (Glaser et al., 2015), I expect the strongest displacement effects for lateral objects of moderate similarity to the focal object.

**Figure 2**

*Hypothesized Generalization and Displacement as a Function of Similarity*



*Note.* Y1 represents a lateral topic very similar to the focal topic, Y2 a moderately similar topic, and Y3 a barely similar lateral topic.

**Hierarchy of Focal Change.** According to LAC, the hierarchical level of focal change is assumed to moderate LAC effects. Focal effects on higher (vs. lower) levels of attitude-hierarchy are expected to induce a stronger spread of evaluation. Importantly, the assumption of hierarchy does not exclude the notion of laterality. In terms of LAC, objects are lateral if they are being associated with each other, no matter what their hierarchical relation may be. Besides creating association and thus similarity via the creation of a superordinate category, the LAC model assumes hierarchy (or rather: a hierarchical level of focal change) to be a moderator of lateral attitude change, independent of similarity (Glaser et al., 2015). Specifically, symmetry of effect size is assumed to depend on hierarchical level of attitude change. If focal and lateral attitude object are on the same level of hierarchy, lateral effects should be equal when the target of the manipulation is switched, thus symmetric. In the case of different hierarchy levels, however, LAC assumes stronger downstream (if the focal object is on a higher hierarchical level than the lateral object) than upstream (if the focal object is on a lower hierarchical level than the lateral object) spreading of attitude change, hence asymmetrical effects. In general, I define higher-order structures as concepts that (a) form a superordinate category and, (b) are used as a basis of evaluation for lower-order attitude objects (Wyer & Srull, 1986). Although this definition is, for now, admittedly slightly circular, it does allow for the identification of higher-order concepts as well as the application of LAC premises. Definitions that are more specific might be drawn from the assumptions of the characterization of hierarchy within the underlying attitudinal structure.

On the one hand, ideologies are one example of a higher-order object (Glaser et al., 2015). Ideologies are regarded as the consequence of an underlying network of interrelated attitude objects of positive and negative valence (Conover & Feldman, 1981, Jost et al., 2008, Thagard, 2015). To illustrate this, if individuals are in favor of banning plastic bags and introducing a CO<sub>2</sub> tax but against coal power, they are environmentalists; the ideology emerges from underlying



attitudes. It is, however, unclear whether the structuring function of ideology, hence the expression of the ideology itself, is generally salient to people (Converse, 2006; Feldman, 2003; Jost, 2006; Jost et al. 2008; McGuire, 1986). For example, even if certain individuals are in favor of banning plastic bags but against coal -power, they do not necessarily consider themselves to be environmentalists. Salience, however, might constitute the representation of ideology as a linked node within an associative network. This representation, in turn, may lead to stronger LAC effects when inferences from a salient ideology can be drawn to evaluate related attitude objects.

Values on the other hand, are another higher-order concept but one which is not defined by an attitude structure. Values are viewed as having an effect on evaluations of several related lower-order attitude objects (Feldman, 2003), they are trans-situational guides (Schwartz & Bilsky, 1990) providing the premise and support for the evaluation of related objects (Bernard et al., 2003; Rohan, 2000; Rokeach, 1973). The reasoning here is that values are not only part of the cognitive structure underlying an attitude (Blankenship et al., 2012), they are central within cognitive networks (Bernard et al., 2003; Thargard, 2015). Thus, while also classified as higher-order concepts, their assumed cognitive representation is different to that of ideologies. Values are salient distinct concepts related to other concepts (related attitudes), hence, they are a part of an associative network; ideologies emerge from a network of attitudes without necessarily being salient themselves.

Additionally, higher-order structures themselves can also be derived from other structures. For example, more specific ideological constructs such as Social Dominance Orientation (SDO; Pratto et al., 1994) can be derived from more broadly defined ideologies (e.g., Social Darwinism, cf. Pratto et al., 1994; fascism, cf. Duriez & van Hiel, 2002). These, in turn, as many researchers have argued are ultimately derived from underlying values (e.g., Rokeach, 1973; cf. Tetlock, 1986) or moral foundations (Graham et al., 2009; cf. Homer-Dixon et al.,

2013; cf. Jost et al., 2009). In terms of LAC, I assume gradients of effects, depending on the hierarchical level of the focal effect. The more an evaluation can be derived by consideration of the related higher-order concept, the stronger LAC effects from focal change on the higher object toward lower attitude objects should be.

From the viewpoint of connectionist models, a set of representations that overlap allows for the construction of prototypes (Smith, 1996). Repeated activation of connections representing different attitude objects reinforces connection weights for a shared core of units and connections. This representation (core) forms a stable prototype defining the similarity of attitude objects, that is, the central features shared by the involved attitude objects. Similar (novel or known) attitude objects, in turn, can be evaluated on the basis of overlap with the prototype (Smith, 1996), creating generalization from prototype to attitude object. Generally, any generalization via similar evaluation of partly overlapping features (representation of concept similarity) is possible. Nevertheless, more stable, prototypical patterns of evaluation form the basis of evaluation of similar inputs, indicating stronger generalization effects from higher (i.e., more stable, prototypical) to lower hierarchically represented patterns of activation.

Early work on attitude organization by McGuire (1960) proposes attitude relations via syllogistic propositions. For example, the proposition that “A; if A, then C; C” leads to the belief in C being a function of the belief in the premise that A is true, and if A is true, then C is true (Wyer & Albarracin, 2005). Although there might be other reasons (reflected in another set of premises; Wyer, 1970) that C was true, the assumption that the evaluation of C is a function of the belief in A supports the notion of a moderation by hierarchy as suggested. Higher-order attitude objects provide the premises that define an appropriate basis of decision-making. For example, a negative attitude toward slavery might be based on the proposition that all people are

equal, which is based on the notion that equality is good. Changes toward equality would therefore spread to an attitude object (the attitude toward slavery) based on its premises.

To sum up, I assume stronger LAC effects from higher-order concepts to lower-order attitude objects via associative and propositional pathways. Propositionally, this is a logical conclusion: changing an evaluation toward a concrete attitude object because of attitude change toward, for example, an ideology or a value. When the evaluation of the lower-order attitude objects is based on premises defined by higher-order concepts, other conclusions are drawn when the premise changes. Inversely, attitude change toward the lower-level attitude objects does not change the premise for the evaluation of the higher-order attitude object. On an associative level, connectionist modeling suggests that evaluations of more concrete attitude objects are part of an overlapping activation pattern of higher-order concepts, thus activation on a higher-order level should generalize faster and more strongly to lower-level attitude objects than vice versa. Automatic activation of affect relies on spontaneous activated representation, whereas propositional thinking might lead to an intentional activation of additional representations (Conrey & Smith, 2007).

Regarding the spread within semantic networks, two approaches represent viable conceptualizations. First, there may be an assumed directionality (but cf. Simon et al., 2004) within the edges connecting the nodes (from higher- to lower-order object). Second, the centrality of higher-order concepts results in a generalization to a variety of attitude objects. Therefore, LAC effects on several (potentially related) lateral attitude objects can be expected, increasing the pressure to change the attitude toward the lateral attitude object in question in order to regain consistency.

**Preference for Consistency.** Another moderator of LAC proposed by Glaser and colleagues (2015) is the individual's preference for consistency (Pfc). Theories proposing that a

need for consistency (or balance) among attitudes, behaviors, beliefs and so on was a central human motivation were among the most influential theories of early (social) psychology (e.g., Festinger, 1957; Heider, 1946; Osgood & Tannenbaum, 1955; Rosenberg, 1956). According to consistency theories, conflicting cognitions (or behaviors) would induce aversive feelings of dissonance, and, as a consequence, a striving toward reestablishment of consistency. In order to achieve consistency, people would change their attitudes, beliefs, perceptions and actions (Cialdini et al., 1995).

While originally conceived as a basic motive of human existence and supported by many studies reporting dissonance-related effects, failed attempts of replication suggested that the effect of consistency might not be as universal as previously assumed (Cialdini et al., 1995). Cialdini and colleagues (1995) suggested that PFC while being a powerful effect varied interindividually with the resulting error variance being a potential reason for problems of replicability. As a consequence of this interpretation, Cialdini et al. (1995) developed a PFC-scale and were able to present evidence which suggested that PFC can indeed be viewed as personality trait which can also be reliably measured. Specifically, they found that some individuals (high-PFC) weighted prior information heavily in order to make sure that responses to novel stimuli were consistent whereas others (low-PFC) were far less constrained by established information. Results also suggested the importance of the salience of consistency, effects were strongest when the consistency motive had been made salient.

In terms of LAC, attitudes toward focal and lateral attitudes are part of a cognitive system. If focal attitudes are changed as a result of an influence attempt, there may be inconsistency as related objects are evaluated differently. Following this line of thought, by aligning the evaluations of lateral to focal objects, LAC might thus function to re-establish consistency. If LAC were a way to re-establish consistency it should be stronger if there were a higher need for

consistency. Thus, I assume that the need to reconcile contradicting attitudes, the need for consistency moderates LAC: The higher a preference for consistency, the stronger the effects of LAC will be.

Indeed, there is evidence, suggesting that PFC (Cialdini et al., 1995) moderates LAC as an individual difference variable. For example, in a study by Heitland and Bohner (2010) positive attitude change toward integrated housing for Turks and Germans generalized and Turks were evaluated in a more positive manner in general. This generalization effect was stronger for participants high (vs. low) in PFC. On the other hand, a novel study testing LAC in the domain of environmental issues failed to find statistically significant effects for PFC as a moderator of LAC (Cruz, 2019).

To sum up, so far there is mixed evidence of (measured) PFC moderating generalization. In the present research, I aimed at further examining PFC as a moderator of generalization and also test whether PFC would moderate displacement. Furthermore, in order to be able to draw causal inferences about any effects PFC might have with regard to LAC, PFC was manipulated experimentally. While, to my knowledge, no experimental manipulation of PFC has been conducted, there is ample evidence regarding other individual difference variables. For example, need for uniqueness (e.g., Imhoff & Erb, 2009; Lantian et al., 2017), self-focused attention (e.g., Ingram et al., 1988), and need for closure (e.g., Pierro et al., 2003) have all been successfully induced experimentally.

**Diagnosticity.** The diagnosticity of the focal attitude is assumed to strengthen LAC effects; if there is attitude change toward a highly (vs. scarcely) diagnostic attitude, the likelihood of transfer to lateral attitudes is increased. There is ample research that negative information such as angry faces (e.g., Horstmann & Bauland, 2006; Öhman et al., 2001) is recognized faster because it indicates the existence of a threat. Thus, negative (vs. positive) information may be

more diagnostic. The higher diagnosticity of negative information (cf. Baumeister et al., 2001) is assumed to be the result of an evolutionary process of adaption; if one avoids a positive stimulus, one might miss out on something good, if one fails to avoid a negative stimulus one might die. Following this line of thought, a lateral attitude object related to a highly diagnostic focal object might also be considered more relevant than a lateral object related to a less diagnostic object. This should increase the importance, hence the likelihood, of generalization (Glaser et al., 2015; but see Cone & Ferguson, 2015).

**Processing Effort.** Research on persuasion has shown that greater processing effort of a convincing message leads to stronger (focal) attitude change in line with the persuasion attempt (e.g., Bohner et al., 1995; Kruglanski & Thompson, 1999). First, this might lead to stronger lateral effects as a function of stronger focal effects. Secondly, deeper processing also leads to reinforced attitude strength (Petty & Cacioppo, 1986), which in turn has been shown to strengthen generalization (Blankenship et al., 2012, Fazio et al., 2004). Concerning displacement effects, hypotheses are less straightforward. Glaser et al. (2015) argue that greater effort in defending the focal attitude might lead to the perceiver losing sight of the lateral attitude object. This may lead to (a) a focus on the positive aspects not touched by the attempt to invalidate the attitude change and (b) less application of reason to reject the focal object toward the lateral attitude objects.

The present research is primarily focused on testing the moderators: strength of association (all experiments), preference for consistency (as an experimental condition in Experiment 3, as a trait variable in Experiments 5 and 6), and hierarchical level of focal change (Experiments 4, 5, and 6). Furthermore, attitude strength was assessed and discussed in Experiments 4, 5, and 6.

### *Lateral Contrast*

The LAC model, in its current state, describes two processes of lateral attitude change: generalization and displacement. Generalization describes implicit and explicit attitude change toward focal and lateral attitudes objects. Displacement describes implicit attitude change toward focal and lateral attitude objects and explicit attitude change toward lateral objects only. It is, however, also conceivable that there is a third process: lateral contrast. That is, similar to generalization, attitude change toward the focal object also induces lateral attitude change. Unlike generalization, where attitude change is expected to be unidirectional concerning the initial information as well as both focal and lateral attitude change, lateral contrast would be defined by a lateral effect in the direction opposite to the focal effect. While not yet theoretically elaborated and integrated into LAC, there are many examples of lateral contrast effects. For example, in politics, gaining a more favorable view of the political right might also lead to a less favorable view of the political left and vice versa. If one gains a more positive view of regenerative energies, it is likely that one also develops a distaste for coal-fired power plants. If individuals lose faith in conventional medicine, they do not necessarily turn to alternative medicine, but it may increase the likelihood of their starting to drink herbal teas and take homeopathic remedies.

So far, it is unclear what kind of relations between attitude objects might allow for such lateral contrast effects. Following Gawronski and Bodenhausen (2006a) all relations are –on an implicit level – associations and as such per se positive. A negative implicit attitude toward a given object is the result of an activated negative association. An example of this is EC (De Houwer, 2007). Repeated pairings of a previously neutral attitude objects with a (e.g., negative) valenced stimuli result in the previously neutral object being associated with the negative valence. After the EC-procedure encountering the previously neutral object will elicit spontaneous negative affect. Importantly, there is a pairing with a negative stimulus and not a

negative pairing with a positive stimulus. Stimuli being associated means that encountering one will lead to the activation of the other (or the valence immanent to it).

Indeed, on an associative level, a concept of negativity in the sense that the association itself were of such a quality that valence loading would be reversed makes no sense unless additional information about the relation is provided (which would be propositional information, cf. De Houwer et al., 2020). The concept: “a” appears with “b” cannot reasonably be countered with: if “a” appears, then there is no “b”, but only by: if “a”, then “c” (Deutsch et al., 2006; Gawronski et al., 2008). Thus, unless qualified by information about the relation of “a” and “b”, the activation of “a” leads either to “b”, or, if there are other associations, to “c” but not to a different quality of “b”. Therefore, a spreading of evaluation along the lines of associations would produce similar effects on all focal as well as lateral attitude objects in question, because there is nothing about the relation itself that might influence the direction of the newly associated valence immanent to the influence attempt. Indeed, it is assumed that “the principles of similarity matching determine the activation of associated concepts regardless of whether the activated link is considered valid or invalid” (Gawronski & Bodenhausen, 2014, p. 190).

For example, if a persuasive attempt succeeds in attaching a negative valence to the ban on plastic bags this might result in associating the negative valence with a (negatively) associated attitude object such as plastic wrapped foodstuffs. This example, however, adds another layer of complication, as the focal object itself is a negation (a ban on...), therefore an association might be formed with ‘plastic bags’ and not with their ban. On an associative level, I would therefore assume that the valence immanent to the influence attempt would generalize to lateral objects independently of the nature of the relation. If a ban on plastic bags was endorsed, this positive valence might spread to lateral objects associated with “a ban on...” (e.g., a ban on drinking straws) but potentially also to lateral objects related to plastic bags (e.g., paper bags, plastic



cups). Assuming a positivity of associations, the result would always be an evaluation of the lateral object in line with the focal object.

On the other hand, there is also some indication that contrast effects might rest upon negative associations. For example, research on distrust (Mayo, 2015; Schul et al., 2004) points to automatic processes as possible explanations of contrast effects. Mayo and her colleagues showed that when participants were put in a distrust mindset, the activation of the concept representing the obvious interpretation of a given prime is blocked. Instead an alternative, that is, an incongruent concept, is activated. According to the authors, this process is automatic. A distrust mindset leads to the attenuation or elimination of accessibility effects while alternatives are spontaneously activated (e.g., an ad for the brand “Coke” activated the brand “Pepsi”; Mayo, 2015; Kleiman et al., 2015). The authors’ assumption is that the usually congruent flow of processing as a basis of affirmation as default (Knowles & Condon, 1999) is changed when people are afraid of deception. The suspicion is assumed to lower the activation of the congruent concept, activation instead spreads to an incongruent alternative (cf. Deutsch et al., 2006; Mann & Ferguson, 2015).

The research conducted by Mayo (2015) suggest the existence of (in)congruent associations, thus a specific quality of automatic object relations. Of course, activation of incongruent objects is not the same as contrasting evaluation. Nevertheless, it is not far-fetched to assume that a spread of evaluation to incongruent attitude objects was only possible if there were attitude relations of a negative quality that could be activated automatically; “a” and “c” are connected because they are contradictory. This would also be in line with the CAM (Thagard, 2010), which defines relations between objects as either supporting or conflictive. In the case of the latter, the relation (edge) itself might be responsible for a lateral contrast effect. Furthermore, since Mayo (2015; and Schul et al., 2004, Kleiman et al., 2015) assumes the basis of the process

to be automatic, lateral contrast as a derived effect should be visible on implicit measures. It is, however, important to note that the research by Mayo and colleagues was specifically conceptualized for the domain of distrust and was tested neither on attitudes nor by assessing implicit measures.

Besides the concept of simple associative structures which entail association only as parallel activation, there are also suggestions of more complex (multi-layered) associative structures which include relational labels that can be added to a relation (cf. De Houwer et al. 2020). For example, the label “opposite” could be added to the relation of two concept representations. Complex associative structures, however, are still very much discussed and the question as to whether associative structures can capture information about concept relations remains (see De Houwer et al., 2020; Hummel, 2010). Furthermore, one could argue, that multi-layered associative memory systems that would entail both associative and propositional information would, thus, lead to distinctions between processes becoming void (Gawronski & Bodenhausen, 2018, but see De Houwer et al., 2020).

Nonetheless, even if there was no associative contrast, there might be the possibility of explicitly measurable lateral contrast. Indeed, all previously mentioned examples (regenerative energies, alternative medicine) might be the result of rational, propositional thinking. If a person assesses one attitude object as the opposite (or opposed standard of comparison) of the other attitude object, a contrast effect becomes logical. Alternatively, if the matter in question is seen as a dichotomy and there are only two possible alternatives, contrast becomes viewed as a natural consequence: If “A or B” and “A” is wrong, then “B” must be right<sup>3</sup>. According to Tversky (1977), psychologically, choices rely on the differences between objects and not their similarities.

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<sup>3</sup> If the “or” is not explicitly exclusive, affirming a disjunct is a logical fallacy (Audi, 1999, p. 316) but it is frequently used anyway.

The perception that two attitude objects are of an opposite nature is thereby no result of natural law but might be the result of subjective experience or circumstance. Thus, mutual opposition is not per se a defining part of the objects themselves. For example, when two attitude objects are always presented as opposites (e.g., in the media), the conclusion that they are, indeed, opposites is obvious. Furthermore, there are also attitude objects that are indeed objectively incongruous; where one reigns, the other cannot exist. Thus, it would be a logical conclusion that support of the one goes hand in hand with rejection of the other.

Empirically, contrast effects in indirect (=lateral) attitude change have been reported by Maris et al. (2016) who showed that (some) stereotype-related information led to both direct and contrasting indirect effects on groups immanently perceived as complementary (e.g., men vs. women). They showed that when a group previously perceived as being cold was evaluated as being more warm (stereotype inconsistent) there was also an indirect effect: The previously warm group was evaluated as being colder. Indeed, Maris et al. (2016) discuss the difference between LAC and the indirect stereotype change described in their paper via the relationship between focal and lateral attitude object: “Lateral attitude change occurs when observers receive information about one of two groups that they a priori consider similar. Indirect stereotype change occurs when they receive information about one of two groups that they a priori consider different” (p. 29). However, from the perspective of LAC, association rather than pure similarity is defined as the necessary precondition of LAC (although, admittedly, at times the terms similarity and strength of association are used interchangeably). From this viewpoint one might consider that mutually exclusive concepts are as associated as mutually reinforcing concepts. Intuitively, opposites come to mind just as easily as similarities. Thus, if association is described as closeness within an associative network, a coactivation of concepts (Mandelbaum, 2016) and relation via shared higher-order concepts (e.g., male and female are also connected by the higher-

order concept gender/sex) there is no reason why LAC should not cover a priori contradictory focal and lateral objects.

Propositionally, lateral contrast might be the visible effect of the application of reason toward the question of which inference one might draw from the support of one attitude object concerning other attitude objects – including the option of devaluation. One might reject coal energy because one was convinced that there was not much coal left and both energy independence and economic advantages due to abundant resources were important. One might also reject coal energy for its damage to the environment. Either line of thought might reasonably lead to an appreciation of regenerative energies that were not named in the initial argument. Similarly, the effect might be transferred via higher order values, ideologies or groups, associated with several topics: Approval of coal energy might contradict one's appreciation of *unity with nature* (cf. Schwartz et al., 2012) which in turn might strengthen the wish for green alternatives. Alternatively, arguments against coal energy may lead one to appreciate the Green party and in turn assume their stance on other issues (cf. Jost et al., 2009). However, if lateral contrast were only a propositional but not an associative process it should (a) only be visible on explicit measures and (b) be only applicable when similarity (or rather: opposition) to the focal object is high.

To sum up, while there is some evidence in favor of propositional processes leading to lateral contrast, the question of associative versus propositional contrast has not yet been definitively resolved. The results reported by Maris et al. (2016) offer some support for lateral contrast in general; however, one has to bear in mind that they assessed explicit attitudes only. Importantly, in terms of LAC, lateral contrast as a propositional process does not necessarily mean its independence of underlying associative processes. Even if associative processes are always positive and, thus, LAC is always parallel to focal attitude change, there could still be

lateral contrast resulting from automatic lateral activation. Postulate 5 of the LAC model states that “if individuals become aware of a change in the evaluation of Y, they may also affirm or reject this evaluation on a propositional level” (Glaser et al., 2015, p. 266). Following that reasoning, propositional deliberation about the lateral attitude object is prompted by associative attitude change. This deliberation, however, might not only declare the perceived associative attitude change valid or invalid (Gawronski & Bodenhausen, 2006a) but also inspire a reasoning leading to contrasting explicit evaluations of lateral and focal attitude object. Thus, possibly there might be associative and propositional contrast, associative generalization and propositional contrast, propositional contrast only or no lateral contrast at all.

According to the LAC Model, LAC is a process which may automatically occur every time there is an attempt to change someone’s attitudes. Therefore, it would be a common phenomenon, albeit one hardly examined. The present thesis tests LAC and its moderators in different domains of attitude change.

## Part I

### Overview of Research

The present research is structured in two parts. Part I is an examination of the central assumptions of LAC within a specific, contained domain. Part II, on the one hand, is a continuation of Part I, that is, a test of the LAC model. In Part II, on the other hand, I also attempt to apply LAC to explain attitude change toward values and policies. Some of the analyses reported in Part I of the present thesis have already been published by Linne et al. (2020).

Although the LAC model is not the first attempt to explain indirect attitude change it provides a much more general approach to the matter. Whereas most previous models examined indirect attitude change within a specific domain such as minority influence (e.g., Alvaro & Crano, 1997) or STE (Pettigrew, 2009), LAC is not specific for any particular domain. In order to test this postulated advantage, I had to test LAC across several domains. This was achieved by the division into two parts. In the first part, LAC was tested in one of the most prominent domains of attitude change: the attempt to change (potential customers') evaluations of commercial products. In Part II, I moved on and tested LAC in other domains. To be precise, Experiments 4 to 6 focused on LAC toward values and policies of a political nature. This approach not only allowed for an examination of possible processes underlying political attitude change but also for a test of LAC-specific hypotheses regarding a moderation by hierarchy.

Furthermore, the LAC model predicts not only generalization but also displacement as a potential outcome, based on specific assumptions regarding the underlying process of associative attitude change and propositional affirmation versus rejection resulting in explicit attitude change. Thus, drawing on the LAC model allows for a prediction of either generalization or displacement as a function of focal rejection. This central aspect of the LAC model is described in Postulate 3 (Glaser et al., 2015); testing it was the primary goal of research in Part I.

Additionally, the LAC model also specifies potential moderators of LAC, two of which were examined in Part I.

To sum up, in Part I, I tested the hypothesis that affirmation of focal attitude change would result in generalization and that rejection of focal attitude change would result in displacement. Furthermore, I predicted that LAC would be moderated by similarity (Experiments 1 – 3) and Pfc (Experiment 3).

### **Experiment 1**

Experiment 1 was the first attempt to test LAC in the domain of product evaluations in e-commerce. In order to elicit initial focal attitude change, thus allowing for LAC, I showed participants either positive or negative customer reviews about two focal objects, a shower gel and a backpack. In order to test for displacement, I told participants in the rejection condition that all reviews they had seen were fake information (Appendix C). Explicit and implicit attitudes toward the two focal products as well as attitudes toward three non-mentioned but related (i.e., lateral) products per focal product were assessed. The lateral products varied in similarity to the focal objects, that is, one product was very similar, one product moderately similar, and one product hardly similar.

Explicit attitudes were assessed with explicit ratings and implicit attitudes were assessed using an affective misattribution procedure (AMP; Payne et al., 2005).

There were two main reasons to choose the AMP as the instrument for the measurement of implicit attitudes within a LAC context: first, its quality as an instrument to measure implicit attitudes in general and, second, the AMP's flexibility and economical advantage.

Evidence has shown the AMP to be predictive of behavior and behavioral intentions. For example, in a meta-analysis Cameron, et al. (2012), reported an average effect of  $r = .35$ . In addition, reports of reliability are also generally positive (Payne & Lundberg, 2014, report an

average alpha of .81). In a comparative investigation of the psychometric properties of seven implicit measures of social cognition, Bar-Anan & Nosek (2014; also see Payne et al., 2013, and, Bar-Anan & Nosek, 2016a) ranked the AMP behind the Implicit Association Test (IAT; Greenwald et al., 1998), variations of the IAT (Brief IAT, Sriram & Greenwald, 2009; Single Target-IAT, Wigboldus et al., 2004), and the Go-No go Association Task (GNAT, Nosek & Banaji, 2001). However, while the IAT (vs. the AMP) may have superior psychometric properties, the AMP has a major advantage in flexibility. Testing LAC hypotheses requires the independent (vs. comparative) assessment of several implicit attitudes. For example, in Experiment 1, two focal and six lateral products were assessed. Whereas the IAT can only test evaluative differences between attitude objects and the ST-IAT requires a relatively long time to test each single attitude object, the AMP can be used to assess several implicit attitudes within a satisfactory time frame.

I hypothesized that implicit and explicit attitudes toward the focal products would be in line with the manipulation. That is, if participants had read positive reviews I expected a positive focal attitude, if they had read negative reviews I expected a negative focal attitude.

Given that rejection was theorized to be a propositional process, I expected implicit attitudes to be unaffected by the information that reviews were fake. Explicit attitude change toward the focal products as a result of the customer reviews should, however, be completely negated or at least severely reduced by the information that reviews were fake (i.e., completely made up). Thus, for focal products, I expected stronger attitude change for participants in the affirmation (vs. rejection) condition.

For lateral products, I predicted associative generalization in both conditions as well as propositional generalization in the affirmation condition and displacement in the rejection condition. On an implicit level, lateral attitude change was expected to always be in line with



focal attitude change. Furthermore, I predicted a linear decrease of attitude change as a function of similarity to the focal products. That is, I expected the most positive (negative) attitudes toward the most similar lateral topic, moderately positive (negative) attitudes toward the moderately similar topic and the least positive (negative) attitudes toward the least similar product. On an explicit level, I also predicted linear generalization for participants in the affirmation condition. Attitude change toward lateral products should be in the same direction as focal attitude change with decreasing effects as a function of declining similarity to the focal objects.

Whereas hypotheses regarding implicit attitude change and explicit attitude change in the affirmation condition are the same, predictions are different for explicit LAC in the rejection condition. Displacement is theorized to be a propositional affirmation of associative attitude change toward the lateral attitude objects, even if focal attitude change is absent. Thus, LAC in the rejection condition is also expected to be in line with the valence incorporated in the customer reviews and therefore implicit evaluations. However, in the rejection condition, I expected a pattern of lateral effects depicting a “(reversed) U-curve”. That is, most positive (negative) attitudes toward the moderately similar topic but less positive (negative) attitudes toward the most and least similar lateral products. Statistically, the reversed U-curve assumed for displacement was tested as a quadratic trend.

### **Method**

Ethical approval for all studies reported in this thesis was obtained from the ethics committee of the German Society for Psychology (Deutsche Gesellschaft für Psychologie).

#### **Participants, Design, and Procedure**

In total, 158 participants (57 male, 101 female;  $M_{\text{age}} = 23.02$ ,  $SD_{\text{Age}} = 3.73$ ; all students) were recruited at Bielefeld University and randomly assigned to one of the conditions of a 2

(valence: shower gel positive and backpack negative vs. shower gel negative and backpack positive) x 2 (affirmation vs. rejection<sup>4</sup>) between-subjects design. The within-subjects factor was included to counterbalance valence and product type. Statistical power analysis conducted with G\*Power 3.1 (Faul et al., 2007) was run for a repeated measures analysis of variance (ANOVA) with within-subjects factor (valence) by between-subjects factor (rejection) interactions. Results suggested 138 participants in order to achieve a power ( $1 - \beta$ ) of .95,  $\alpha = .05$  for detecting a medium-sized effect and a negative medium sized correlation ( $\rho = -.3$ ) between levels of the within-subjects factor (i.e., attitudes toward the products that received positive vs. negative reviews). As a priori estimations of effect size were highly speculative, I increased the number of participants.

Participants were placed in front of a computer screen and were given instructions which stated that the goal of the study was to investigate how people evaluated different consumer goods. Before the actual experiment started, participants were familiarized with the AMP by performing 10 practice trials with unrelated products.

Subsequently, participants were shown the customer reviews of the two focal products and one distractor products. The display order of the products was the same for all participants. First reviews of a refrigerator, the distractor product (neutral reviews), were displayed, followed by reviews of a backpack (focal object) which were either positive or negative, depending on condition, followed by reviews of a shower gel (the other focal object), which were of the opposite valence to the reviews of the backpack. The valence manipulation was followed by the rejection manipulation. Whereas participants in the affirmation condition read a short disclaimer that they had now seen all of the product reviews, participants in the rejection condition saw the

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<sup>4</sup> This condition is hereinafter referred to as rejection.

word “Attention!” in red color and bold font. Furthermore, they read that all reviews were completely “made-up” (also red and bold).

Subsequently, attitudes toward all focal and lateral products as well as the distractor product were assessed. Participants completed the AMP first, followed by assessment of explicit ratings on slider scales. Presentation order for critical trials in the AMP and items assessing explicit attitudes were individually randomized for each participant.

Assessment of dependent variables was followed by manipulation checks. Participants were asked to rate the reviews for all products (positive, negative, & neutral) on scales ranging from 1 = *very negative* to 7 = *very positive*. In order to check whether the rejection manipulation had the intended effect, participants were asked to rate credibility and veracity of each review on scales from 1 = *not credible at all* to 7 = *very credible* and 1 = *made-up* to 7 = *real*, respectively. Additionally, participants were asked to report their strategies for evaluating the products. They read seven statements about evaluation criteria (“My evaluation of the product is based on...”) and indicated to what extent each statement applied to them on a scale from 1 = *does not apply at all* to 7 = *fully applies*<sup>5</sup>. Subjects of the statements were: (1) product design, (2) intuition, (3) information gained from the reviews, (4) quality of the product, and (5) - (7) the company that made the products<sup>6</sup>. Statements five to seven were averaged for a single index (Cronbachs  $\alpha = .71$ ).

Finally, participants completed an open-ended suspicion check, were asked to state whether they had at some point in the past participated in a similar experiment, and reported

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<sup>5</sup> Subsequently, participants were also given the option to indicate other reasons for their evaluation in an open text box. This option, however, was used only by a minority of participants ( $n = 37$ ; roughly half of them cited personal needs or experiences with similar products), was not analyzed further and is not addressed in more detail.

<sup>6</sup> Three items: “product evaluation is based on respective company”; “all products of the same company are evaluated similarly”; and, “whether products are produced by the same or another company makes no difference” (recoded).

demographic information. At the end of the session, they were thanked, debriefed, and compensated with EUR 4.00.

### **Attitude Objects and Persuasive Information**

Focal and lateral attitude objects were products from two different categories: bathroom products and outdoor products (Figure 3). Bathroom products of the fictitious brand “all iffu” were a shower gel (focal product X), a bath foam (lateral product Y1), a lipstick (Y2), and toilet paper (Y3). Outdoor products of the fictitious brand “oteyef” were a backpack (X), hiking shoes (Y1), a cap (Y2), and a pair of trousers (Y3). Distractor product of the fictitious brand “beao” was a refrigerator. Pretesting (Appendix A) had revealed that product stimuli were adequate to test LAC as: (a) the fictitious brand names were regarded as a good fit for the respective category, (b) stimuli were mostly rated as neutral, and (c) among the lateral products, there was a gradient of decreasing similarity to the focal object; X and Y1 were significantly more similar than X and Y2, which, in turn, were significantly more similar than X and Y3. Furthermore, the stimuli had already been used for previous results (Schoppe, 2015).

The attempt at persuasion was operationalized via customer reviews about the focal products, imitating the manner online shops often display their products (Figure 4; Appendix C). As shown in Figure 4, every product review contained: a picture of the product, its name and brand, the number of customers (85 to 89) who had supposedly evaluated the product, an averaged star evaluation and four individual customer reviews, designated as “top customer reviews” (short texts). Both the averaged star evaluations and the individual “top” reviews varied between valence conditions. In the positive condition, the product was evaluated with 4.5 out of five stars and the individual reviews were very positive. In the negative condition the product was evaluated with only 1.5 out of five stars and the individual reviews were very negative. The distractor product was evaluated as neutral, receiving 3.0 stars and neutral individual reviews.

**Figure 3**

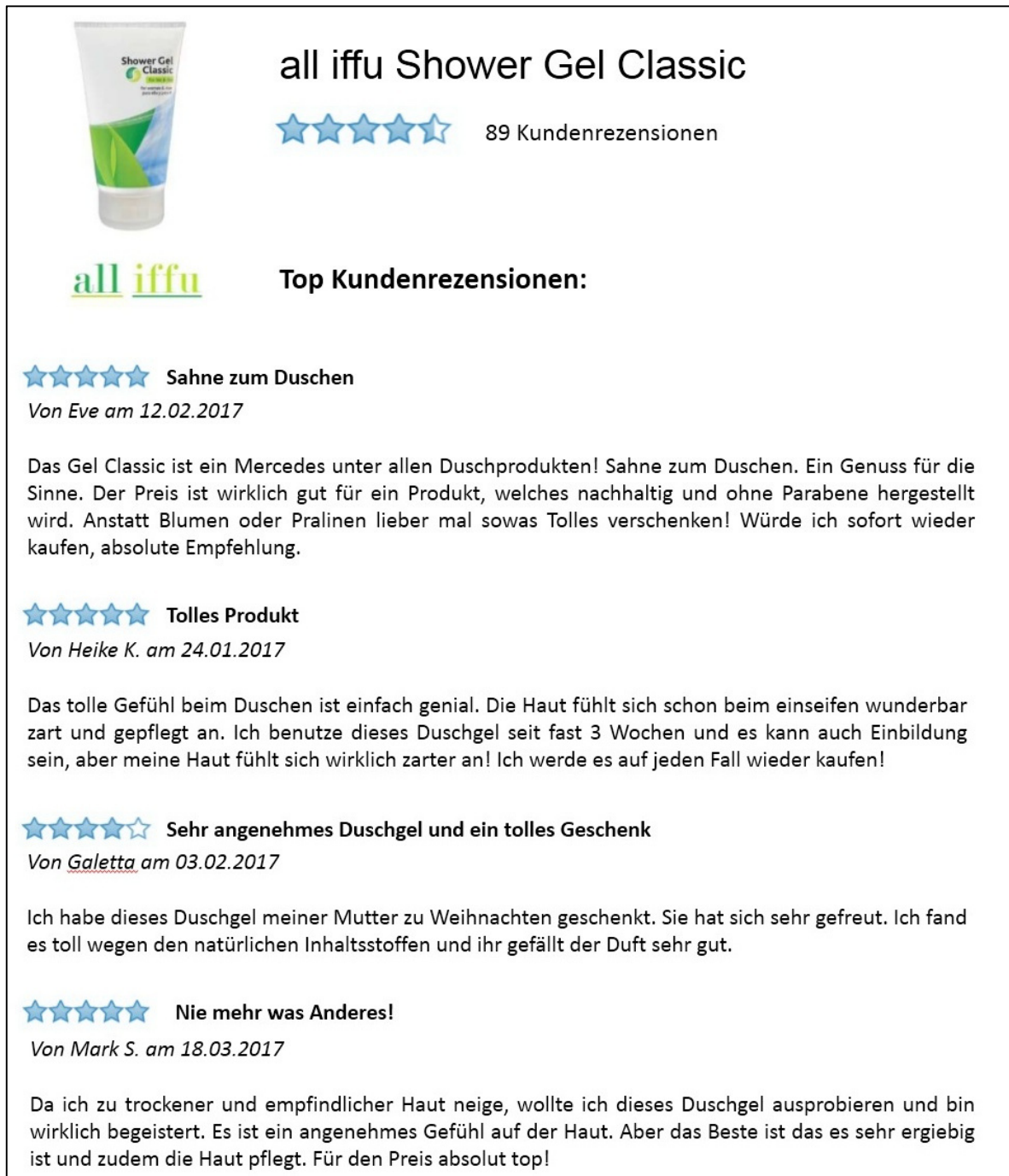
*Focal and Lateral Product Stimuli in Experiments 1 and 3*



*Note.* Focal and lateral products were used in Experiments 1 and 3. The distractor product was used only in Experiment 1.

**Figure 4**

*Positive Valence Manipulation in Experiment 1*



**all iffu Shower Gel Classic**

★★★★★ 89 Kundenrezensionen

**all iffu** **Top Kundenrezensionen:**

★★★★★ **Sahne zum Duschen**  
Von *Eve* am 12.02.2017

Das Gel Classic ist ein Mercedes unter allen Duschprodukten! Sahne zum Duschen. Ein Genuss für die Sinne. Der Preis ist wirklich gut für ein Produkt, welches nachhaltig und ohne Parabene hergestellt wird. Anstatt Blumen oder Pralinen lieber mal sowas Tolles verschenken! Würde ich sofort wieder kaufen, absolute Empfehlung.

★★★★★ **Tolles Produkt**  
Von *Heike K.* am 24.01.2017

Das tolle Gefühl beim Duschen ist einfach genial. Die Haut fühlt sich schon beim einseifen wunderbar zart und gepflegt an. Ich benutze dieses Duschgel seit fast 3 Wochen und es kann auch Einbildung sein, aber meine Haut fühlt sich wirklich zarter an! Ich werde es auf jeden Fall wieder kaufen!

★★★★★ **Sehr angenehmes Duschgel und ein tolles Geschenk**  
Von *Galetta* am 03.02.2017

Ich habe dieses Duschgel meiner Mutter zu Weihnachten geschenkt. Sie hat sich sehr gefreut. Ich fand es toll wegen den natürlichen Inhaltsstoffen und ihr gefällt der Duft sehr gut.

★★★★★ **Nie mehr was Anderes!**  
Von *Mark S.* am 18.03.2017

Da ich zu trockener und empfindlicher Haut neige, wollte ich dieses Duschgel ausprobieren und bin wirklich begeistert. Es ist ein angenehmes Gefühl auf der Haut. Aber das Beste ist das es sehr ergiebig ist und zudem die Haut pflegt. Für den Preis absolut top!

*Note:* The same figure was used in the negative valence manipulation. However, the product received a significantly worse evaluation regarding the “stars” and the content of the short texts.

### **Dependent Variables**

Assessment of explicit attitudes toward the products (i.e., two focal products, six lateral products, and one distractor product) was conducted with one item per product, asking for participants' evaluation of the respective product stimuli. In the case of the focal product the picture already familiar from the reviews was displayed above a slider scale with the endpoints *very bad* and *very good*, respectively. In the case of lateral objects pictures of new products (Figure 3) were displayed above the same slider scale. The starting point of the slider was always the midpoint of the scale.

Although no numbers were visible to participants, their evaluations of the products were recorded as ranging from -100 (very bad) to +100 (very good).

Assessment of implicit attitudes toward the products was conducted with an AMP (Payne et al., 2005). Participants were told that they would see several pictures which would always be followed by Chinese ideographs. They were instructed to evaluate the Chinese ideographs as either "pleasant" or as "unpleasant" while completely ignoring the pictures displayed prior to the ideographs. The rationale of the AMP is that a misattribution of valence from the pictures (primes) to the ambiguous ideographs (targets) occurs and, therefore, targets preceded by positive primes are more frequently evaluated as pleasant. According to Payne and colleagues (2005) this process allows for a measurement of implicit attitudes toward the primes which are expressed by evaluations of the target.

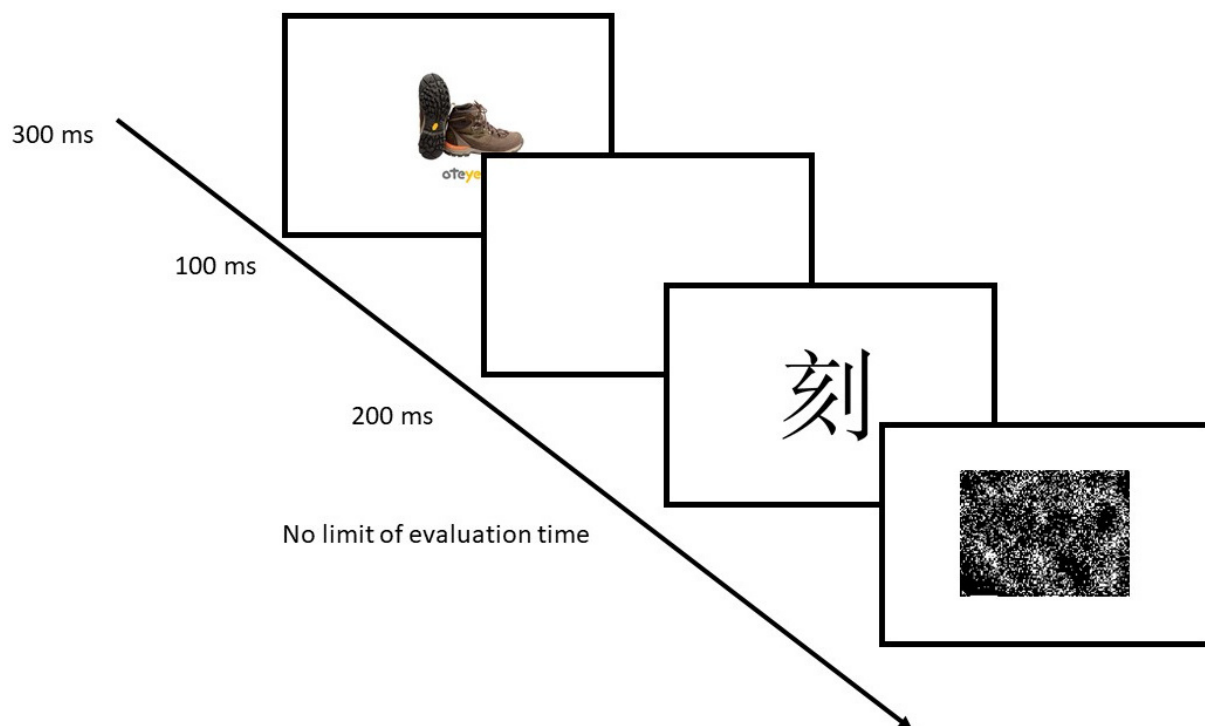
In Experiment 1 the pictures of the products displayed in Figure 3 were also used as primes in the AMP. Each of the products was displayed prior to an ideograph eight times. Thus, in total, participants responded to 72 critical trials that were presented in an individually randomized order.

Primes (products) were presented for 300 ms, followed by a blank screen for 100 ms, followed by one randomly chosen ideograph (target; from a list of 120 ideographs) for 200 ms. The target was then covered by a pixel mask until participants responded by pressing a key labeled as “unpleasant” or “pleasant”. The intertrial interval was 1000 ms (Figure 5).

Implicit attitudes toward products were defined as the proportion of targets evaluated as “pleasant” when they were preceded by the respective product prime. Thus, implicit attitudes ranged from 0 = no “pleasant” responses (most negative) to 1 = only “pleasant” responses (most positive). Internal consistency (Kuder-Richardson reliability, KR20) of critical trials per attitude object, calculated separately for valence conditions, ranged from .47 to .59 ( $M = .55$ ,  $SD = .04$ ).

**Figure 5**

*AMP Procedure in Experiments 1 and 2*



*Note.* Example of a critical trial; intertrial interval was 1000 ms.



## Results

### Manipulation Checks

Independent *t*-tests were conducted to test whether the reviews were perceived as intended. The *t*-test on the reviews of the shower gel returned a significant effect,  $t(156) = 39.84$ ,  $p < .001$ ,  $d = 6.35$ . As expected, the review for shower gel was rated as being more positive in the shower gel positive condition ( $M = 6.36$ ,  $SD = 1.04$ ) than in the shower gel negative condition ( $M = 1.23$ ,  $SD = 0.53$ ). The *t*-test on the reviews of the backpack also returned a significant effect,  $t(156) = 34.46$ ,  $p = .005$ ,  $d = 5.54$ . The review of the backpack was rated as being more positive in the backpack positive condition ( $M = 6.70$ ,  $SD = 0.71$ ) than in the backpack negative condition ( $M = 1.53$ ,  $SD = 1.14$ ). The ratings of the valence of the review of the refrigerator (distractor product) did not significantly differ between conditions (overall  $M = 3.86$ ,  $SD = 1.18$ ),  $t < 1$ <sup>7</sup>. Thus, reviews were perceived as intended.

Analyses of reports of subjective strategies for evaluating the products showed that participants based their evaluation on the product reviews. A repeated-measures ANOVA for the five strategies of evaluating the products returned a significant main effect,  $F(4, 154) = 10.74$ ,  $p < .001$ ,  $\eta^2 = .64$ . Post hoc tests using the Bonferroni correction revealed that the strategy of evaluating products by review-information ( $M = 5.38$ ,  $SD = 1.52$ ) was used comparatively more than any other strategy (combined  $M = 4.56$ ,  $SD = 0.73$ ), all  $p < .02$ . No other pairwise comparison was significant, all  $p > .21$ .

In order to test whether the rejection manipulation was successful, I first averaged ratings of credibility and veracity (Cronbachs  $\alpha = .59$ ). Next, a *t*-test on this new index was conducted to examine whether the reviews were regarded as less credible in the rejection condition. However,

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<sup>7</sup> The distractor product was not included in any further analyses.

the  $t$ -test returned no significant difference,  $t(156) = 1.25, p = .22$ , between the affirmation ( $M = 4.99, SD = 0.95$ ) and the rejection condition ( $M = 4.79, SD = 1.12$ ). Thus, the rejection manipulation failed in changing participants' assessments of the reviews' credibility.

### **Explicit Focal Attitude Change**

As I was not interested in the attitudes toward the specific products but in the influence of the valence information that was presented about these products, I first calculated new dependent variables reflecting the attitudes toward the positively reviewed products and the negatively reviewed products, respectively. This was done for explicit and implicit, focal and lateral attitudes. However, for lateral attitudes the new variables reflected the attitudes toward lateral products related to the positively reviewed products and attitudes toward the lateral products related to the negatively reviewed products, respectively.

Next, I conducted a mixed-model ANOVA with valence of the reviews (positive vs. negative) as a within-subjects factor and rejection condition (affirmation vs. rejection) as a between-subjects factor. The ANOVA on focal products returned a significant main effect of valence,  $F(1, 156) = 391.68, p < .001, \eta^2 = .72$ . Furthermore, the interaction between valence and rejection, predicted to be indicative of focal rejection when participants were told that reviews were fake, was marginally significant,  $F(1, 156) = 3.19, p = .076, \eta^2 = .02$ . Although the pattern of the effect was as predicted and the interaction was marginally significant, the mean attitudes toward the focal products (see Figure 6) indicate attitude change not only in the affirmation but also in the rejection condition. Subsequently conducted separate analyses confirmed focal attitude change in line with the valence immanent to the reviews in the affirmation condition,  $t(76) = 13.85, p < .001, d = 2.66$  ( $M_{pos} = 60.05, SD = 44.63; M_{neg} = -58.86, SD = 44.63$ ), but unexpectedly also in the rejection condition,  $t(80) = 14.20, p < .001, d = 2.43$  ( $M_{pos} = 55.23, SD = 40.91; M_{neg} = -43.99, SD = 40.71$ ).

Attitude change seemed to be larger in the affirmation condition, which indicates that there was an effect of the rejection manipulation. Nevertheless, despite the explicit information that reviews were made-up, the rejection manipulation failed to completely prevent focal attitude change in line with the valence immanent to the (fake) reviews. Hence, the precondition postulated for displacement that focal attitude change was negated was not fully met. Instead, rejection resulted in smaller focal attitude change.

**Figure 6**

*Explicit Attitudes Toward Focal and Lateral Products as a Function of the Rejection Condition in Experiment 1*



*Note.* Higher numbers indicate more positive attitudes; scale: -100 to 100.

### Explicit Lateral Attitude Change

First, in order to get an overall estimation of LAC effects, I averaged all attitudes toward lateral products related to the positively reviewed product ( $Y1_{\text{pos}}$ ,  $Y2_{\text{pos}}$ , and  $Y3_{\text{pos}}$ ) and all products related to the negatively reviewed product ( $Y1_{\text{neg}}$ ,  $Y2_{\text{neg}}$ , and  $Y3_{\text{neg}}$ ), respectively. Subsequently, a mixed-methods ANOVA was conducted with valence (averaged lateral products related to the positively reviewed product vs. averaged lateral products related to the negatively reviewed product) as a within-subjects factor and the rejection condition (affirmation vs. rejection) as a between-subjects factor. Unless otherwise specified, all further ANOVAs for Experiment 1 were conducted with the same factors.

Similar to results regarding focal attitudes, the ANOVA on lateral attitudes returned a significant main effect of valence,  $F(1, 156) = 65.78, p < .001, \eta^2 = .29$ , and a marginally significant interaction between valence and rejection,  $F(1, 156) = 2.96, p = .087, \eta^2 = .02$ . As for the focal attitudes, lateral attitude change was stronger in the affirmation condition. Nonetheless, the mean lateral attitudes indicate that there was LAC in both conditions (Figure 6), suggesting generalization from focal to lateral attitudes. Separate analyses revealed that attitudes change was significant in the affirmation condition ( $M_{\text{pos}} = 24.01, SD_{\text{pos}} = 26.01; M_{\text{neg}} = -5.42, SD_{\text{neg}} = 23.58$ ),  $t(76) = 6.74, p < .001, d = 1.19$ ) as well as in the rejection condition ( $M_{\text{pos}} = 14.86, SD_{\text{pos}} = 23.73; M_{\text{neg}} = -4.27, SD_{\text{neg}} = 20.83$ ),  $t(80) = 4.66, p < .001, d = 0.86$ .

Additionally, I conducted another mixed-model ANOVA to explore whether rejection affected focal and lateral attitudes differently. However, the three-way interaction between valence, rejection and attitude object status (focal vs. lateral) returned no significant effects,  $F < 1$ .

Regarding effects of similarity to the focal product on LAC, I had hypothesized a linear pattern of decreasing attitude change toward lateral objects in the affirmation condition, that is,

an evaluation most in line with the reviews for the very similar lateral product, a moderate effect for the moderately similar later object and hardly any attitude change toward the hardly similar lateral product. For the rejection condition, I had hypothesized a pattern resembling a U-curve, that is a quadratic effect with the strongest attitude change (i.e., an evaluation in line with the valence of the product reviews) toward the moderately similar lateral product. I explored the quadratic similarity indicative of displacement effects despite the finding that the precondition for displacement (i.e., no focal attitude change) was not fully met.

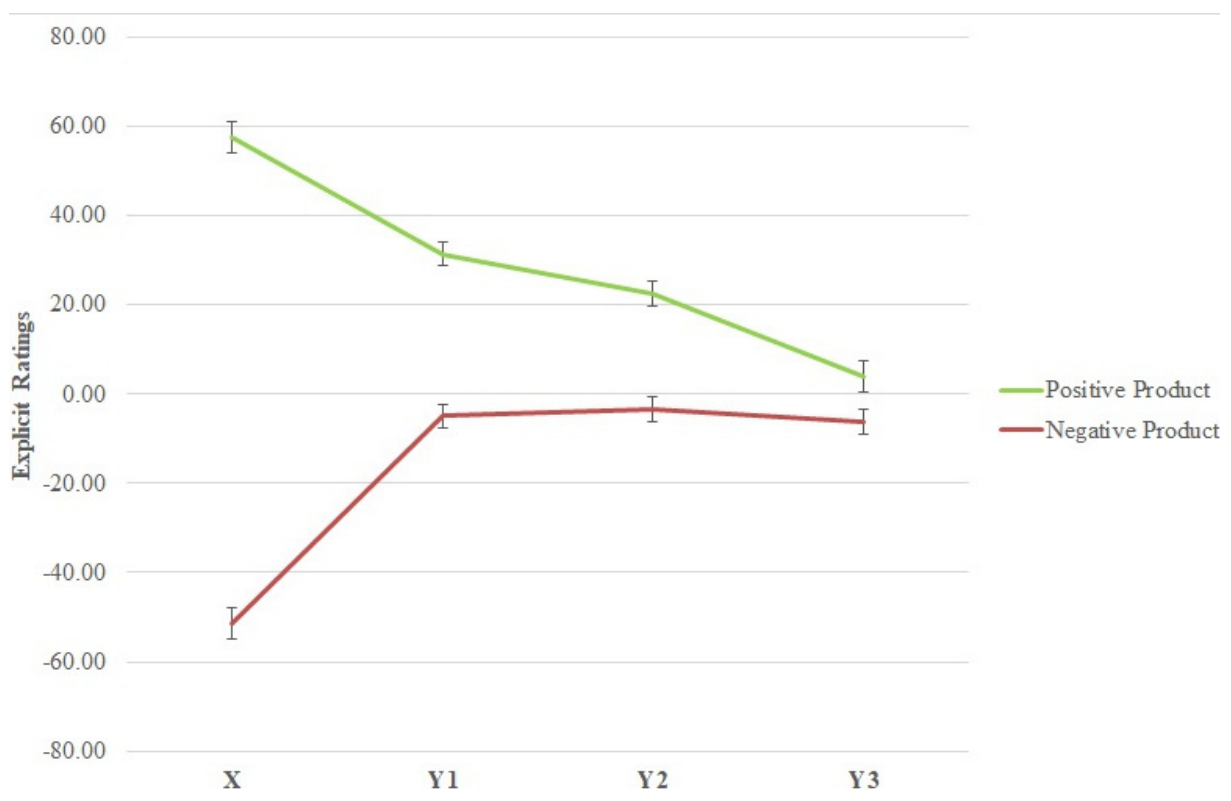
In order to examine the potential moderation by similarity, a mixed-model ANOVA with valence (positive vs. negative) and similarity (X, Y1, Y2, Y3) as within-subjects factors and rejection condition (affirmation vs. rejection) as between-subjects factor was conducted. The ANOVA returned a significant interaction of valence and linear similarity,  $F(1, 156) = 156.98$ ,  $p < .001$ ,  $\eta^2 = .50$ . The linear similarity, however, did not interact significantly with the rejection condition,  $F < 1$  (Figure 7).

Additionally, effects for quadratic similarity,  $F(1, 156) = 61.72$ ,  $p < .001$ ,  $\eta^2 = .28$ , and the cubic trend of similarity,  $F(1, 156) = 13.61$ ,  $p < .001$ ,  $\eta^2 = .08$ , were also significant. However, effects sizes were much smaller than the effect size of the linear trend and neither the quadratic nor the cubic trend was qualified by rejection condition, both  $F < 1$ .

Thus, results indicate that the linear generalization predicted for affirmation was found, but also occurred in the rejection condition.

**Figure 7**

*Explicit Attitudes Toward Focal and Lateral Products as a Function of Similarity in Experiment 1*



*Note.* Higher numbers indicate more positive attitudes; scale: -100 to 100.

### **Implicit Focal and Lateral Attitude Change**

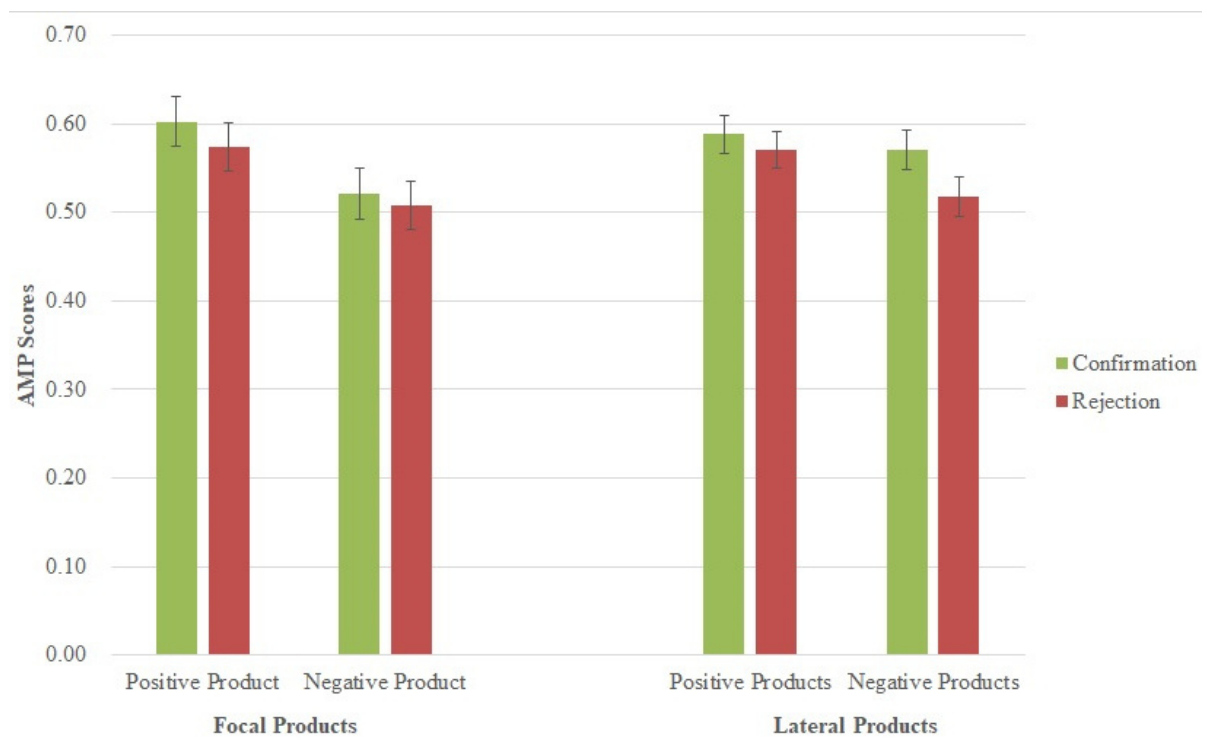
The ANOVA on implicit attitudes (i.e., AMP scores) toward focal products returned a significant main effect of valence,  $F(1, 154) = 7.93, p = .005, \eta^2 = .049$ . As predicted for implicit attitudes, the effect of valence was not qualified by the rejection condition,  $F < 1$ . Therefore, implicit attitudes toward the focal products were in line with the reviews but independent of whether participants were informed that reviews were fake (Figure 8).

The ANOVA on averaged attitudes toward lateral products also returned a significant main effect of valence,  $F(1, 154) = 5.02, p = .026, \eta^2 = .032$ , which was again not qualified by the rejection condition,  $p = .26$  (Figure 8). This result supports the assumption of associative generalization, independent of rejection of the initial attempt at persuasion.

For similarity between the lateral and focal products, I predicted linear generalization expressed by a linear trend which was expected to be independent of the rejection condition: that is, strongest implicit attitude change for the most similar lateral product, moderate attitude change toward the moderately similar product and hardly any attitude change toward the least similar lateral product. However, a mixed-model ANOVA with valence (positive vs. negative) and similarity (X, Y1, Y2, Y3) as within-subjects factors and rejection (affirmation vs. rejection) condition as between-subjects factor returned no effect for a valence by linear similarity interaction,  $F(1, 154) = 1.64, p = .20, \eta^2 = .01$ . Additionally, there was no indication of an interaction between similarity and rejection condition,  $F < 1$ .

**Figure 8**

*Implicit Attitudes Toward Focal and Lateral Products as a Function of the Rejection Condition in Experiment 1*



*Note.* Higher numbers indicate more positive attitudes; scale: 0 to 1.

### **Explicit and Implicit Attitude Change**

According to the LAC model, propositional reasoning affects only explicit but not implicit attitudes. Thus, the information that reviews were fake should only influence the explicit but not the implicit attitudes toward the products.



In order to examine this supposition, I conducted a mixed-model ANOVA with valence (positive vs. negative), product status (focal vs. lateral), and type of assessment (explicit vs. implicit; *z*-standardized) as within-subjects factors, and rejection condition (affirmations vs. rejection) as a between-subjects factor. The ANOVA returned a significant three-way interaction of valence, type of assessment, and rejection condition,  $F(1, 154) = 4.03, p = .047, \eta^2 = .025$ . In line with previous findings, this analysis indicated that there was an interaction between valence and rejection only regarding explicit but not implicit attitudes. The four-way interaction was not significant,  $F < 1$ . Hence, the effect described occurred irrespectively of whether the products were focal or lateral.

Thus, as predicted the information that the reviews were fake had an impact only on explicit attitudes, whereas implicit attitudes were unaffected. Although, in Experiment 1, this did not result in a displacement effect, the effect is in line with LAC predictions. Furthermore, the finding that rejection did not affect implicit attitudes would potentially allow for displacement as a function of propositional affirmation of associative lateral attitude change if rejection was strong enough to completely negate explicit focal attitude change.

### **Discussion of Experiment 1**

In Experiment 1, I provided first evidence of LAC in the domain of attitude change toward products. Customer reviews elicited focal attitude change, which then generalized to lateral products. On an explicit level, generalization was moderated by similarity to the focal product with stronger LAC toward more similar products. On an implicit level, results were also indicative of generalization. However, implicit generalization was independent of similarity. In Experiment 1, similarity had been established in two separate ways: First, brand and category (“all iffu”-bathroom and “oteyef”-outdoor products) provided at least a baseline similarity between focal and lateral products, and, second, specific stimuli had been chosen based on pretest

results regarding perceived similarity within each category (Appendix A). Intuitively it seems likely that perceiving the surface similarity provided by category and the attached brand (brand name) would result in associations that could be measured with implicit measures. Perceiving the more nuanced differences within a category which were predicted to produce a gradual effect of similarity might require propositional reasoning and would thus not become visible on implicit measures. Additionally, even if less obvious differences in similarity between products were perceived implicitly, this might result in only a slight difference in spontaneous affective reactions.

Besides the assumption that degrees of spontaneous affect are harder to recognize than degrees of propositional evaluations, there is also research showing that implicit measures' sensitivity to explicit evaluative information is limited in general. Bar-Anan and Nosek (2016b) speculated, that automatic evaluation is less sensitive to information integration processes; a process, which I assume, might be necessary to capture slight differences in similarity to a focal object. Rydell et al. (2007) have suggested that implicit evaluations are based on slow-learning systems of evaluation which tends to add associations to existing evaluations rather than to conceive new ones. This might also lead to a smaller degree of differentiating between stimuli of varying degrees with regard to forming implicit attitudes toward these stimuli (vs. faster changing explicit evaluations). Furthermore, the pretest (Appendix A) used only explicit measure and, thus, assessed only explicit attitudes. As a result, the a priori assumed gradients of decreasing similarity might have represented differences based on propositional reasoning and not implicit strength of association from the start. Therefore, the levels of similarity used in the experimental design might have been more representative of explicit (vs. implicit) differences in the perception of attitude objects.

In Experiment 1, explicit attitudes have been assessed with only a single item each. This was not optimal and may have resulted in a relatively low reliability of explicit measurements. Nonetheless, while predictions regarding generalization were mostly supported, there was little evidence of displacement. Indeed, displacement could not even be examined in line with LAC predictions as the rejection information failed to create the preconditions for displacement. The manipulation checks revealed that participants did not perceive the reviews as less credible when they were told that reviews were fake. It therefore comes as no surprise that the rejection information did not completely prevent focal attitude change. However, despite the failed manipulation check, the rejection condition led to a (marginally) attenuated generalization, that is, less attitude change toward the focal and the lateral products. It is noteworthy, that this effect occurred only regarding explicit but not implicit attitudes. This result is compatible with the assumption that implicit attitudes, being based on associations, are not affected by propositional information containing relational information and truth values. Whereas explicit attitudes are impacted by information invalidating and thus negating the initial influence attempt, this information is assumed not to influence implicit evaluations as long as no new associations are created (see Gawronski & Bodenhausen, 2006a, Case 4). Although this effect did not lead to displacement in Experiment 1, it supports the assumptions about processes underlying LAC. Deliberations on a relative reduction in sensitivity are further discussed in the General Discussion.

In Experiment 2, a stronger rejection manipulation was introduced, with the expectation that creating the necessary precondition would lead to the predicted pattern of displacement effects. Furthermore, instead of a single item, a multi-item scale was used to assess explicit attitudes.

## Experiment 2

Experiment 2 was designed with three main goals in mind: (1) with the goal to examine whether results that supported LAC theory in Experiment 1 (generalization, similarity) would replicate, (2) in order to examine whether implicit generalization was indeed independent of gradients of similarity, and (3) in order to test whether a stronger rejection manipulation would lead to the hypothesized displacement effect. Furthermore, in Experiment 2 other product stimuli were used (fitness products and electric equipment). Thus, I was able to test LAC assumptions with another set of stimuli. While Experiment 2 was still conducted in the same domain as Experiment 1, that is, in online commerce, I attempted to show that results of Experiment 1 were not the result of specific products but the result of the underlying processes as specified by LAC. Hypotheses in Experiment 2 were the same as in Experiment 1 but explicit attitudes were assessed with multiple items.

## Method

### Participants, Design, and Procedure

In total, 163 participants (74 male, 89 female;  $M_{\text{age}} = 22.21$ ,  $SD_{\text{Age}} = 4.33$ ; all students) were recruited at Bielefeld University and randomly assigned to one of the conditions of a 2 (valence: elliptical trainer positive and refrigerator negative vs. elliptical trainer negative and refrigerator positive) x 2 (affirmation vs. rejection<sup>8</sup>) between-subjects design. According to G\*Power the required sample size for detecting a valence by rejection interaction effect was equivalent to Experiment 1. In order to keep Experiment 2 similar to Experiment 1, I had again attempted to recruit 40 participants per cell.

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<sup>8</sup> This condition is hereinafter referred to as rejection.

The procedure of Experiment 2 was generally the same as in Experiment 1. There were, however, some exceptions: First, as previously mentioned, explicit attitudes were assessed with multiple items. Second, instead of an AMP practice at the beginning of the experiment, the training phase took place later, right before participants were subjected to the critical trials of the AMP.

Third, in order to gain a more general impression of participants' perceptions of how believable the reviews were, the manipulation check of credibility was adjusted. Participants no longer rated the reviews (positive, negative, neutral) separately but instead reported general credibility of all reviews on a scale from 1 = *not credible at all* to 7 = *very credible*, and general veracity on a scale from 1 = *fake* to 7 = *real*.

Fourth and most importantly, a stronger rejection condition was used. Participants in the modified rejection condition learned not only that the product reviews they had just read were fake, but that reviews had all been bought by various agencies. These agencies allegedly worked for either the producing companies, buying positive reviews or their competitors, buying negative reviews. The rejection manipulation in Experiment 1 had already been straightforward as participants were told that the reviews had been made up. Nonetheless, in Experiment 2, I introduced more content to the rejection manipulation. The conjecture was that this would lead participants to a deeper evaluation of reasons to reject attitude change and, thus, a stronger effect of the manipulation (cf. Petty & Brinol, 2010). Furthermore, the manipulation was formulated even more unequivocally as I added that the reviews were not based on genuine evaluations and that participants should not believe them but instead answer all following questions as if they had not even seen the reviews at all.

### **Attitude Objects and Persuasive Information**

Focal and lateral attitude object were products from two different categories: fitness products and electronic household appliances (Figure 9). Fitness products of the fictitious brand “vigor” were an elliptical trainer (focal product X), an exercise bike (lateral product Y1), a weight bench (Y2), and a yoga mat (Y3). Outdoor products of the fictitious brand “hoop” were a refrigerator (X), a freezer (Y1), a microwave (Y2), and a hairdryer (Y3). Distractor product of the fictitious brand “iniq” was a cell phone. Pretesting (Appendix A) had revealed that product stimuli were adequate to test LAC because: (a) stimuli were either rated as neutral or not rated drastically different compared to the midpoint of the scale, and (b) among the lateral products, there was a gradient of decreasing similarity to the focal object; X and Y1 were significantly more similar than X and Y2, which, in turn, were significantly more similar than X and Y3. As in Experiment 1, I showed participants customer reviews of the two focal products (one positive and one negative) and the distractor product (moderate) in the manner of an online shop (Appendix C).

**Figure 9**

*Focal and Lateral Product Stimuli in Experiment 2*



*Note.* Focal and lateral products used in Experiment 2. The distractor product used in Experiment 2 and Experiment 3.

### Dependent Variables

Assessment of explicit attitudes toward each of the nine products was conducted with the same item and rating scale as in Experiment 1. However, in order to increase reliability, I added two more items (all Cronbach's  $\alpha$ 's in Experiment 2 > .79). The first additional items asked for participants' attitudes toward the products using a horizontal slider scale whose endpoints were labeled *not at all appealing* versus *very appealing*. The second items asked for the likelihood, of participants buying the respective product, if they needed it. Responses were again given on a slider scale; endpoints were labeled *very low* and *very high*. Data were recorded as in Experiment 1 (-100 to +100). Implicit attitudes were assessed with an AMP, using the same specifications as in Experiment 1. Internal consistency (Kuder-Richardson reliability, KR20) of critical trials per attitude objects, calculated separately for valence conditions, ranged from .37 to .61 ( $M = .50$ ,  $SD = .06$ ).

## Results

### Manipulation Checks

Independent  $t$ -tests were conducted to test whether the reviews were perceived as intended. The  $t$ -test on the reviews of the elliptical trainer returned a significant effect,  $t(161) = 24.19$ ,  $p < .001$ ,  $d = 3.81$ . As expected, the review of the elliptical trainer was rated as being more positive in the elliptical trainer positive condition ( $M = 5.86$ ,  $SD = 1.18$ ) than in the elliptical trainer negative condition ( $M = 1.72$ ,  $SD = 1.00$ ). The  $t$ -test on the reviews of the refrigerator also returned a significant effect,  $t(161) = 26.37$ ,  $p < .001$ ,  $d = 4.15$ . The review of the refrigerator was rated as being more positive by participants in the refrigerator positive condition ( $M = 6.28$ ,  $SD = 0.93$ ) than by participants in the refrigerator negative condition ( $M = 2.04$ ,  $SD = 1.12$ ). The ratings regarding the valence of the review of the cell phone (distractor product) did not



significantly differ between conditions (overall:  $M = 3.03$ ,  $SD = 1.28$ ),  $t(161) = 1.53$ ,  $p = .13$ ,  $d = 0.24$ <sup>9</sup>.

In order to test whether the modified, stronger rejection manipulation was successful, I first averaged ratings of credibility and veracity (Cronbach's  $\alpha = .80$ ). Next, a  $t$ -test on this new index was conducted to examine whether the reviews were regarded as less credible in the rejection condition. Indeed, participants rated the reviews as significantly less credible if they were told that they had been bought ( $M = 3.42$ ,  $SD = 1.25$ ) than participants who received no additional information ( $M = 4.41$ ,  $SD = 1.25$ ),  $t(161) = 5.07$ ,  $p < .001$ ,  $d = 0.79$ . Thus, the modified rejection manipulations succeeded in reducing the credibility of the initial influence attempt.

### **Explicit Focal Attitude Change**

First, I calculated one explicit attitude score (Cronbach's  $\alpha > .79$ ) by averaging across all three attitude ratings for each product. In a second step, as in Experiment 1, I calculated new dependent variables reflecting the attitudes toward the positively reviewed products and the negatively reviewed products, respectively. Next, I conducted mixed-model ANOVAs with valence of the reviews as a within-subjects factor (positive vs. negative) and rejection condition (affirmation vs. rejection) as a between-subjects factor.

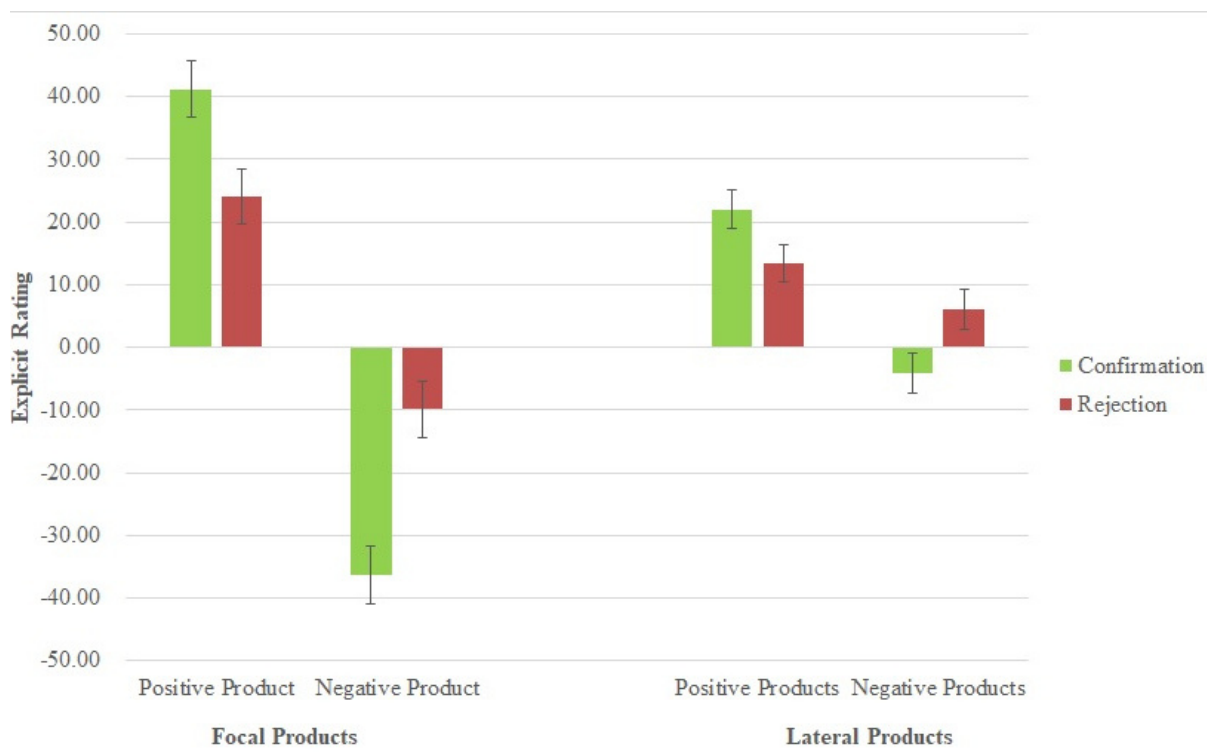
The ANOVA on focal products returned a significant main effect of valence,  $F(1, 161) = 132.70$ ,  $p < .001$ ,  $\eta^2 = .45$ . Furthermore, the predicted interaction between valence and the rejection condition was also significant,  $F(1, 161) = 20.24$ ,  $p < .001$ ,  $\eta^2 = .11$ . Thus, the pattern of attitude change was similar to that found in Experiment 1, albeit of statistical significance (vs. marginal significance in Experiment 1; Figure 10).

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<sup>9</sup> The distractor product was not included in any further analyses.

**Figure 10**

*Explicit Attitudes Toward Focal and Lateral Products as a Function of the Rejection Condition in Experiment 2*



*Note.* Higher numbers indicate more positive attitudes; scale: -100 to 100.

As shown in Figure 10, the pattern of effects was as predicted and the interaction between valence and rejection was significant. Nonetheless, mean attitudes again indicate that there was attitude change also in the rejection condition. Subsequently conducted separate analyses confirmed focal attitude change in line with the valence immanent to the reviews not only in the affirmation condition,  $t(80) = 10.94, p < .001, d = 2.02$  ( $M_{pos} = 41.19, SD = 38.03; M_{neg} = -36.28, SD = 39.07$ ), but also in the rejection condition  $t(81) = 5.15, p < .001, d = 0.79$  ( $M_{pos} = 24.03,$

$SD = 42.27$ ;  $M_{neg} = -9.92$ ,  $SD = 44.02$ ). Thus, on the one hand, attitudes toward the focal products followed the valence immanent to the reviews in both conditions. On the other hand, attitude change in the rejection condition was less than half as large as in the affirmation condition (Figure 10), indicating a considerable effect of the rejection manipulation.

Nonetheless, despite the finding of an effect caused by the modified, stronger rejection manipulation, which had been successful in reducing the perceived credibility, attitude change toward the focal product was not completely prevented. Therefore, the postulated precondition of displacement, that there should be no focal change at all, was again not fully met. There was, however, reduced focal attitude change in the rejection condition.

### **Explicit Lateral Attitude Change**

First, in order to obtain an overall estimation of LAC effects, I averaged all attitudes toward lateral products related to the positively reviewed product ( $Y1_{pos}$ ,  $Y2_{pos}$ , and  $Y3_{pos}$ ) and all products related to the negatively reviewed product ( $Y1_{neg}$ ,  $Y2_{neg}$ , and  $Y3_{neg}$ ), respectively. Next, an ANOVA on lateral products was conducted, returning a significant main effect of valence,  $F(1, 161) = 27.16$ ,  $p < .001$ ,  $\eta^2 = .14$ , and a significant interaction between valence and the rejection condition,  $F(1, 161) = 8.46$ ,  $p = .004$ ,  $\eta^2 = .05$ . Results suggest that focal attitude change in line with the influence attempt (reviews) generalized to lateral attitudes. However, as separate analyses confirmed, this effect was considerably smaller in the rejection condition ( $M_{pos} = 13.40$ ,  $SD_{pos} = 29.13$ ;  $M_{neg} = 5.99$ ,  $SD_{neg} = 26.90$ ),  $t(81) = 1.71$ ,  $p = .092$ ,  $d = -0.26$ , compared to the affirmation condition ( $M_{pos} = 22.02$ ,  $SD_{pos} = 25.44$ ;  $M_{neg} = -4.09$ ,  $SD_{neg} = 30.66$ ),  $t(80) = 5.49$ ,  $p > .001$ ,  $d = -0.93$  (Figure 10). Whereas generalization was expected in general, I had hypothesized that lateral attitudes would be unaffected by rejection.

In order to explore whether lateral (vs. focal) attitudes were relatively less affected by rejection, I conducted another mixed-model ANOVA including product status (focal vs. lateral)

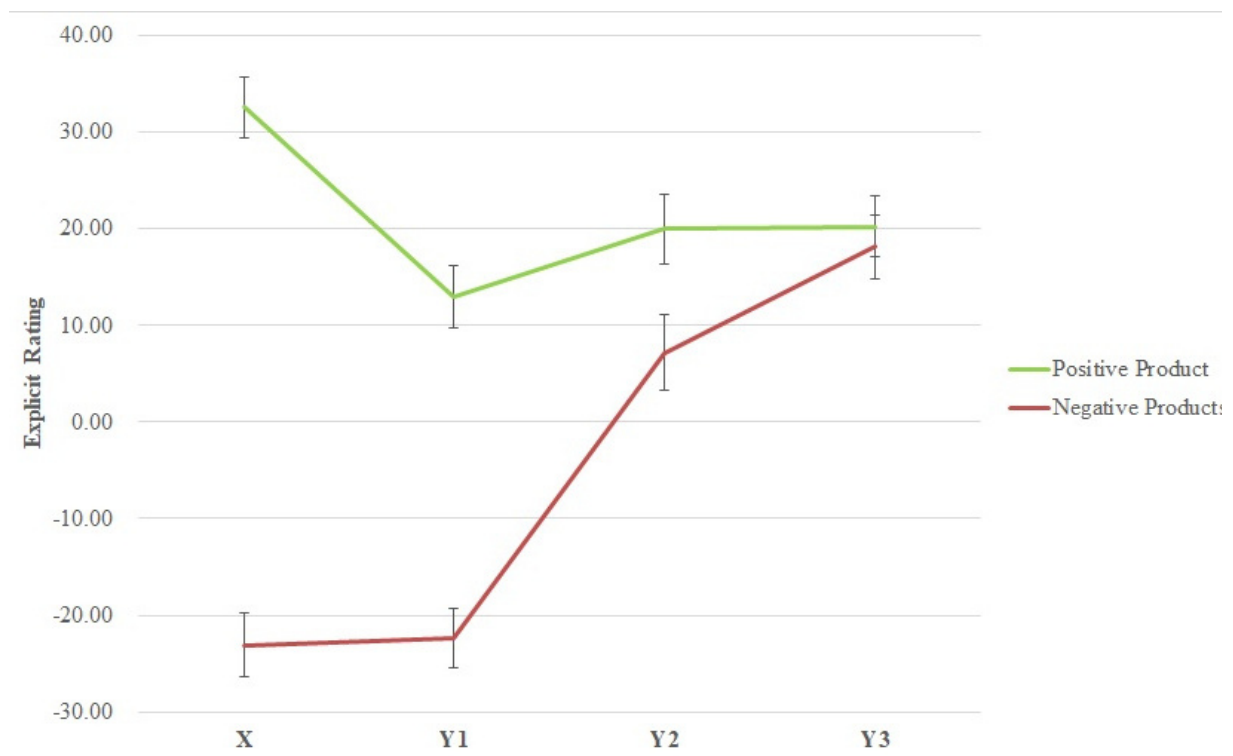
as a within-subjects factor. The ANOVA returned a significant interaction between valence, rejection, and product status (focal vs. lateral),  $F(1, 161) = 8.35, p = .004, \eta^2 = .49$ . The effect of valence, that is, the difference between affirmation and rejection condition, was less pronounced for lateral (vs. focal) evaluations.

Next, I examined the effects of similarity to the focal object on lateral attitudes. I explored the quadratic similarity indicative of displacement effects, despite the finding that focal attitude change in the rejection condition was reduced but not completely eliminated.

In order to examine the potential moderation by similarity, a mixed-model ANOVA with valence (positive vs. negative) and similarity (X, Y1, Y2, Y3) as within-subjects factors and rejection condition (affirmation vs. rejection) as between-subjects factor was conducted. The ANOVA returned a significant interaction of valence and linear similarity,  $F(1, 161) = 81.18, p < .001, \eta^2 = .34$  (Figure 11). Furthermore, unlike Experiment 1, the effect was qualified by the rejection condition,  $F(1, 161) = 4.44, p = .037, \eta^2 = .03$ , resulting in a three-way interaction. However, there was no interaction between quadratic similarity and rejection,  $F(1, 161) = 2.30, p = .132, \eta^2 = .014$ . In order to clarify the effects, further analyses were conducted in which the affirmation and the rejection condition were looked at separately. Linear similarity was found in both conditions but the effect for a linear trend was stronger in the confirmation condition,  $F(1, 80) = 56.14, p < .001, \eta^2 = .41$ , than in the rejection condition,  $F(1, 81) = 26.43, p < .001, \eta^2 = .25$ . Thus, there was linear generalization in both conditions, albeit with a stronger effect when the initial influence attempt had not been rejected.

**Figure 11**

*Explicit Attitudes Toward Focal and Lateral Products as a Function of Similarity in Experiment 2*



*Note.* Higher numbers indicate more positive attitudes; scale: -100 to 100.

### Implicit Focal and Lateral Attitude Change

The ANOVA on implicit attitudes (i.e., AMP scores) toward focal products returned a significant main effect of valence,  $F(1, 154) = 7.93, p = .005, \eta^2 = .049$ . As predicted, the effect of valence was again not qualified by the rejection condition,  $F < 1$ . However, this effect did not constitute the expected implicit change in line with the valence of the reviews. Instead, implicit attitudes toward positively reviewed focal products were more negative ( $M = 0.48, SD = 0.24$ )

than attitudes toward negatively reviewed focal products ( $M = 0.54$ ,  $SD = 0.24$ ). Thus, on an implicit level, the reviews elicited focal contrast.

The ANOVA on averaged implicit attitudes toward lateral products returned no significant main or interaction effects, both  $F < 1$ . Thus, on an implicit level, there was no generalization to lateral products.

### **Explicit and Implicit Attitude Change**

Despite the surprising effects regarding implicit attitudes, as in Experiment 1, I again tested the hypothesis that rejection would affect only explicit but not implicit attitudes.

An ANOVA with valence of the reviews (positive vs. negative), product status (focal vs. lateral), and type of assessment (explicit vs. implicit;  $z$ -standardized) as within-subjects factors, and rejection condition (affirmation vs. rejection) as between-subjects factor returned a significant three-way interaction of valence, type of measurement, and rejection condition,  $F(1, 161) = 8.96$ ,  $p = .003$ ,  $\eta^2 = .053$ . As in Experiment 1, this result indicates that there is an interaction of valence and rejection condition only on the explicit but not the implicit level. Thus, the effect suggests that the information stating that reviews had been bought by a company affected only explicit attitudes.

The four-way interaction of valence, type of measurement, rejection condition, and object status (focal, lateral)  $F(1, 161) = 2.86$ ,  $p = .093$ ,  $\eta^2 = .017$  revealed only a trend toward significance, hinting at the reported three-way interaction being somewhat more influential for the focal attitude object. Although Experiment 2 again suggested that rejection was only relevant to propositional processes, the unexpected finding of implicit focal contrast and the absence of implicit generalization (e.g. of the focal contrast) imply that any interpretation of implicit data has to be performed with caution.

### Discussion of Experiment 2

In Experiment 2 I found explicit effects similar to Experiment 1 while using different stimuli, a stronger rejection manipulation and a refined multi-item explicit attitude measure. The finding of explicit generalization as a linear function of similarity between focal and lateral products had been expected. Indeed, in Experiment 2 as in Experiment 1, there was a generalization from focal to lateral products, with stronger effects for more similar lateral products.

In contrast to Experiment 1, the rejection manipulation was successful. Nevertheless, despite using a stronger, more sophisticated rejection manipulation, which did succeed in lowering participants' perception of the review's credibility, there was focal attitude change and LAC in line with the discredited initial influence attempt (i.e., the reviews). As in Experiment 1, focal and lateral attitude change was weaker but statistically significant in the rejection condition, signifying attenuated generalization rather than displacement. However, in Experiment 2, the difference in evaluations as a function of affirmation versus rejection was less pronounced for lateral evaluations. This might be indicative of displacement not in absolute but in relative terms. While complete displacement patterns cannot emerge when there is any focal change, the reported pattern suggests that rejection information affects focal and lateral attitudes to a different degree. To be precise, lateral attitudes are less affected by information invalidating the initial influence attempt.

On an implicit level, analyses returned unexpected results indicating a contrast effect for the focal object and no generalization at all. Nonetheless, analysis of combined explicit and implicit data returned significant interaction with rejection. On the one hand, as in Experiment 1, the information discrediting the reviews was again taken only into account for explicit evaluation. While I cannot explain the exact pattern of implicit effects, the fact that rejection was only

influential for explicit evaluations again supports the assumptions of processes underlying LAC (see Discussion of Experiment 1). On the other hand, the lack of implicit LAC challenges the assumption of explicit LAC being a result of the affirmation of implicit LAC. In Experiments 1 and 2, I found evidence in favor of the postulated moderation by similarity (on an explicit level); however, not much is yet known about other potential moderators of LAC.

### **Experiment 3**

Besides the continuous examination of the main tenets of LAC, the primary goal of Experiment 3 was an examination of preference for consistency (Pfc), one of the postulated moderators of LAC. Specifically, I aimed to test the hypothesis that higher Pfc on the part of the participants would lead to stronger generalization and displacement effects. Regarding generalization, the underlying rationale is that attitude change toward a focal object would lead to an inconsistency between evaluations of focal and lateral objects, if lateral attitudes were not changed in line with focal attitude change. Given the similarity between focal and lateral attitude objects, attitude change in one part of this system (here: the focal product) of interconnected attitudes will lead to inconsistency and, thus, pressure to align the other attitudes (= the lateral products). Regarding displacement, the rationale is similar but slightly different. According to Glaser and colleagues (2015), there is not only the matter of consistent focal and lateral attitudes but also consistency between focal and lateral attitudes on the one side and the valence incorporated in the influence attempt (e.g., reviews) on the other. One solution to regain consistency would be attitude change toward focal and lateral attitude objects in line with the influence attempt. In the case of rejection, however, focal attitude change is prevented. As reasons to reject apply only to focal attitudes and prevent focal change, only lateral attitudes are



changed in line with the influence attempt. The cognitive system would therefore have re-established consistency between the influence attempt and lateral attitudes<sup>10</sup>.

In Experiment 3 I wanted to be able to draw causal conclusions about a potential moderation by PFC. Thus, PFC was not only assessed as a disposition (cf. Cialdini et al., 1995) but experimentally manipulated. Although, to my knowledge, this has not been attempted before, there is evidence of similar individual difference variables being manipulated experimentally (e.g., Imhoff & Erb, 2009). Apart from the experimental induction of PFC, the procedure in Experiment 3 was similar to Experiments 1 and 2. Since the focus of Experiment 3 was on a moderation by PFC and with economy of design in mind, only explicit (vs. implicit) attitudes were assessed. Nonetheless, with regard to the explicit expressions of generalization and displacement effects, hypotheses were identical to Experiments 1 and 2. In addition to that, stronger generalization and displacement effects were predicted for participants who were subjected to an induction of high (vs. low) PFC.

## Method

### Participants, Design, and Procedure

In total, 150 participants (73 male, 77 female;  $M_{\text{age}} = 22.98$ ,  $SD_{\text{Age}} = 3.55$ ; all students) were recruited at Bielefeld University and randomly assigned to one of the conditions of a 2 (PFC feedback: high vs. low; between-subjects) x 2 (affirmation vs. rejection<sup>11</sup>, between-subjects) x 2

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<sup>10</sup> However, according to dissonance theory (Festinger, 1957) there are still dissonant elements present: Firstly, there is the persuasive information and the unchanged focal attitude, an inconsistency which would be expected to result in discomfort, hence an attempt to resolve this inconsistency. The LAC model (Postulate 6) states that reasons to reject focal attitude change may become inaccessible in memory over time (see Glaser et al., 2015). As a result of this, there may be a delayed focal attitude change and displacement may become (delayed) generalization.

Furthermore, in every case of displacement there is also inconsistency between the unchanged focal attitude and changed lateral attitudes, which may result in either delayed focal change (delayed generalization) or a delayed reversal of LAC. Nonetheless, neither of these processes nor Postulate 6 was tested in the present thesis.

<sup>11</sup> This condition is hereinafter referred to as rejection.

(valence: backpack positive vs. shower gel negative, within-subjects) mixed design<sup>12</sup>. As in Experiment 1 and Experiment 2, the target had been 40 participants per condition. However, in Experiment 3 this number was not quite achieved. Nonetheless, post-hoc power analysis with G\*Power showed that achieved power to detect a medium-sized effect given the present  $N$ ,  $\rho = -.3$ , and an alpha of .05 was satisfactory, .90. The power analysis was conducted for an examination of focal and lateral effects, to be precise: a repeated measures ANOVA with within-subjects factor (valence) by between-subjects factors (rejection, Pfc feedback) interactions.

At the beginning of Experiment 3, participants read that the study was investigating the influence of personality on purchasing habits. Next, demographic information was assessed. After that, the actual experiment started with the Pfc manipulation. First, all participants completed a pen-and-paper version of the “RPDA-R” (Imhoff, 2005), a fictitious 32-item personality questionnaire. Afterward, participants were asked to wait for a moment while the experimenter ostensibly analyzed their results.

The experimenter’s feedback about participants’ results depended on the experimental condition. In the high Pfc feedback condition, the researcher told participants that she had realized that the participants’ emotions, behavior, and cognitions were very consistent, which indicated that it was important for them to think and act congruently. In the low Pfc condition, the experimenter told participants that their emotions, behavior, and cognitions were divergent which indicated that it was important for them to remain flexible. The experimenter told participants in both conditions that such a personality pattern was very good as it would reduce tension and arousal as well as increase general well-being. Furthermore, she told participant that

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<sup>12</sup> Additionally, a non-factorial control group reported only attitudes toward the products. Control group participants were not included in any analyses.

there were studies showing that persons exhibiting this pattern would experience professional success and a high social acceptance<sup>13</sup>.

Subsequently, all participants were shown the three customer (positive, negative, neutral) reviews in an individually randomized order. Half of the participants, were then subjected to the rejection manipulation. Afterward, all participants reported attitudes toward focal and lateral products and completed the German PfC scale (Heitland et al., 2009) in order to check whether the feedback manipulation had had the intended effect. As a further manipulation check, participants answered questions regarding the perceived credibility and veracity of the reviews (see Experiment 2). At the end of the experiment, participants received EUR 4.00 as compensation, were thanked, debriefed and dismissed.

### **Attitude Objects and Persuasive Information**

In Experiment 3, the same focal and lateral products as in Experiment 1 (Figure 3), and the same distractor as in Experiment 2 were used (Appendix C). The customer reviews used as the valence manipulation were very similar to Experiments 1 and 2 in their general outline. There were, however, a few slight differences, such as a 2 out of 5 stars rating (instead of 1.5 stars) in the negative condition (see Appendix C). Given the additional experimental condition (PfC), economy of design was maintained by abandoning the counterbalancing of valence. Instead, one product, the shower gel, always received negative reviews and the other product, the backpack, always received positive reviews. In addition to the focal and lateral products, a cell phone was

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<sup>13</sup> The manipulation of PfC via fake feedback of a fictitious personality test had been pretested. In total, 40 participants (18 male, 22 female; all students) filled out the fictitious personality questionnaire RPDA-R by Imhoff (2005) and were given feedback as described in Experiment 3. After a filler task, they completed the PfC scale (Heitland et al., 2009; Cronbach's  $\alpha = .86$ ). Participants who had received the feedback that they were high in PfC scored higher on the PfC scale ( $M = 4.16$ ,  $SD = 0.89$ ) than participants who had received the feedback that they were low in PfC ( $M = 2.86$ ,  $SD = 0.73$ ),  $t(38) = 5.08$ ,  $p < .001$ ,  $d = 1.60$ .

used as a distractor which received moderate customer reviews<sup>14</sup>. The same, stronger, rejection manipulation as in Experiment 2 was used.

### Dependent Variables

Attitudes toward all products were assessed with five scales ranging from 1 to 9 (there was no specific reason to change the scale). As in Experiment 2, the endpoints of two scales were labeled *very bad* - *very good* and *not at all appealing* - *very appealing*, respectively. In addition, participants were again asked to report the likelihood of buying the product (if they needed it) on a scale from *very low* to *very high*. Two new items were used, assessing attitudes on scales with the endpoints labelled *not extraordinary* - *very extraordinary*, and *not convincing* - *very convincing*, respectively. For economy of design, no implicit measure was used in Experiment 3.

## Results

### Manipulation Checks

Several *t*-tests were conducted to test whether the reviews were perceived as intended. The *t*-test on credibility returned a significant effect,  $t(118) = 2.54, p = .013, d = 0.46$ . As intended, participants reported that reviews were less credible in the rejection condition ( $M = 4.82, SD = 1.63$ ) than in the affirmation condition ( $M = 5.65, SD = 1.96$ ). However, there were no different results between the affirmation and the rejection condition regarding the veracity of the reviews,  $t < 1$ , or an index of averaged credibility and veracity,  $t(118) = 1.16, p = .249$ .

Whereas the rejection manipulation was only partly successful, the PfC manipulation worked as intended. Participants who received the high-PfC feedback from the experimenter

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<sup>14</sup> The distractor product was not used in any analyses.

scored higher on the Pfc scale ( $M = 4.00$ ,  $SD = 0.81$ ) than participants who received the low-Pfc feedback ( $M = 3.14$ ,  $SD = 1.03$ ),  $t(118) = 5.13$ ,  $p < .001$ ,  $d = 0.94$ .

### **Focal Attitude Change**

First, I calculated a single index to measure attitudes toward each product by averaging four of the five items used to assess explicit attitudes. Ratings measuring a product's extraordinariness were omitted, as including them would have reduced internal consistency (from Cronbach's  $\alpha = .79$  to  $.74$  for all products).

Next, I conducted several mixed-model ANOVAs with valence of the reviews (positive vs. negative) as within-subjects factor and rejection condition (affirmation vs. rejection) and Pfc feedback (Pfc high vs. Pfc low) as between-subjects factors.

The ANOVA on focal products returned a significant main effect of valence,  $F(1, 116) = 185.95$ ,  $p < .001$ ,  $\eta^2 = .62$ , and a significant interaction between valence and rejection,  $F(1, 116) = 44.82$ ,  $p < .001$ ,  $\eta^2 = .23$  (Figure 12).

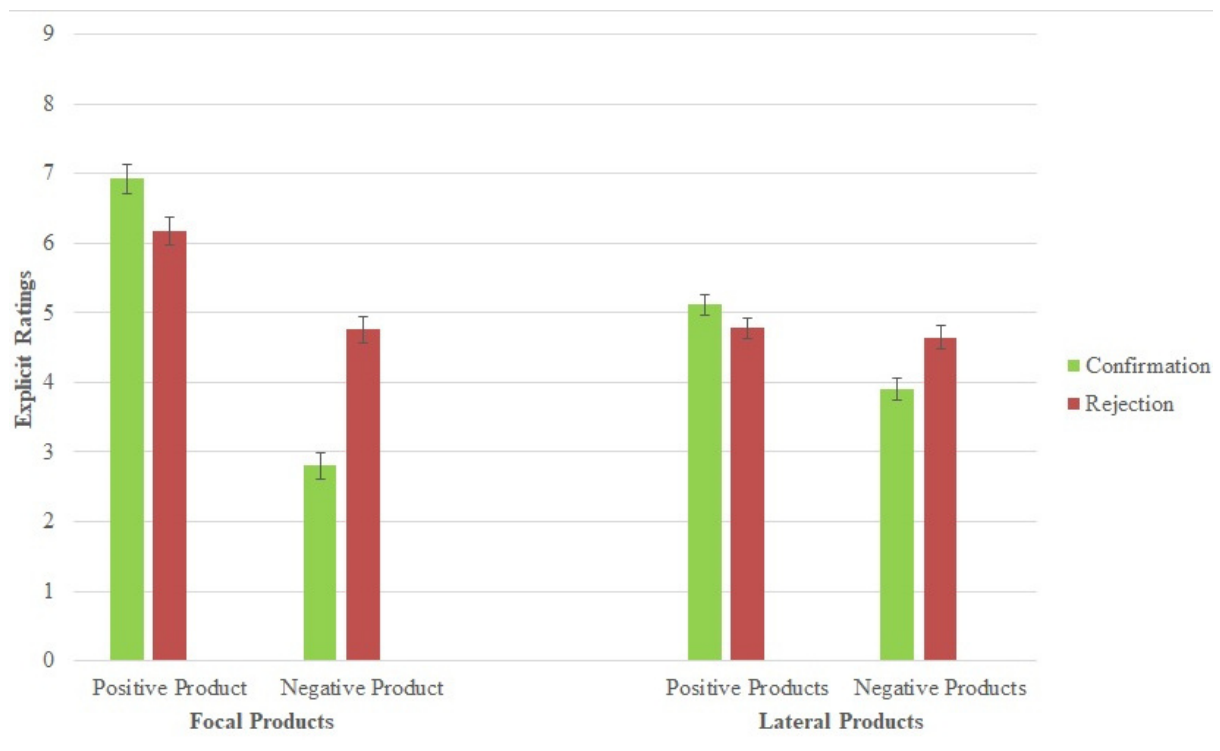
As shown in Figure 12, the pattern of effects was as predicted and the interaction between valence and rejection was highly significant. Nonetheless, mean attitudes once again also indicate that there was focal attitude change in the rejection condition. Subsequently conducted separate analyses confirmed focal attitude change in line with the valence immanent to the reviews in the affirmation condition,  $t(59) = 13.07$ ,  $p < .001$ ,  $d = 2.72$  ( $M_{pos} = 6.92$ ,  $SD = 1.54$ ;  $M_{neg} = 2.81$ ,  $SD = 1.51$ ), but also in the rejection condition  $t(59) = 5.46$ ,  $p < .001$ ,  $d = 1.00$  ( $M_{pos} = 6.17$ ,  $SD = 1.39$ ;  $M_{neg} = 4.76$ ,  $SD = 1.45$ ). However, while focal attitude change did occur in the rejection condition, compared to the affirmation condition the effect was less than half as large.

Therefore, as in Experiments 1 and 2, the information that reviews had been bought did not altogether prevent attitude change toward the focal products in line with the valence of the

(discredited) reviews (Figure 12). As a result, the postulated precondition for obtaining displacement effects, which states that there should be no focal change, was again not fully met.

**Figure 12**

*Explicit Attitudes Toward Focal and Lateral Products as a Function of the Rejection Condition in Experiment 3*



*Note.* Higher numbers indicate more positive attitudes; scale: 1 to 9.

The ANOVA returned no significant interaction of valence with the Pfc condition,  $F(1, 116) = 2.72, p = .102, \eta^2 = .023$ , suggesting that Pfc did not (significantly) moderate focal attitude change. Looking at the descriptive data, however, there is some indication of stronger attitude change for participants in the high (vs. low) Pfc condition. In the positive review condition, high Pfc participants ( $M = 6.72, SD = 1.56$ ) reported more positive attitudes toward

products than low Pfc participants ( $M = 6.37, SD = 1.45$ ). In the negative review condition, high Pfc participants ( $M = 3.63, SD = 1.75$ ) reported more negative attitudes toward products than low Pfc participants ( $M = 3.95, SD = 1.79$ ).

### **Lateral Attitude Change and Moderation by Pfc**

First, in order to obtain an overall estimation of LAC effects, I averaged all attitudes toward lateral products related to the positively reviewed product ( $Y1_{pos}, Y2_{pos},$  and  $Y3_{pos}$ ) and all products related to the negatively reviewed product ( $Y1_{neg}, Y2_{neg},$  and  $Y3_{neg}$ ), respectively.

Next, an ANOVA on averaged lateral attitudes was conducted, which returned a significant main effect of valence,  $F(1, 116) = 17.54, p = .001, \eta^2 = .131$ , and a significant interaction between valence and the rejection condition,  $F(1, 116) = 11.28, p < .001, \eta^2 = .089$ . Results indicate that focal attitude change generalized to lateral products. As in previous experiments, LAC was affected by the rejection manipulation aimed at preventing focal attitude change.

To further clarify the latter effect, I conducted separate analysis to test for LAC in only the affirmation and the rejection conditions, respectively. Analyses returned a significant effect of valence in the affirmation condition,  $t(59) = 5.05, p < .001, d = 1.02$ . Attitudes toward lateral products were more positive in the positive review condition ( $M = 5.11, SD = 1.07$ ) than in the negative review condition ( $M_{neg} = 3.90, SD = 1.32$ ). In the rejection condition, this effect did not become significant,  $t < 1$  (Figure 12).

In order to explore whether lateral (vs. focal) attitudes in Experiment 3 were relatively less affected by rejection, I conducted another mixed-model ANOVA including product status (focal vs. lateral) as a within-subjects factor. The ANOVA returned a significant interaction between valence, rejection, and product status (focal vs. lateral) was significant,  $F(1, 116) = 20.48, p < .001, \eta^2 = .150$ . As already suggested by the results of the separate analyses, the

difference between affirmation and rejection condition was less pronounced for lateral evaluations.

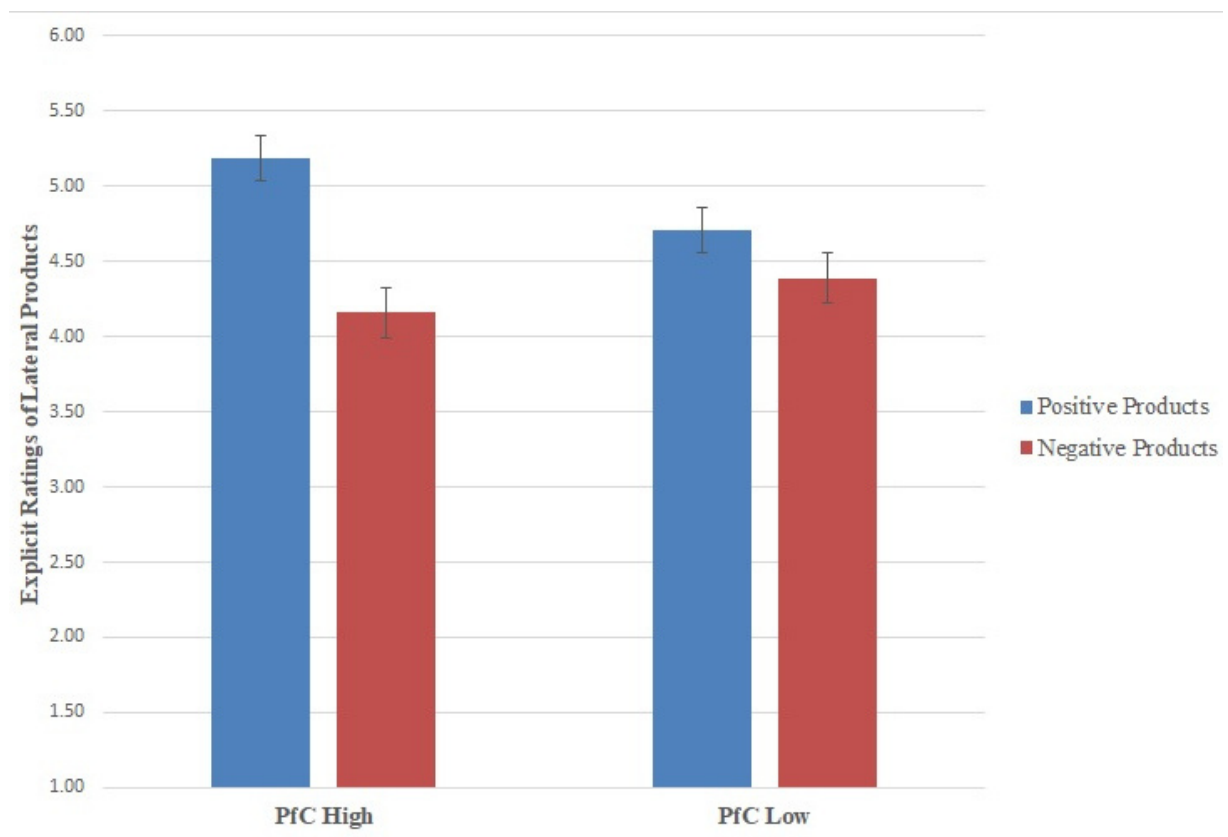
The ANOVA on lateral attitudes also returned a significant interaction of valence and Pfc condition,  $F(1, 116) = 4.79, p = .031, \eta^2 = .040$ , but no three-way interaction of valence, rejection condition, and Pfc,  $F(1, 116) = 1.58, p = .21$ . The interaction of valence and Pfc was an indication in favor of the predicted effect of more pronounced valence effects for participants in the high Pfc condition (independent of rejection). The effect was clarified by separate analyses considering only either of the Pfc conditions. Valence was significant in the high Pfc condition ( $M_{\text{pos}} = 5.18, SD_{\text{pos}} = 1.08; M_{\text{neg}} = 4.16, SD_{\text{neg}} = 1.35$ ),  $t(59) = 4.59, p < .001, d = 0.83$ , but not in the low Pfc condition ( $M_{\text{pos}} = 4.71, SD_{\text{pos}} = 1.16; M_{\text{neg}} = 4.38, SD_{\text{neg}} = 1.35$ ),  $t(59) = -1.28, p = .205, d = 0.26$ . Overall, these results support the hypothesis that Pfc moderates generalization (Figure 13).

In order to examine whether the finding of a valence by Pfc interaction for lateral (but not focal) products indeed constituted reinforced generalization (i.e., stronger generalization for participants with a high Pfc), the ANOVA described above was conducted once again. However, this analysis also included product status (focal vs. lateral) as another within-subjects factor. Nevertheless, the ANOVA did not return a significant interaction of valence, Pfc, and product status, which would have indicated that the interaction of valence and Pfc occurred specifically for LAC,  $F < 1$ .



**Figure 13**

*Explicit Attitudes Toward Lateral Products as a Function of the Rejection Condition and Preference for Consistency in Experiment 3*



*Note.* Higher numbers indicate more positive attitudes; scale: 1 to 9.

Subsequently, as a further exploration of relations of Pfc and LAC, I also examined participants' scores on the Pfc questionnaire, which a priori had primarily been intended as a manipulation check. First, I calculated correlations between the Pfc scores and the positive and negative focal and averaged lateral products. In line with LAC, I expected significant correlations only between Pfc and lateral products. To be precise, I expected a positive correlation between

PfC and the lateral products similar to the positively reviewed focal product and negative correlations between PfC and the lateral products similar to the negatively reviewed focal product. Analyses returned a significant correlation only for PfC and the negative lateral products,  $r(120) = -.34, p < .001$ , all other  $p > .21$ . Although, found only for negative products, evaluations more in line with the manipulation, when PfC was higher again supports LAC predictions.

Next, I examined whether PfC as a continuous variable moderated the effect of focal on lateral attitude change. Two hierarchical regression analyses were conducted: one for positive and one for negative products. In the first step, focal attitudes and PfC-scores were entered. In the second step a product term representing the interaction between focal attitudes and PfC scores was entered. The interaction terms, however, did not explain a significant increase in variance in lateral attitudes,  $p = .38$  for negative and  $p = .41$  for positive products. Therefore, despite correlations between PfC-scores and negative lateral products, results are not necessarily indicative of a moderation by PfC.

### **Lateral Attitude Change and Moderation by Similarity**

Next, effects of similarity to the focal object on lateral attitudes were examined. The ANOVA returned a significant interaction of linear similarity (X, Y1, Y2, Y3) and valence,  $F(1, 118) = 203.46, p < .001, \eta^2 = .63$ , which was further qualified by the rejection condition,  $F(1, 118) = 9.10, p = .003, \eta^2 = .07$ . In addition to that, the ANOVA also returned a significant interaction of quadratic similarity and valence,  $F(1, 118) = 40.89, p < .001, \eta^2 = .26$ , which was also further qualified by the rejection condition,  $F(1, 118) = 6.80, p = .010, \eta^2 = .054$ .

In order to clarify the interaction between similarity and rejection, two further ANOVAS were conducted, looking only at the affirmation and the rejection condition, respectively. When only participants in the affirmation condition were included, the ANOVA returned a significant

interaction of linear similarity and rejection<sup>15</sup>  $F(1, 59) = 135.20, p < .001, \eta^2 = .70$ . When only participants in the rejection condition were included, the ANOVA also returned a significant but comparatively smaller effect for the interaction of linear similarity and valence,  $F(1, 59) = 70.63, p < .001, \eta^2 = .55$ . Furthermore, in the rejection condition, there was also a significant interaction between quadratic similarity and valence,  $F(1, 59) = 38.28, p < .001, \eta^2 = .39$ .

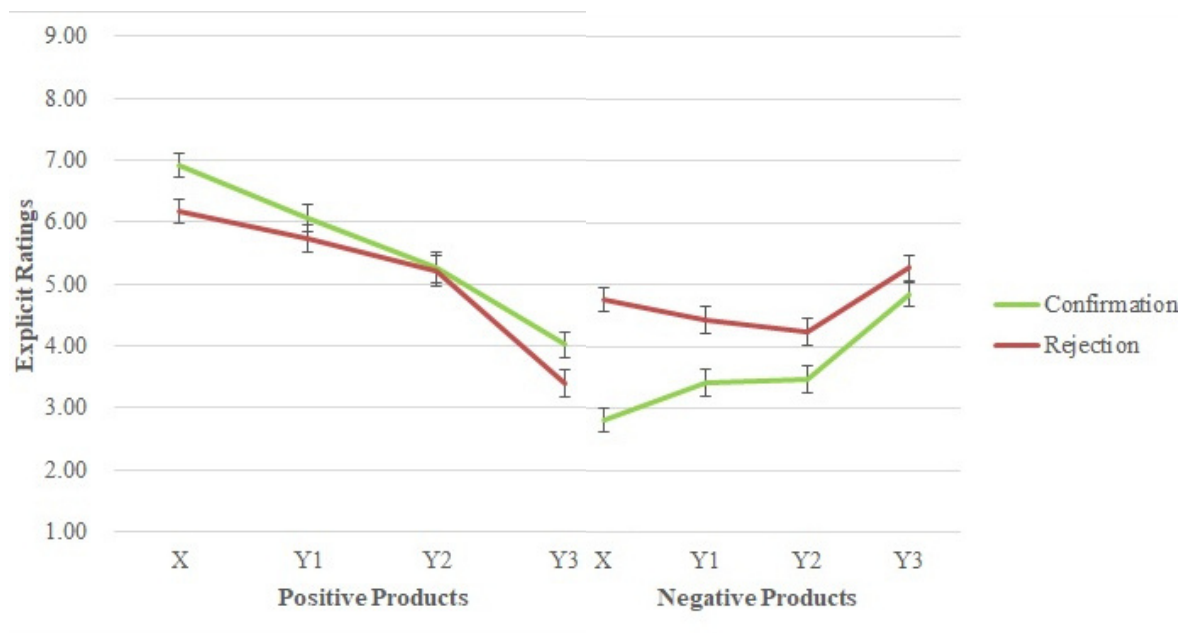
Next, I explored whether the interaction of quadratic similarity and valence in the rejection condition represented displacement. For these analyses I only included participants in the rejection condition and tested effects on the positive and the negative products separately. For the positive products, an ANOVA returned a significant linear trend,  $F(1, 59) = 86.27, p < .001, \eta^2 = .59$ , and a significant quadratic trend,  $F(1, 59) = 16.79, p < .001, \eta^2 = .22$ . Nonetheless, as shown in Figure 14, the quadratic effect is not indicative of displacement. There is no “reversed U-curve” but a gradual decrease of positivity of evaluations (linear trend), which is accentuated for attitudes toward the least similar product (quadratic trend). For the negative products, an ANOVA returned only a significant quadratic trend,  $F(1, 59) = 23.27, p < .001, \eta^2 = .28$ . As displayed in Figure 14, effects are in line with predictions for displacement. Participants reported the most negative attitudes toward the product of moderate similarity to the focal product. Attitudes toward the focal product itself as well as toward the very similar and the hardly similar lateral products were comparatively more positive. Thus, for the first time, a pattern resembling the predicted displacement effect emerged.

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<sup>15</sup> In addition, the ANOVA also returned a significant quadratic trend,  $F(1, 59) = 7.58, p = .008, \eta^2 = .11$ , as well as a marginally significant cubic trend,  $F(1, 59) = 3.85, p = .055, \eta^2 = .06$ .

**Figure 14**

*Explicit Attitudes Toward Focal and Lateral Products as a Function of Similarity and Rejection Condition in Experiment 3*



*Note.* Higher numbers indicate more positive attitudes; scale: 1 to 9.

### Discussion of Experiment 3

As in the two previous experiments, in Experiment 3 I again found evidence supporting the assumption of generalization moderated by similarity. Although there was focal attitude change in both conditions, effects were considerably smaller in the rejection condition. For the first time, there was also an indication of a displacement effect for lateral attitudes. For the negative products result patterns displayed the “U-curve” which was hypothesized in case of rejected focal attitude change. Thus, at least for the negative products, results were very similar to

displacement as hypothesized in the LAC model, despite the finding that rejection only reduced but did not eliminate focal change.

Another focus of Experiment 3 was testing the assumption of a moderation by Pfc. As expected, participants in the high (vs. low) Pfc condition displayed stronger lateral effects. This effect, however, was not qualified by an interaction with object status (focal, lateral); a similar, albeit not significant pattern of effects was also observed for focal objects. Participants in the high Pfc condition rated not only lateral attitude objects but also the focal object more in line with the manipulation than participants in the low Pfc condition. On the one hand, this pattern of results makes the interpretation unlikely that the observed effects of Pfc on lateral attitudes are an indication of Pfc increasing generalization without affecting focal attitudes. On the other hand, the result is very much in line with the rationale that I had specifically formulated for displacement effects. Differences between the valence incorporated to the influence attempt and the (focal and lateral) product evaluations increase the pressure to align the attitudes toward the products. Although formulated for displacement, the effects might also be relevant for focal attitude change, that is, if the rejection manipulation is not strong enough to suppress focal attitude change altogether.

Indeed, effects of Pfc on (lateral) attitude change might consist of two levels: First, there is a pressure to align salient attitudes to the valenced information immanent to the influence attempt. Second, there is pressure to align lateral attitudes to the now changed focal attitude. Effects on both levels should be increased for people high (vs. low) on situational or dispositional Pfc. Nonetheless, although high Pfc increased LAC, the lack of an interaction between Pfc and focal versus lateral attitudes as well as the results of the moderation analyses do not favor the assumption that Pfc moderates generalization exactly as predicted.

### Discussion of Part I

In Part I, I was able to show explicit generalization from a focal to several lateral products. Reading a valenced product review resulted in focal attitude change toward the respective products. Furthermore, participants changed their attitudes not only toward the described products but also to other products that had not been mentioned in the reviews: focal change generalized and LAC occurred. The extent of (explicit) generalization varied as a function of the degree of similarity to the focal object. LAC in line with the valence immanent to the initial influence attempt was generally stronger when similarity was high.

In Experiment 3, there was also some indication that PfC moderates generalization: Analyses for lateral (but not focal) effects returned stronger effects of valence when PfC was high. This effect, however, did not interact with the focal versus lateral status of the products, which does not support the hypothesis.

Whereas the patterns of explicit data support the hypotheses regarding generalization, patterns of implicit data are less clear. In Experiment 1, I found implicit generalization, albeit not moderated by the degree to which the different lateral products differed in similarity to the focal product. I discussed the conjecture that while associations based on a shared clear affiliation with a brand or an allocation to a category may affect implicit evaluations, thus, allowing for generalization in general, more nuanced differences as expressed by gradual differences in similarity may not affect implicit attitudes or may be outside the AMP's capabilities of measurement. In general, the sensitivity of implicit measures to evaluative information may be limited (Bar-Anan & Nosek, 2016b). Furthermore, the gradients of declining similarity between focal and lateral objects ( $X-Y1 > X-Y2 > X-Y3$ ) had been defined a priori on the basis of pretests (Appendix A) that were conducted using explicit measurements only.

The expectations regarding implicit results were therefore not necessarily based on automatic similarity perceptions but rather on an assumption of explicit-implicit parallelism, which might not be warranted. Whereas the lack of a moderation by similarity for implicit LAC in Experiment 1 can be explained, there is no theoretical explanation for the implicit lateral contrast found in Experiment 2.

Altogether, while the data collected in Experiments 1 to 3 does not allow for conclusive judgment about the LAC model as a whole, it does support some of the hypotheses derived from LAC. First, there was (explicit) generalization in all experiments. This result not only supports the assumptions regarding LAC as a consequence of affirmation of focal change as describes by Glaser and colleagues (2015), it also emphasized that generalization is indeed a general phenomenon which is not restricted to specific domains such as intergroup contact (e.g., Pettigrew, 1997, 2009; Pettigrew & Tropp, 2006; Tausch et al., 2010; van Laar et al., 2005) or EC (e.g., Gast & De Houwer, 2012; Glaser & Kuchenbrandt, 2017; Verosky & Todorov, 2010, 2013; Walther, 2002).

Besides similarity moderating explicit generalization, (explicit) lateral attitudes were also affected by participants' level of Pfc. It is, however, not completely clear as to what kind of effects this result represents. It might be the extent to which Pfc moderates generalization, a generalization of changed focal effect patterns when Pfc varied, or two separate effects: an alignment of attitudes to the valence incorporated in the influence attempt as well as an alignment of lateral to focal attitudes. Completely negating any focal effect would allow for a testing of the initial hypothesis, that is, whether Pfc moderates generalization, independently of any effects it might have on focal evaluations. Given that, despite the use of a strong rejection condition, this precondition of displacement was not achieved in Experiment 3, there is no final conclusion as to how Pfc affects LAC.

Furthermore, I have not tested the role of PFC on implicit attitude change so far. In general, assumptions regarding the influence of PFC on implicit processes mirror the assumptions regarding explicit processes. The need to reconcile contradicting attitudes should also be influential on an associative level. However, it is also conceivable that PFC is influential only on an explicit level. Some researchers (Gawronski & Strack, 2004; Gawronski, 2012) have argued that cognitive elements involved in logical relations “have to be understood as propositions about states of affairs that are regarded as true or false by the individual” (Gawronski 2012, p. 653). From this point of view, differences in participants’ PFC should be visible only on explicit attitudes. There are, however, also IAT studies (Horcajo et al., 2010) in which an implicit spreading of activation adhered to balance principles. For example, in an experiment conducted by Horcajo and colleagues (2010) participants who associated “self” with “good” showed more self-vegetable associations when they had thought about the benefits (vs. harmful consequences) of vegetables. Nonetheless, the PFC-scale by Cialdini and colleagues (1995) measures individual differences in the desire to be consistent, to be perceived as consistent, and for others to be consistent (Guadagno & Cialdini, 2010). One might speculate that not all of these aspects are equally influential on an associative level. In order to gain further insights, PFC was included as a trait-variable in Part II of the present text, where implicit measures were also included (Experiment 5 and Experiment 6).

At this point, there are two major findings with regard to the evaluation of the LAC model in general and specifically Postulate 3. On the one hand, there is plenty of evidence in support of affirmation of focal change resulting in generalization. On the other hand, findings hardly allow for any interpretation of the assumptions regarding displacement. Displacement as a result of rejection of focal attitude change is central to the LAC model but Experiments 1 to 3 failed in creating the hypothesized precondition for displacement, that is, a complete negation of focal



attitude change. Thus, in order to test displacement effects as hypothesized by Glaser and colleagues (2015), creating conditions that invalidate all focal attitude change is a major challenge. There are several ways in which this may be achieved. While I did not assess the subjective importance of the product reviews to participants, it seems possible that participants' personal involvement in Experiments 1 to 3 was low. As a result, the information that reviews were fake (and bought by agencies) might have lacked importance for participants, reducing the information's impact. Creating a rejection condition that had a greater relevance to participants (e.g., Petty & Cacioppo, 1986) could potentially result in stronger focal suppression. This approach was used in Experiment 6.

Furthermore, in line with other research (e.g., Alvaro & Crano, 1997; Wood et al., 1994), source information could be varied in other ways than simply stating that it provides false information. For example, sources could be derogated as being untrustworthy in general, a minority source could be used, and so on. Besides introducing source information, rejection could be paired with positive affect (cf. Petty & Briñol, 2015). For example, if participants felt that rejecting attitude change made them into "the brave few" that resisted manipulation, effects might be stronger. Literature on misinformation (e.g., Lewandowsky et al., 2012), which is a domain where the problem of correctional information being unable to completely negate previous (mis-)information is well known, would suggest the technique of allowing and promoting alternatives instead of negation. Regarding Experiments 1 to 3, alternatives could be additional reviews incorporating the opposite valence. However, while this might be a useful strategy to counter misinformation, in terms of LAC I would expect a generalization of the alternative instead of negation and therefore no displacement. Finally, future research could also make use of more abstract attempts to induce rejection of focal change. For example, Mayo

(2015) has shown that a distrust mindset leads to a suppression of congruent cognitions. Perhaps, similarly, general distrust could also block focal attitude change.

There are further potential inferences that can be drawn from the experiments in Part I besides the failure to create the necessary preconditions for displacement. In Experiments 2 and 3, in relative terms, effects of the rejection condition were stronger for focal evaluations than for lateral evaluations. This result might lead to considerations of a displacement effect that is less strictly defined in terms of categories. Furthermore, given that there is little evidence of displacement in existing literature and given that more recent examinations of LAC (Brannon et al., 2019; Cruz, 2020) also failed to find evidence in favor of displacement, one might question the existence of the effect altogether. Both of these issues will be discussed in more detail after Part II, in the General Discussion.

To sum up, in Part I, I have demonstrated generalization as a function of affirmation of focal change and found some indications of moderators of generalization in accordance with assumptions included in the LAC model. Nonetheless, at this point, no final verdict can be delivered on whether the LAC model can fulfil its promise, that is, being a parsimonious model that can explain different indirect attitude change effects over several domains of the study of attitudes. In Part II, further aspects of LAC were examined. The basic premises as well as additional moderators were tested in another domain. Therefore, perhaps in Part II, I can shed light on reasons for the limited success in finding evidence supporting not only aspect but the LAC model as a whole.

## Part II

As previously stated, theoretically, the LAC model has two main advantages: first, the model can explain different indirect attitude change effects, generalization and displacement, with hypotheses and assumptions regarding the same underlying process. Second, the model is domain unspecific, that is, lateral attitude change can be predicted across different domains of attitude change. LAC effects should be influential when someone is trying to sell a consumer product (as in Experiments 1 to 3), when attitudes change as a result of intergroup contact (e.g., Pettigrew, 2009), when someone argues in favor of climate policies (Cruz, 2019) or other relevant policy issues (Experiments 4 to 6).

The main goal of the first three experiments was to test Postulate 3 (Glaser et al., 2015) in a single domain: persuasion in the context of online sales. While some questions remain, the data suggests generalization effects in this domain. Additionally, I found evidence suggesting moderation by the degree of similarity between focal and lateral products. Furthermore, while a final assessment cannot be made, the results of Experiment 3 also offer enough (tentative) support of a moderation by PfC hypothesis to warrant further exploration.

The primary focus in Part II, the subsequent set of experiments, was to test LAC in another domain. While the context of consumer goods certainly has a wide relevance, it was also chosen conservatively in order to allow for a better control of experimental factors. The aim of Experiments 4 to 6 on the other hand was to show the importance of LAC effects for some of the topics that dominated the public discourse at the time when this thesis was composed, that is, affirmative action in Experiment 4, freedom and equality in Experiment 5, and populism in Experiment 6. Furthermore, the second set of experiments was aimed at replicating some of the effects found in Experiments 1 to 3, at testing hierarchy as a moderator of LAC, and at introducing another possible outcome of LAC: lateral contrast. In order to test moderation by

hierarchy, it was necessary to rethink the assessment of similarity. Furthermore, the constructs of a higher hierarchical level used in Experiment 4 to 6 were values; both similarity and values are discussed below.

### **Similarity**

In Experiments 1 to 3, the nature of similarity between attitude objects was not elaborated in depth. I presumed the lateral product Y1 rather than Y2, or Y3 to be very similar to the focal product X. This presumption was based on pretest data, that is, participants were asked to indicate similarity via paired comparisons or rankings (see Appendix A); their averaged answers were used to define similarity. I do not know whether this perceived similarity was based on form (Verosky & Todorov, 2010, 2013), function (Yee et al., 2011), corresponding connotations (Alvaro & Crano, 1997), or any other reason, either objectively or subjectively constructed.

It is clear, however, that differences between the lateral products in Experiments 1 to 3 within any respective category were not the result of belonging to the superordinate category (e.g., Crawford et al., 2002; Glaser & Kuchenbrandt, 2017) because all lateral products were from within the same category. In addition, all products of one category had also been presented as products produced by the same company. Thus, while not interfering with differences in similarity between Y1, Y2, and Y3, I used two superordinate categories to create at least a baseline similarity to allow for LAC effects. Whereas the first of these, same sphere of life (e.g., used in the bathroom, used for sports), might be primarily associative, the second category, the brand, certainly also contained propositional components. One might presume that (dis)advantages of one product of the brand are indicative of the quality of other products of the same brand (cf. Aaker & Keller, 1990; Del Rio et al., 2001; Grewal et al., 1998). To illustrate this, participants might presume that: “if one product of ‘all iffu’ is of good quality, there is a fair chance that other ‘all iffu’ products are also good”.

One might consider that the LAC mechanisms moderated by similarity can be divided into two separate underlying processes. First, there might be a “direct” spreading of evaluation from X to Y1, primarily via associative connections, and second, the newly acquired or changed evaluation of X (e.g., an Apple computer) might influence a higher-order category (the brand: Apple) which might in turn influence other Apple products (e.g., an iPhone, an Apple watch, etc.). These processes are not necessarily mutually exclusive. It is conceivable that a change in attitude toward the Apple computer (and, following that, the whole brand) might lead to LAC toward both the phone and the watch. However, because of higher associative similarity, the attitude change is stronger for the phone than the watch. The phone being basically a small computer, is presumably more similar to the computer than the watch, which is more specific in its use. While the second process, similarity via a shared higher-order category, was implicitly assumed in Experiments 1 to 3, it was not specifically tested but used as a way to establish a basic level of similarity.

In Experiments 4 to 6, I attempted to disentangle the two processes to a degree. Moderation by hierarchy was experimentally manipulated while similarity was assessed beforehand. The introduction of the hierarchical level of focal change necessitated a different assessment and use of similarity. In Experiments 1 to 3, a superordinate category (the brand) was used to establish a basic level of similarity. This is no longer possible if a superordinate category becomes an experimental manipulation. Second, the introduction of hierarchical levels requires more than one focal object; therefore, similarity between several objects, focal and lateral, has to be assessed simultaneously. Thus, extensive pretesting was conducted in order to find patterns of lateral attitude objects of descending similarity to two focal objects: one focal object on a high level and one on a low level of hierarchical status. In-detail descriptions of the pretests can be found in Appendix A.

## Values

In order to operationalize higher-order objects, in Experiments 4 to 6 I used values as focal and lateral attitude objects. Values have been defined as trans-situational goals that serve as guiding principles in the life of a person or a group (Schwartz, 1992, 1994; Schwartz et al., 2012), and as a “dominating force in one’s life” (Allport, 1961, p. 543). Values are conceptions of the desirable that influence the way people select action and evaluate events (Schwartz, 1992). According to Bem (1970), they are similar to attitudes as they are fundamentally evaluations, but also dissimilar as they are fewer and more central (see Introduction). Rokeach (1973) classified values as goals that individuals want to achieve in their lifetime, that is, desirable end states (terminal values; e.g., equality, freedom) or preferable modes of conduct (instrumental values; e.g., courage, honesty). According to Rohan (2000), there is a large difference between attitudes as “evaluations of specific entities” (p. 258) and values as “abstract meaning-producing cognitive structures” (p. 258). Feldman (2003), however, argues, that differences between attitudes and values were not necessarily so wide in every instance as to create a clear distinction between the two concepts; instead, the level of generality defined whether an attitude became a value. In the present research, I largely follow the argumentation of Feldman (2003), and treat values as high-level attitude objects,

Most research assumes that the majority of values will be evaluated positively (Feldman, 2003; cf. “desirable end-states”, “preferable mode of conduct”, Rokeach, 1973). Therefore, besides the evaluation of single values, value-priorities or value systems are important (e.g., Feldman, 2003; Schwarz, 1994; Tetlock et al., 1996).

Based on the assumption that the sources of values are basic biological and social needs of the organism and demands for group welfare (Schwartz & Bilsky, 1987; cf. Rokeach, 1973) and also taking into account the intercultural approach of Hofstede (1980), Schwartz (1992,

1994) developed a theory of universal personal values. Originally derived from analysis of the motivational basis of values and tested via multidimensional scaling of correlations between value-propositions, the theory of personal values has since been examined in hundreds of studies (see Schwartz, 2012). One of the major findings of Schwartz' theory was that values can be arranged within a circle, with distance between values indicating whether they were compatible or incompatible. Values next to each other are positively related, a person who judges one value to be important likely also prioritizes the related value; values distant (or opposite) are contradictory. Schwartz (2012) also suggested that all values can be subsumed under four higher-order values: conservation contrasting with openness to change and self-transcendence contrasting with self-enhancement. For the current research I adopt the position that values can be more or less related to each other, in LAC terms: the strength of their association varies. The assumption of a value system, however, is explored only in Experiment 6. Nonetheless, the notion of values being generally positive is considered for the experimental manipulations.

While the value circle (Schwartz, 1992; Schwartz et al., 2012) has generally been well received, there has been criticism that the grouping of individual values in two-dimensional space (based on correlations) does not help when relations between values and specific attitudes are examined (Feldman, 2003). Specifically, Feldman wonders if attitudes are better predicted by more specific values or by values on a higher level of hierarchy. For example, a specific policy, such as a ban on plastic bags, might be better predicted by a specific "sub-value" (e.g., environmentalism) than a superordinate value category (e.g., universalism, self-transcendence). From a LAC perspective, however, a spreading of evaluation would be expected either way, as long as a relation has been established. At least on a propositional level, however, this criticism can be viewed as a manifestation of a "competition" between similarity and hierarchy. Although

universalism might be on a higher hierarchical level, protecting the environment (Schwarz, 2012) is more similar to a ban on plastic bags.

In Part II of the present thesis on LAC, values were examined as a higher-order structure in the context of (lateral) attitude change. There are several reasons to choose values as objects of interest in the examination of LAC, both content-related and design-related. On the one hand, values are important to human society. As they are the guiding principles in the life of a person or a group (Schwartz, 1992), they formulate the premise of the evaluation of many concrete attitude objects (Bernard et al., 2003). Also, they are related to political ideology (Jost, et al., 2008; Rokeach, 1973), social groups, political action, politicians, and parties (cf. Feldman, 2003). In addition, values are ideal to test LAC assumptions on a moderation of evaluative spread by the hierarchical representation of the focal object and, consequently, by the hierarchical relation between focal and lateral attitude objects.

The centrality and abstraction (Feldman, 2003) of values within a system of attitudes (cf. Thagard, 2015) suggests that evaluative change toward a value should result in a downstream spreading of evaluation to connected attitudes. As values formulate a premise for the evaluation of attitudes (but not the other way around), I expect upstream spread to be significantly weaker. This reasoning might also be applied for suggesting the use of ideologies as high-hierarchical objects instead. However, ideologies are usually defined as a network (Conover & Feldman, 1981, Jost, 2008, Thagard, 2015) of specific attitudes. The fact, that affirmation of a number of these specific attitudes can be viewed as adhering to an ideology, however, is not necessarily salient to people (e.g., Converse, 1970; Feldman, 2003; Jost, 2006; Jost, et al., 2008; McGuire, 1986). Thus, for the present research I chose to examine values as the more clearly defined higher-order constructs.



#### Experiment 4

The theory of LAC was drawn from inductive reasoning. The multiple observations of indirect attitude change effects in different fields and domains of study led to the assumption that a single process might be behind each observation (see Introduction). In turn, deductive reasoning can be used to apply the theory in order to make specific predictions. In addition, LAC can be applied to existing research, results might be interpreted in terms of LAC and additional – model-specific predictions – can be added. Just as studying past experiments inspired the creation of the LAC model, LAC in turn can be used to reinterpret research, fill theoretical gaps, or extend theoretical assumptions.

Accordingly, it is worthwhile to consider a study by Blankenship et al. (2012), who tested indirect attitude change as a method to change participants' attitudes toward a policy (affirmative action) by attacking a related value (equality). Blankenship and colleagues (2012) argue that indirect attitude change was even more effective than direct attitude change because it circumvented participants' resistance. When faced with direct influence attempts, participants would generate counterarguments which could limit the effect of an influence attempt. In the case of indirect effects, however no counterarguments would be generated because the indirect influence was not obvious.

In their studies, Blankenship et al. (2012) successfully attacked the value "equality" in order to change participants' attitudes toward the policy "affirmative action". I view their results as a reflection not only of LAC itself, but also of LAC moderated by hierarchy.

Blankenship et al. (2012) discuss values as being a part of the underlying cognitive structure of more concrete attitudes. In terms of syllogistic reasoning, values serve as the premise supporting the attitude toward a given object (McGuire, 1960, McGuire & McGuire, 1991). Therefore, attacking values related to an attitude would alter the foundation of the attitude.

Furthermore, the authors argue that values, despite being related to several attitudes (Homer & Kahle, 1988), are similar to cultural truisms (Maio & Olson, 1998), that is, they represent “a belief so widely held in a social milieu that the members of that society will probably have never heard it attacked and will regard it as unlikely ever to be attacked” (Anderson & McGuire, 1965, p. 46). As truisms are rarely challenged, they can be changed quite easily because people have never even thought about generating arguments to counter potential persuasion attempts. Thus, values as cultural truisms are an easy target for persuasion attempts. If values provide the premise of attitudes toward several objects, changes in evaluation toward values might promptly generalize to related attitudes. Finally, Blankenship and colleagues (2012) argue that one mechanism of indirect attitude change as a result of an attack on values is a reduction of value confidence. They state, that a value-attack would reduce participants’ confidence in their own attitude toward the value, which in turn may undermine the attitude toward policies based on the value.

Translated into LAC terminology, the reasoning of Blankenship et al. (2012) is that focal attitude change toward values (vs. policies) is stronger because it is impeded less by counter-argumentation. Furthermore, the subsequent lateral attitude change toward a related policy as a function of the focal attitude change toward a value may even be larger than focal attitude change toward the policy elicited by a direct attempt at persuasion, which would be impeded by counter argumentation. This reasoning might very well explain a relatively larger lateral (vs. focal) effect and is similar to LAC-theorizing about displacement, that is LAC despite a suppression of focal attitude change. In addition to the assumptions of Blankenship et al. (2012), which in general provide a good fit with assumptions drawn from LAC, I would furthermore assume a moderation of generalization by hierarchy that is not solely a function of (less resisted) focal attitude change. Thus, even if value-related focal attitude change is stronger than policy-related focal attitude

change, policy-related attitude change should even be stronger if a policy (vs. a value) is the lateral object. As Blankenship and colleagues (2012) tested only the indirect effect of value change on policy change and not vice versa, there is not yet any evidence in favor of or against this supposition.

According to Blankenship et al. (2012), the conceptual basis of value-policy relations is that values form the underlying premise on which policy-related attitudes are based. Similarly, McGuire & McGuire (1991) postulate that a change of favorability toward the antecedent of a given topic changes the topic's favorability itself. Both explanations correspond to as the notion of hierarchically structured attitude networks (see Introduction). It is very plausible to assume that a value such as equality constitutes a premise of a syllogistic reasoning process when evaluating a policy such as affirmative action. For example, the premise might be a proposition in the form of "equal opportunities for all lead to a just and good society", to which the policy affirmative action is related via: "affirmative action creates equal opportunities". The conclusion: "Affirmative action leads to a just and good society" adds the positive valence, immanent to the value (via a just and good society), to the policy's evaluation. Although, according to the unimodel (Erb et al., 2003; Kruglanski & Thompson, 1999), syllogistic reasoning is the basis of all attitude change and is also discussed as a manner of generalization, from a LAC perspective (Glaser et al., 2015) it is a purely propositional process (Gawronski & Bodenhausen, 2006a, 2006b; but cf. Kruglanski & Dechesne, 2006). Thus, from the viewpoint of LAC, I would assume additional effects of associative downstream spreading of evaluation, which should increase lateral effects further.

Furthermore, LAC is not conceptualized as a one-way road. When topics are associated, I expect a spreading of association. Therefore, attitude change toward the focal policy should also result in lateral attitude change toward lateral values. According to LAC, implicit spreading of

evaluation is expected to occur automatically. Nonetheless, LAC from policy to value constitutes an upstream spreading of evaluation, and the evaluative basis of the value is not grounded in the evaluation of the policy, as would be the case if the relation were defined the other way around (cf. McGuire, 1960). Although LAC describes confirmation of implicit attitude change as the default, propositionally there is less reason to accept attitude change toward the value on the grounds of attitude change toward the policy.

#### **Research Overview Experiment 4**

In most parts, Experiment 4 is an extended replication of Blankenship et al. (2012). However, I added further lateral policies and values that were not only related to the focal policy (affirmative action, but see Appendix A) and the focal value (equality) but were also pretested for gradually decreasing similarity to both focal objects. In Experiment 4, focal topics are related and therefore either topic is not only a focal object but, depending on condition, also a lateral object to the respective other topic. If equality is the focal object, affirmative action is a lateral object and vice versa. Although Blankenship et al. (2012, Study 3) also added further topics as lateral attitude objects, these did not systematically vary in their similarity to the focal object. Furthermore, in line with their goals of research, Blankenship et al. added only further lateral policies but no further lateral values. From the viewpoint of LAC, the latter hold special importance. Besides a focal-lateral asymmetry based on hierarchical status of a topic (i.e.,  $X_{\text{value}}$  to  $Y1_{\text{policy}} > X_{\text{policy}}$  to  $Y1_{\text{value}}$ ) there is the matter of attitude spreading to further topics (i.e.,  $X_{\text{value}}$  to  $Y1_{\text{policy, value}}$ ;  $Y2_{\text{policy, values}}$ ;  $X_{\text{policy}}$  to  $Y1_{\text{policy, value}}$ ;  $Y2_{\text{policy, values}}$  ...). This approach allows for a simultaneous testing of similarity effects ( $Y1 > Y2 > Y3$ ), hierarchy effects (value to policy > policy to value) and potential interactions.

Equivalent to Blankenship et al. (2012), I also assessed attitude confidence. Despite this, there are no specific hypotheses based on the LAC model regarding attitude confidence.

Generally, LAC effects are expected to occur independently of and not necessarily mediated by attitude confidence (Glaser, 2015, see also Experiment 1). LAC suggests deeper message processing as a potential moderator of generalization. Deeper processing, in turn, is often indicated by attitude confidence (cf. Petty et al., 2002). However, in Experiment 4, there was no specific manipulation of processing, thus no specific hypotheses regarding attitude confidence. Nevertheless, attitude confidence was assessed and exploratory analyses were conducted. Therefore, while I would expect lateral effects even when changes in confidence were absent, I would not rule out the possibility of attitude confidence influencing LAC as found by Blankenship et al (2012).

As mentioned above, the present research is an extended replication of research by Blankenship and colleagues (2012). Whereas some aspects of Experiment 4, such as the persuasive message, were nearly identical with their study, others differed. For example, I used a control group instead of a pre-manipulation measurement of attitudes. In addition, I also changed the policy “affirmative action” into the more specific policy of “gender-related affirmative action” (supporting women by forcing employers to fill (at least) a certain percentage of available jobs with women; for details see Appendix A).

I asked participants to read an essay that argued against the value, the policy, or an unrelated topic (robots in care) under the pretense of examining reading skills. Afterward, attitudes toward focal and lateral topics were assessed. The order of assessing values and policies was systematically varied. Experiment 4 was designed as a short online experiment. Therefore, only explicit data was assessed. I predicted focal attitude change as a result of the manipulation as well as generalization to lateral topics. Additionally, I predicted a focal-lateral by hierarchy interaction because the hierarchical level of focal change was hypothesized to moderate generalization. Effects were assumed to be independent of specific topics, thus, the same pattern

was expected to emerge for the additional lateral policies and values, albeit with decreasing LAC for less similar lateral topics.

## Method

### Participants, Design and Procedure

In total, 149 participants (101 female, 47 male, 2 other;  $M_{\text{age}} = 23.91$ ,  $SD_{\text{Age}} = 6.34$ ) completed the online experiment. Despite Experiment 4 being an online experiment, recruitment was focused on the campus area. Therefore, the vast majority of participants were students ( $n = 135$ , in different fields of study). The online experiment was promoted as an experiment on reading comprehension skills. Recruitment was conducted online via social media and offline via noticeboards and flyers. Participants were randomly assigned to the experimental conditions of a 3 (topic: value, policy, control) x 2 (order of attitude assessment: values first, policies first) between-subjects factorial design. The topic condition represents the hierarchical level “attacked” by the manipulation (value > policy).

Statistical power analysis (conducted with G\*Power 3.1; Faul et al., 2007) was run for an ANOVA with between-subjects (topic) by between-subjects (order) interactions. The analysis suggested 158 participants in order to achieve a power ( $1 - \beta$ ) of .80,  $\alpha = .05$  for detecting a medium-sized effect. Due to the high dropout rates from the online experiment, recruitment fell slightly short of reaching the aspired number of participants.

After giving consent, participants read the introduction which described the experiment as a measurement of text comprehension. After a short fake loading screen (in order to increase immersion), participants received an instruction, stating one journal article had been randomly selected for them to read. This alleged journal article contained the persuasive message, that is, the essay arguing against either equality or gender-related affirmative action. All essays were prefaced by an identical short message, repeating the cover story and stating, that the text which

would follow was an opinion piece, written by several scientists from different departments. Afterward, the actual essay (i.e., the persuasive message) was displayed without a time limit. In line with the cover story, the essays were followed by items assessing participants' opinions regarding the readability of the text and participants' reading experience. Participants reported how persuasive the essay was in their opinion, how difficult they found it to absorb information from the text, how long it had taken them to read it and how appropriate it was as a means of discussing the specific topic. Besides supporting the cover stories these items served as control variables in order to test the material for not being too specific, that is, the material being equally convincing and of the same subjective difficulty in all experimental conditions.

Subsequently, participants were asked to report their attitudes toward all focal and lateral topics and to judge their confidence in their own attitude ratings. The order of items was varied but attitudes toward a given topic and confidence in the attitude were assessed simultaneously (Appendix C). In all conditions, items concerning focal topics were presented first and then items concerning lateral topics. However, the order in which values and policies were assessed varied. In the values-first condition the order of questions was: equality, gender-related affirmative action followed by lateral values, followed by lateral policies; whereas in the policies-first condition the order of questions was: gender-related affirmative action, equality, lateral policies, lateral values.

Following the assessment of the DVs, the participants answered a question on prior knowledge of the topics<sup>16</sup> completed an open-ended suspicion check, and provided demographic data. At the end of the study participants were debriefed, thanked and dismissed. Participants

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<sup>16</sup> This item was not analyzed.

were compensated with the opportunity to take part in a prize draw with a chance to win one of ten shopping vouchers, worth EUR 20.00 each.

### **Dependent Variables**

Participants were asked to report their attitude toward all topics on a scale from 1 = *very negative* to 7 = *very positive*. In addition, they were asked to indicate how confident they were in the respective attitudes on a scale, ranging from 1 = *not at all confident* to 7 = *very confident*.

Besides attitudes toward the focal topics of equality and gender-related affirmative action and the control topic of robots in elderly care, attitudes toward four lateral values and four lateral policies were assessed. All lateral topics had been pretested for similarity toward the two focal topics (Appendix A). The pretest resulted in the lateral values: justice (Y2), tolerance (Y3), honesty (Y4), and hedonism (Y5), and lateral policies: equal payment for men and women (Y2), severe penalties for discriminating companies (Y3), wage limits for high-earners (Y4), and restricting the right of asylum (Y5; Table 1).



**Table 1**

*Lateral Topics in Experiment 4: Pretest Ratings of Subjective Probability of Attitude Change Toward Lateral Policies and Values as a Result of Focal Attitude Change Toward Equality and Gender-Related Affirmative Action*

		Equality		Gender-related affirmative action	
Lateral policies		<i>M</i> (%)	SD	<i>M</i> (%)	SD
Y2	Equal payment for men and women	59.50	40.61	67.52	36.19
Y3	Severe penalties for discriminating companies	35.30	47.16	36.28	44.72
Y4	Wage limits for high-earners	25.43	44.00	18.80	37.12
Y5	Restricting the right of asylum	-5.15	51.82	1.17	36.73
Lateral values					
Y2	Justice	45.52	50.10	35.24	52.06
Y3	Tolerance	38.37	47.29	36.46	40.81
Y4	Honesty	21.19	36.84	14.67	34.17
Y5	Hedonism	-7.22	30.91	-3.11	25.66

*Note.* *N* = 54. Data from pretest for Experiment 4. Means represent subjective probability of lateral attitude change as a consequence of focal attitude change in percent.

In order to create single items for lateral values and lateral policies, two new scales were computed by averaging the means of attitudes toward all lateral topics that were related to equality and gender-related affirmative action, respectively. Focal objects are abbreviated as X; lateral objects are abbreviated as Y1 to Y4; the two topics negatively related to the focal topics are abbreviated as Y5. The two focal objects were related, thus lateral to each other. Therefore, in the value topic condition, equality is X and gender-related affirmative action is Y1, in the policy topic condition gender-related affirmative action is X and equality is Y1.

### **Materials**

Depending on topic condition, participants read an essay arguing against equality (value), gender-related affirmative action (policy), or robots in elderly care (control). The content of the essay was nearly identical in the value topic and policy topic conditions with only the target topic varying (value or policy). For example, the essay included the argument: “The strict application of [women quotas (= gender-related affirmative action)]/[equality] forced the fire station to select from a small pool of applicants, thereby reducing the station’s safety and efficiency in emergencies.” The control essay was similar in length and structure but different in wording. All essays were introduced by a cover story and asked participants to read the essay attentively, which supposedly was a journal article. The introduction stated that the essay had been written by scientists from different departments who were arguing that the focal topic (depending on topic condition) was harmful to society and culture. The essays themselves contained a short general criticism of the focal topic, explaining it was problematic despite being well intended, and three concrete descriptions of situations in which adherence to the focal topic was causing problems. Except for the headline, mentions of the topic itself and a few necessary adjustments, the value and policy essays were identical (Appendix C). The control essay followed the same basic structure, but contained different arguments and examples (Appendix C).

Materials were partly adapted from Blankenship et al. (2012), with permission by the authors, who kindly provided access to their materials.

## Results

### Control Variables

For the control variables, several ANOVAs were computed, with topic and order of assessment as between-subjects factors.

Although the ANOVA on persuasiveness returned a significant main effect of the topic condition,  $F(2, 143) = 11.15, p < .001, \eta^2 = .135$ , planned contrasts showed that there was no difference in persuasiveness between the value topic ( $M = 4.09, SD = 1.48$ ) and policy topic conditions ( $M = 3.66, SD = 1.74$ ),  $t(84.90) = 1.31, p = .19, d = 0.27$ . The control essay, however, was rated as being more persuasive than the other essays ( $M = 5.08, SD = 1.31$ ),  $t(118.33) = 4.87, p < .001, d = 0.78$ . The ANOVA on the appropriateness of the text (for discussing the respective topic) returned similar results. There was a main effect of topic,  $F(2, 143) = 18.86, p < .001, \eta^2 = .209$ , but a planned contrast returned no significant difference between value topic ( $M = 4.39, SD = 1.39$ ) and policy topic conditions ( $M = 4.05, SD = 1.43$ ),  $t(1,146) = 1.26, p = .21, d = 0.24$ . The control essay, however, was rated as being more appropriate to discuss its topic ( $M = 5.65, SD = 1.21$ ) than the other two essays,  $t(1,146) = 6.14, p < .001, d = 1.06$ . ANOVAs for difficulty and subjective reading time returned no significant effects, all  $F < 1$ . Thus, control analyses confirmed that the essays arguing against the value and the policy, respectively, were evaluated equally in terms of persuasiveness, fit, difficulty, and duration. Since the experimental essays were essentially identical, this was in line with expectations. The independently created control essay was evaluated as having a better fit and as being more convincing.

### **Focal Attitude Change**

In order to test for focal effects of the essay manipulation, the attitudes toward the focal topic, that is, the topic that had been the subject of the respective essay, was compared to the attitudes toward the same topic by participants in the control condition. A planned contrast (one-tailed *t*-tests) revealed a significantly more negative attitude toward equality when it had been attacked ( $M = 4.93, SD = 1.33$ ) rather than when participants had read an essay against robots in care ( $M = 5.65, SD = 1.21$ ),  $t(146) = 2.72, p = .007, d = 0.57$ . Attitudes toward gender-related affirmative action were descriptively more negative when the policy had been attacked ( $M = 4.02, SD = 1.59$ ) than when participants had read an essay against robots in care ( $M = 4.49, SD = 1.53$ ), but the difference was only marginally significant,  $t(146) = 1.44, p = .076, d = 0.30$ . Thus, the manipulation successfully led to focal attitude change toward the value and the policy; however, the effect was only marginally significant for the policy.

### **Generalization and Effects of Hierarchy**

In order to test whether there was any generalization to lateral objects, planned contrasts (one-tailed *t*-tests) were computed, testing the difference between the evaluation of the value (policy) in the policy (value) condition and the attitude toward the same topic in the control condition. The attitude toward equality ( $M = 5.43, SD = 1.55$ ) was no more negative when it was the lateral topic (i.e., in the policy condition) than when participants had read the control condition essay ( $M = 5.65, SD = 1.21$ ),  $t < 1$ . Thus, there was no indication of upstream generalization. The attitude toward gender-related affirmative action ( $M = 3.67, SD = 1.60$ ), as a lateral topic, however, was more negative compared to the attitude in the control condition ( $M = 4.49, SD = 1.53$ ),  $t(146) = -2.72, p = .004, d = -0.52$ , indicating downstream generalization.

Next, attitude change scores were computed by subtracting the control group mean from individual attitudes toward value and policy. These scores were then coded as average scores for

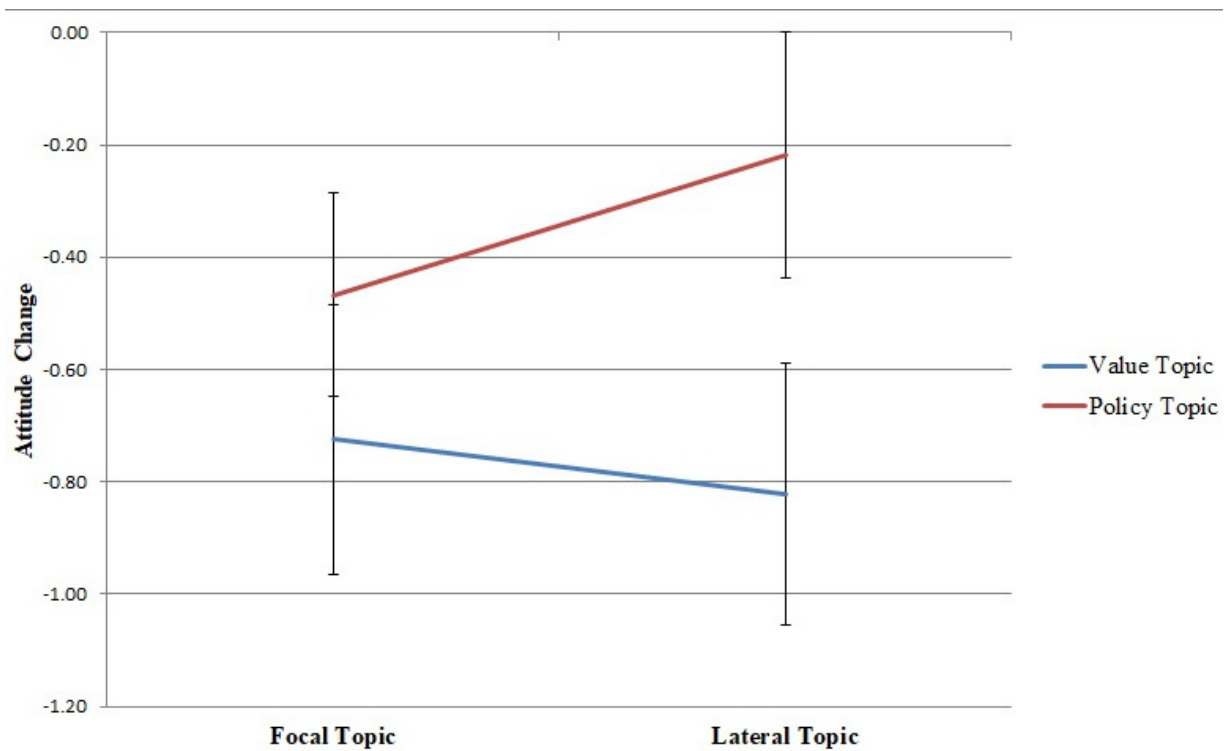
the focal and lateral object (instead of value and policy). An ANOVA on focal attitude change with topic and order conditions as between-subjects factors returned no significant effects, all  $F < 1$ . An ANOVA on lateral attitude change with topic and order as between-subjects factors returned a significant main effect for the topic condition,  $F(1, 94) = 4.02, p = .048, \eta^2 = .041$ . There was more (negative) attitude change in the value topic condition ( $M = -0.82, SD = 1.60$ ) than in the policy topic condition ( $M = -0.22, SD = 1.55$ ). Results therefore suggested larger lateral attitude change when the focal manipulation had targeted a topic on a higher hierarchical level. Finally, a repeated-measures ANOVA was computed with topic status (focal attitude change, lateral attitude change) as a within-subjects factor and topic and order as between-subjects factors. Although the pattern of effects descriptively supports my predictions (stronger lateral effects in the value topic condition, see Figure 15), the interaction of topic status (focal attitude change, lateral attitude change) with the topic condition was not significant,  $F(1, 94) = 1.21, p = .275, \eta^2 = .013$ .

Thus, as expected, attacking a value was more effective in producing LAC. However, it was also more effective in eliciting focal attitude change. The interaction between the hierarchical level of focal change and the topic status (focal vs. lateral) was not significant.

**Figure 15**

*Effects of the Hierarchical Level of the Focal Manipulation on Focal and Lateral Attitude*

*Change in Experiment 4*



*Note.* Numbers on the Y-axis are differences to the control group mean. Negative evaluations imply a successful manipulation. Value topic is the condition in which the essay argued against equality, policy topic the condition in which the essay argued against gender-related affirmative action.

### **Additional Lateral Values and Policies**

I had also presented participants with further lateral values and policies of decreasing similarity to both focal topics (Appendix A). In order to gain a general insight into generalization to lateral values and policies, I first calculated new lateral attitude scores for averaged lateral values and policies (Y2-Y4). Next, ANOVAs on lateral values and lateral policies with topic and order conditions as between-subjects factors were conducted. The ANOVA on lateral values returned no significant main effect of the topic condition,  $F < 1$ , but an unexpected effect of order,  $F(1, 143) = 10.45, p = .002, \eta^2 = .068$ . Attitudes toward lateral values were more negative ( $M = 6.06, SD = 0.77$ ) when I had asked for values first than when policies were assessed first ( $M = 6.42, SD = 0.59$ ). The ANOVA on lateral policies returned a significant main effect of topic condition,  $F(2, 143) = 3.34, p = .038, \eta^2 = .045$ . Attitudes were more negative in the value topic condition ( $M = 5.04, SD = 1.10$ ) than in the policy topic condition ( $M = 5.19, SD = 0.92$ ), which in turn were more negative than attitudes in the control condition ( $M = 5.50, SD = 0.72$ ). Subsequently, planned contrasts (one-sided  $t$ -tests) were computed to examine differences between the experimental conditions and the control conditions. Analyses revealed that, compared to the control condition, attitudes toward lateral policies were more negative in the value topic,  $t(91.88) = -2.54, p = .007, d = -0.49$ , and the policy topic,  $t(81.21) = -1.83, p = .036, d = -0.38$ , conditions.

Next, an index for general lateral attitude change was computed by averaging attitude change scores toward lateral policies, lateral values and Y1, that is, the “focal” object in the condition it had been lateral (e.g., attitude change toward tradition when gender-related affirmative action had been focal). Subsequently, a repeated-measures ANOVA with topic status (focal attitude change, lateral attitude change) as within-subjects factor and topic and order as between-subject factors was computed. The ANOVA returned a main effect of topic status,  $F(1,$

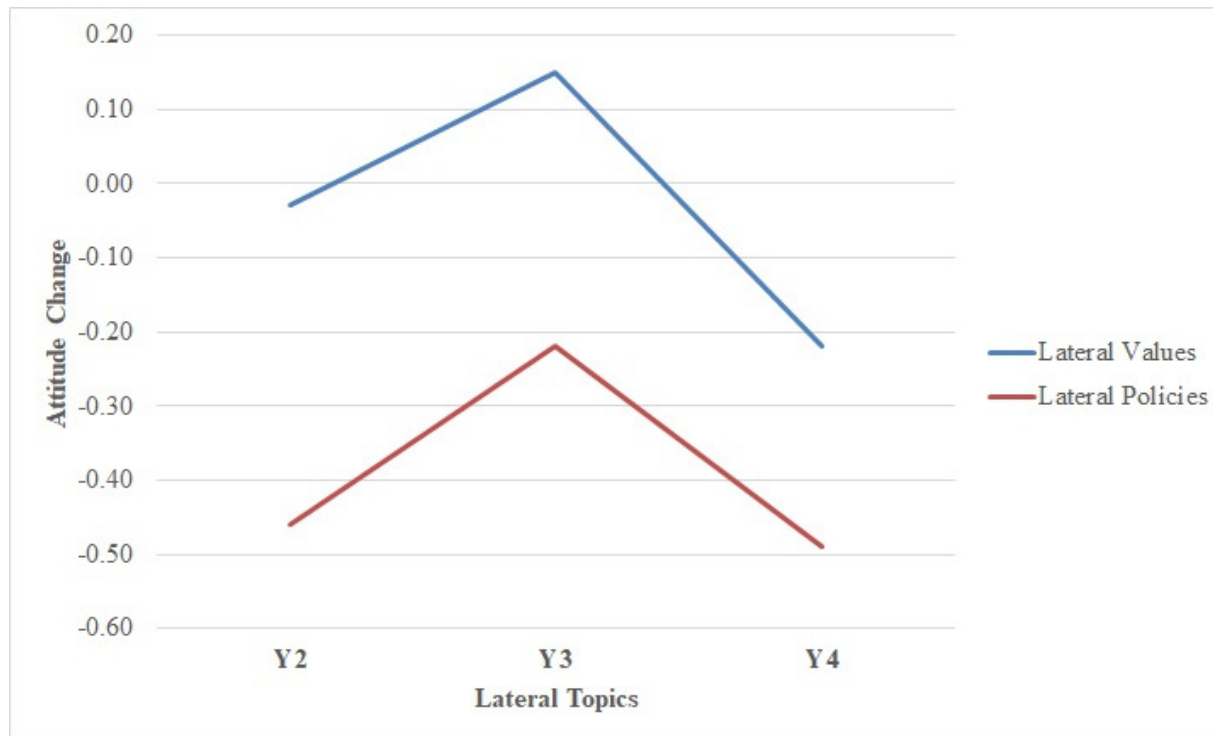
94) = 4.06,  $p = .047$ ,  $\eta^2 = .041$ , indicating stronger focal ( $M = -0.61$ ,  $SD = 1.45$ ) than lateral attitude change ( $M = -0.33$ ,  $SD = 0.81$ ). The ANOVA returned no further significant effects, all  $p > .15$ , suggesting that the effect occurred independently of either topic or order condition.

In order to test moderation by similarity, a mixed-methods ANOVA with similarity (attitude change toward Y2, Y3, & Y4) and category (attitude change toward lateral values, policies) as within-subjects factors and topic and order as between-subjects factors was computed. Contrary to hypotheses, the ANOVA returned no linear but a significant quadratic effect of similarity,  $F(1, 94) = 9.63$ ,  $p = .003$ ,  $\eta^2 = .093$ . The pattern, however was opposite to LAC displacement predictions (Figure 16). Additionally, the ANOVA returned a main effect for category,  $F(1, 94) = 13.53$ ,  $p < .001$ ,  $\eta^2 = .126$ , indicating larger LAC toward lateral policies than lateral values (Figure 16). Finally, the ANOVA also returned a significant main effect of order,  $F(1, 94) = 3.99$ ,  $p = .049$ ,  $\eta^2 = .041$ , with more negative attitudes when values were queried first (cf. Table B1, Appendix B).



**Figure 16**

*Effects of Similarity on Lateral Attitude Change Toward Values and Policies in Experiment 4*



*Note.* Numbers on the Y-axis are differences to the control group mean. Negative evaluations imply a successful manipulation. Results are averaged over topic and order condition.

### **Attitude Confidence**

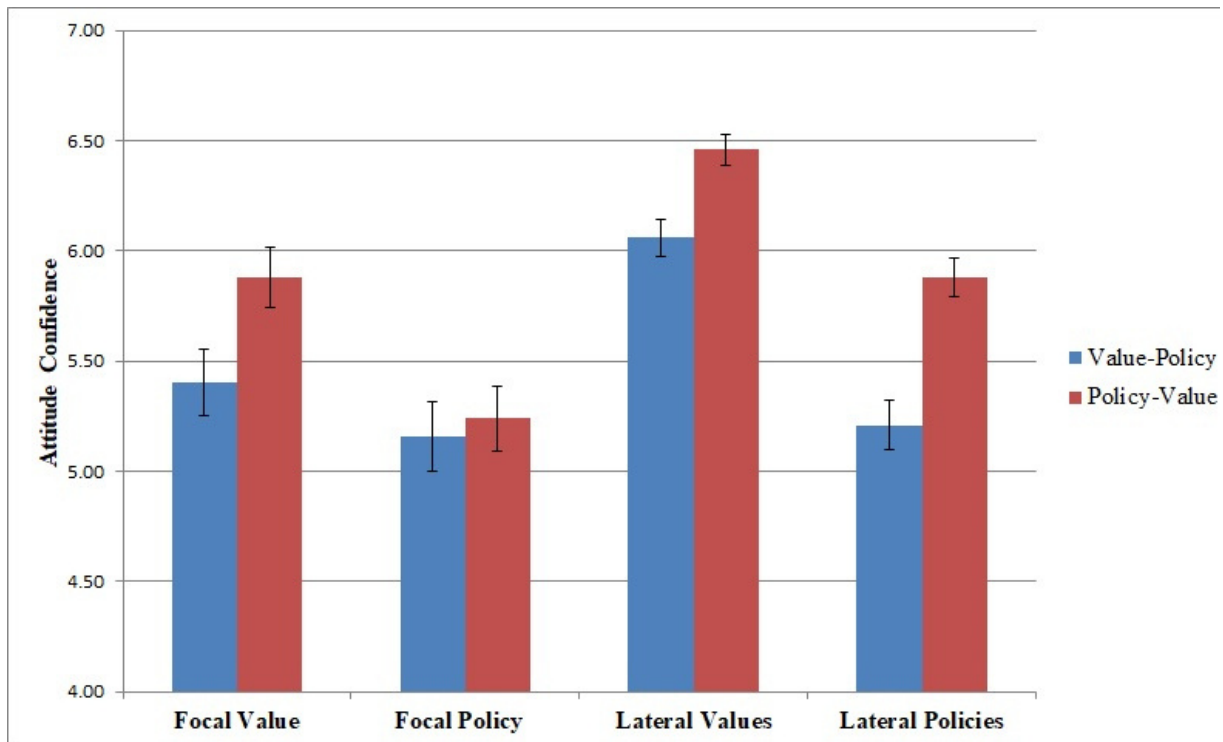
Confidence in one's attitude was suggested as a mediator of the essay's effect on attitudes. Therefore, I first tested whether the manipulation had any effect on participants' confidence in their reported attitudes. Several ANOVAs on confidence in attitudes toward focal and lateral topics with topic and order as between-subjects factors were conducted. However, the

ANOVAs on attitude confidence concerning focal and (averaged) lateral topics returned no significant effects (except for lateral values all  $p > .26$ ). There was, however, a marginally significant effect for the topic condition when attitude confidence regarding attitudes toward lateral values was assessed,  $F(2,143) = 2.52, p = .084, \eta^2 = .034$ . Attitude confidence was lower in the value topic conditions ( $M = 6.11, SD = 0.78$ ) than in the policy topic conditions ( $M = 6.35, SD = 0.68$ ) or in the control condition ( $M = 6.34, SD = 0.58$ ). Thus, whereas participants' attitudes toward lateral values were not affected by the topic of the essay, their attitude confidence was (marginally). Nonetheless, given the absence of any other effects of the topic condition on attitude confidence, mediation of attitude change by attitude confidence was deemed unlikely and this line of research was not continued.

Interestingly enough, the ANOVAs on attitude confidence returned strong effects of the order of assessment. Attitude confidence concerning attitudes toward equality,  $F(1,143) = 6.55, p = .012, \eta^2 = .044$ , lateral policies,  $F(1,143) = 14.16, p < .001, \eta^2 = .090$ , and lateral values,  $F(1,143) = 22.98, p < .001, \eta^2 = .138$ , was significantly lower when values had been assessed first (see Figure 17;  $F < 1$  for affirmative action).

**Figure 17**

*Order Effects on Attitude Confidence in Experiment 4*



*Note.* Value-Policy means that attitudes toward the value were assessed first, attitudes toward the policy second. Vice versa for Policy-Values. Scale 1 to 7.

### **Exploratory Analyses**

In Experiment 4, I had not formulated hypotheses about effects of the manipulation on topics that were unrelated or even negatively related to the focal topics. Nonetheless, given the (slightly) contradicting relations with focal topics (Table 1), lateral contrast seemed to be possible. Therefore, two additional ANOVAs on hedonism and “restricting the right of asylum” were computed with topic and order as between-subjects factors. However, neither topic was

evaluated differently as a function of the topic condition, both  $p > .24$ . Hedonism was rated more negatively in the value first ( $M = 4.31$ ,  $SD = 1.34$ ) than in the policy first condition ( $M = 4.80$ ,  $SD = 1.33$ ),  $F(1,143) = 4.57$ ,  $p < .034$ ,  $\eta^2 = .031$ .

#### Discussion of Experiment 4

In Experiment 4 I again found generalization effects from focal to lateral topics. As expected, LAC was stronger when the focal manipulation had been on a higher hierarchical level. It is, however, noteworthy that focal change was (descriptively) also stronger when the value instead of the policy was attacked. Although the difference in attitudes between the topic conditions was descriptively stronger for the lateral (vs. focal) topic, the expected focal-lateral by topic (=hierarchy) interaction was not significant. Evaluations of further lateral values were independent of the essay manipulation, but I found generalization to lateral policies. Although the effect-size was larger in the value topic condition, generalization to additional lateral policies was also found when gender-related affirmative action had been the target of the manipulation. In the present study, attitude certainty did not mediate attitude change. I did, however, find several order effects, which had not been hypothesized, as well as an unexpected pattern of moderation by similarity.

The successful replication in itself constitutes interesting evidence of LAC. I (as well as Blankenship et al., 2012) found LAC toward a policy when a value was the focal target, suggesting (a) LAC in another domain, (b) importance for social and political processes, and (c) LAC from hierarchically higher abstract structures to more concrete topics. Importantly, I also found lateral effects on additional policies when the focal policy was attacked, indicating LAC effects on the same hierarchical level.

Some effects found in Experiment 4 were not hypothesized. Instead of a clear moderation of generalization by the hierarchical level of focal change, the effects could also be interpreted as

enhanced generalization. As there was no interaction between topic (indicating hierarchy) and focal versus lateral attitude change, the larger lateral effects might have been solely a function of a larger focal effect. This result is especially unexpected as participants had reported that both essays were equally convincing. In line with Blankenship et al. (2012), one could argue that the (not significant) focal effect might have been caused by a qualitative difference between values and policies. Whereas values are in many cases truisms (Maio & Olson, 1998), namely statements that are accepted as truth without internal struggle (McGuire & Papageorgis, 1962; McGuire, 1964), the topic of gender-related affirmative action is the subject of intense discussion. Therefore, participants might have been harder to influence because they may have already generated arguments counter to the manipulation before they entered the experiment<sup>17</sup>; they were already inoculated against attempts at persuasion (Compton & Pfau, 2005; McGuire, 1961; for a meta-analysis see Banas & Rains, 2010).

Although participants had assessed the essay as being equally convincing, the enhanced resistance to persuasion may have attenuated focal attitude change toward the policy but not toward the value. What does this line of reasoning suggest for the interpretation of lateral effects? On the one hand, LAC effects were stronger in the value topic condition. In addition to that, descriptively, lateral effect differences between the conditions representing the hierarchical level of the target of the persuasion attempt were even stronger than focal differences, which also were not significant. This suggests effects additional to generalization as a function of focal effect size. On the other hand, this effect was not large enough to exclude the possibility of a coincidental finding. Thus, stronger lateral effects in the value topic vs. policy topic condition may not have

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<sup>17</sup> In this case one might assume participants to be more confident in the evaluation of their own judgment (cf. Tormala & Petty, 2004) concerning the policy over their judgment of the value. However, although in the control condition confidence in the evaluation of gender-related affirmative action ( $M = 5.47$ ,  $SD = 1.24$ ) was descriptively higher than confidence in the evaluation of equality ( $M = 5.16$ ,  $SD = 1.35$ ), the difference was not statistically significant,  $t(50) = 1.32$ ,  $p = .194$ ,  $d = 0.18$ .

been caused by levels of hierarchy (e.g., a derivation from guiding principles, see Introduction) but rather follow directly from enhanced focal effects. In a similar vein, I found generalization to further lateral policies, which was only descriptively stronger when the focal value (vs. the policy) had been attacked. Unfortunately, the corresponding lateral values were not influenced at all and, thus, provided no comparison. That is, if, there had been an effect on lateral values, I might have been able to test whether these effects depended on the hierarchical status of the focal topic.

The additional lateral topics had been chosen mainly with respect to their similarity to both focal topics in order to exclude non systematical variations in similarity which would potentially have confounded effects. However, this procedure also resulted in lateral values that were universally liked (Appendix A). Although their high level of approval supposedly also qualified the lateral values for the status as truisms (cf. Maio & Olson, 1998), this does not necessarily mean they were more susceptible to LAC. The vulnerability of a focal truism to persuasion is assumed to be a function of insufficient resistance against persuasive arguments (e.g., Compton & Pfau, 2005), thus, a propositional process. As participants received no information about lateral truisms, they might not be subjected to an (internal) propositional dispute about their evaluation. If participants became aware of a changed spontaneous affective reaction to lateral values, they might have rejected this change propositionally (cf. Glaser et al., 2015) based on the assumed positivity immanent to the lateral values.

Furthermore, values such as “justice” may be associated with several other topics with an immanent positive valence; therefore, adding a negative association might not have changed their general evaluation to a significant degree. However, Experiment 4 employed only explicit measures. Therefore, all deliberations about underlying associative processes are of a speculative

nature. Additionally, being on a high hierarchical level themselves, evaluations of lateral values were also not derived from evaluations of focal topics, making LAC even more unlikely.

A number of different analyses returned an unexpected effect of order of assessment. The order of assessment was manipulated to balance the design without any specific expectations attached. Nevertheless, I found several order effects regarding attitudes and attitude confidence. In each case, the attitude was more negative or the confidence less secure, that is, more in line with the influence attempt when attitudes toward equality (a value) had been assessed first. As equality was rated as being more positive than gender-related affirmative action in the control group<sup>18</sup> and the pretest (Appendix A), one might speculate that this constitutes a contrast effect (Sherif et al., 1958), as topics are evaluated in comparison to whatever topic had been considered first. In another vein, the assessment of gender-related affirmative action, the more controversial topic, might have motivated participants to generate relatively more counterarguments against the essay (cf. Blankenship et al., 2012), producing a critical argumentation of a Socratic/Aristotelian quality, that is, “an aggressive search for truth, discerning of error, bias and contradiction” (Durkin, 2011, p. 2). This “battlefield mentality” (Thayer-Bacon, 1993, cited after Durkin, 2011, p. 2) might then have been adopted for the evaluation of other topics. This might in turn have impeded the effect of the manipulation and resulted in weaker effects of the influence attempt, and hence more positive attitudes in the policy first condition.

The results also seem to contradict findings by Schumpe et al. (2020), who showed that venting reactance increased persuasive effects toward attitude objects presented subsequent to the reactance decoy. The resistance decoy is “another persuasive message that induces reactance but also entails an opportunity for recipients to express their attitude [...] and reassert their attitudinal

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<sup>18</sup> Control group participants rated equality ( $M = 5.65$ ,  $SD = 1.21$ ) as being more positive than gender-related affirmative action ( $M = 4.49$ ,  $SD = 1.53$ ),  $t = 3.97$ ,  $p < .001$ ,  $d = -0.63$

freedom.” (Schumpe et al., 2020, p. 1). If participants were venting reactance when expressing their attitude toward the first topic<sup>19</sup> this might increase persuasion toward further topics. Thus, there should have been an effect of order for the first versus the subsequent topics. However, in Experiment 4 the effect of reduced persuasion in the policy-first condition applied to all topics (Appendix B). Furthermore, I might have expected stronger venting and a subsequent persuasion effect for the policy first condition because the controversial topic was assessed first. Instead participants reported more negative attitudes, thus more persuasion in the value first condition. This diverging result might be the consequence of a different methodology used by Schumpe et al. (2020), who used one persuasive message per attitude object, whereas in Experiment 4 a single message was used to change attitudes toward several topics.

Another surprising effect was the absence of the expected pattern of a moderation by similarity. Although the generally extremely positive evaluation of lateral values might prevent similarity effects, according to my predictions, I should have found stronger LAC effects on very similar (vs. barely similar) lateral policies. Instead, a quadratic effect of similarity emerged for which I have no good explanation. It may be possible that the subjectively assumed probabilities of secondary attitude change used in the pretest (Appendix A) for this study were not sufficient to establish gradients of similarity (cf. Tversky, 1977, who suggested using feature matching of multiple dimensions). While sufficient to represent a degree of similarity, allowing for LAC effects in general, they might not have been an ideal measurement of subtler differences in strength of association.

Contrary to Blankenship et al. (2012) I found next to no effects of the manipulation on the ratings of attitude confidence. This might be a result of a slightly different methodology. Whereas

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<sup>19</sup> In their study, Schumpe et al. (2020) used a second persuasive message not an attitude item as the reactance decoy. While it is conceivable that the opportunity to show reactance on one item might also serve as a vent it is not the same process as described by Schumpe et al. (2020).



Blankenship and colleagues (2012) used two-item scales for the assessment of both valence and attitude confidence, I used only single-item scores for economic reasons. Thus, a reduced sensitivity in the present study might explain different results. However, in my opinion it is more likely that the absence of the attitude confidence effects suggests that the mediation proposed by Blankenship and colleagues (2012) might not be a necessary precondition for LAC effects which were found both in the present study and by Blankenship and colleagues.

Nonetheless, in Experiment 4 I found effects of the topic manipulation on attitude confidence for one group of topics, that is, lateral values. Lateral values were also the only group of topics toward which there had been no attitude change at all. One might speculate that participants used the opportunity to report reduced attitude confidence as a compensation for not changing the attitude itself. Not dissimilar to the rebound effect (e.g., Macrae et al., 1994; Wegner et al., 1987), where suppression of attitude change toward one object results in attitude change toward another, the effects of the persuasive essay may have been expressed on another measure, that is, attitude confidence. For example, there might have been no attitude change toward justice because the value's importance is ingrained in social perception. However, there would still be pressure to establish consistency (Festinger, 1957) with the valence immanent to the persuasive essay. This might have led to a change in attitude confidence.

This argumentation underlines the need for implicit measurement in LAC research. In Experiment 4 I had decided to forego assessment of implicit attitudes for economic reasons. However, although explicit results found in the present research support some premises of the LAC model, examination of underlying processes by implicit measurement is necessary for a more complete examination of the model. Furthermore, other methodological aspects of the study could be improved. The assessment of similarity by subjective probabilities alone might also be a simplification of attitude relations. Future research should attempt to find other ways to assess

similarity. Finally, a controlled focal change would be ideal in order to study lateral change. Although assessment of topics in the domain of socio-politically relevant values and policies might make this difficult, future research may make a point of studying hierarchical attitude change independently of varying levels of focal attitude change.

To sum up, the replication of the study by Blankenship et al. (2012), testing whether an attack on values allowed for indirect attitude change on associated policies, was mostly successful. The present research replicated the indirect (lateral) effect on attitudes toward gender-related affirmative action by attacking the value “equality”. However, the mediation via attitude confidence, as had been found by Blankenship et al. (2012), was not replicated.

In order to test LAC-specific assumptions, I had extended the design by also testing upstream LAC effects (policy to value) as well as by adding additional lateral policies and values of decreasing similarity to the focal topics. The assumption that the higher hierarchical level of values should lead to enhanced generalization independent of focal differences was not well supported and was examined again in Experiment 6.

In Experiment 5, I again tested downstream generalization from values to policies. Furthermore, implicit testing was reintroduced to the methods used for testing LAC. Moreover, the focus of Experiment 5 was to test a novel construct, not yet included in LAC theory: lateral contrast.

### **Experiment 5**

In Experiment 5, LAC was further tested within the domain of values and related social policies. Similar to Experiment 4, I targeted a participant’s value and measured the effect on related policies, expecting downstream LAC effects. As an extension to the design of Experiment 4, I added implicit measurements in order to gain additional insights into the mechanisms underlying (explicit) attitude change. Furthermore, Experiment 5 served as a first test of lateral

contrast. Lateral contrast has so far not been specified as a part of the LAC model. Nevertheless, it seems to be a plausible part of the model (see Introduction) that is worth investigating. In order to test downstream LAC and lateral contrast, two of the most well-known values were used as experimental objects.

### **Freedom and Equality**

Not only are freedom and equality very much discussed topics in general, their relation has also been defined in different ways. Some have considered the values to be opposing: *“Equality of the general rules of law and conduct is the only kind of equality conducive to liberty and the only equality which we can secure without destroying liberty. Not only has liberty nothing to do with any other kind of equality, but is even bound to produce inequality in many respects”* (Hayek, 2011, p. 148). Whereas others have described them as being mutually reinforcing: *“Political freedom without economic equality is a pretense, a fraud, a lie [...]”* (Bakunin, 1870)

For Experiments 4 to 6 I postulated the demand to test LAC as a mechanism of political and social attitude change. Above, I also formulated the suggestion of incorporating lateral contrast in the LAC model. In order to test both, Experiment 5 uses two important values as topics: equality and freedom.

The values equality and freedom were the defining values of the 20<sup>th</sup> century. Especially during the Cold War, the world was divided into free and unfree (from a western perspective) or just and unjust (with regard to equality; from an eastern perspective; cf. McFarland et al., 1992). However, despite Cold War history, the relation between these two predominant values remains unclear. There have been discussions as to whether there is a trade-off between the two values and whether there can be either equality or freedom but not both (e.g. Torqueville, 1835/1994; cited after Giebler & Merkel, 2016), whether they are mutually reinforcing, or even one being a

necessary condition for the other (e.g., Rousseau, 1762/1968; cf. Giebler & Merkel, 2016). For the purpose of this research, the “objective” relation of freedom and equality and what consequences their relationship may have for the political order is less important than participants’ subjective views. Indeed, the fact that the nature of the relationship of the two values is very much disputed (from within and outside of the field of social psychology; e.g., Anderson, 2016; Berggren, 1999; Cowan et al, 2002; Gerhard, 2013; SPD Grundwertekommission, n.d.), with argumentations ranging between two extreme points, makes them an interesting domain to study (downstream) LAC-effects and, importantly, lateral contrast.

Nonetheless, a short excursion into social psychological examinations of the two values and their relationship is in order. Rokeach (1973) conceptualized ideologies as the expression of two orthogonal value dimensions, equality and freedom. According to him, the dominant ideologies of the 20<sup>th</sup> century could be identified by the amount of their concern for each of the values. Capitalism valued freedom at the expense of equality; communism valued equality at the expense of freedom; fascism valued neither, socialism valued both. The fact that capitalism and communism in particular, could be identified by opposite value priorities may have reinforced a presumed rivalry of the values given the dominant ideological confrontation. Some of Rokeach’s assumptions have been supported. Rokeach (1973) himself used content analysis to find evidence supporting his hypotheses of freedom and equality being orthogonal dimensions that predicted political attitudes. Other researchers (e.g., Linder & Bauer, 1979) found evidence pointing to equality (vs. freedom) being the discriminative value. Nevertheless, a majority of research indicates a low diagnostic quality of both values, but especially freedom, as a basis of political ideology (see Braithwaite, 1994).

Equality and freedom are not named as such within the value circle developed by Schwartz (1992, 1994, 2012). However, the values’ assumed content – namely independence and

free choice for freedom, brotherhood and equal opportunity for all in the case of equality (Rokeach, 1973) – is represented by values included in the values circle: On an individual level, freedom can be subsumed under the higher-order value of openness to change (specifically self-direction); equality can be subsumed under the higher-order value of self-transcendence (specifically universalism; Schwarz, 2012). One can also derive indications for the interrelation of equality and freedom from the works of Schwartz (1994, 1999; Schwartz et al., 2012; Sagiv & Schwartz, 2007). The values of universalism and self-direction are arranged close to each other (rather than on opposing sides of the circle), indicating a close positive relation rather than a contrast (Schwartz, 1994).

When cultural values (Schwartz, 1999) are considered, however, the relation is less clear. Based on the individualism-collectivism dichotomy (Hofstede, 1980), Schwartz (1999) defined three concept pairs (issues) that serve as dimensions on which cultures can be distinguished. First, there is the issue of autonomy versus conservatism. While the definition of autonomy (“[...] individuals pursuing their own ideas [...]”, p. 27; individualism) is close to freedom, conservatism (“restraint of actions [...] that might disrupt the solidary group or the traditional order”, p. 27; collectivism) is hardly equality. Nevertheless, the theoretical predecessor “collectivism”, that is, putting the interests of the group first, defining oneself by group membership, can be associated with equality (for a meta-analysis, see Oyserman et al, 2002). Second, considering authority vs. egalitarianism, Schwartz (1999) claims both freedom and equality as a part of the egalitarianism anchor, i.e., “a cultural emphasis on transcendence of selfish interests [...]” (p. 28). The third issue, mastery vs. harmony, on the other hand, again points to an opposition of the values. Whereas mastery (“getting ahead through self-assertion”, p. 28) is related to freedom, harmony can be conceptualized as a non-assertiveness in social relations and might be associated with equality. To sum up, Schwartz's value theory (1992, 1994,

1999; Schwartz et al., 2012) tends to view equality and freedom as related rather than opposed. Nevertheless, ambiguity remains.

### **Research Overview Experiment 5**

In Experiment 5 I wanted to examine LAC and lateral contrast in the context of values, central to social interaction. To do so, I asked participants for their attitudes toward the values freedom and equality. Beforehand, and in order to achieve attitude change, I had asked participants to self-generate arguments against one of the values. Importantly, I also asked participants to self-generate arguments defining the relation of the values. In previous studies I had measured the relation, that is, the similarity between the stimuli used in the experiments in a series of pretests. In Experiment 5 the goal was to establish contradictory or reinforcing relations between topics experimentally. I predicted that generalization of a more negative evaluation would be found when participants had argued in favor of a positive relation between equality and freedom. If equality and freedom were mutually reinforcing, generating arguments against freedom should also lead to a more negative attitude toward equality. However, when participants argued in favor of an opposing nature of equality and freedom, arguments against freedom should lead to a more positive attitude toward equality, thus: lateral contrast.

Furthermore, implicit measurements should help to illuminate whether lateral contrast was an explicit-only phenomenon. I had no clear hypothesis on whether contrast would be implicit and explicit, or explicit only (see Introduction). However, a parallel occurrence of implicit and explicit contrast would support the notion of negative associations, whereas implicit generalization and explicit contrast would support the assumption of contrast effects as a purely propositional process. Furthermore, Experiment 5 also tested similarity-moderated top-down generalization by introducing further lateral policies such as an unconditional basic income or freedom of expression pre tested as being similar to either equality or freedom. In the case of

participants arguing in favor of a positive relation between equality and freedom, hypotheses are as in previous experiments, that is, generalization from focal to lateral topics. In the case of a contradictory relation, I hypothesized contrast effects not only for the lateral value (equality or freedom) but also for the lateral policies associated with that value. Based on assumptions regarding hierarchy, downstream LAC, that is, from value to policies, may produce larger effects than LAC on the same level of hierarchy, that is, from focal value to lateral value. Nonetheless, this expectation should be treated as an exploratory hypothesis as Experiment 5 was primarily designed to test lateral contrast. Similar to Experiment 3, PfC was expected to increase generalization. However, in Experiment 5, PfC was not manipulated but measured as an individual difference variable.

## Method

### Participants and Design

A total of 169 participants (94 female, 74 male, 1 not specified;  $M_{age} = 24.10$ ,  $SD_{age} = 5.33$ ) were recruited on the campus of Bielefeld University and randomly assigned to the conditions of a 2 (focal topic: freedom vs. equality) x 2 (relation: mutually reinforcing vs. trade-off) + 1 (baseline condition) between-subjects design. Participants were randomly assigned to one of the 5 cells (freedom, mutually reinforcing,  $n = 35$ ; freedom, trade-off,  $n = 35$ ; equality, mutually reinforcing,  $n = 33$ , equality, trade-off,  $n = 32$ ; baseline,  $n = 34$ ). Statistical power analysis (conducted with G\*Power 3.1; Faul et al., 2007) was run for an ANOVA with between-subjects (focal topic) by between-subjects (relation) interactions. The analysis suggested 128 participants in order to achieve a power ( $1 - \beta$ ) of .80,  $\alpha = .05$  for detecting a medium-sized effect. Participants were compensated with EUR 3.00 for their participation.

### Procedure and Manipulation

Participants were welcomed by an experimenter and seated in front of a computer screen. Before starting with the experiment, all participants gave their informed consent. Subsequently, participants in the experimental conditions were told this study was about lines of argumentation. Therefore, participants were informed, they would receive instructions on what they were arguing for or against. They were asked to be open to argue for or against any subject, independent of their own opinion on the matter. In addition to that, participants were told to imagine themselves being in a competitive debate with someone else, and that I was only interested in their manner of argumentation. Subsequently, participants were subjected to the focal topic manipulation: They were asked to argue against equality or against freedom (depending on focal topic condition). Specifically, they were asked to provide arguments “why freedom (equality) is a bad thing”. In order to help them generate arguments, they received two examples about other values, security (“concrete measures to increase security are always accompanied by restrictions; for example, surveillance might increase security but coincidentally leads to an infringement of privacy”) and tradition (Appendix C).

After the instruction and the examples, participants were asked to write down at least one and up to four arguments. They were also told that there was no time limit and that, if they had problems with generating arguments, they should think intensively about the task and write down their thoughts. Subsequent to writing down one to four arguments against freedom (equality), participants were subjected to the relation manipulation: Depending on experimental condition, they were asked to argue either “why freedom and equality have nothing in common or even contradict each other” or “why freedom and equality have a lot in common or even: can only occur together”. The sequence of values in the sentences depended on condition, that is, the focal value was always first (freedom and equality when freedom was the focal value, equality and freedom when equality was the focal value). Just as with the first manipulation, participants



received an example about other values to help them generate arguments. For example, in the mutually reinforcing values condition, participants read: “Tradition and security often occur jointly because proven civic traditions have to be protected; for example, when Christmas markets are being patrolled by heavily armed police officers, they are not only protecting the people on-site but also the tradition itself”. In the trade-off condition basically the same example was used in order to illustrate how a high regard for security demands the destruction of expressions of traditional values (Appendix C).

Subsequently, participants were asked to write down one to four arguments in the same manner as before. Afterward, explicit evaluations of both focal topics (equality and freedom) and four lateral topics were assessed. In order to keep the cover story intact, participants were told that the attitude assessment of topics that they had previously argued about was performed in order to help me understand their argumentation. Participants in the baseline conditions were told that they were supporting me with a study about attitudes toward different topics relevant to society. They were not subjected to the experimental manipulations; attitude assessment was identical to the other experimental conditions. The assessment of explicit attitudes was followed by the assessment of implicit attitudes, assessed with an Affect Misattribution Procedure (AMP; Payne et al., 2005), an assessment of PFC, and demographic data. Subsequently, a manipulation check for the relation manipulation was conducted. Participants were asked to describe the relation between two topics on a slider scale from *contradictory* to *mutually reinforcing* with the midpoint labeled *no relation*. Participants were asked to describe relations on nine items, one for the relation of equality and freedom and one for each relation of either focal value and each lateral policy<sup>20</sup>. Answers were recorded on a scale from 1 to 9, but numbers were not visible to

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<sup>20</sup> Only the description of the relation between equality and freedom was analyzed.

participants. Next, participants were asked to report whether they had participated in a similar experiment and to complete an open-ended suspicion check. Afterward, participants were thanked, debriefed, and dismissed.

### **Dependent Variables**

I assessed attitudes toward the values (equality or freedom) that were, depending on condition, either the focal topic or lateral to the other value. Additionally, attitudes toward policies were assessed, which served as further lateral topics to equality and freedom, respectively. The strength of association between lateral and focal topics had been determined in a pretest (Euclidian distances in a multidimensional scaling analysis, see Appendix A). Two policies were related to equality: unconditional basic income and complete inclusion; two other policies were related to freedom: freedom of expression and “no restrictions on religion”. In order to assess explicit evaluations of and attitude strength regarding the values and policies, participants were asked to answer three items on valence and three items on attitude strength per topic. In order to assess explicit evaluations, participants indicated their attitudes on three semantic differential items (e.g. “freedom is...”) with the end points: *negative - positive*; *harmful - beneficial* and *not desirable – desirable*. Answers were recorded on a scale from 1 to 7, but numbers were not visible to participants. An attitude index was computed by averaging across the three items (Cronbachs  $\alpha = .71$  to  $.96^{21}$ ).

In order to assess attitude strength, participants were asked to indicate their confidence in their attitude ratings (scale from *not confident* to *confident*), how important the topic was to them (scale from *not important at all* to *important*) and how much they had had been concerned with the topic prior to the study (scale from *not at all* to *a lot*). Answers were recorded on a scale from

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<sup>21</sup> equality:  $\alpha = .91$ , freedom:  $\alpha = .71$ , basic income:  $\alpha = .95$ , inclusion:  $\alpha = .94$ , freedom of expression:  $\alpha = .93$ , no restrictions on religion:  $\alpha = .96$

1 to 7, but numbers were not visible to participants. An attitude strength index was computed by averaging across the three items (Cronbachs  $\alpha = .60$  to  $.80^{22}$ ).

All six explicit items were displayed simultaneously for each topic. Whereas the order of items per topic was always the same (valence first, attitude strength second), the order in which the topics were assessed was randomized on an individual level. In all conditions one of the (potentially focal) values was displayed first and the respective other value second. The lateral policies were randomly presented afterward.

An AMP (Payne et al., 2005) was used to assess implicit attitudes toward the values and policies. The AMP was very similar to the procedure used in Experiments 1 and 2. However, instead of picture stimuli, word stimuli were used (see Payne & Lundberg, 2014; Sava et al., 2012). Every trial started with the presentation of a fixation cross for 250 ms. Afterward, each prime was presented for 200 ms, followed by a blank screen for 125 ms. The target ideograph was then presented for 100 ms and was covered by a pixel mask that remained on the screen until participants reacted and pressed one of the response keys. The inter-trial interval was 250 ms (Figure 18).

Every AMP started with a short trial phase (eight trials) in which participants were asked to judge whether Chinese ideographs that were preceded by two positive (“bright sunshine”, “beautiful flowers”) and two negative word-combinations (“disgusting vermin”, “terrible monster”) appeared to them as either *rather negative* or *rather positive* (compared to an average). Subsequently, experimental trials commenced, following the same principles but using the topics as primes. In the case of the lateral object: “No restrictions on religion” a slight abbreviation (“unrestricted religion”) was used in order to shorten the displayed sequence of words. Each

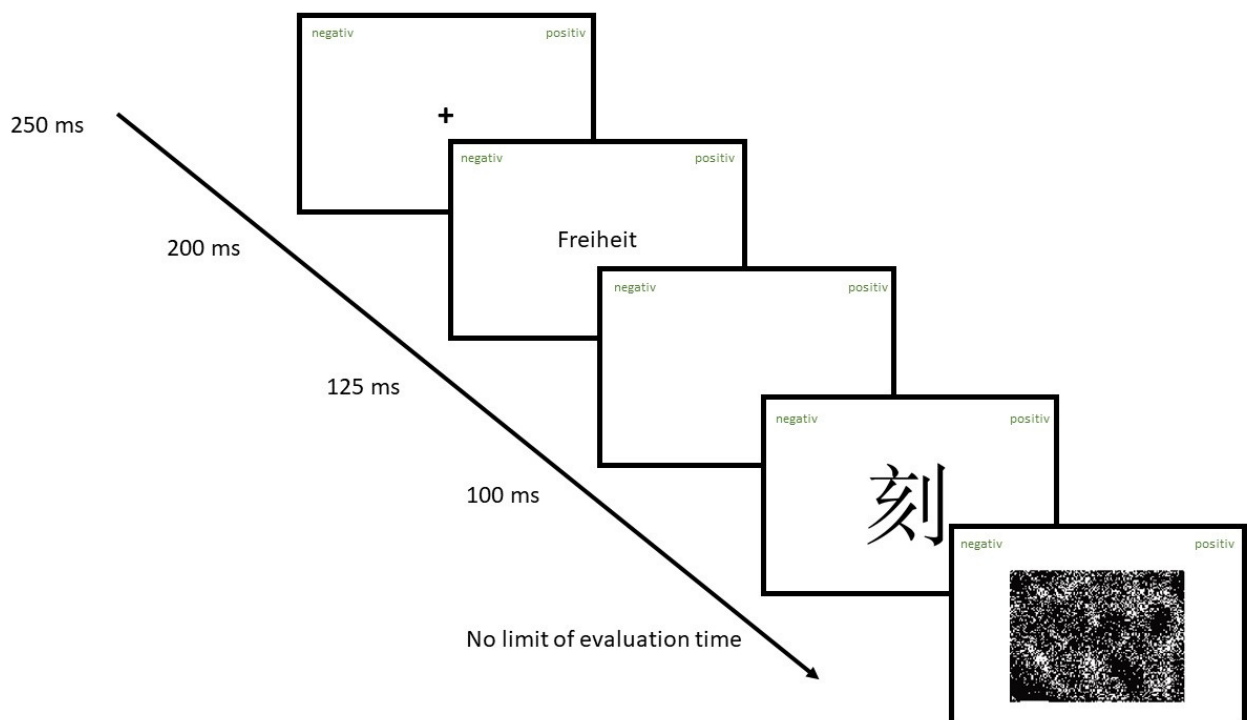
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<sup>22</sup> equality:  $\alpha = .60$ , freedom:  $\alpha = .65$ , basic income:  $\alpha = .80$ , inclusion:  $\alpha = .78$ , freedom of expression:  $\alpha = .79$ , no restrictions on religion:  $\alpha = .71$ .

prime was displayed eight times, leading to 56 trials in total (including eight ‘neutral’ trials, where no prime was displayed at all) that were individually randomized for each participant. Implicit attitudes were recorded as the number of positive evaluations in percent, thus 0 represents only *rather negative* responses and 100 represents only *rather positive* responses.

**Figure 18**

*AMP Procedure in Experiment 5*



*Note.* Example of a critical trial. The intertrial interval was 250 ms.

**Preference for Consistency**

PfC was assessed with a German translation (Heitland et al., 2009) of the 18-Item PfC Scale (Cialdini et al., 1995). The PfC scale has been shown to be reliable (Guadagno & Cialdini,

2010). Participants are required to indicate their level of agreement with statements such as: “I prefer to be around people whose reactions I can anticipate.” on a scale from 1 = *do not agree at all* to 7 = *agree completely*. Participants’ Pfc scores were independent of conditions, as shown by an ANOVA, all  $p \geq .05$ . Thus, low vs. high levels of Pfc could be used as an independent variable to measure possible relations between Pfc and LAC. A median split ( $Mdn = 5.19$ ) yielded a low Pfc ( $n = 84$ ) and a high Pfc group ( $n = 84$ ).

## Results

### Baseline Adjustments of Values and Manipulation Checks

Attitudes toward the values equality ( $M_{Exp} = 4.62$ ,  $SD_{Exp} = 1.46$ ) and freedom ( $M_{Exp} = 5.94$ ,  $SD_{Exp} = 0.85$ ) differed significantly in the experimental conditions,  $t(133) = 9.54$ ,  $p < .001$ ,  $d = 1.11$ , as well as in the control condition (equality: ;  $M_{Con} = 5.03$ ,  $SD_{Con} = 1.64$ ; freedom:  $M_{Con} = 6.31$ ,  $SD_{Con} = 0.73$ ),  $t(33) = 4.46$ ,  $p < .001$ ,  $d = 1.01$ . In order to gain attitude indices for focal and lateral topics that were independent of stimulus effects, as expressed by baseline evaluations of the values, I calculated new scores for the attitudes toward equality and freedom by subtracting the baseline mean from the individual evaluations. Thus, I calculated variables that describe attitude change, that is, the difference between the individual’s attitude toward the respective value and the baseline score. The resulting adjusted attitude change scores for freedom ( $M = -0.38$ ,  $SD = 0.85$ ) and equality ( $M = -0.41$ ,  $SD = 1.46$ ) did not differ significantly from each other,  $t < 1$ . Subsequently, variables for attitude change toward the focal and the lateral value instead of equality and freedom were computed. For the focal value the attitude change scores (i.e., differences to the baseline evaluation) for equality when equality was the focal topic and attitude change toward freedom when freedom was the focal topic were averaged. For the lateral value variable, attitude change toward equality when freedom was the focal topic and attitude change toward freedom when equality was the focal topic were averaged.

An independent *t*-test was conducted as a manipulation check for the relation manipulation . The analysis showed that participants in the mutually reinforcing values condition ( $M = 7.61, SD = 2.76$ ) rated the relationship between equality and freedom higher than did participants in the trade-off condition ( $M = 5.73, SD = 2.93$ ),  $t(132) = 3.83, p < .001, d = 0.66$ ; control condition:  $M = 6.94, SD = 2.83$ ). When compared to the control condition ( $M = 6.94, SD = 2.83$ ) only the trade-off condition differed significantly,  $t(132) = - 2.02, p = .045, d = - 0.41$ . The difference between the mutually reinforcing and the control condition was not significant,  $p = .26$ . Since the instruction in the trade-off condition told participants to argue in favor of either no relation *or* a negative relation between the values, arguments were rated in order to gain an impression of which line of argumentation participants chose. According to Rater 1, 69.17% of all arguments were in favor of negative relations, 13.33 % in favor of no relations, 3.33% in favor of a positive relation and 14.17% were not interpretable. However, there was only minimal agreement (cf. McHugh, 2012) between Rater 1 and Rater 2 regarding the interpretation of participants' arguments,  $\kappa = .33, p < .001$ .

In order to test the result of the valence manipulation, a mixed-model ANOVA on attitude change was calculated with value topic (attitude change toward freedom vs. attitude toward equality) as a within-subjects factor and focal topic condition (arguing against freedom vs. arguing against equality) as a between-subjects factor. The ANOVA revealed a significant interaction of value topic and focal topic,  $F(1,132) = 12.32, p = .001, \eta^2 = .085$ . Freedom ( $M = - 0.49, SD = 0.87$ ) was rated as more negative than equality ( $M = - 0.08, SD = 1.51$ ) when freedom was the focal topic; equality ( $M = - 0.76, SD = 1.33$ ) was rated as more negative than freedom ( $M = - 0.25, SD = 2.81$ ) when equality was the focal topic. Thus, both the relation and the valence manipulations were successful.

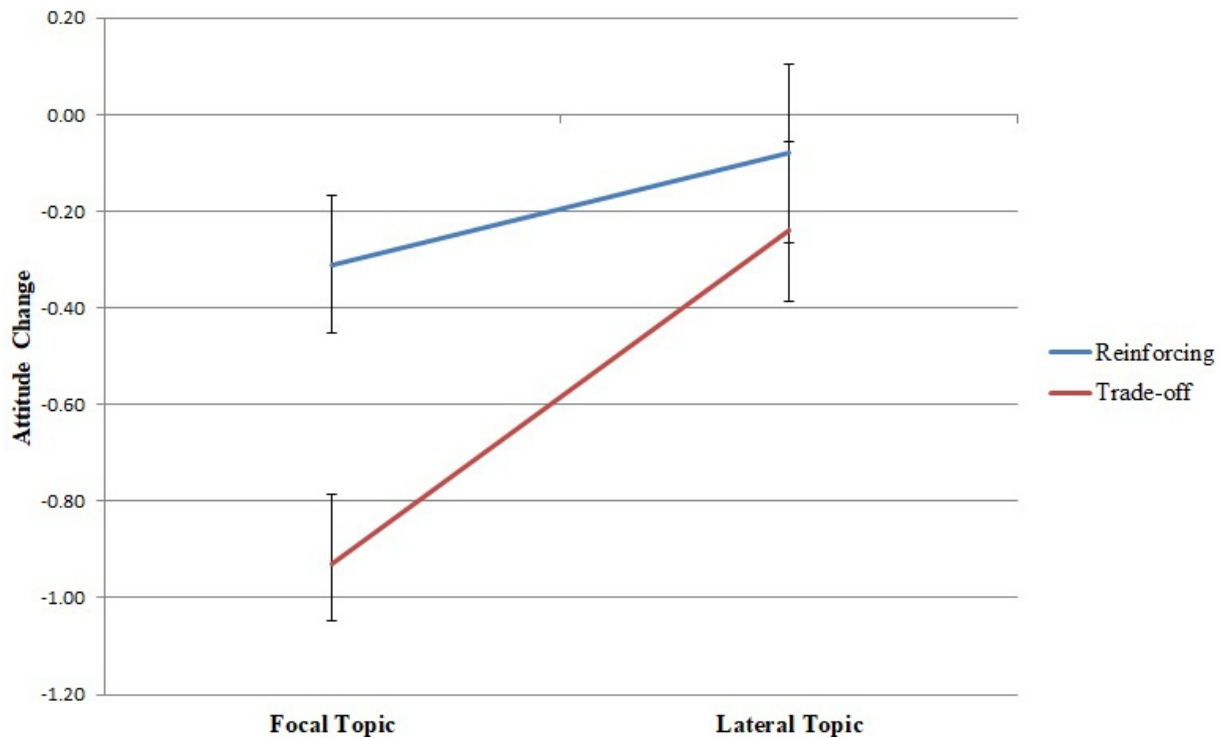
### Explicit Focal and Relation-Dependent Lateral Attitude Change

In order to test relation-dependent generalization, a mixed-model ANOVA was calculated with value status (attitude change toward the focal value vs. attitude change toward the lateral value) as within-subjects factor and focal topic (freedom, equality) and relation (mutually reinforcing vs. trade-off relation) as between-subjects factors. As expected, the ANOVA returned a main effect for the value status condition,  $F(1, 130) = 12.64$ ,  $p = .001$ ,  $\eta^2 = .089$ , suggesting a larger effect of the manipulation on the focal ( $M = -0.62$ ,  $SD = 1.12$ ) than the lateral value ( $M = -0.16$ ,  $SD = 1.23$ ). The ANOVA also returned a trend toward an interaction of value status and the relation condition,  $F(1, 130) = 3.50$ ,  $p = .064$ ,  $\eta^2 = .026$ . I had expected no effect of the relation condition on the attitudes toward focal values, but a more negative attitude toward lateral values in the reinforcing-values condition and more positive evaluations in the trade-off condition. Instead, while evaluations of lateral topics did not differ much depending on whether participants argued in favor of a mutually reinforcing ( $M = -0.08$ ,  $SD = 1.51$ ) or a trade-off relation ( $M = -0.24$ ,  $SD = 1.20$ ), attitude change toward the focal topic differed with regard to the relation condition (reinforcing:  $M = -0.31$ ,  $SD = 1.17$ ; trade-off:  $M = -0.93$ ,  $SD = 0.97$ , see Figure 19).

Descriptively, the interaction of the relation condition and value status seemed to appear only, when equality had been the focal object (see Figures B1 and B2, Appendix B), the three-way interaction with focal topic, however, was not significant,  $p > .143$ . Additionally, results showed generally stronger (negative) attitude change in the trade-off ( $M = -0.59$ ,  $SD = 0.88$ ) than the reinforcing values condition ( $M = -0.19$ ,  $SD = 1.21$ ), which constituted an unexpected main effect of the relation condition,  $F(130) = 6.94$ ,  $p = .009$ ,  $\eta^2 = .051$ .

**Figure 19**

*Explicit Attitudes Toward Focal and Lateral Topics Depending on Relation Condition in Experiment 5*



*Note.* Numbers on the Y-axis are differences to the control group mean. Negative evaluations are in line with the hypothesis if values are mutually reinforcing.

Thus, results did not support the hypothesis of lateral effects depending on the type of (the manipulated) relation. Instead results revealed generally more attitude change in the trade-off condition as well as stronger focal (vs. lateral) effects of the manipulation. Despite unexpected results, analyses were conducted to test whether generalization occurred.



### Generalization

I conducted a single-sample  $t$ -test against 0 in order to examine whether attitudes toward lateral values ( $M = -0.16$ ,  $SD = 1.23$ ) differed negatively from the baseline (scores were adjusted, therefore 0 represents no difference to baseline scores). The  $t$ -test returned a trend but only a small effect size for the difference of lateral attitude change from zero,  $t(133) = -1.51$ ,  $p = .067$ ,  $d = 0.13$ . When tested separately, a  $t$ -test against zero returned no attitude change toward equality as the lateral topic,  $t < 1$ . There was, however, significant lateral attitude change toward freedom as the lateral topic ( $M = -0.25$ ,  $SD = 0.81$ ),  $t(63) = -2.44$ ,  $p = .018$ ,  $d = -0.31$ .

### Lateral Policies

For all analyses regarding lateral policies related to equality, attitude change (i.e., difference to baseline) toward basic income and inclusion was averaged. For all analyses regarding lateral policies related to freedom, attitude change toward freedom of speech and religion was averaged.

In order to test for generalization to lateral policies, I conducted a mixed-model ANOVA with policy topic (attitudes change toward lateral policies related to equality, attitudes change toward lateral policies related to freedom) as a within-subjects factor and focal topic and relation as between-subjects factors. For the lateral policies similar to the respective focal value I expected generalization. For the lateral policies similar to the respective non-focal value I expected generalization when values were reinforcing and contrast when values were in a trade-off relation.

The ANOVA, however, returned only two significant effects. First, there was a main effect of the policy topic factor,  $F(1, 130) = 9.96$ ,  $p = .002$ ,  $\eta^2 = .071$  which indicated stronger LAC toward lateral policies related to equality ( $M = -0.37$ ,  $SD = 1.43$ ) than toward freedom-related policies ( $M = 0.03$ ,  $SD = 1.14$ ). Second, there was a main effect of the relation condition,

$F(1, 130) = 3.95$ ,  $p = .049$ ,  $\eta^2 = .030$ , which suggested more negative LAC in the trade-off condition ( $M = -0.35$ ,  $SD = 1.08$ ) rather than when values were mutually reinforcing ( $M = 0.01$ ,  $SD = 1.02$ ). The ANOVA returned no other significant main or interaction effects, all  $p > .35$ . Thus, results do not support the hypotheses. Instead of effects of similarity and an interaction between focal topic and relation, there were only unexpected main effects.

To further clarify effects, I conducted a series of  $t$ -tests against zero to test for attitude change toward policies related to equality and freedom, respectively, separately for the condition in which either equality or freedom had been the focal value. There was no attitude change toward lateral policies related to freedom in either focal value condition, both  $p > .28$ . There was, however, attitude change toward policies related to equality. Attitudes change toward policies related to equality was indeed significant when equality had been the focal object ( $M = -0.36$ ,  $SD = 1.43$ ), indicating generalization,  $t(63) = -2.00$ ,  $p = .050$ ,  $d = -0.25$ . However, there was also attitude change when freedom had been the focal value ( $M = -0.38$ ,  $SD = 1.44$ ),  $t(69) = -2.21$ ,  $p = .031$ ,  $d = -0.26$ .

Thus, while policies related to equality were more affected by the manipulation aimed at focal values, this seems not necessarily to be a function of similarity to the focal values. In addition, the ANOVA returned the result of stronger attitude change when focal values were in a trade-off relation. This was, however, independent of which value was targeted.

### **Implicit Attitudes**

Equivalent to explicit attitudes I first computed implicit attitude change scores by subtracting the baseline mean from individual implicit evaluations. Next, indices for focal and lateral implicit attitude change were computed by (a) averaging baseline-corrected evaluations of equality when equality had been the focal object, and freedom when freedom had been the focal

object, and (b) averaging baseline-corrected evaluations of equality when freedom had been the focal object, and freedom when equality had been the focal object.

In order to gain a general impression of focal implicit attitude change, a *t*-test against zero was conducted. Indeed, focal attitude change was significantly negative ( $M = -8.42$ ,  $SD = 25.19$ ),  $t(133) = -3.87$ ,  $p < .001$ ,  $d = -0.33$ .

In order to gain a general impression of lateral implicit attitude change, a second *t*-test against zero was conducted. Lateral attitude change was also significantly negative ( $M = -8.60$ ,  $SD = 24.82$ ),  $t(133) = -4.01$ ,  $p < .001$ ,  $d = -0.35$ .

Subsequently, an ANOVA on implicit attitude change was conducted with value status (implicit attitude change toward the focal value, implicit attitude change toward the lateral value) as a within-subjects factor and focal topic and relation as between-subjects factors. However, the ANOVA returned no significant main or interaction effects, all  $p > .37$ .

Separate analyses (*t*-tests against zero) confirmed that implicit LAC was significant for equality,  $t(69) = -3.13$ ,  $p = .003$ ,  $d = -0.37$ , and freedom,  $t(63) = -2.51$ ,  $p = .015$ ,  $d = -0.31$ .

To sum up, there was focal and lateral implicit attitude change in line with the general manipulation (i.e., generating arguments against a value), that is attitudes were more negative than in the baseline condition. However, effects were unaffected by the specific manipulations. There were no differences for the focal topic, thus no differences depending on whether the value was the focal or the lateral topic respectively. In addition, effects were independent of the relation manipulation.

### **Lateral Policies (Implicit)**

For all analyses regarding lateral policies related to equality, implicit attitude change (i.e., AMP score differences to baseline) toward basic income and inclusion was averaged. For all

analyses regarding lateral policies related to freedom, implicit attitude change toward freedom of speech and religion was averaged.

In order to gain a general impression of whether implicit generalization from focal values to lateral policies occurred, I first conducted two *t*-tests against zero for implicit attitudes toward policies related to equality and freedom, respectively. There was implicit lateral attitude change toward policies related to equality ( $M = -6.05$ ,  $SD = 22.13$ ),  $t(133) = -3.16$ ,  $p = .002$ ,  $d = -0.27$ , but not toward policies related to freedom,  $p = .97$ .

Subsequently, an ANOVA on implicit lateral attitude change was conducted with policy topic (related to equality, related to freedom) as a within-subjects factor and focal topic and relation as between-subjects factors. However, the ANOVA returned only a significant main effect for policy topic,  $F(1, 130) = 11.53$ ,  $p = .001$ ,  $\eta^2 = .081$ , which indicated implicit attitude change only toward policies related to equality but not freedom as previously reported.

### **Explicit and Implicit Attitude Change**

I wondered whether the relation manipulation, thus potential contrast effects, only affected explicit but not implicit evaluations. To test this, I conducted a mixed-model ANOVA with type of assessment (explicit vs. implicit; *z*-standardized), and value status (attitude change toward focal value, attitude change toward lateral value) as within-subjects factors, and focal topic (equality vs. freedom) and relation condition (mutually reinforcing vs. trade-off) as between-subjects factors. The ANOVA revealed a significant main effect of the relation condition,  $F(1, 130) = 6.71$ ,  $p = .011$ ,  $\eta^2 = .049$ . Attitudes were more positive in the mutually reinforcing ( $M = 0.12$ ,  $SD = 0.99$ ) than the trade-off condition ( $M = -0.12$ ,  $SD = 0.99$ ). Furthermore, the ANOVA returned a marginally significant three-way interaction of the within-subjects factors type of assessment and value status and the relation condition,  $F(130) = 3.66$ ,  $p = .058$ ,  $\eta^2 = .027$ . On explicit measures, the relation manipulation influenced focal evaluations

more strongly than lateral evaluations, whereas on implicit measures there was next to no difference (for means and standard deviations of explicit differences based on relation see above, explicit evaluations<sup>23</sup>). All other effects were not significant, all  $p > .11$ . Additionally, the same analyses with lateral policies as DVs returned a trend for a main effect of relation,  $F(1, 130) = 3.32, p = .71, \eta^2 = .025$ . Attitudes were more positive in the mutually reinforcing ( $M = 0.11, SD = 0.96$ ) than the trade-off condition ( $M = -0.11, SD = 1.03$ ). The ANOVA returned no further significant effects, all  $p > .33$ .

### **Preference for Consistency**

Adding PfC as a dichotomous between-subjects factor based on a median split did not change any analyses significantly.

### **Exploratory Analyses**

#### ***Lateral Value and Lateral Policies***

In order to test whether generalization affected the lateral value to a different degree, I first computed a new score for the more similar lateral policies. This score was comprised of lateral policies related to equality in the condition with equality as the focal value and lateral policies related to freedom in the condition with freedom as the focal value. Subsequently, a mixed-model ANOVA with lateral topic (lateral value vs. similar lateral policies) as a between-subjects factor and focal topic and relation as between-subjects factors. The ANOVA returned only a marginally significant effect of relation,  $F(1, 130) = 3.41, p = .067, \eta^2 = .026$ , which again indicated more attitude change in line with the argumentation in the trade-off condition. Nonetheless, the ANOVA returned no further significant effects, all  $p > .19$ . Thus, there was no evidence in favor of stronger downstream LAC (vs. that on the same level of hierarchy).

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<sup>23</sup> Reinforcing versus trade-off: explicit focal ( $M = 0.28, SD = 0.87$  vs.  $M = -0.28, SD = 1.05$ ), explicit lateral ( $M = 0.06, SD = 1.02$  vs.  $M = -0.06, SD = 0.98$ ), implicit focal ( $M = 0.04, SD = 0.94$  vs.  $M = -0.04, SD = 1.06$ ), implicit lateral ( $M = 0.09, SD = 0.96$  vs.  $M = -0.09, SD = 1.05$ ).

### ***Attitude Strength***

In their studies, Blankenship et al. (2012) reported effects, which showed that LAC from values to policies was mediated by attitude strength. I tested whether any manipulation used in Experiment 5 influenced attitude strength. Four ANOVAs on attitude strength differences, that is, differences to the baseline were conducted: on attitude strength differences regarding the evaluation of equality, on attitude strength differences regarding the evaluation of freedom, on averaged attitude strength differences regarding the evaluation of lateral policies related to equality, and on averaged attitude strength differences regarding the evaluation of lateral policies related to freedom. All ANOVAs featured focal topic and relation as between-subjects factors. Only the ANOVA for attitude strength differences regarding the attitude toward the lateral policies related to equality returned a marginally significant effect. Attitude strength differences were larger in the mutually reinforcing condition ( $M = 0.43$ ,  $SD = 1.00$ ) than in the trade-off condition ( $M = 0.10$ ,  $SD = 0.99$ ),  $F(1, 133) = 3.50$ ,  $p = .064$ ,  $\eta^2 = .026$ . However, no other ANOVAs returned any significant effect, all  $p > .13$ . Therefore this line of research was not continued.

### ***Depth of Elaboration***

In order to test for effects of depth of elaboration, a mixed-model ANOVA on attitude change toward values with values status (focal vs. lateral) as within-subjects factor and value topic, relation, number of generated arguments against a value (1-2 vs. 3-4) and number of arguments regarding relation (1 vs. >1) as between-subject factors was computed. The ANOVA returned a main effect for the number of arguments generated against the value,  $F(111) = 5.20$ ,  $p = .025$ ,  $\eta^2 = .045$ . Unsurprisingly, participants who had generated more arguments also rated the values more negatively (focal:  $M = -0.76$ ,  $SD = 0.94$ ; lateral:  $M = -0.44$ ,  $SD = 1.10$ ) than

participants who had generated fewer arguments (focal:  $M = -0.45$ ,  $SD = 1.31$ ; lateral:  $M = -0.15$ ,  $SD = 1.28$ ).

### Discussion of Experiment 5

In Experiment 5 I found explicit and implicit generalization from a focal to a lateral value, that is, attitude change on the same hierarchical level in most but not in all cases; there was no explicit attitude change toward equality. Additionally, there was implicit and explicit generalization toward lateral policies related to equality. This effect, however, occurred independent of similarity, that is, independent of whether equality was indeed the focal topic. I did not find clear support for lateral contrast. Although the relation manipulation was successful and had an effect on explicit (but not implicit) attitudes toward focal values and lateral policies, the direction of the effect was unsuspected. Regarding the values, I expected a lateral (but not focal) effect. Specifically, I had predicted that the negative effects of the focal manipulation would be attenuated or reversed when participants had argued that the values were contradictory. Instead, attitude change in line with the manipulation toward the focal value and toward lateral policies was larger when participants had argued that equality and freedom were in a trade-off relation. In the case of lateral policies, this effect was independent of similarity to the focal object (i.e., which value had been the focal topic).

The finding that there was no attitude change despite an influence attempt incorporating negative valence when argumentation had been in favor of mutually reinforcing values might be the result of design flaws. I expected the relation manipulation to influence participants so as to associate the valence immanent in the manipulation attempt (i.e., negative valence) with the lateral topic (e.g., equality in the freedom condition) if participants had argued that the lateral value was related to the focal value (e.g., freedom in the freedom condition). Instead, it is conceivable that participants associated primarily the valence immanent to the focal value itself

with the lateral value and not only the valence immanent to the manipulation. Because both values (but especially freedom, see Appendix A) were held in (very) high esteem, relating either to the lateral topic would improve rather than deteriorate the attitude toward the lateral topic. This effect is even enhanced for the attitude change toward the focal value. If values are in a trade-off relation, the manipulation is effective and there is attitude change in line with the manipulation. However, if the target value is positively related to another a priori positive value, this effect is attenuated.

While the valence manipulation itself succeeded in pushing the attitude toward both values below the baseline, both values are still not evaluated negatively (in the case of freedom the evaluation was still very positive<sup>24</sup>) in absolute terms. In a similar manner, the success of the relation manipulation was not absolute. On the one hand, the manipulation influenced the perceived relation of equality and freedom, and participants in the relation condition tended to favor the viewpoint of mutually reinforcing values (see manipulation check). On the other hand, participants who argued in favor of a trade-off remained moderate in their view<sup>25</sup>. While this perception of the values' relation is in line with many modern analyses (cf. Giebler & Merkel, 2016), it may have impeded the influence of the relation manipulation. When participants in the trade-off condition were not convinced of a trade-off relation, a lateral contrast is not necessarily to be expected. Thus, although both manipulations succeeded, in relative terms, that is, in establishing significant difference between conditions, neither was successful in absolute terms.

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<sup>24</sup> Participants who argued against equality evaluated equality as neutral (i.e., not significantly different to the center of the scale (4);  $M = 4.27$ ,  $SD = 1.33$ ),  $t(63) = 1.60$ ,  $p = .114$ ,  $d = 0.20$ . Participants who had argued against freedom still evaluated freedom as positive (i.e., significantly different to the center of the scale (4);  $M = 5.82$ ,  $SD = 0.88$ ),  $t(69) = 17.32$ ,  $p < .001$ ,  $d = 2.10$ .

<sup>25</sup> The mean attitude toward the equality-freedom relation by participants in the trade-off condition ( $M = 5.73$ ,  $SD = 2.93$ ) did not differ significantly from the center of the scale (6),  $t < 1$ .



That is, the manipulation failed to create (a) a negative topic and (b) a relation of contrasting nature.

There are some aspects of the operationalization that should be addressed for future research. The uninterrupted sequence of valence and contrast manipulation might (1) overtax participants' capacity to handle cognitive load (Paas et al., 2003) and (2) lead to unintended sequence effects such as a biased generation of arguments in the second task. Depending on the argument generation against either equality or freedom, argument generation toward relation definition may be biased, similar to biased processing in persuasion<sup>26</sup> (Chaiken & Maheswaran, 1994). (3) The sequence of manipulations might have changed participants' experienced ease of generation (Wänke et al, 1997). Although Point 3 seems unlikely to alter effects between levels of the focal value condition, ease of generation might have affected the general effectiveness of the manipulations. The uninterrupted sequence of manipulations might have resulted in a subjectively hard argument generation (i.e., low ease), which in turn might have decreased the effect of the argumentations.

Furthermore, the contrast manipulation should be less ambiguous. In order to create a truly negative, contrasting relation between the topics instead of only a negation of a positive relation, the participants' task should be formulated in more drastic terms. Although most participants (69.17%, according to Rater 1) already argued in favor of a trade-off relation, asking them to argue in favor of true opposition might increase the chance of the manipulation to outdo preexisting perceptions.

Findings regarding patterns of implicit data are also not completely in line with predictions based on the LAC model. On the one hand, the finding that implicit attitude change is

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<sup>26</sup> The number of generated arguments against a value correlates with the number of arguments regarding the nature of the value relation,  $r(127) = .43, p < .001$ . However, a more meaningful qualitative analysis of argument content has not been conducted.

independent of relation information can be reasonably interpreted as relation information being propositional information which does not become visible on implicit measures (cf. De Houwer et al., 2020). On the other hand, I would have expected implicit measures to be sensitive to focal topic information and similarity. To be precise, I had expected stronger implicit attitude change for the focal (vs. the lateral) value and for lateral policies related to the focal (vs. the lateral) value. Nonetheless, the finding that for lateral policies implicit and explicit LAC coincide is in line with LAC predictions.

I have discussed that there was not only valence immanent to the manipulation (negative) but also valence immanent to the topics themselves (freedom and equality; positive). Thus, a (strengthened) relation between focal and lateral object might not only lead to a generalization of the negative valence immanent to the manipulation but also to a generalization of the positive valence immanent to the focal value. Therefore, it is not easy to draw conclusions about lateral contrast, including the question of whether every lateral contrast is per se a propositional process. I have discussed literature on distrust (Kleiman et al., 2015; Mayo, 2015; Schul et al., 2004) as examples of research which reported effects (e.g., choosing Pepsi instead of Coca Cola) that, I presume, might be based on automatic negative relations of topic (also cf. De Houwer et al., 2020; Thagard, 2015). However, as the trade-off manipulation fell short of creating a negative relation between topics, the respective other value hardly represented a contradictory topic or a true alternative (cf. Mayo, 2015).

Nonetheless, it is noticeable that the relation manipulation used in Experiment 5 affected most explicit attitudes but no single implicit rating. On an implicit level there is generalization; ratings are completely independent of whether the two values had been described as being reinforcing or as in a trade-off relation. On the other hand, on an explicit level there is also generalization, but both focal and lateral evaluations are more negative when values were

described as being in a trade-off relation. Results, for once, can be interpreted as an attribution of the positive valence of one value to the other, negating any attitude change the manipulation may have induced. Furthermore, results suggest that propositional reasoning is necessary for an effect of the relational information emerging from the argumentation (about relation) on attitude formation. On an associative level, the pure simultaneous occurrence (Baeyens et al., 1993; Gawronski & Bodenhausen, 2014; Walther, 2002) of stimuli (topics) leads to a pairing, whereas on a propositional level the relation of topics alters the effects.

Thus, the values equality and freedom may be associated, either via the formation of a new association or via the activation of an existing one (cf. Gawronski & Bodenhausen, 2006a). This would explain implicit generalization from the focal to the lateral value. Generalization between the values equality and freedom can be attributed to two distinct associations: First, there were existing associations between the values prior to the experiment. Second, the manipulation created novel associations or strengthened existing ones. However, contrary to generalization from focal to lateral values, generalization to lateral policies has to depend on preexisting associations only since no manipulation was conducted which may have formed or strengthened associations between the focal value and lateral policies. This was known beforehand, and was also the case in previous experiments. However, in Experiments 1 to 3 similarity had been operationalized more concretely (shared category, shared brands), perhaps allowing for stronger associative generalization.

Nonetheless, this might explain why I found weaker generalization effects to (some) lateral policies. Additionally, from an APE perspective there might be another kind of implicit lateral contrast. The general assumption that the LAC model makes about generalization is a chain of associations. The influence attempt creates a new association of the focal object with the valence immanent in the influence attempt; because of the given (in Experiment 5: created)

association between focal and lateral topics this valence is, thus, also connected with the lateral topic.

However, implicit attitude change can also be the result of changes in pattern activation (Gawronski & Bodenhausen, 2006a). Different pattern activation might be achieved, for example, by manipulating category-membership (e.g., Michael Jordan as an athlete vs. as an African American; Mitchell et al., 2003). It is not inconceivable that the persuasive information about the focal topic also served as a cue for the pattern activation of the lateral topic. Besides a spreading of evaluation, the “prime” freedom might activate some but not all existing associations of “equality” with other concepts (of different valence) and vice versa. This may help to understand the somewhat unexpected effect of the relationship manipulation on focal evaluations. As mentioned before, the relation manipulation was conducted prior to attitude assessments. Thus, the mention of the respective lateral value might have influenced the pattern activation of several (unknown) associations.

Of course, this is a posteriori theorizing and the fact remains that results did not match my hypotheses. Nevertheless, the results tentatively suggest that complex relations between topics are not reflected on an associative level. This, in turn, would suggest that any lateral contrast (if found empirically) was a purely propositional process. Nonetheless, the question remains as to why the relation manipulation produced primarily focal effects. One might speculate that the focal topic is the main target of participants’ cognition. Thus, the additional reasoning about the subject’s relation with another value is taken into account when evaluating this–main–target. The lateral topic, however, is primarily viewed in its function as an additional piece of information for the focal object’s evaluation and, thus, is evaluated independently of the thought processes that lead to attitude formation with regard to the focal topic.

Unlike Experiment 4, Experiment 5 has no comparison of downstream vs. upstream spreading. Rather, there is either spreading within a hierarchy level, that is, from one value to another, or downstream LAC, from a value to related policies. When interpreting the results of Experiment 5 with the aim of comparing hierarchical with nonhierarchical LAC effects, one has to keep in mind that any differences due to hierarchy level differences may be confounded with strength of association. Therefore, the non-result regarding stronger downstream LAC is not necessarily a falsification of expectations regarding a moderation by hierarchy. The association between the values was not only pretested but also manipulated. Presumably, the relation manipulation led to the formation (activation/reinforcement) of the association between values, independent of the direction of the argumentation. Following this logic, there may have been competing effects driving attitude change effects regarding lateral values and lateral policies: strength of association versus hierarchy. Nonetheless, future research should strive to disentangle potential moderators of LAC. For example, asking participants to argue in favor of (against) a relation between equality (freedom) and inclusion (and other lateral policies) should induce similar downstream effects, while keeping experimental effects on strength of association stable. This, however, would come at the expense of an economic design.

To sum up, I again found (some) generalization effects on an implicit and an explicit level. The attempt to test lateral contrast, however, was less successful. Presumably, the manipulation of the relation between topics was confounded with the valence immanent to the topics themselves, leading to unexpected results. Nevertheless, results also suggest that the processing of object relations is a propositional process. In Experiment 6, the question of lateral contrast was addressed once again, albeit not via experimental manipulation. The focus of Experiment 6 was testing LAC as a mechanism of populism. In this context, I also took the opportunity to examine several questions regarding LAC once again.

### Experiment 6

The rise of populist strongmen (or strongwomen) and populist parties all over the planet has been one of the most widely discussed political phenomena of the last few years. Scientists, from social psychology, political science and related disciplines, have also begun to intensively study the remarkable success of populist parties and movements. An electronic search in Web of Science (Core Collection, September 2020) for publications on the topic of populism returned 1239 publications in 2019 compared with 349 publications in 2016 and 95 publications in 2011. While the term populism might be applied to both left- and right-wing populism, the current discussion (as well as the present research) is primarily concerned with populist radical right parties (PRRP; Mudde, 2013).

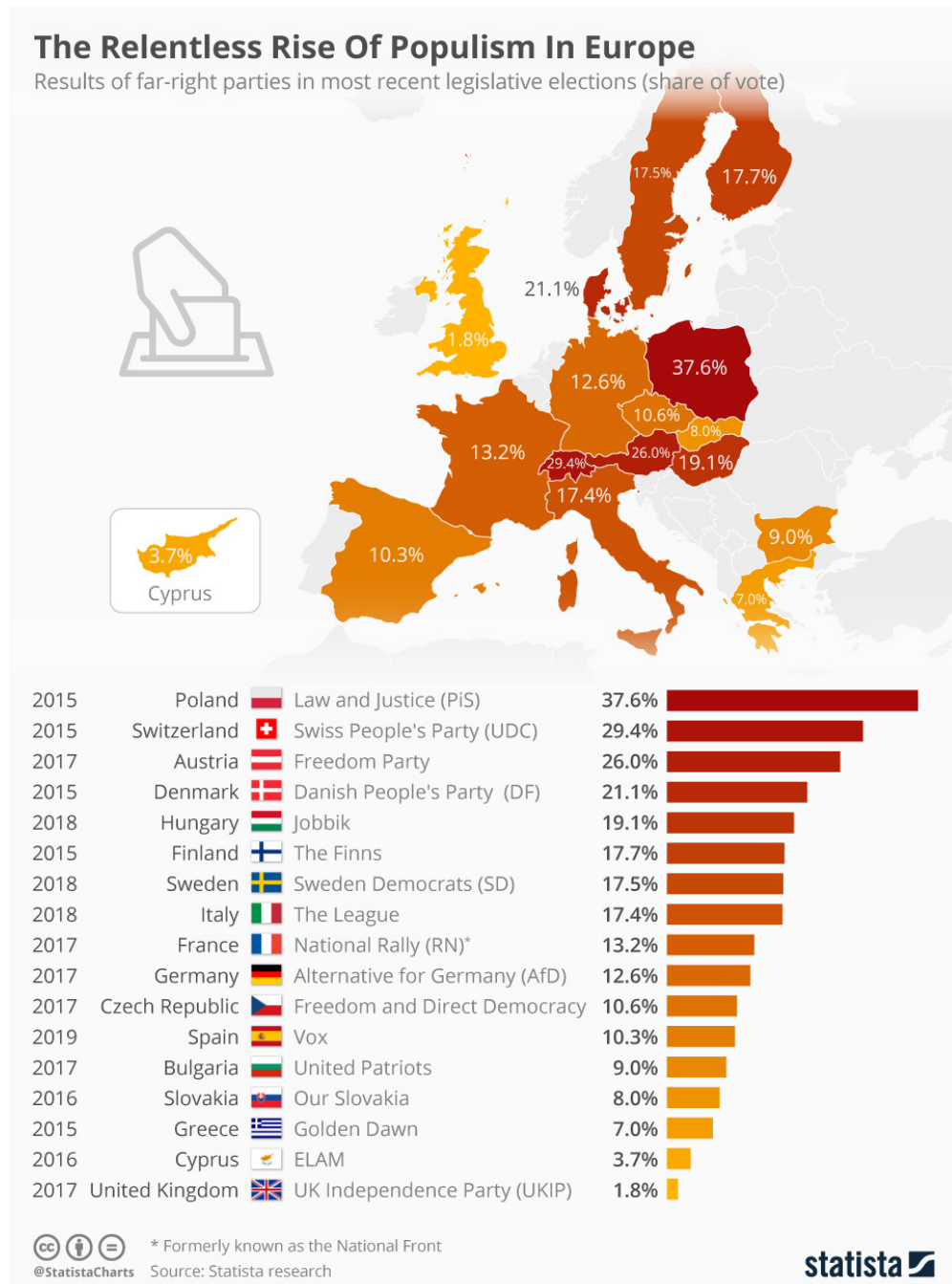
The populists' success may be weighted and measured in different ways. One aspect of success is, of course, the popularity of the populist party or strongmen / strongwomen itself. The most salient expression of this popularity is the share of votes the party or person receives (at least in democratic societies). Indeed, in the last couple of years, populist parties have been quite successful in elections both in Europe (Figure 20) and further afield (e.g., Trump, Bolsonaro, Duterte, etc.). Nevertheless, success (or influence) is not solely measured inside the voting booth. For example, the British electorate's decision that the United Kingdom should no longer be a part of the European Union is widely seen as a result of populism (Inglehart & Norris, 2016; Marchlewska et al., 2018). Both the pressure forcing the conservative Prime Minister David Cameron into a referendum as well as the campaign leading up to the referendum itself had been initiated and carried out by the United Kingdom Independence Party (UKIP)<sup>27</sup>.

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<sup>27</sup> While it is important to note that Brexit was also supported by a significant proportion of mainstream conservatives, most of the campaign itself followed a populist approach.

**Figure 20**

*Populist Parties in European State Parliaments (2019)*



*Note.* Figure reprinted from Statista research (<https://www.statista.com/chart/17860/results-of-far-right-parties-in-the-most-recent-legislave-elections/>). The figure is available via Creative Commons License CC BY-ND 3.0.

UKIP up until 2018 can be described as a populist party, characterized by a Eurosceptic tradition, an anti-immigrant stance (“the biggest single issue facing this country”, Farage, 2013; cited after Tournier-Sol, 2015) and an anti-elite discourse (Tournier-Sol, 2015). Nevertheless, while hugely successful with the Brexit campaign, UKIP never had any substantial success in a national election (one seat in the May 2015 general election; in September 2018 they were polling at 6%, Opinium, 2018). This is one instance of indirect rather than direct influence of populist ideas. While people might have rejected UKIP to the extent that they would not vote for the party, its ideas have become powerful nevertheless. Although both UKIP as well as the Brexit party, which can be viewed as a UKIP successor, had success in elections on a European level, on a national level their success in elections was limited, yet at the same time their messages were driving the discourse in Britain.

While UKIP might be an extreme example, there are other circumstances of indirect populist influence such as an increased salience of immigration-related topics (Minkenberg, 2001). Indirect political influence by changing the social and political discourse or narrative (cf. Brockmeier & Harré, 2001) is not a novel phenomenon. For example, Inglehart and Norris (2016, p. 21) mention that in 1993 the German parliament amended the constitution to eliminate the clause guaranteeing free right of asylum in order to reduce immigration. The authors describe this change in legislation as an attempt to appease parts of the public and coopt the electorate of the xenophobic Republikaner party, who themselves were stigmatized as Nazis and won only two percent of the vote.

How does this relate to LAC? Of course, not every indirect attitude change effect is LAC. For example, when populist success drives conservative parties to adapt a more right-wing profile (such as proposing Brexit) for strategic reasons, one might say that it is an indirect effect, but no LAC. If, however, voters or members of the conservative party change their attitudes toward



topics related to those advocated by populists while resisting attitude change on the topics directly endorsed (e.g., due to party loyalty) and, thus, push their party into a more right-wing profile, the effect looks similar from the outside, but might in fact represent LAC. In addition, LAC is a way to circumvent resistance (cf. Experiment 4). Even a rejected attempt at persuasion might be influential toward related attitude objects. Thus, LAC describes a process of persuasion that might be influential even when a majority rejects the message.

While populism might be on the rise, in many countries the representatives of (the new wave) of populism are still a minority, despite framing themselves as the voice of the “silent majority” (e.g., Elsässer, 2016, cited after Kiesel, 2016); their issues and approaches to policy-making are still rejected by many. However, according to LAC, this might not restrict their influence. As long as an attitude object’s proximity to the source is not too obvious, displacement can be the result of any persuasion attempt. The same principle, of course, also holds true for other reasons to reject direct influence such as stigmatization (see above). The very core conclusion from LAC is that every time an attitude change attempt is made, there might, indeed, be attitude change not only toward the topic in question but also toward a whole network of related attitudes.

This premise is of special relevance in the domain of political influence. Attitudes toward specific political subjects rarely exist in a secluded section of one’s consciousness. Instead they form clusters of attitudes, of convictions, or even form whole belief systems (Judd & Krosnick, 1989). They might be tied together by ideologies (e.g., Feldman, 2003), superordinate value-orientations (e.g., Rokeach, 1973, Schwartz et al., 2006), by association with specific parties or individuals, or as a manifestation of “psychological needs” (Jost et al., 2009). Thus, falling back on LAC, attitude change attempts, even unsuccessful ones, harbor the possibility of influencing whole networks of attitudes. While these mechanisms are hardly unique to populists’ influence,

the theorized possibility of circumventing resistance by inducing lateral instead of focal attitude change (and possible delayed generalization; Postulate 6) might explain their success to an additional degree.

Experiment 6 tested this assumption by creating a realistic scenario of persuasion by populists, based on the situation in Germany, summer 2018. Besides striving for an approximate simulation of populist influence, the experiment also allowed for the testing of LAC as a mechanism of that influence and the examination of hypotheses derived from LAC theory. Although hypotheses for the experiment are mostly drawn from LAC, some underlying concepts should be considered beforehand.

### **Populism**

According to Mudde (2007), populist ideology features three core principles: anti-establishment, authoritarianism, and nativism. Thus, in a populist narrative there is usually a divide between the ordinary people, who are honest and hardworking, and a corrupt and subversive elite. The elite, however, is not defined solely in economic terms, but might also include intellectuals, journalists, politicians, etc. Characteristically, populists also display authoritarian tendencies (Zaslove, 2009). There is a wish for a powerful, charismatic leader who acts in the interest of “the people” (and is supported by them). Therefore, direct forms of democracy, such as plebiscites or referenda are preferred over representative forms, which need a caste of “elites” as a buffer between leaders and their people. Nativism describes a preference for the homogeneous ingroup over multiculturalism, isolationism over cooperation, and the pursuit of the national interest in general (e.g. Inglehart & Norris, 2016; Mudde, 2010).

In terms of values, Inglehart and Norris (2016) describe populism as one end of a cultural continuum, with cosmopolitan liberal values situated at the other end.

This classification is very similar to the dimension of “classical liberalism” in the two-dimensional value-based description of political ideology by Schwartz (1994) with its corresponding value dimensions: openness to change vs. conservation. While remnants of the classical left-right divide of politics can be found in the cultural continuum, it is important to note that definitions of populism are mostly independent of economic factors. In the present study, the German party Alternative für Deutschland (AfD) as the currently most important PRRP in Germany (Berbair et al., 2015) is used as a populist source of a persuasion attempt. On the liberalism dimension of Schwartz’ value-based scale the AfD might be ranked close to conservation values, that is, favoring tradition, conformity, and security over self-direction, stimulation, and hedonism (for an in-depth description of the values, see Schwartz, 1992, 1994; Schwartz et al., 2012). On the economic egalitarian dimension, assignment is less clear. Policy proposals based on self-enhancement (e.g., against wealth and inheritance tax; “Steuern; Was Union, Grüne und Co. versprechen”, 2021) are contrasted with a rhetorical claim to represent “the people” or “the man in the street”.

While populist discourse is influential concerning many areas (e.g., gender, media, “the elite”), one of its most important topics is that of multiculturalism and migration. Hostile attitudes toward ethnic and/or religious minorities are a major characteristic of populist discourse in general and in Germany in particular. It is also a major example of how populist parties drive the media discourse. In 2016, 55 of 141 political talk shows dealt with the topics: migration, Islam, violence, and terrorism. Another 21 were occupied with populism itself (Monitor, 2017). Because migration and multiculturalism are the pivotal points of present-day populist messaging, the present study will use attitude objects widely associated with this area of politics as focal and lateral objects.

### **Value-Based Explanations of Populism and Cultural Backlash**

According to Jost and colleagues (2009), reasons for choosing a political representation are characterized by top-down and bottom-up factors, or “elective affinities” (p. 307). That is, parties offer an (ideally) distinct program that might be attractive to voters not only because of its message but because of other factors such as personality traits, value orientation, group membership, and so on. This theoretical approach offers several explanations to explain populists’ success. For example, populists’ messages and policy suggestions may meet the demands of the well-informed public’s opinion, there might be a new fit between social groups and political representatives (i.e., populists as the representation of the working class; see Eribon, 2016) or, populists’ political proposals might match voters’ value orientations.

One value-based explanation of populist success is the cultural backlash theory (Inglehart & Norris, 2016; Manuel, 2017). It states that the existential security of the latter half of the 20th century acted as a motor of value change toward progressive values. As a result, significant parts of society felt left behind by a cultural change in which they have no share. These people, the theory states, appear “to have spawned an angry and resentful counterrevolutionary backlash” (Inglehart & Norris, 2016, p. 3) and represent the pool of populist voters. While certainly a viable explanation for some phenomena, it remains unclear whether this alone can account for the rapid shift of public opinion in recent years. It is an explanation of how demographic factors are associated with voting preferences (i.e., certain people are drawn to populism) but hardly explains the underlying process of populist influence or its speed. Cultural backlash explains who populist voters are; it cannot explain attitude change toward populist policies. In addition, while many populist voters indeed match the stereotype of the disgruntled old white man they are hardly alone in their voting habits. Populist movements have spawned a variety of youth movements (e.g., the French “Bloc identitaire” and their offshoots; Eckes, 2016) and are also

successful in gaining female as well as (fewer) minority votes. For example, in the 2016 US presidential election 41% of all women, 29% of Hispanics and 39% of people aged 18-39 voted for Donald Trump (“exit polls”, 2016). Furthermore, perception of populists as counterrevolutionaries against the values of 1968 might be valid in explaining their success in the western world but cannot be applied to similar movements in Eastern Europe or Asia.

Political science and public discourse have yielded several further theories on populists’ influence and success. These include theories stating that (a) public salience regarding the issue of immigration leads to electoral success of populists, and therefore to an increase in political activity on the issue (the “thermostatic model”; Wlezien, 1995; Jennings, 2009), (b) that a constant breach of taboos creates a new sense of normality (Schulz, 2011<sup>28</sup>, cited after Mudde, 2013), (c) that mainstream (primarily conservative) parties change their policies in line with populists’ ideas in order to compete with them (e.g., Mudde, 2013), or (d) that populism has “contaminated” political discourse to a degree that it has become the dominant language (or “koiné”; Mazzoleni, 2008, p. 57). All cited theories which stem from different fields of study, such as sociology or political science, contemplate populism only as a phenomenon on a societal scale, that is, on a macro level. Mechanisms and underlying processes, however, which might explain the rise of populism on an individual level, are rarely discussed. At this point, a LAC-based approach might help to complement existing research and fill a gap in previous research.

### **Process Models of Minority Influence**

Above I described sociological theories of mass attitude change. From a perspective of (social) psychology, however, the processes underlying (indirect) attitude change are of particular interest. One model that might help to explain the influence of minorities, which, at some point,

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<sup>28</sup> Martin Schulz was at that time leader of the Social Democrat fraction in the European parliament.

most populist parties were or still are, is an agent-based computational model to explain the influence of minorities on social change by Jung et al. (2018). It draws on leniency contract theory (LCT) by Alvaro and Crano (1997). Fundamentally, LCT claims that a minority might cause indirect influence because it is listened to as long as it is a part of the in-group. But, since they still are a minority, they have no direct influence (see Introduction). A computer simulation of influence processes by Jung et al. (2018) showed that indirect attitude change based on minority influence combined with cognitive rebalancing (as a mechanism of the model) could lead to social change even when recipients of a minority message are simultaneously faced with direct majority influence. They also reported that indirect minority influence promotes attitudinal diversity within local groups and society. Whereas the former provides a promising approach to explain populism, the latter would suggest the results of minority populism to be a more diverse and fractured society (which intuitively seems possible but is rather opposed to populist ideology itself). In Jung et al.'s simulation, the minorities' ideas convinced roughly half of the population, at which point it became the majority, and then minority influence promoted other ideas. Interestingly, this seems to be similar to the idea of a cultural backlash (see above).

While Jung et al. (2018) had progressive minorities in mind (suffrage movement, civil rights movement, p. 19), their computational model might also offer a viable explanation for the spreading of populist ideas. Although the findings reported by Alvaro and Crano (1997) were an inspiration for the LAC model in general and the assumption of displacement in particular, LCT and LAC diverge in terms of the requirement of a minority source's in-group status. The LAC model assumes that all information is processed on an implicit level and might be rejected propositionally (Glaser et al., 2015). However, when focal and lateral object are not too similar there might be no propositional rejection of lateral attitude change, regardless of the group status of the source because group status is not applied when the lateral attitude object is evaluated.

Nonetheless, while based on a slightly different assumption, the agent-based model by Jung et al. (2018) might explain social change due to LAC and its moderators equally as well as it does the success of in-group minorities due to the leniency contract. Furthermore, the agent-based model may serve as an indication of micro-level processes being influential on a social scale.

Besides LCT (Alvaro & Crano, 1997; Jung et al., 2018), other researchers have found minority influence to evoke indirect attitude change (see introduction). Indeed, while the assumptions of LAC are not restricted to minorities, LAC may also be a mechanism of minority influence. In terms of explaining populism, or persuasion by aversive sources in general, assumptions drawn by minority-influence literature might be a relevant factor. In the case of LCT, however, the populists must be viewed as part of the in-group in order to elicit indirect attitude change, which is a precondition not shared by hypotheses based on LAC.

### **Persuasion**

Minority influence, with or without elements of LAC, might help to explain the success of populists to a certain degree. However, the process of gaining political influence is fundamentally a process of persuasion.

The most influential approaches to persuasion are the two-process models, the elaboration likelihood model (ELM; Petty & Cacioppo, 1986) and the heuristic-systematic model (HSM; Chaiken & Maheswaran, 1994). Both models state that persuasion is a process of (a) a systematic analysis of the arguments and (b) heuristic factors such as the perceived characteristics of the source. When time is available, people are interested, and cognitive capacity is adequate, people tend to analyze the message itself and are more or less persuaded depending on the quality of the message. When there is no time, no interest or people are not able to understand the message, they might be persuaded because the source is perceived as competent, warm (for possible interaction with participants' motives see Linne et al, 2020), or otherwise appealing (Bohner et

al., 1995; Petty & Cacioppo, 1986). The HSM further proposes an interplay of source and message factors. For example, knowledge about the competence of the source might lead to favorable processing of a message (biased processing; e.g., Chaiken & Maheswaran, 1994). Similarly, effects of source information may also be derived from the unimodel of persuasion (Erb et al., 2003; Kruglanski & Thompson, 1999). According to the unimodel, source attributes may serve as evidence in forming attitudinal judgments, either on their own, by biasing the interpretation of subsequent information, or as a factor that affects processing motivation (for a discussion, see Bohner & Dickel, 2011; Bohner et al., 2008).

In terms of LAC, I generally expect that source attributes can lead to propositional rejection of the persuasion attempt even if message elaboration is high. Nevertheless, LAC does not strictly specify subjects' reasoning for the rejection of a source of persuasion. Therefore, reasons to reject focal attitude change might be based on additive or biased processes. That is, rejection might occur as a consequence of source attributes (e.g., untrustworthiness), message quality (e.g., weak arguments), and interaction of source and message. Since previous experiments have shown the importance of the strength of focal effects for generalization (e.g., Experiment 4), source attributes and message quality might also affect generalization. However, since displacement is theorized to occur when reasons for rejection are not applied to the evaluation of lateral objects, it should not be affected by source characteristics.

Therefore, the direct influence of populists should depend on the quality of their message as well as their general public image. However, they might evoke indirect influence even when they are disliked, not viewed as competent or warm, or otherwise rejected.

### **Research Overview of Experiment 6**

In Experiment 6, I examined attitude change via populist discourse. I assumed that LAC in general and displacement effects in particular would provide a reasonable explanation for the



success of derogated sources, not only on a social but also on an individual level. To be precise, I predicted that a persuasion attempt by a populist source, which would be perceived as untrustworthy by a liberal student sample, would fail to create focal attitude change. I did, however, predict displacement effects, thus I expected LAC even when the source was rejected. A conservative source on the other hand was assumed to be also disliked but not seen as untrustworthy. Thus, I predicted the conservative party to elicit generalization, that is, both focal and lateral attitude change, with the same persuasion attempt. Therefore, besides testing LAC as a mechanism of populist influence, Experiment 6 also served as another test of displacement effects. I have already discussed the problem of creating the necessary preconditions for displacement. In Experiments 1 to 3, I had at best mixed success in creating the preconditions for displacement by telling participants that the sources could not be trusted. In Experiment 6, I attempted to increase the likelihood of invalidation of source information by using a populist party that was viciously rejected by many as the source. This was a very different approach compared to that of providing information about products with no personal relevance to participants, as used in Experiments 1 to 3. The underlying assumption here was that the higher involvement might lead to stronger rejection (cf. Petty & Briñol, 2010).

Furthermore, I also included tests of moderation by hierarchy, by similarity, and by Pfc (as a trait variable). These analyses were conducted in order to clarify previously examined (potential) effects of hierarchy and Pfc. For hierarchy, I expected stronger LAC as a result of focal attitude change toward a topic on a higher (vs. lower) hierarchical level. Regarding similarity, the same patterns as before were expected. That is, for generalization I hypothesized linear effects of similarity and for displacement quadratic effects of similarity. For Pfc, stronger LAC effects for participants high (vs. low) on trait-Pfc were expected.

Additionally, in Experiment 6 the presentation order of persuasive message and source information was also varied. From a viewpoint that takes the LAC model into account, this manipulation may lead to displacement only when the invalidating source was revealed after the initial influence attempt. In this case there had already been an attempt at persuasion which may already have elicited an implicit spread of evaluation but which could also be invalidated on a propositional level. Presenting the rejected source prior to the message might either block generalization altogether, with the negative affective reaction to the source preventing the message from having an effect even on implicit attitudes, or lead to generalization rather than displacement, as the message superseded the effect of the source. Nonetheless, this was an exploratory approach with no specific hypotheses attached.

Experiment 6 also included a test of behavioral intentions. Participants were asked to indicate whether they were interested in signing petitions that either related to conservative or to liberal causes. I expected participants in the experimental conditions to show a stronger preference for conservative petitions compared to participants in the baseline condition. Since the content of the petitions was not equivalent to the focal topics and thus reasons to reject the source should not be applied to the petitions, the effect was predicted to occur not only in the conservative but also in the populist condition. Nonetheless, relations between the focal topics and the petitions had not been pretested, thus no specific prediction regarding differences in petition-choices between levels of the source condition were made.

Finally, similar to Experiment 5, Experiment 6 also contained contrasting topics, but unlike Experiment 5, I did not manipulate contrast; instead, I used topics that differed a priori in their underlying ideology (Appendix A). Lateral contrast in general was expected. However, whether this would be implicit and explicit contrast or explicit contrast only was not specified.

## Method

### Participants and Design

A total of  $N = 240$  participants took part in the study. After excluding 12 cases for failing the manipulation checks (for see details see below),  $n = 228$  cases (144 women, 83 men, 1 other;  $M_{\text{age}} = 24.94$ ,  $SD_{\text{Age}} = 5.87$ ) were included in statistical analyses.

Statistical power analysis conducted with G\*Power 3.1 (Faul et al., 2007) was run for an orthogonal  $2 \times 2 \times 2$  between-subjects ANOVA. The analysis suggested 158 participants in order to achieve a power ( $1 - \beta$ ) of .80,  $\alpha = .05$  for detecting a medium-sized effect. Because additional analyses were planned, a larger number of participants was recruited.

Recruitment for the study took place at Bielefeld University and online; the study was conducted in laboratories on campus. Therefore, the majority of participants were students ( $n = 212$ ), with the remaining participants ( $n = 16$ ) having various different occupations (e.g., high school student, unemployed, teacher, police officer, etc.). Participants were randomly assigned to one of the conditions of the  $2$  (source, CDU vs. AfD)  $\times 2$  (hierarchical level of focal topic, value vs. policy)  $\times 2$  (sequence, source information before vs. after the persuasive message)  $+ 1$  (baseline) design. In order to provide a robust comparison group, the baseline condition included more participants than the experimental conditions (see Table 2). Baseline participants were not subjected to any manipulation but answered the same set of items measuring the dependent variables and individual-difference questionnaires (see below for detail). Participants received EUR 10.00 as compensation.

**Table 2**

*Participant Distribution to Conditions of Experiment 6*

	Value		Policy		Baseline
	Before	After	Before	After	
CDU	24 (25)	23 (25)	23 (25)	24 (25)	40 (40)
AfD	23 (25)	24 (25)	22 (25)	25 (25)	

*Note.* Planned number of participants in parenthesis.

**Attitude Objects and Dependent Variables**

All focal and lateral attitude objects were topics of a political nature (Table 3; Pretest 1 for Experiment 6, Appendix A). Half of all topics, focal as well as lateral, were values, the other half more concrete policies. The focal topics matched the experimental hierarchy condition. That is, attitudes toward the topics that served as the headline and main subjects of the influence attempt—one value, one policy, depending on condition—were also dependent variables. Thus, depending on condition they were either focal or lateral topic. In the hierarchy condition “value”, the influence attempt argued in favor of tradition. Therefore, “tradition” was the focal topic and the related policy of “resolute deportations” was a lateral topic. In the hierarchy condition “policy”, conversely, “resolute deportations” was the focal topic and “tradition” was a lateral topic.

In order to examine the similarity hypothesis of the LAC model, additional lateral topics varied in similarity to the focal topic. Specifically, three additional values and three additional policies were used as lateral topics. In both sets of lateral topics, values and policies, one lateral topic was very similar to the focal topic, one topic moderately similar, and one topic hardly

similar at all. Similarity was operationalized as Euclidean distances between topics that were derived from a manual sorting task and intercorrelations between attitudes toward all topics in a multidimensional scaling procedure (for details see Appendix A). Furthermore, two contrasting topics were introduced. These were one value and one policy, expected to be related to the focal object but of contrasting valence. For example, in the pretest, resolute deportations and open borders exhibited negative correlation,  $r(39) = -.51$ . All focal and lateral topics are listed in Table 3.

**Table 3**

*Focal and Lateral Topics in Experiment 6*

		Values	Policies
Focal X		Tradition	Resolute deportations
Lateral Y1	similarity Decreasing	Conservatism	Ceiling of immigration
Lateral Y2		Conformity	Burka ban
Lateral Y3		Security	Value-education at schools
Contrasting		Multiculturalism	Open borders

**Explicit Attitude and Attitude Strength Measures**

Explicit attitudes toward each topic were assessed with three seven-point semantic differential items: *negative - positive*, *harmful - beneficial*, and *not desirable - desirable*. Participants’ responses were coded from 1 = *most negative* to 7 = *most positive*, and a single attitude index per topic was created by averaging across the three valence items (all Cronbach’s alphas > .86). In addition to attitude valence, attitude strength (Prislin, 1996) was assessed with three items per topic that referred to the previously reported attitudes: (1) “how certain are you, concerning the answers you have given above?” *uncertain - certain*; (2) “how important is this

topic to you?” *not important at all – very important*; and (3) “how much did you engage with the topic?” *not at all – very much*; all response scales from 1 = *very uncertain* to 7 = *very certain*. An attitude strength index was created by averaging across the three attitude strength items (all Cronbachs alphas > .68).

**Implicit Attitude Measure**

Implicit attitudes toward each topic were assessed with an affective priming procedure derived from Fazio et al. (1995), but with word stimuli instead of picture stimuli (cf. Olson & Fazio, 2002). Participants' basic task was to decide whether a target word was either positive or negative. All target words were nouns of unambiguous valence (see Table 4). All evaluations of the target words were taken from the Berlin Affective Word List Reloaded (BAWL-R; Vö et al., 2009).

**Table 4**

*Emotional Valence of Target Words Used for Affective Priming in Experiment 6*

Positive words	<i>M (SD)</i>	Negative words	<i>M (SD)</i>
Sun (Sonne)	2.60 (0.60)	Tumor (Tumor)	-2.70 (0.57)
Healing (Heilung)	2.60 (0.60)	Poison (Gift)	-2.50 (0.71)
Joy (Freude)	2.70 (0.59)	Nightmare (Alptraum)	-2.80 (0.62)

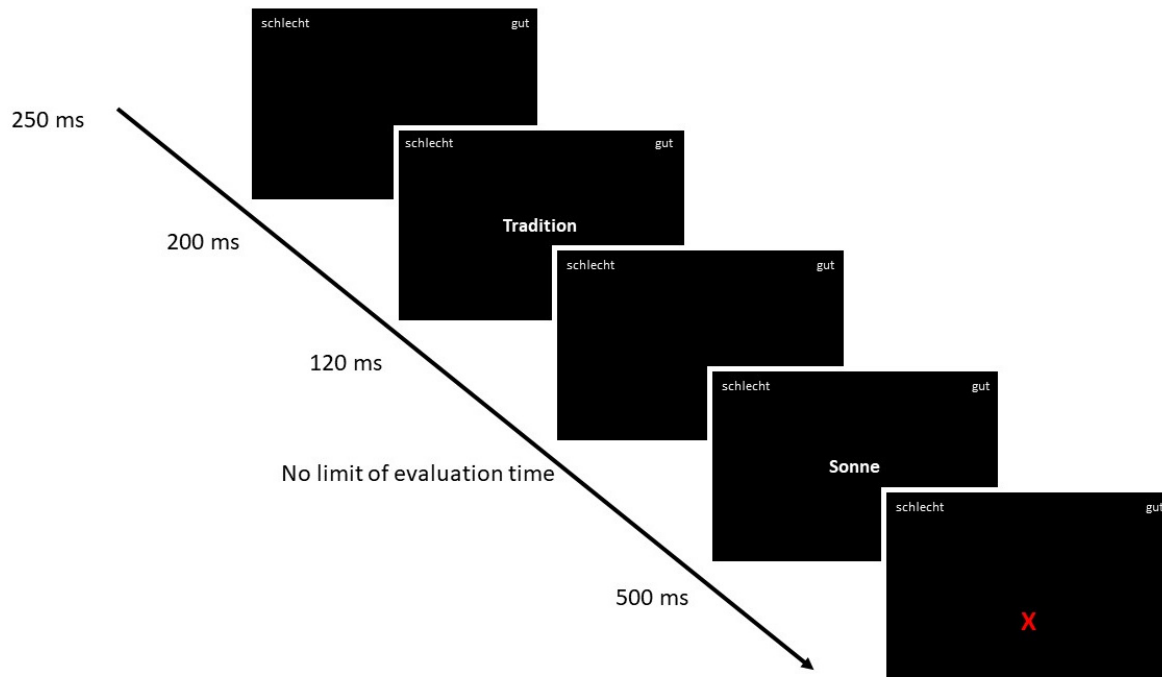
*Note.* Data originate from the ‘Berlin affective word list reloaded’ (BAWL-R; Vo et al., 2009). Original German words in parentheses. Scale from -3 (*very negative*) to 3 (*very positive*).

After reading an instruction, participants were subjected to 36 baseline trials and 120 critical trials. During the baseline trials, each target word was presented three times. Before the target word a string of asterisks (\*\*\*) appeared, which, participants were told, signaled that the trial was about to begin. During the critical trials, each target word was preceded by each of the topics, with each combination (e.g., *tradition – sun*) being displayed twice. Thus, each topic was paired with six negative and six positive words. In each trial, participants had to decide whether the target words were positive or negative. In critical trials, participants were asked to pay attention to both words but base their answer only on the second word. Allegedly, the first word was to be used as part of a memory task (cf. Fazio et al., 1995). When participants made a mistake, a red “X” appeared on the display (Figure 21).

Affective priming literature (Fazio, 2001; Musch & Klauer, 2003) suggests that evaluative inconsistency between the prime word (the topic) and the target word leads to longer reaction times when deciding whether the target was positive or negative. Therefore, longer reaction times are expected when participants evaluate a given topic negatively and the topic is paired with a positive target or vice versa. In order to reduce the impact of outliers, all response times < 400 ms and > 1500 ms were excluded. If participants answered too fast, random response behavior is likely whereas excessively long response times are indicative of propositional reasoning. In this sample, the chosen response window corresponded to the 5th and 95th percentile. Next, indices of implicit evaluations were computed for each topic by subtracting reaction times (RTs) of topic–positive word combinations (e.g., tradition combined with sun, joy, and healing) from topic–negative word combinations (e.g., tradition with tumor, poison, and nightmare). Thus, positive values indicate a positive evaluation as there were shorter RTs for positive versus negative combinations. Internal consistency for topic–word combinations was between  $\alpha = .56$  (conformity – positive) and  $\alpha = .76$  (open borders – negative).

**Figure 21**

*Affective Priming Procedure in Experiment 6*



*Note.* Example of a critical trial with a participant giving a wrong answer. The intertrial interval was 3000 ms.



### **Persuasive Message**

A persuasive message was used to change participants' attitudes toward the focal topic. The persuasive text was (basically) identical in all experimental conditions. The message used in Experiment 6 had to meet several criteria: (1) It had to be recognizably similar to influence attempts by populists in order to model “real-life” populist influence, (2) it had to be nondistinct in style, in order to be believably written by different sources, (3) in order to “attack” different hierarchical levels of attitudes, it had to be nondistinct enough to label it as an argument favoring either a value or a policy. Therefore, instead of using existing political messages a new persuasive message was created. This message used a fairly (but not drastically) right-wing argumentation in order to talk about cultural and economic consequences of immigration and included a short paragraph arguing about the danger of terrorism (see Appendix C). In the headline, the conclusion, and several other parts within the text, the focal topic was mentioned as the central theme of the argumentation (e.g., “[...] and, therefore, adherence [to tradition is] / [resolute deportations are] absolutely necessary”). A pretest had confirmed that the message was moderately convincing, of moderate to good quality, and could have been authored by either of the parties (see Appendix A). While in line with the style of populist publications (exaggerating one, downplaying another subject), there were no outright lies in the message. Nevertheless, it is important to note that all participants received a thorough debriefing, discussing all aspects of the persuasive message (see Appendix C).

### **Sources of Persuasion, Level of Hierarchy, and Sequence**

In adherence to the LAC model (Glaser et al, 2015), sources of persuasion were chosen with the aim of creating a generalization and a displacement condition. Whereas the source in the generalization was intended to be respected, the source in the displacement condition was designed to give reason for rejecting the persuasion attempt. Furthermore, the aim of this

experiment was to examine possible mechanisms of influence by populists. I expected the German right-wing party “Alternative für Deutschland” (AfD) to fit both preconditions. The AfD can be described as populist when the definition of Mudde (2007) is applied. Furthermore, my expectation that the party would be disliked in a university setting was confirmed by Pretest 1 for Experiment 6 (Appendix A). In addition to evaluating the AfD negatively ( $M = 1.38$ ,  $SD = 0.89$ ; scale 1-7) and as incompetent ( $M = 1.76$ ,  $SD = 1.36$ ), participants stated that they would dismiss anything the party said regardless of the content of that message ( $M = 7.86$ ,  $SD = 2.06$ ; scale: 1-9). The German conservative party “Christlich Demokratische Union” (CDU) is also located to the right of the political center and therefore diverges from the student sample’s political opinion. However, the CDU was rated moderately regarding valence ( $M = 4.81$ ,  $SD = 1.93$ ) and was seen as competent ( $M = 5.35$ ,  $SD = 1.98$ ); also, their messages were *not* generally dismissed regardless of context ( $M = 3.54$ ,  $SD = 2.34$ ).

Hierarchy level was varied by presenting either the value (tradition) or the policy (resolute deportations) as the headline and main topic of the persuasive message. Thus, either a higher-level value or a lower-level policy was the focal object of the respective condition.

The information about the source was presented either before or after the persuasive message. In the (sequence) before condition, participants read, “Hereafter you will read a bill by a working group of the [source] ([abbreviation source]) presented to parliament [...]”, before reading the persuasive message itself. In the (sequence) after condition, participants read, “You have read a bill by a working group of the [source] ([abbreviation source]) presented to parliament [...]”, after reading the persuasive message (see Appendix C).

## Individual Difference Questionnaires

### *Preference for Consistency*

PfC was assessed as in Experiments 3 and 5. Participants' PfC scores were independent of conditions, as shown by an ANOVA, all  $p \geq .09$ <sup>29</sup>. Thus, low vs. high levels of PfC could be used as an independent variable to assess possible influences of PfC on LAC. A median split ( $Mdn = 4.95$ ) yielded a low PfC ( $n = 115$ ) and a high PfC group ( $n = 113$ ). Potential PfC effects cannot be explained by participants' political self-assessment, as PfC did not correlate with generalized (left-right) political attitude,  $r = -.05$ ,  $p = .454$ .

### *Portrait Value Questionnaire*

Participants' personal values were assessed with the German translation (Beierlein et al., 2012) of the fifth, experimental version of the PVQ, the PVQ-5X (Schwartz et al., 2012). The PVQ measures personal values by asking participants whether they feel similar to a person whose priorities are described with adherence to underlying values.

The PVQ measures 19 values (e.g., self-direction thought, self-direction action, benevolence–care), which can also be summarized as 4 higher-order values (self-transcendence, self-enhancement, openness to change, & conversation) by averaging the respective item responses. Each of the 19 values is assessed via three items such as, “It is important to him that his country is secure and stable” (security-societal) or “It is important to him to have a good time” (hedonism). Participants indicate their similarity to the person described on a scale from 1 = *Not like me at all* to 6 = *Very much like me*). Centered value scores were used for all the statistical analyses described. The mean of all 57 value items is computed for every participant. Subsequently, this mean is subtracted from each of the 19 value scores.

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<sup>29</sup> There was a marginally significant 3-way interaction between sequence, source, and hierarchy,  $F(1, 187) = 2.90$ ,  $p = .09$ ,  $\eta^2 = .16$ . All other  $p > .12$ .

As I was operating under the assumption that values, while generally stable in the medium term, are subject to successful manipulations (see Experiment 4), the personal values were used as exploratory dependent variables. Specifically, I was interested in the conservation higher-order value, which is similar to the focal and lateral values used as high-hierarchy topics in this experiment and in the openness to change higher-order value, which contrasts conservation.

### **Procedure**

Participants were welcomed by an experimenter and seated in front of a computer screen. They learned that they would participate in an experiment about political communication and gave their informed consent. Then they were asked to state their own political affiliation (response scale from 0 = *clearly left*, via 50 = *center* to 100 = *clearly right*). This was done in order to increase salience of the (mis)match of participants' political standpoints and the alleged author of the persuasive message. Afterward, participants were told to open an envelope that had been placed on their table. Depending on sequence condition, the request to open the envelope was or was not prefaced by information about the source of the persuasive message. Depending on hierarchy condition, the envelope contained one of the persuasive messages, targeting either the value of tradition or the policy of resolute deportations. After four minutes, a "continue" button appeared on the screen. In the "after" condition, the source information was given at this point. Directly after reading the message, participants were asked to write down the two arguments they regarded as being the most persuasive in their own words. This was done to increase the persuasive effect by increasing elaboration (cf. Cacioppo & Petty, 1989) and involvement (e.g., Jones & Harris, 1967).

Subsequently, participants reported their explicit attitudes and attitude strength toward all topics. Attitudes toward the focal topic were always assessed first, tradition in the value condition, resolute deportation in the policy condition, followed by attitudes toward the focal

topic from the other hierarchy condition, that is, resolute deportation in the value condition, tradition in the policy condition. Then attitudes toward all other topics were assessed in a randomized order. All six items per topic were displayed simultaneously on a single computer screen, valence items above attitude strength items (see Appendix C). Next, implicit attitudes toward all topics were assessed with the affective priming procedure.

Implicit measurement was followed by manipulation checks (“who was the source of the message you have read?”), assessment of demographic data and control variables (e.g., “of a random sample of 100 people, how many would agree with the text?”)<sup>30</sup>. Next, participants were asked to complete the questionnaires assessing preference for consistency, and personal values<sup>31</sup>. In order to gain a measure of behavioral intentions, participants were subsequently presented with a list of petitions regarding the subject of migration, four with a conservative, and four with a liberal orientation. They were asked to indicate which of the petitions they would like to sign.

At the end of the session, participants received a printed debriefing and were encouraged to ask any further questions, to provide criticism or engage in discussion. In addition, to make sure that there was no lasting effect of the experimental manipulation, every aspect of the persuasive message was discussed in the debriefing. The persuasive rhetoric was mentioned and described, embellishments were pointed out and counterarguments were made (see Appendix C). Afterward, participants were thanked, compensated and dismissed<sup>32</sup>.

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<sup>30</sup> Several further items were used to assess, for example, participants’ individual backgrounds. However, these items were not analyzed. All items are displayed in Appendix C.

<sup>31</sup> Participants also completed questionnaires on SDO and need for cognition. Data from these questionnaires, however, was not analyzed.

<sup>32</sup> In the case of the first five participants a short interview followed, primarily to ensure that the debriefing was adequate.

## Results

### Manipulation Check and Control Variables

Twelve participants remembered the source either wrongly or not at all. Their data was excluded from analyses. In addition, four participants produced error rates of more than 30 % in the priming task or did not complete the task at all. These participants' data were not included in the analyses of implicit attitudes. In total, 96.70% ( $SD = 8.40$ ) of all words were sorted correctly. On average, participants evaluated their own political stance as left-leaning ( $M = 32.21$ ,  $SD = 17.76$ ), which differed significantly from the center of the scale,  $t(227) = -15.13$ ,  $p < .001$ ,  $d = 1.00$ .

In order to gain insight into the effectiveness of the manipulation independent of participants' personal views of the subject, I asked them to report whether the text would be able to change others' opinions (see Table 5). Results suggested that participants perceived the text to be at least moderately effective in changing the opinion of others. A  $t$ -test against the center of the scale (50) confirmed a small but significant effect,  $t(187) = 2.70$ ,  $p = .008$ ,  $d = 0.20$ . When asked directly how convincing they regarded the message, participants rated it as less effective. Furthermore an ANOVA on the message being convincing was conducted, which showed that the message was rated as being more convincing when authored by the CDU,  $F(1,180) = 489$ ,  $p = .028$ ,  $\eta^2 = .026$ , and when targeting a value,  $F(1,180) = 6.99$ ,  $p = .009$ ,  $\eta^2 = .037$ . Thus, the message was deemed to be sufficiently effective to induce focal attitude change. Results, however, also showed that the experimental conditions influenced the perception of the message itself, which might indicate a biased processing of arguments depending on source information. In order to test whether the message itself was (not) biased in such a way that it seemed to fit more naturally to one of the sources, I had asked participants whether the message matched their expectations toward a message by the respective source (see Table 5). An ANOVA confirmed

that there was no difference between conditions,  $F < 1$ . Participants also stated that the message match both the value and the policy equally well,  $F(1,180) = 1.64, p = .203$ .

Finally, I asked participants whether the message was “real” or created for experimental purposes. While results seemed to indicate that participants were (with a certain range) aware of the artificial nature of the message (see Table 6), it is important to note that this question was asked in an experimental situation, suggested the possibility of artificiality and was asked at the end of a long experiment including implicit measurements and questionnaires. Participants' assumption of the message being created for the experiment was more pronounced when the CDU was the alleged source,  $F(1,180) = 5.45, p = .021, \eta^2 = .029$ .

**Table 5**

*Control Items in Experiment 6*

	<i>M</i>	<i>SD</i>
Estimated number of “other” people that agree with the message <sup>a</sup>	60.66	19.15
Estimated number of “other” people that would be persuaded by the message <sup>a</sup>	54.12	20.98
Persuasiveness of the message <sup>b</sup>	42.37	25.71
Match between message’s and participants’ political positions <sup>c</sup>	32.38	25.23
Text quality <sup>d</sup>	50.99	24.19
Importance of discussed topics <sup>e</sup>	73.62	16.86
Article expectations <sup>f</sup>	66.25	24.78
Difficulty to find arguments <sup>g</sup>	38.66	26.00
Fit between message and (focal) topics <sup>h</sup>	56.84	22.98
“True” source of the message <sup>i</sup>	64.28	26.48

*Note.* All items were assessed with a slider scale from 0 to 100

<sup>a</sup>From a random sample of 100 persons; <sup>b</sup> scale from 0 = *not persuasive at all* to 100 = *very persuasive*; <sup>c</sup>scale from 0 = *no match at all* 100 = *perfect match*; <sup>d</sup>scale from 0 = *very low* to 100 = *very high*; <sup>e</sup>independent of participant’s political position; scale from 0 = *not important at all* to 100 = *very important*; <sup>f</sup>that is, the article met expectations toward the party allegedly responsible for the message, scale from 0 = *no* to 100 = *yes*; <sup>g</sup> scale from 0 = *very easy* to 100 = *very hard*; <sup>h</sup>scale from 0 = *very bad* to 100 = *very good*; <sup>i</sup>scale from 0 = *a party*, 100 = *researchers*.



### Correlations

Nearly all explicit attitudes were correlated with each other. Most correlations were positive with the exception of correlations with attitudes toward the contrast items, which correlated positively with each other but negatively with attitudes toward the other topics. Most correlations were either small or medium-sized (Cohen, 1988). The magnitude of correlations reflected the similarity among topics as determined in Pretest 2 for Experiment 6 (Appendix A) fairly well (Table 6).

Correlations among implicit attitudes were considerably smaller (Table 7). In addition, the pattern was less clear. Mostly, attitudes toward policies were correlated with attitudes toward other policies, and attitudes toward values with attitudes toward other values. However, there were several exceptions, and effect sizes were very small and often nonsignificant.

Correlations between explicit and implicit attitudes were generally small. Explicit and implicit evaluations of the focal value correlated significantly,  $r(187) = .18, p = .006$ , whereas explicit and implicit attitudes toward the focal policy did not,  $r(187) = .10, p = .146$ . Averaged explicit and implicit attitudes toward the lateral values did not correlate,  $r(187) = .04, p = .514$ , whereas there was a significant correlation between explicit and implicit attitudes toward lateral policies,  $r(187) = .19, p = .004$ .

**Table 6**

*Explicit Correlations Between Topics in Experiment 6*

	XP	YP1	YP2	YP3	YPC	XV	YV1	YV2	YV3	YVC
XP resolute deportations	1	.48**	.52**	.16*	-.42**	.29**	.47**	.37**	.15*	-.38**
YP1 ceiling of immigration		1	.38**	.25**	-.45**	.39**	.40**	.37**	.24**	-.26**
YP2 Burka ban			1	.22**	-.25**	.30**	.38**	.30**	.17*	-.25**
YP3 value-education at school				1	-0.05	.23**	.13*	.25**	.15*	0.09
YPC open border					1	-.14*	-.19**	-.26**	-.17*	.27**
XV tradition						1	.49**	.38**	.33**	-0.05
YV1 conservatism							1	.25**	.20**	-.41**
YV2 conformity								1	.35**	-0.04
YV3 security									1	-0.01
YVC multiculturalism										1

*Note.* XP = focal policy, XV = focal value, YP = lateral policy, YV = lateral value, YPC = contrasting policy, YVC = contrasting value

value

\* 0.05 significant, \*\* 0.01 significant.

**Table 7**  
*Implicit Correlations Between Topics in Experiment 6*

	XP	YP1	YP2	YP3	YPC	XV	YV1	YV2	YV3	YVC
XP resolute deportations	1	.13	.02	.14*	.19**	-.04	.14*	.24**	.07	.02
YP1 ceiling of immigration		1	.13*	.17**	.05	.12	.00	.00	-.04	.12
YP2 Burka ban			1	.12	.00	.13*	.06	.06	-.02	-.07
YP3 value-education at school				1	.11	.13*	-.01	.17**	-.05	.10
YPC open border					1	-.03	.08	.20**	.22**	.06
XV tradition						1	.13	.01	-.03	-.01
YV1 conservatism							1	.13	-.05	.04
YV2 conformity								1	.14*	.02
YV3 security									1	.00
YVC multiculturalism										1

*Note.* XP = focal value, XV = focal value, YP = lateral policy, YV = lateral value, YPC = contrasting policy, YVC = contrasting value

\* 0.05 significant, \*\* 0.01 significant.

**Table 8**

*Attitudes Toward Focal and Lateral Topics in Experiment 6*

		Topics	Explicit <i>M (SD)</i>	Implicit <i>M (SD)</i>
Policies	Focal	Resolute deportations	3.41 (1.51)	- 8.83 (139.27)
	Lateral	Ceiling of immigration	3.27 (1.75)	17.41 (121.73)
		Burka ban	3.57 (1.82)	- 3.26 (121.29)
		Value-education at school	4.93 (1.54)	22.38 (130.31)
Contrasting	Open border	4.92 (1.61)	23.40 (132.03)	
Values	Focal	Tradition	4.52 (1.12)	38.04 (128.33)
	Lateral	Conservatism	2.91 (1.20)	4.11 (113.75)
		Conformity	5.12 (1.22)	45.76 (132.78)
		Security	6.35 (0.84)	34.63 (136.98)
	Contrasting	Multiculturalism	5.96 (1.05)	28.28 (134.48)

*Note.* Explicit attitudes on a scale from 1 to 7, implicit attitudes are RT differences (see Method)

### Generation of Attitude Change Scores

The topics used in Experiment 6 were of a political nature. Therefore, keeping in mind the left-leaning sample, equal a priori evaluations of the attitude objects were not expected. Indeed, as Table 8 shows, in general, values were evaluated more favorably than policies. Because some of the following analyses require shared means of attitudes toward values and policies, a new variable for each topic was computed by subtracting the baseline-mean from individual attitudes

toward the topics. Thus, the new baseline-corrected variable represents attitude change, that is, differences to the baseline.

### **Hypothesis Testing**

In order to test the hypotheses and to conduct exploratory analyses, I computed several ANOVAs. Unless otherwise specified all ANOVAs include source (CDU vs. AfD), hierarchy (value vs. policy), and sequence (source information prior to the message vs. after the message) as between-subjects factors. Several additional analyses are reported in Appendix B.

#### ***Explicit Focal Attitude Change***

First, a new variable of explicit focal attitude change was defined by averaging the attitude change scores for resolute deportations in the policy condition and those for tradition in the value condition. An ANOVA on this new variable returned a significant main effect of source. There was more focal attitude change in line with the manipulation in the CDU ( $M = 0.25, SD = 1.31$ ) than in the AfD condition ( $M = -0.20, SD = 1.27$ ),  $F(1,180) = 5.73$ ,  $p = .018$ ,  $\eta^2 = .031$ . This result is in line with the hypothesis regarding larger focal change in the CDU condition. In addition, there was a marginally significant main effect of sequence. Focal attitude change was greater when the source was presented before the message ( $M = 0.18, SD = 1.13$ ) rather than after the message ( $M = -0.13, SD = 1.39$ ),  $F(1,180) = 2.75$ ,  $p = .099$ ,  $\eta^2 = .015$ . This effect, however, was not qualified by an interaction with the source condition. Indeed, no further main or interaction effects were significant, all  $p > .21$ . Thus, while there was a marginal effect of the sequence manipulation it occurred independently of the of the source manipulation and, therefore, does not seem to be indicative of biased message processing.

When political orientation was added as a covariate, the source effect was marginally significant,  $F(1,179) = 3.48$ ,  $p = .064$ ,  $\eta^2 = .019$ . However, the main effects of sequence,  $F(1,179) = 6.34$ ,  $p = .013$ ,  $\eta^2 = .034$ , and hierarchy,  $F(1,179) = 8.65$ ,  $p = .004$ ,  $\eta^2 = .046$ , became

significant. Concerning hierarchy, focal attitude change was greater in the policy ( $M_{adjusted} = 0.26$ ,  $SE = .11$ ) than the value condition ( $M_{adjusted} = -0.21$ ,  $SE = .11$ ). Thus, despite randomization, there was a covariation between political orientation and the source manipulation.

In order to test whether there was focal attitude change in the CDU-condition (i.e., evaluations deviated from the baseline mean), a  $t$ -test against zero (indicating no deviation) was conducted. The  $t$ -test returned a marginally significant, effect,  $t(93) = 1.93$ ,  $p = .058$ .  $d = 0.20$ . Focal attitude change in the AfD condition, however, was not significant,  $t(93) = -1.50$ ,  $p = .138$ .  $d = -0.15$ .

Several further explorative analyses were conducted. These analyses are described in detail in Appendix B.

### ***Implicit Focal Attitude Change***

The ANOVA on implicit attitude change toward the focal topic returned no main or interaction effects, all  $p > .21$ . Additionally,  $t$ -tests against zero were conducted to test for implicit attitude change, that is differences to the baseline. However, there was no implicit attitude change toward the focal object in either the CDU or the AfD condition, both  $p > .32$ . Further analyses can be found in Appendix B.

### ***Explicit Lateral Attitude Change***

To obtain an overall estimate of LAC, I first calculated a new variable, averaging attitude change toward all lateral policies and lateral values. This included the policy and value which, in the respective other condition had been the focal object. For example, tradition was included as a lateral topic, when the essay argued in favor of resolute deportations. An ANOVA on explicit LAC returned a significant main effect of the source. Explicit lateral attitude change was more positive when the CDU ( $M = 0.20$ ,  $SD = 0.81$ ) rather than the AfD ( $M = -0.17$ ,  $SD = 0.95$ ) had argued in favor of the focal topic,  $F(1,180) = 8.33$ ,  $p = .004$   $\eta^2 = .044$ . No other main or

interaction effects were significant, all  $p > .17$ . Including political orientation as a covariate did not change any effects. Thus, there was a generalization of the AfD-CDU difference.

In order to examine whether there was any attitude change in the experimental conditions, two  $t$ -tests against zero were conducted. In the CDU source condition there was significant lateral attitude change,  $t(93) = 2.42, p = .017, d = 0.25$ . In the AfD source condition there was marginally significant lateral attitude change,  $t(93) = -1.77, p = .080, d = -0.18$ . In the AfD condition, however, lateral attitude change was descriptively negative instead of showing the hypothesized displacement (i.e., a positive lateral effect in line with the manipulation), thus, rather resembling a generalization of the descriptively negative focal attitude change.

Further explorative analyses were conducted in order to examine the possibility of different effects depending on whether the lateral topics were policies or values. Detailed descriptions of these analyses can be found in Appendix B.

### ***Implicit Lateral Attitude Change***

An ANOVA on implicit attitude change toward the averaged lateral topics returned no main or interaction effect, all  $p > .15$ . In order to examine whether there was any implicit attitude change in the experimental conditions, two  $t$ -tests against zero were conducted. In the CDU source condition there was no significant implicit lateral attitude change,  $t < 1$ . In the AfD source condition there was marginally significant implicit lateral attitude change,  $t(92) = 1.85, p = .067, d = 0.19$ . Descriptively, there was positive implicit lateral attitude change in the AfD condition ( $M = 13.12, SD = 68.25$ ).

### ***Focal-Lateral Interactions on Explicit Attitudes***

In order to test whether the experimental conditions affected focal and lateral evaluations differently, a mixed-model ANOVA was conducted, using explicit attitude change toward focal and lateral attitudes as levels of a within-subjects factor and all experimental conditions as

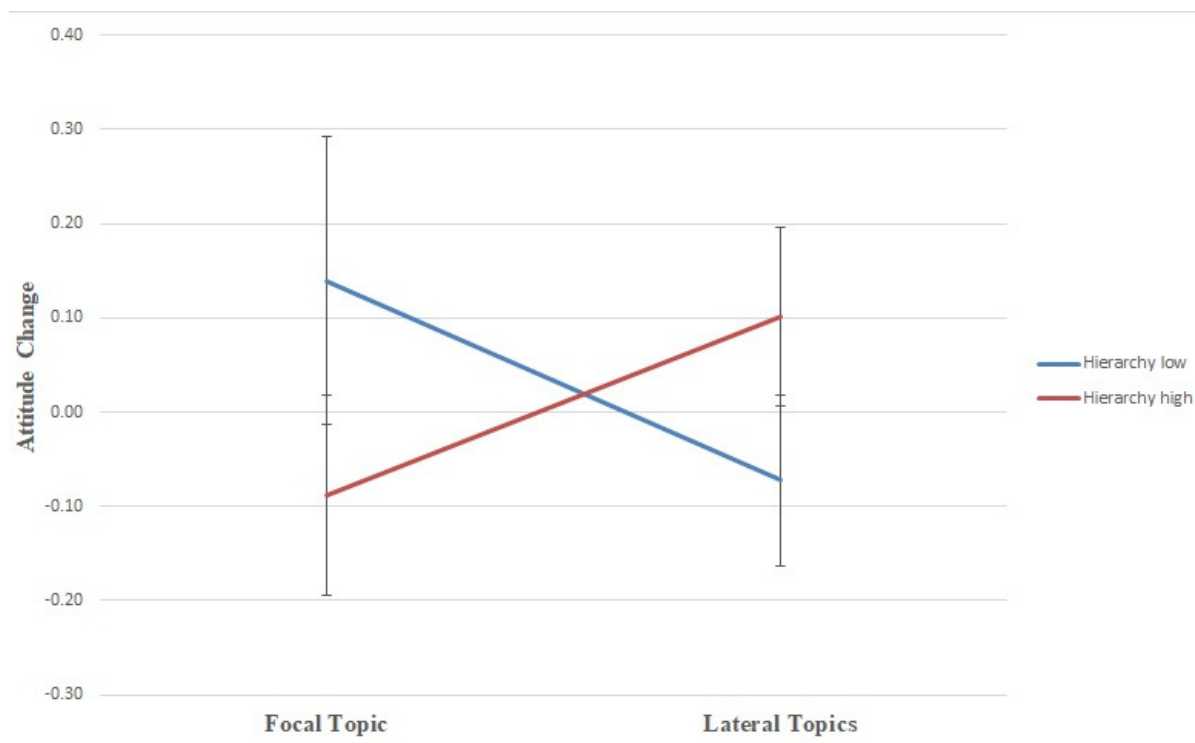
between-subjects factors. This analysis also tested the hypothesis of a stronger lateral (vs. focal) effect in the value conditions, thus the hypothesis of moderation by hierarchy. Indeed, the mixed-model ANOVA returned a significant interaction of the focal vs. lateral factor with hierarchy (see Figure 22),  $F(1,180) = 6.79, p = .010, \eta^2 = .36$ . While the larger effect on lateral attitude change in the value condition was expected, the opposite valence on the focal attitudes will be discussed. There was no other significant interaction with the within-subjects factor, indicating that the source effect did not differ between focal and averaged lateral attitudes.

Although the source condition did not interact with the topic status (focal attitude change, lateral attitude change) factor, displacement predictions would suggest an interaction specifically for attitudes toward the moderately similar lateral topic Y2. However, a mixed-model ANOVA with topic (focal, Y2; Y2 was the averaged attitude change toward Y2 policy and Y2 value) as a within-subjects factor and the experimental conditions as between-subjects factors returned no significant interaction of source and topic,  $p = .62$ . Next, in order to test whether X and Y2 diverged from the baseline to a different degree in either source condition, paired  $t$ -tests were conducted separately for the CDU and the AfD condition. In the CDU-condition, the attitude toward Y2 ( $M = 0.67, SD = 1.11$ ) was more positive than the attitude toward X ( $M = 0.25, SD = 1.25$ ),  $t(93) = 3.52, p = .001, d = 0.35$ . Similarly, in the AfD condition, the attitude toward Y2 ( $M = 0.14, SD = 1.32$ ) was also more positive than the attitude toward X ( $M = -0.20, SD = 1.27$ ),  $t(93) = 2.52, p = .013, d = 0.27$ . Thus, there was first evidence for a displacement-like pattern in both source conditions.



**Figure 22**

*Effects of the Hierarchical Level of Focal Manipulation on Attitude Change Toward Focal and Lateral Topics in Experiment 6*



*Note.* The level of hierarchy was operationalized by targeting either a value (tradition) or a policy (resolute deportations). Numbers on the Y-axis are differences to the baseline group mean.

***Focal-Lateral Interactions on Implicit Attitudes***

A mixed-model ANOVA with baseline-corrected implicit attitudes toward focal and lateral topics as a within-subjects factor and the experimental conditions as between-subjects factors returned no significant main or interaction effects, all  $p > .11$ .

### *Similarity and Displacement*

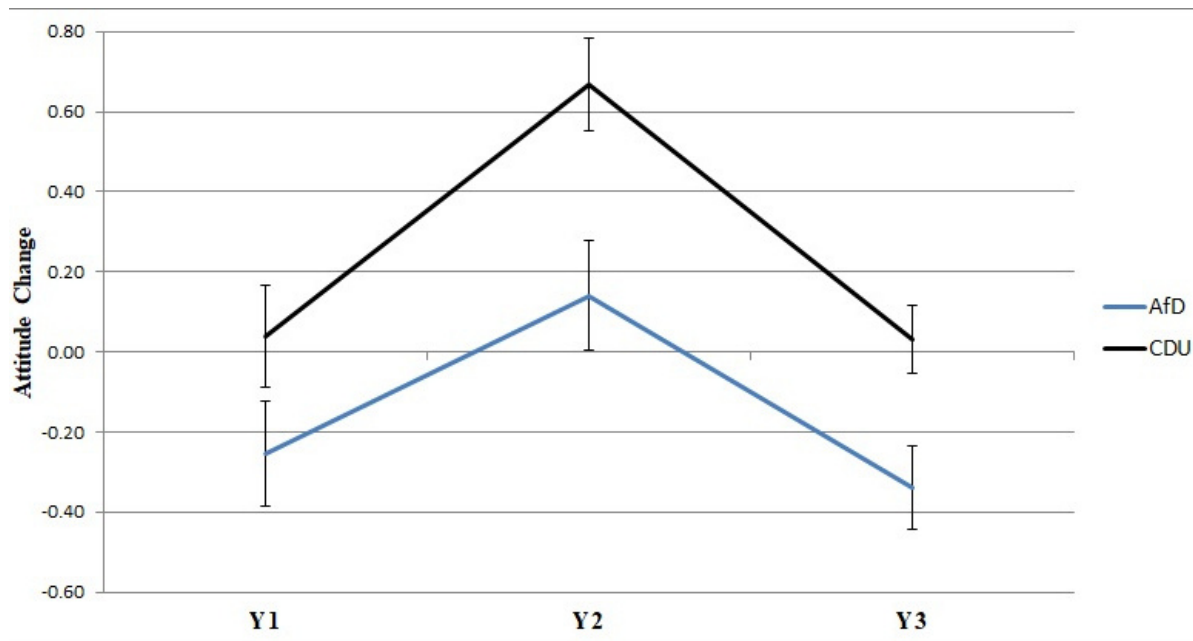
In order to test effects of similarity, I first calculated new variables for explicit and implicit attitude change toward lateral topics at each similarity stage (i.e., Y1, Y2 and Y3) by averaging attitude change toward the respective values and policies (e.g., for Y2 attitude change scores toward conformity and burka ban were averaged).

**Effects of Similarity on Explicit Attitudes.** Subsequently, a repeated-measures ANOVA was conducted with similarity of the lateral topics (Y1, Y2, Y3) as a within-subjects factor and the experimental conditions as between-subjects factors. The ANOVA returned a highly significant quadratic effect of similarity,  $F(1,180) = 50.86, p < .001, \eta^2 = .220$ , with the attitudes toward the moderately-similar topics being more positive than the attitudes toward very-similar or hardly-similar topics (see Figure 23). Thus, for both source conditions a displacement-like pattern emerged, as had been predicted only for the AfD condition. There was no significant interaction of similarity (quadratic) and source,  $p = .185$ .

In addition, the ANOVA returned a marginally significant linear interaction between similarity and hierarchy (i.e., the message arguing in favor of a value or a policy),  $F(1,180) = 2.74, p = .099, \eta^2 = .015$ . Descriptive differences between the hierarchy conditions, that is, more positive attitudes when the essay had argued in favor of the value, were smaller at lower levels of similarity: the difference was greatest for Y1, smaller for Y2 and zero for Y3. Furthermore the ANOVA returned a quadratic 3-way interaction of similarity, source, and hierarchy,  $F(1,180) = 3.96, p = .048, \eta^2 = .022$ . The quadratic effect (i.e., most positive attitudes toward Y2) was less pronounced in the condition where the AfD argued for a value. Instead, in this condition there was next to no difference regarding attitude change toward Y1, Y2, and Y3.

**Figure 23**

*Explicit LAC as a Function of Source Condition in Experiment 6*



*Note.* Numbers on the Y-axis are differences to the baseline group mean. Lateral attitudes are averaged over lateral policies and lateral values.

In order to test whether the displacement-like pattern would also appear when lateral policies and values were not averaged, two further ANOVAs were computed, one on lateral values, one on lateral policies.

The mixed-methods ANOVA on attitude change toward lateral values with similarity of the lateral values as a within-subjects factor and the experimental conditions as between-subjects factors returned a highly significant quadratic effect of similarity,  $F(1,180) = 19.32, p < .001, \eta^2 = .097$ . Attitude change toward the moderately-similar value was more positive than attitude

change toward very-similar or hardly-similar values (Figure B3, Appendix B). In addition, the ANOVA returned a significant interaction between linear similarity and hierarchy (essay arguing in favor of a value or a policy),  $F(1,180) = 7.30, p = .008, \eta^2 = .039$ . Differences between the hierarchy conditions, that is more positive attitude change when the essay had argued in favor of the value, were smaller at lower levels of similarity: The difference was greatest for Y1, smaller for Y2 and zero for Y3<sup>33</sup>.

The mixed-methods ANOVA on lateral attitude change toward policies with similarity of the lateral policies as a within-subjects factor and the experimental conditions as between-subjects factors also returned a highly significant quadratic effect of similarity,  $F(1,180) = 30.77, p < .001, \eta^2 = .146$ . Attitude change toward the moderately-similar policy was more positive than attitude change toward very-similar or hardly-similar policies (Figure B4, Appendix B). No further significant effects emerged for lateral policies. Thus, the displacement-like pattern was found for both lateral policies and lateral values.

**Effects of Similarity on Implicit Attitudes.** Analogous to effects of similarity on explicit attitude change, analyses testing effects of similarity were run on averaged variables representing implicit attitude change toward Y1, Y2, and Y3. A mixed-methods ANOVA with implicit attitude change toward Y1, Y2, and Y3 as the levels of a within-subjects factor and the experimental conditions as between-subjects factors returned a marginally significant effect for similarity,  $F(2,177) = 2.90, p = .056, \eta^2 = .016$ . This effect was also marginally significant as a linear trend,  $F(1,177) = 3.09, p = .081, \eta^2 = .017$ <sup>34</sup>. All other interactions with similarity were not significant,  $p > .108$ . Descriptively, the pattern looks like a linear decrease of implicit attitudes

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<sup>33</sup> The ANOVA also returned a significant four-way interaction of similarity and all experimental conditions,  $F(180) = 9.90, p = .002, \eta^2 = .052$ .

<sup>34</sup> As a quadratic trend,  $F(1, 177) = 2.69, p = .103, \eta^2 = .015$ .

by level of similarity, which generally matches the hypothesized linear generalization of implicit attitude change.

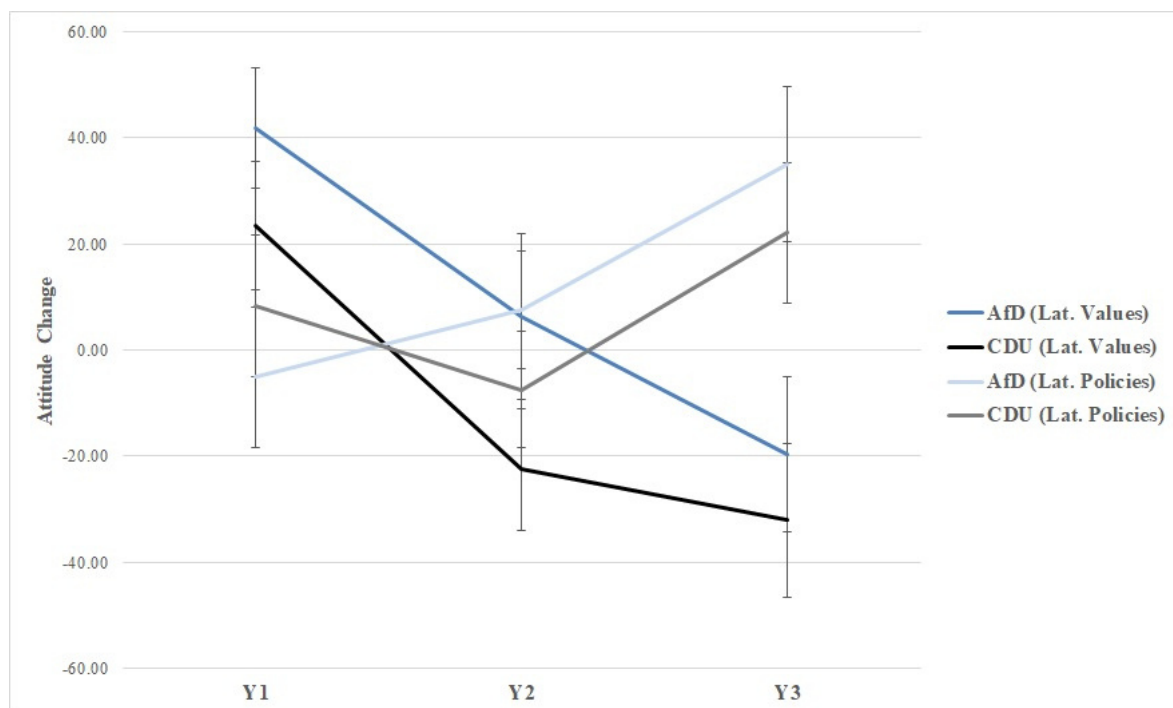
Again, the same analysis was run twice more, once for implicit attitude change toward lateral values and once for implicit attitude toward lateral policies. The repeated-measures ANOVA on implicit attitude change toward lateral values with similarity as a within-subjects factor and the experimental conditions as between-subjects factors returned a highly significant linear effect of similarity,  $F(1,176) = 21.64, p < .001, \eta^2 = .109$ . Implicit attitude change toward the most similar lateral value was the most positive, implicit attitude toward the least similar lateral value the most negative, with the moderately similar value falling in between. This effect was qualified by a three-way interaction with source and hierarchy (i.e., the essay arguing against a value or a policy),  $F(1, 176) = 6.47, p = .012, \eta^2 = .035$ . In the low hierarchy condition (essay argued in favor of a policy), attitudes toward Y2 are similar between CDU and AfD condition, but attitudes toward Y3 are more positive when the AfD was the source. In the high hierarchy condition (essay argued in favor of a value), attitudes toward Y2 are more positive in the AfD condition, but attitudes toward Y3 are more positive in the CDU condition.

The repeated-measures ANOVA on implicit attitude change toward lateral policies with similarity as a within-subjects factor and the experimental conditions as between-subjects factors also returned a significant linear effect of similarity,  $F(1,176) = 3.94, p = .049, \eta^2 = .022$ . However, the pattern of results for implicit attitudes toward lateral policies was a reversal of the pattern of results for implicit attitudes toward lateral values (Figure 24). Implicit attitude change toward the least similar lateral policy was most positive, whereas there was not much difference between the implicit attitudes toward the most similar lateral policy and the moderately similar lateral policy.

Thus, despite the pattern of results for average lateral topics displaying a trend toward implicit generalization, differences for lateral policies versus lateral values contradict this interpretation. According to LAC, explicit attitude change toward Y2 and, thus, a potential displacement effect is based on (not rejected) implicit attitude change toward Y2. Therefore, implicit attitude change was tested specifically toward Y2. A *t*-test against zero revealed marginally significant implicit negative attitude change in the CDU condition ( $M = -15.78, SD = 78.97$ ),  $t(91) = -1.92, p = .058, d = -0.20$ . There was no implicit attitude change toward Y2 in the AfD condition ( $M = 12.25, SD = 106.92$ ),  $p = .27$ .

**Figure 24**

*Implicit Lateral Attitude Change Toward Values and Policies as a Function of Source Condition in Experiment 6*



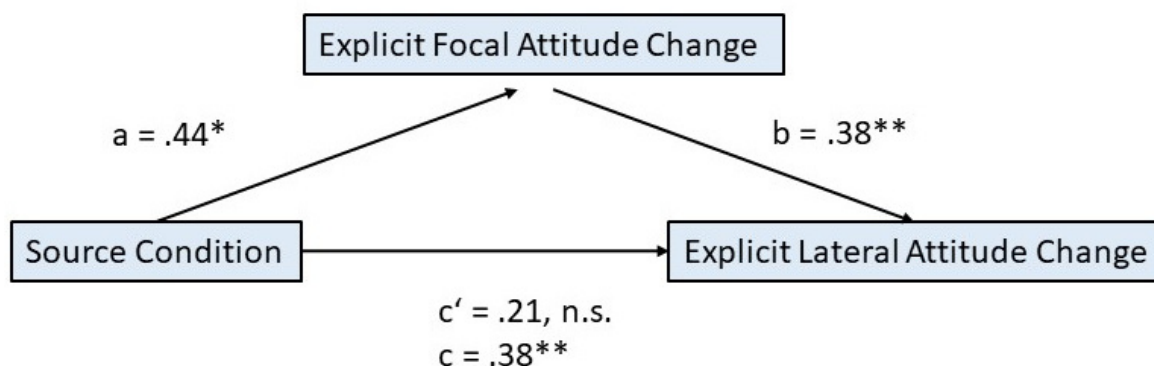
*Note.* Numbers on the Y-axis are differences to the baseline group mean.

**Direct and Indirect Effects**

A mediation analysis (using PROCESS; Hayes, 2013, Model 4) was conducted in order to test whether LAC was mediated by focal attitude change. Thus, direct and indirect effects of the source manipulation on lateral attitude change were computed. The source condition (0 = AfD, 1 = CDU) was used as the predictor, focal attitude change (i.e., differences to the baseline) as the mediator. The relationship between the source condition and lateral attitude change (i.e., differences to the baseline) was mediated by focal attitude change (See Figure 25). The regression coefficients between source and focal attitude change as well as between focal and lateral attitude change were statistically significant. The indirect effect was  $b = .17$ , 95% CI [.03, .31], number of bootstrap samples for percentile bootstrap confidence intervals was 5,000. The direct effect of source on LAC was marginally significant,  $p = .06$ . Thus, while there was a direct, marginally significant effect of the source on LAC, there was also a significant mediation via focal attitude change.

**Figure 25**

*Direct and Indirect Effects of the Source Condition on LAC*



Note. \* =  $p < .05$ ; \*\* =  $p < .01$ .

### *Preference for Consistency*

PfC as an individual difference variable was included as a median-split factor, separating participants into a low-PfC and a high-PfC group. An ANOVA on explicit focal attitude change with all experimental conditions as well as PfC (high vs. low) as between-subjects factors returned no significant main effect for PfC nor any interaction including PfC, all  $p > .22$ . There was, however, a significant effect of PfC on averaged explicit lateral attitude change,  $F(1,180) = 6.49, p = .011, \eta^2 = .037$ . Attitude change in line with the manipulation was larger when PfC was high ( $M = 0.20, SD = 0.86$ ) than when PfC was low ( $M = -0.17, SD = 0.90$ ). This result is in line with the hypothesis that PfC moderates LAC.

In order to test whether the influence of PfC on LAC was specific for either lateral values or lateral policies, a mixed-methods ANOVA was conducted with lateral values and lateral policies as levels of a within-subjects factor and the experimental conditions and PfC as between-subject factors. The interaction between lateral values-lateral policies and PfC was not significant,  $p = .39$ . Thus, the effect of PfC on LAC is independent of the lateral topics being policies or values.

Next, a mixed-methods ANOVA with topic status (focal attitude change, lateral attitude change) as a within-subjects factor and the experimental conditions and PfC (low, high) as between-subjects factors was conducted to test whether PfC effects were specific for lateral (vs. focal) attitude change (cf. Experiment 3). Indeed, the ANOVA returned a significant interaction of topic status and PfC,  $F(1,172) = 4.91, p = .028, \eta^2 = .028$  (Figure 26). Thus, the effect of PfC specifically influences LAC.

It is, however, also noteworthy that participants in the baseline condition show a similar pattern of effects. A mixed-model ANOVA with topic status (attitudes toward focal topic, attitudes toward lateral topics) as a within-subjects and PfC as between subjects factor returned a

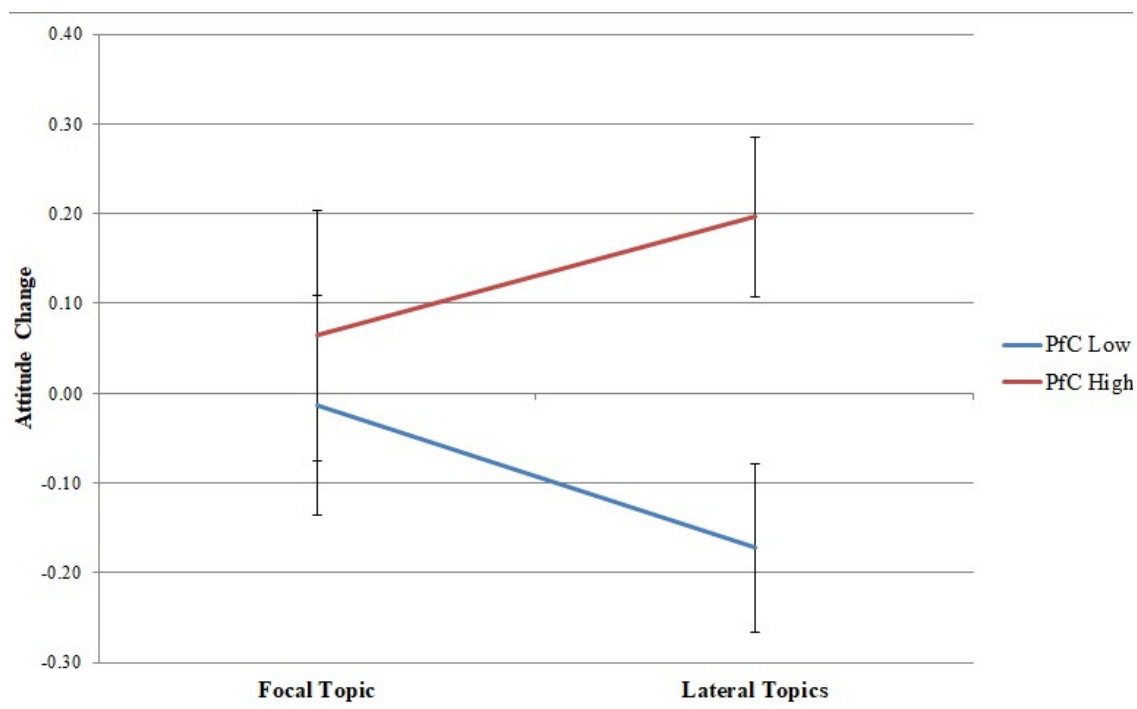


marginally significant interaction of focal-lateral attitude and Pfc,  $F(1, 38) = 3.93, p = .055$ ,  $\eta^2 = .094$ . Those high in Pfc reported more positive attitudes toward lateral (vs. focal) topics.

Therefore, there might be an interaction of Pfc and the focal and lateral topics independent of the manipulation.

**Figure 26**

*Focal and Lateral Attitude Change as a Function of Pfc Condition in Experiment 6*



*Note.* Pfc was measured as a trait variable, the condition represents a low / high median-split.

Next, I examined whether Pfc influenced moderation by similarity. A mixed-model ANOVA with similarity (lateral attitudes toward Y1, Y2, Y3; averaged lateral policies and values) as within-subjects factor and the experimental conditions as well as Pfc as between-subjects factors was conducted. The ANOVA returned a significant interaction of linear

similarity and Pfc,  $F(1,172) = 4.67, p = .032, \eta^2 = .026$ . Attitude differences as a result of Pfc, that is, more attitude change when Pfc was high, were next to zero for Y1 (Pfc low,  $M = -0.15, SD = 1.22$ ; Pfc high,  $M = -0.07, SD = 1.29$ ) but noticeable for Y2 (Pfc low,  $M = 0.11, SD = 1.19$ ; Pfc high,  $M = 0.69, SD = 1.24$ ) and Y3 (Pfc low,  $M = -0.42, SD = 0.99$ ; Pfc high,  $M = 0.11, SD = 0.84$ ). Thus, effects of Pfc driving attitude change are larger for less similar lateral topics. Finally, in order to test whether Pfc as a continuous variable (not a median-split) moderated the effect of focal attitude change on lateral attitude change, a hierarchical regression analysis was conducted. In the first step, focal attitude change and Pfc were entered. In the second step a product term representing the interaction between focal attitude change and Pfc was entered. The interaction term, however, did not explain a significant increase in variance in lateral attitude change,  $p = .531$ .

To sum up, the data from the baseline condition and the results of the moderation analysis prevent any conclusive interpretation in line with the hypothesis. Nevertheless, other results tentatively suggest stronger LAC for participants high (vs. low) in Pfc. Interestingly, this effect seems to be more pronounced for less similar lateral attitude objects. Pfc did not affect the reported results for analyses on implicit attitudes, all  $p > .091$ <sup>35</sup>.

### ***Behavioral Intentions***

In order to gain a first impression of whether the experimental conditions had any effect on behavioral intentions, a general index for the petition-responses was computed. Specifically, the number of liberal petitions a participant was willing to sign was subtracted from the number

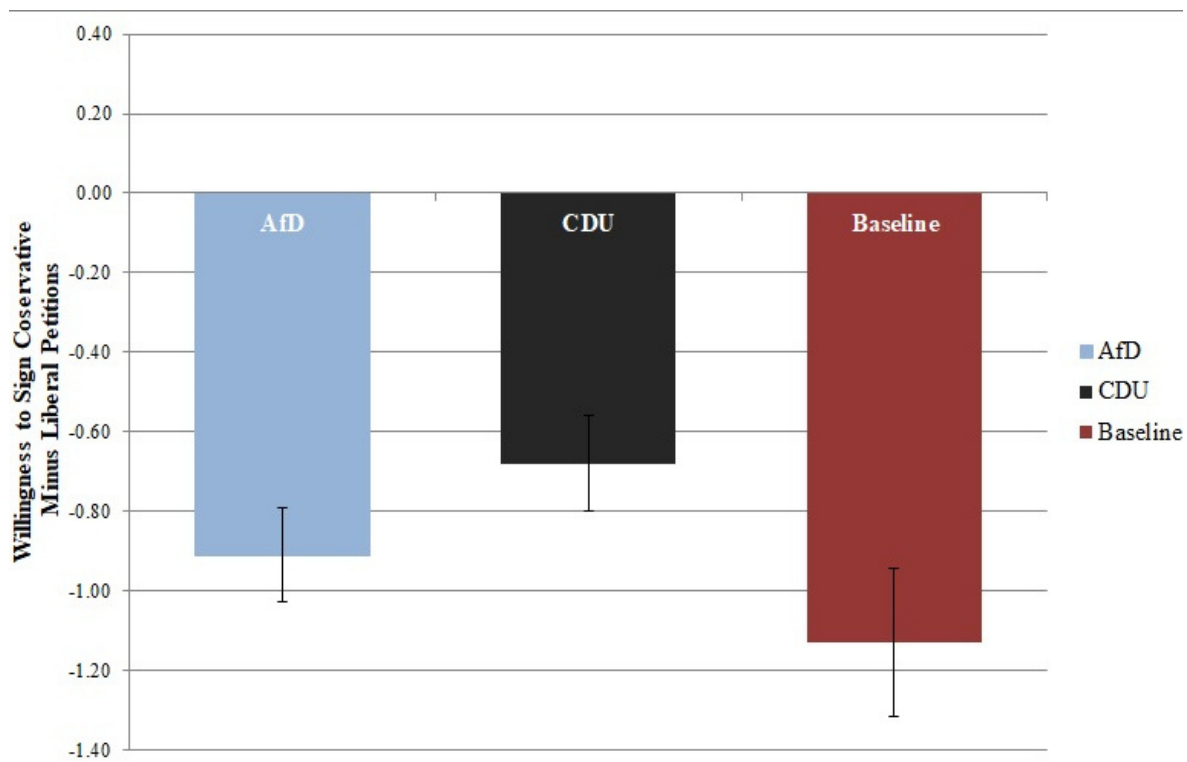
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<sup>35</sup> A mixed-methods ANOVA with focal-lateral implicit attitudes as a within-subjects factor and the experimental conditions and Pfc as between-subjects factors returned a marginally significant interaction of focal, lateral with hierarchy and Pfc,  $F(1, 169) = 2.89, p = .091, \eta^2 = .017$ . Implicit attitude change in the value condition (i.e., when the message argued in favor of a value) was more positive for focal topics when Pfc was low and more positive for lateral objects when Pfc was high. This pattern, however, was reversed in the policy condition. No other effect was (even marginally) significant, all  $p > .199$ .

of conservative petitions the same participant was willing to sign. This resulted in a new scale from +4 (all conservative, no liberal petitions) to -4 (no conservative, all liberal petitions;  $M = -0.86$ ,  $SD = 1.17$ ). An ANOVA on the baseline-corrected petition scale returned no significant main or interaction effects for any of the experimental conditions, all  $p > .17$  (Figure 27). In order to test differences to the baseline,  $t$ -tests against zero were conducted. In the CDU condition, petition-choices were significantly more conservative ( $M = 0.44$ ,  $SD = 1.17$ ),  $t(93) = 3.69$ ,  $p < .001$ ,  $d = 0.38$ . In the AfD condition, petition-choices were also more conservative ( $M = 0.21$ ,  $SD = 1.14$ ), the effect, however, was only marginally significant,  $t(93) = 1.78$ ,  $p = .078$ ,  $d = 0.18$ .

**Figure 27**

*Willingness to Sign Political Petitions as a Function of Source Condition in Experiment 6*



*Note.* The scale displays the number of conservative minus liberal petitions participants were willing to sign.

## Exploratory Analyses

### *Attitude Strength*

Two further ANOVAs with all experimental conditions as between-subjects factors were computed to test whether the experimental conditions affected participants' attitude strength. The ANOVA for baseline-corrected attitude strength regarding the focal topic returned a significant effect for sequence,  $F(1, 180) = 5.62, p = .019, \eta^2 = .030$ . Attitude strength was higher when the source had been mentioned after ( $M = 0.28, SD = 0.99$ ) rather than before the manipulation ( $M = -0.08, SD = 1.02$ ). Additionally, the ANOVA returned a significant interaction of source and hierarchy,  $F(1, 180) = 4.34, p = .039, \eta^2 = .024$ . When the CDU was the source, hierarchy did not seem to matter (essay in favor of a value,  $M = 0.08, SD = 0.93$ ; essay in favor of a policy,  $M = 0.04, SD = 0.99$ ). When the AfD was the source, attitude strength regarding the focal topic was higher in the policy condition ( $M = 0.43, SD = 1.00$ ) than in the value condition ( $M = -0.13, SD = 1.11$ ). The ANOVA for baseline-corrected attitude strength regarding the lateral topics returned no significant effects, all  $p > .20$ .

In order to test whether attitude strength toward the focal object moderated the effect of focal attitude change on lateral attitude change, a hierarchical regression analysis was conducted. In the first step, focal attitude change and baseline corrected focal attitude strength were entered. In the second step a product term representing the interaction between focal attitude change and focal attitude strength was entered. The interaction term, however, did not explain a significant increase in variance in lateral attitude change,  $p = .16$ .

### *Contrast Effects*

In order to gain insight into the effect of the persuasive message on attitude change toward topics with opposed valence (contrast topics; see Table 4), I conducted an ANOVA on the averaged, explicit attitudes change toward contrast topics. The ANOVA returned a highly

significant effect of the source,  $F(1,180) = 12.45, p = .001, \eta^2 = .065$ . Attitude change was more negative in the CDU ( $M = -0.48, SD = 1.15$ ) than in the AfD ( $M = 0.07, SD = 0.94$ ) condition. There were no other significant effects, all  $F < 1$ . Separate exploratory analyses found the same effect for both the contrasting value and the contrasting policy (see Appendix C). In order to test for attitude change in general,  $t$ -tests against zero were computed. In the CDU condition, there was significant negative attitude change toward contrast topics,  $t(93) = -4.00, p < .001, d = -0.42$ . In the AfD condition, there was no attitude change toward contrast topics,  $t < 1$ .

An ANOVA on implicit attitude change toward the contrast topics did not return any significant effects, all  $p > .11$ . In order to test for implicit attitude change in general, a  $t$ -test against zero was computed. In the CDU condition, there was significant negative implicit attitude change toward contrast topics,  $t(91) = -2.96, p = .004, d = -0.31$ . In the AfD condition there was also significant negative implicit attitude change toward contrast topics,  $t(92) = -2.82, p = .006, d = -0.29$ .

Thus, there were implicit lateral contrast effects in both source conditions and explicit lateral contrast in the CDU condition.

### ***Personal Values***

For exploratory purposes I examined whether the manipulation changed participants' value-preferences, as measured by the PVQ.

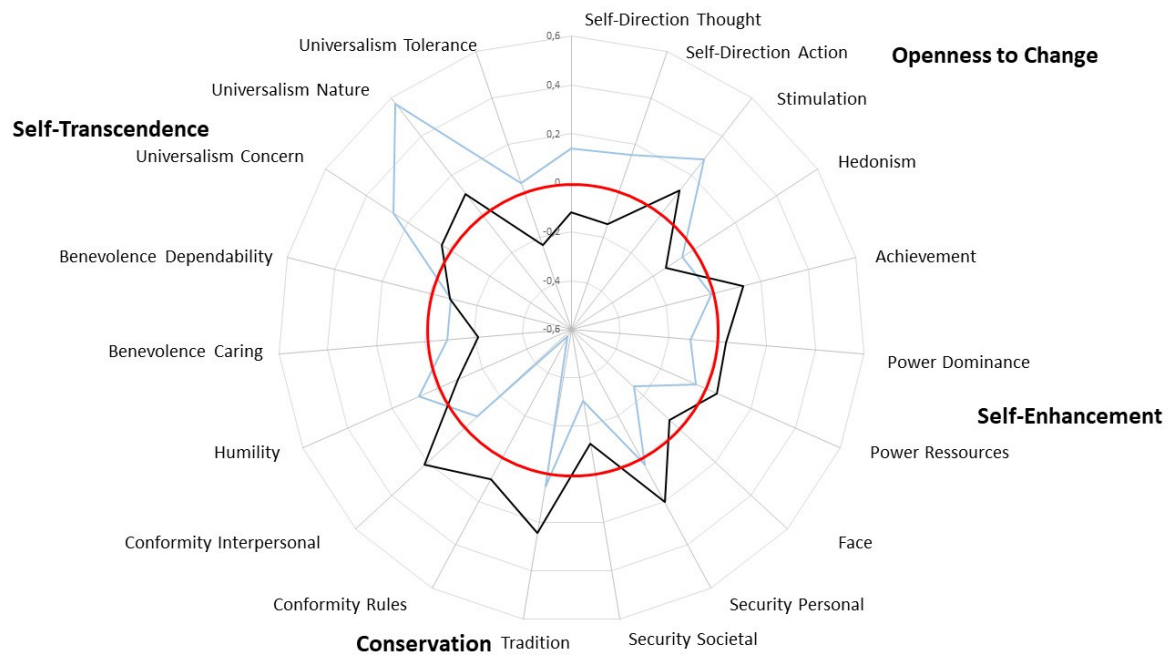
First, all changes in value-preferences were computed by subtracting averaged baseline value-preferences. Next, in order to gain an impression of the impact of the manipulation on the whole value-circle (cf. Schwartz, 2012), changes in value-preferences were represented graphically (see Figures 28 and 29). In the value condition it seems that the circle is shifted in the direction of conservation values when the message allegedly came from the CDU, with the participants in the AfD condition showing a near opposite pattern. For the policy condition, no

such pattern emerged. It is noteworthy that, not for the first time, participants in the AfD condition seemed to show contrast effects. That is, after reading a message with a conservative topic allegedly written by the AfD, they indicated more similarity with persons expressing liberal behavior.

The shift in a pattern of value-preference is in line with previous findings that the CDU condition drives participants' response behaviors toward a more conservative leaning. The fact that this pattern emerged only when a focal value was targeted might be related to similarity. Statistical analyses of the value-preferences for conservation and openness to change can be found in Appendix C.

**Figure 28**

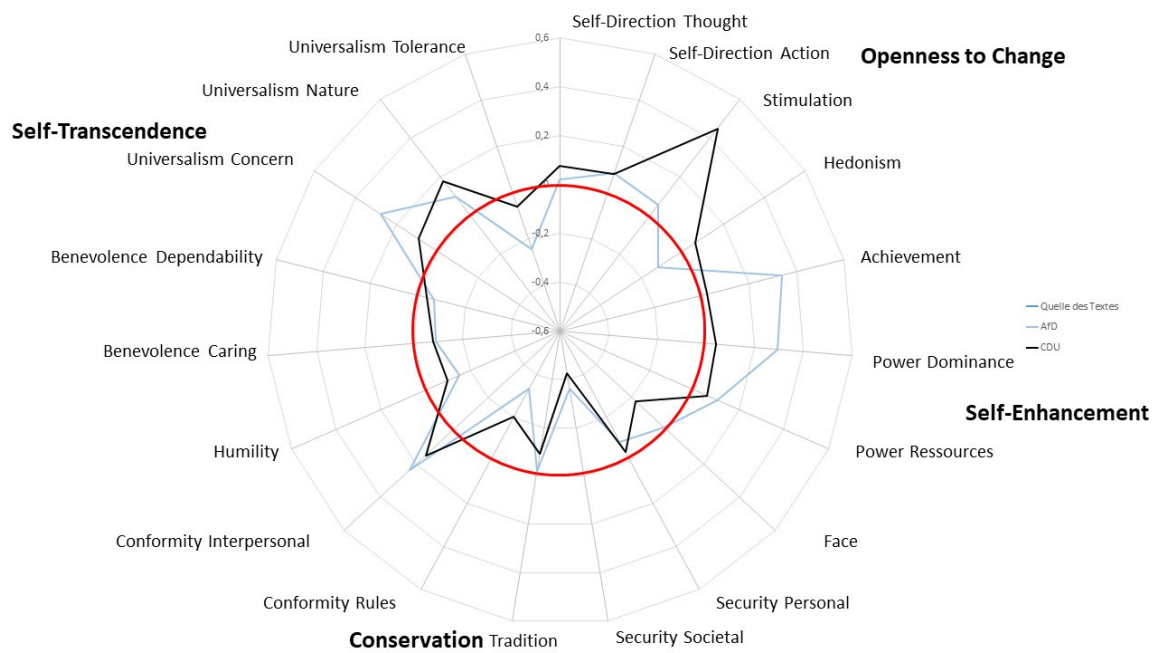
*Value Orientation in the Value Condition as a Function of the Source Condition in Experiment 6*



*Note.* The figure displays differences in value orientation compared to the baseline (red). The figure displays results only for participants in the value condition. The blue line shows results for participants in the AfD condition, the black line shows results for participants in the CDU condition.

**Figure 29**

*Value Orientation in the Policy Condition as a Function of the Source Condition in Experiment 6*



*Note.* The figure displays differences in value orientation compared to the baseline (red). The figure displays results only for participants in the policy condition. The blue line shows results for participants in the AfD condition, the black line shows results for participants in the CDU condition.



### Discussion of Experiment 6

The results of Experiment 6 showed effects of both source and hierarchy conditions on explicit measures as well as some effects on implicit measures. However, it is not immediately clear whether the results support the hypotheses based on LAC. Did the results support the assumption of generalization when the CDU was the source and displacement when the AfD was the source?

On explicit attitudes, I found focal and lateral effects of the source condition. Participants who had read a persuasive message allegedly authored by the CDU rated focal and lateral attitude objects more positively than did participants who had read the same message allegedly authored by the AfD. Attitude change, that is, the differences in attitude reported by participants in the baseline condition, was also positive toward focal and lateral topics in the CDU condition. Thus, a generalization effect from focal to lateral objects occurred. The generalization pattern, however, was not linear but rather curvilinear in all conditions, displaying the reversed U-curve pattern suggested for displacement. The pattern was found independently of source condition.

There were also indications for a moderation by hierarchy. Lateral effects (vs. focal effects) were stronger when the focal topic, the target of the persuasive essay, had been a value (vs. a policy). In a similar vein, participants high in PFC (vs. low in PFC) showed stronger lateral but no stronger focal attitude change. Thus, despite limitations, some results tentatively supported the hypothesis of moderation by PFC. Lateral topics that pretests had determined to be of an opposing nature to focal topics were rated more negatively when participants thought that the arguments originated with a CDU source. This result favors the assumption of lateral contrast. Indeed, on an implicit level I found lateral contrast in both source conditions. However, besides the analyses regarding contrast topics, few analyses containing implicit data yielded any

interpretable results. Therefore, most interpretations of the current data in light of the LAC model and its applications are restricted to explicit data.

### **Persuasive Source Effects**

The source condition had been designed to elicit either affirmation of the persuasive attempt and, therefore, generalization in the CDU condition or rejection and, therefore, displacement in the AfD condition. Given the lack of complete rejection (invalidation) in Experiments 1 to 3, I tried to increase participants' involvement by introducing a derogated source. In general, this approach was successful. There was focal attitude change in line with the persuasive attempt in the affirmation and no positive attitude change in the rejection condition. Nonetheless, when a long tradition of persuasion research (e.g., Hovland & Weiss, 1952; Petty & Cacioppo, 1986; Chaiken et al., 1989) is considered, it is not surprising that the source was also a persuasive factor in itself. Besides a direct main effect of the source (Bohner et al., 1995) that can be additive to the persuasive effect of the message (i.e., an effect additional to, but not interacting with the effect of the message), it is conceivable that the source information might have biased the processing of the message (Bohner et al., 1995; Petty & Wegener, 1999). Thus, focal attitude change might not have been solely a result of the persuasive message but also of the added valence immanent to the source, which, as the pretest results suggested, was negative in the case of the AfD.

Whether biasing effects occurred is not completely clear. On the one hand, biasing effects are particularly likely when message arguments are ambiguous or open to interpretation (e.g., Chaiken & Maheswaran, 1994), which was not the case. Also, while there was an effect of the sequence on explicit attitudes, the effect was not qualified by an interaction with the source. In the case of a biasing effect, I would have expected a stronger effect of the source (positive or negative) when the source information had been provided prior to (vs. after) the message. While

it is not completely out of hand to assume that participants may have reprocessed the message in light of the source information they encountered afterward (and, thus, a backward biasing effect; cf. Anderson & Pichert, 1978), it does not seem very likely. On the other hand, participants' responses to control variables suggest that the source did influence the processing of the message. For example, the message was evaluated as being more convincing (but not necessarily more successful in swaying "other people") when authored by the CDU. Thus, differences in focal evaluations depending on the source might have been based on a persuasive cue effect or a combination of the message and a cue effect. The fact that explicit attitudes in the AfD condition were descriptively more negative than those in the baseline condition might be the result of a contrast effect (e.g., Bless & Schwarz, 2010; Sherif & Hovland 1961). When participants were made aware of a position of a source that they strongly dislike, they might have accentuated their point of view in order to create distance (cf. Nicholson, 2011, Exp. 2).

### **Lateral Attitude Change in Experiment 6**

The focal effect of the message, that is, induced attitude change, generalized to lateral topics, which were rated as more positive in the CDU condition; thus, LAC occurred.

In terms of LAC, two processes might potentially be responsible for a generalization from focal to lateral attitude object.

(1) In line with LAC (Glaser et al., 2015, Postulate 2), I had expected an automatic spread of evaluation from focal topic to lateral topics. This process was assumed to happen subsequent to associative attitude change toward the focal object and in line with the manipulation (Glaser et al, 2015, Postulate 1). Associative spread was expected to create an effect independent of propositional reasoning about the rejection or affirmation of attitude change toward the focal object. These associative processes were expected to result in implicit generalization and provide the basis for propositional generalization or displacement. If

associative processes were the basis for LAC, focal effects based on propositional reasoning as a result of added source valence, or backward reprocessing should not have induced nor prevented LAC. Nonetheless, biased processing induced by the source being mentioned prior to the manipulation could have created or changed an association (Gawronski & Bodenhausen, 2006a), which then would have transferred to lateral objects. Additionally, when the source had been presented prior to the message, associations might have been formed or activated simply on the basis of the valence immanent to the source information itself, which might have spread to lateral objects.

(2) The second potential LAC process is based on Postulate 4 (Glaser et al., 2015). According to Postulate 4, propositional reasoning about the focal object might influence the attitudes toward the lateral objects. Thus, there might be generalization (only) based on propositional reasoning. In the case of Experiment 6, propositional reasoning about arguments in favor of or against either tradition or resolute deportation, might have inspired deliberations regarding the lateral topics. These deliberations, in turn might have influenced LAC. Given the absence of interpretable implicit effects, the interpretation that LAC in Experiment 6 resulted from propositional LAC seem more likely. Nonetheless, given methodological problems of implicit measurement (see below), a final verdict about underlying processes could not be reached at this point.

One might also consider possible explanations for the observed lateral effects that are not based on LAC. First, effects on the lateral topics might not have been LAC effects at all, but rather direct effects of the message. The persuasive essay was a rather broad and abstract message, which therefore might have had a direct effect on lateral attitudes. However, mediation analyses revealed that effects of the source on lateral attitudes were mediated by focal attitude

change, which suggests that lateral attitude change was at least partially a result of indirect effects.

Second, yet in a similar vein, given the abstract nature of the message, the “true” focal object might have been the topic of migration, and all other attitude objects (including the “focal” ones) might, in fact, have been lateral attitude objects. This interpretation could explain the lack of a linear effect of similarity; the topics had not been pretested for their levels of similarity with migration but rather with tradition and resolute deportations. The explanation of migration being the “true focal object”, however, does not explain the displacement-like pattern found in both value conditions. Thus, neither alternative explanation to LAC seems very likely.

### **Similarity and Displacement**

The effect patterns regarding lateral attitude change toward values and policies as a function of similarity to the focal object, as found in Experiment 6, support the assumption of displacement - albeit not exactly as hypothesized. In both levels of the hierarchy (value, policy) and the source (CDU, AfD) conditions, the attitude object that was moderately similar to the focal object was evaluated as most positive, thus, in line with the message.

On the one hand, the parallel quadratic effect pattern for lateral topics in both source conditions suggests an underlying effect that is independent of the source manipulation. Indeed, explanations based on the assumption of specific message–topic interactions, such as that the message was especially effective in eliciting attitude change toward specific topics (i.e., the moderately similar topics), cannot be completely discarded. On the other hand, the finding that the quadratic pattern emerged for two different sets of topics, policies and values, suggests that the effect is not based on specific topic characteristics or message-topic interactions. Rather, the shared commonality between the two sets of topics is the similarity to the respective focal topic.

Thus, the hypothesized notion that similarity drives the pattern of LAC seems more likely than the alternative interpretation of specific message–topic interactions.

Nonetheless, results were not exactly as hypothesized: instead of a displacement pattern in the rejection condition only, the same pattern was found also in the generalization condition. With regard to the question as to whether the results indicate a generalization effect or a displacement effect, the most likely answer is: both. Results indicate a generalization of focal attitude change; source effects on focal attitude change transferred to lateral attitudes. Results also indicate a displacement effect for the moderately similar attitude object (in Experiment 6, a burka ban and conformity). In both source conditions, attitude change toward Y2 was significantly more in line with the manipulation than attitude change toward X. For the CDU condition this was expressed by a more positive attitude toward Y2 relative to the baseline. In the case of the AfD condition, the attitude toward Y2 was similar to the baseline, whereas, at least descriptively, attitudes toward all other topics are more negative; assumedly as a result of a generalization of the (descriptively) negative focal effect.

I had predicted generalization yet no displacement in the CDU condition and displacement yet no generalization in the AfD condition. Keeping in mind, however, that persuasion research (e.g., Bohner et al., 1995) points to source effects on the focal object, it is not completely surprising nevertheless. I had chosen the AfD as a source invoking rejection and displacement because of pretest data in which participants stated they would reject anything that the AfD said regardless of its context. The CDU was used as a competing source as it shared some of the AfD's characteristics: the CDU is also a conservative, right-wing party – albeit to a lesser degree. However, while positions espoused by the CDU are opposed to the political views of the majority of the sample, the party's positions were not rejected as a matter of principle. Therefore, the reasons to expect a displacement effect for the AfD condition could also be

applied to the CDU condition. Although much more respected, the CDU still represented the political opposition. According to Brewer's (1991) theory of optimal distinctiveness, the party was therefore opposed to the participants' social self. Furthermore, the importance of group influence on political attitudes has, for example, been highlighted by Cohen (2003), who showed in four experiments, that party influence outweighed the impact of the policies' content and participants' beliefs. Thus, it seems possible that a CDU source induced a displacement-like pattern, that is, the strongest persuasive success when their association with the attitude object was presumably low.

To sum up, although being more respected, the CDU, similarly to the AfD, may have induced rejection and, therefore, displacement. However, the party's relatively higher popularity may nonetheless have led to generally more favorable attitudes.

### **Co-Occurrence of Generalization and Displacement?**

Similar to Experiments 2 and 3, where I found that lateral attitude change was less impacted by rejection than focal attitude change, this result does raise the question of the underlying process of a potential simultaneous co-occurrence of generalization and displacement. Based on LAC (Glaser et al., 2015), I assumed that associations in line with the manipulation spread from focal to lateral attitude objects. Propositional reasoning might, subsequently, suppress attitude change on the focal object. Since Y1 (in Experiment 6: conservatism and ceilings of immigration) is very similar to the focal object, reasons to reject attitude change are transferred to this topic. It might be sensible to reflect upon including the option of propositional reasoning not only invalidating attitude change altogether (= completely rejecting the influence attempt) but also influencing attitudes due to effects of the content of the rejection manipulation. For example, the knowledge that the message originated with a devaluated source, influences the attitude toward the topic without necessarily eliminating attitude change altogether. Thus, a

process similar to Postulate 4 might underlie attitude change toward the focal topic. Depending on aspects of the rejection message, focal attitude change can be partially affirmed; whatever remains of the focal effect may then generalize (see General Discussion).

However, two aspects of the data reported in Experiment 6 were not consistent with the interpretation of a combined occurrence of generalization and displacement. First, in contrast to the hypothesis regarding linear moderation by similarity, attitude change toward the least similar lateral topics seemed to be influenced by generalization to a similar degree as attitude change toward the most similar topic. If a combination of linear generalization and quadratic displacement had been assumed, a linear effect should have been found in addition to the quadratic effect. A simple explanation for the absence of linear generalization and, indeed a limitation of this experiment lies in the relativity of similarity. That is, similarity is not absolute; it depends on the stimuli available to participants and the context of the task (cf. Markman & Gentner, 1997; Honke & Kurtz, 2018; Tversky & Gati, 1978).

In the case of Experiment 6, the relative distance of attitude objects to each other had been established in a pretest. However, in the pretest all given stimuli were related to the extended topic of immigration and were at least to a degree related to left- and right-wing policies or values. Thus, it is possible that differences in similarity are only high within the specific context of Experiment 6 and its pretest but small outside of an experimental setting (see General Discussion). In addition, neither filler items nor distractors were used, increasing the likelihood of participants applying their conclusions of propositional thinking to all (possibly not so different) lateral topics. However, following this line of thought, that is, arguing that problems with the assessment of similarity are responsible for the failure to find linear effects of generalization, would also invalidate the previously stated interpretation regarding displacement.



If there was no linear effect because, in truth all lateral objects were more or less equally similar, there can also be no quadratic effect as a function of moderate similarity to the focal topics.

However, results may also be explained with another approach. That is, moderation by similarity might work differently for effects of source and message. The short and simple source information, which needs next to no capacity or motivation to process (Petty & Cacioppo, 1986; Kruglanski & Thompson, 1999), might have been used by participants as evidence for the evaluation of all topics. The fact that all focal and lateral topics are either in line or opposite (the contrasting topics) to the parties' stances was recognized but would not require high propositional effort. Therefore, the valence immanent to the source information was added to all evaluations. Processing the argumentation, that is, the stance of the message toward the focal attitude object, however, would require greater effort. Therefore, it would only be applied when similarity is still sufficiently high to draw any conclusions but not so high as to be rejected out of hand based on the association with the obvious manipulation attempt and its associated source.

Besides the discussion of similarity, there might also be another, less theoretical reason why the evaluation of Y1 in the CDU condition (where I had expected linear generalization) does not fit the LAC model's assumptions. Both very similar lateral attitude objects might be topics that evoked an especially high resistance to change in participants. Conservatism (Y1 value) is not so much a value as an ideology and thus might be harder to like for the mostly leftist sample than the other more ambiguous lateral values. A ceiling on immigration, the very similar lateral policy, was a very widely discussed topic in Germany, drawing the ire of many progressives, and might have been harder to change as it is a topic about which people had already formed counterarguments (cf. Albarracin, 2002; McGuire, 1961; Petty & Cacioppo, 1979).

To makes matters more complicated, implicit data was expected to show (linear) generalization of focal attitude change but results had little conclusiveness. While analyses of

implicit data returned some significant results, such as implicit lateral contrast, as well as some marginally significant effects, such as implicit LAC in the AfD condition, hypotheses regarding implicit attitude change are hardly supported. There are two possible explanations for this pattern. The first explanation refers to a methodological problem. The topics used as attitude objects in this experiment were complex, possibly too complex for implicit measurement. They had to be represented by words, or even strings of words, describing political phenomena. There is research showing that pictures elicit stronger implicit responses than word-stimuli (De Houwer & Hermans, 1994; Spruyt et al., 2002). In this experiment, stimuli representing the topics were sometimes comprised of more than one word. Therefore, stimuli might have been too long and too complicated to elicit positive or negative associations. The result that reaction times were generally shorter for values rather than policies tentatively supports this assumption (Appendix B)<sup>36</sup>. All stimuli representing value topics were comprised of a single word and, additionally, were more intuitively understandable. While not examined in this experiment, it is plausible that words such as “tradition” or “conformity” more easily elicit associations than concepts such as “ceiling on immigration” simply by being shorter, more “catchy” and usually more common in daily life.

Besides the previously stated methodological explanation that the affective priming procedure was not sensitive enough to detect associative effects of the manipulation on focal and lateral topics, there is also a more theoretical approach. This deliberation is linked to the question of what an affective priming procedure, or any implicit method for that matter, can reasonably be expected to measure (cf. Corneille & Hütter, 2020). Gawronski and Bodenhausen (2006a) define implicit attitudes as a spontaneous affective reaction to stimuli based on an activated association.

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<sup>36</sup> This effect, however, was very small,  $d = 0.15$ .

In the case of the majority of topics used in this experiment, it is very plausible to presume that there are existing associations available, albeit different in magnitude. The important question, however, is whether the persuasive message was able to create new associations for the focal attitude objects that might have spread to lateral attitude objects. When an influence attempt toward a focal object is made, this does not necessarily mean that there is a direct establishment of a new association. In the case of EC, repeated pairings are supposed to establish association (Hofman et al., 2010). Persuasion, on the other hand, according to APE (Gawronski & Bodenhausen, 2006a), is always propositional. APE, however, also states: “[...] If the persuasive arguments lead to a retroactive rejection of an already activated associative evaluation, these arguments should leave associative evaluations unaffected” (p. 710). If, however, persuasive arguments lead to a proactive construction of a new associative evaluation, these arguments may therefore indirectly influence associative evaluations mediated by processes of propositional reasoning (Case 4; Gawronski & Bodenhausen, 2006a). It is not inconceivable that the propositional reasoning induced by the manipulation did not lead to the construction of new associations.

From this perspective one might assume that no associative spread occurred. This assumption, however, raises the question of the process underlying the displacement-like pattern found in Experiment 6. When implicit ratings of Y2 are viewed separately, there is no positive attitude change as hypothesized, so what is the basis of explicit differences? The same mechanism that LAC assumes for associative-propositional interactions might be valid for propositional reasoning by itself. The manipulation may have inspired propositional reasoning about the focal object as well as about those lateral objects that were sufficiently similar to the focal object. Attitude change, however, is also subject to further reasoning based on the source of the information (e.g., “if [source] is in favor of this, it cannot be as good as my thoughts

suggested”), which might decrease with distance to the source’s original target. Alternatively, and closer to the original LAC suggestion, propositional reasoning, including consideration of the message’s sources (or any other operationalization of rejection for that matter) might induce propositional reasoning about the lateral object (LAC, Postulate 4). Distance to the focal object might decrease resistance to attitude change without necessarily presupposing that participants are completely unaware of the rejected source’s influence. Even if participants are aware that the source’s position to the focal object implies a similar position to the lateral object in question, no “symbolic resistance” is necessary, because confirmation of the lateral object would not be seen as compliance with the source that argued for something else (cf. Nai, 2020).

To sum up, the hypothesis of generalization or displacement depending on the source could not be completely supported. There is, however, some evidence suggesting parallel generalization and displacement effects in both source conditions. Focal attitude change was determined not only by the message but also the valence of the source. The initial source effect generalized to lateral topics in a curvilinear, displacement-like, pattern. There is next to no evidence for the suggested interplay of associative and propositional processes. Instead, either all effects are propositional, or the sensitivity of the methods used to measure implicit evaluations was not sufficient to detect any effects. Thus, there may or may not have been implicit processes underlying the explicit effects I have measured.

### **Hierarchy**

Can a moderation of LAC by hierarchy be inferred? In Experiment 6 the hierarchy hypothesis was operationalized by using two different focal objects on a higher (lower) level of hierarchy, one value and one policy. On the one hand, I found that the level of hierarchy for focal objects resulted in divergent lateral (vs. focal) attitude change. Indeed, in line with the hypothesis that focal attitude change on a higher level of hierarchy would result in stronger LAC,

lateral (vs. focal) attitude change was larger when the focal object had been a value. On the other hand, regarding lateral topics only, there was no significant effect of hierarchy.

It is worthy of consideration that the baseline condition is only a true baseline concerning the topics themselves. While their evaluation did not take place in a vacuum it was neither identical with the specific context created by the experimental conditions. Some topics are more ambiguous than others. For example, “tradition” allows more interpretation about its true (or rather, subjective) meaning whereas “resolute deportations” is almost unambiguous. In the experimental conditions, the manipulations served as a framing (Entman, 1993) of the topics. Tradition was what the manipulations suggest it was and, therefore, was likely evaluated in line with the framing. In the baseline condition, however, there was no specific framing, allowing for a much broader interpretation of the more ambiguous topics. This might have led some participants in the baseline condition to an evaluation of an attitude object with a different subjective meaning in comparison to participants in the experimental conditions. While there was no test of ambiguity, the lateral topics, even lateral values, seem less open to interpretation. As a consequence, participants in the baseline condition might have evaluated the ambiguous focal value but not the less ambiguous focal policy more positively. This in turn might have inflated the interaction of hierarchy with the focal vs. lateral attitude objects. For future experiments this should be controlled in order to make the interpretation of results more reliable.

### **Preference for Consistency**

Results of Experiment 6 when PFC (Cialdini et al., 1995) was included add another layer upon the assumptions drawn from the results of Experiment 3. Whereas in Experiment 3 it remained unclear whether the effect of PFC on lateral attitudes differed from its effect on focal attitudes, results are clearer in Experiment 6. Indeed, it seems that participants with a higher PFC showed stronger generalization effects per se. This marks a clear difference to Experiment 3,

where I discussed that, given the absence of a PfC–focal, lateral interaction, stronger LAC in the high PfC condition could also be indicative of a stronger focal effect due to PfC which had generalized to lateral topics. Additionally, analyses returned a pattern suggesting an increasing influence of PfC with decreasing similarity to the focal topic. This could be interpreted as the result of participants with a high PfC perceiving less of a decrease in similarity. That is, for participants with a high PfC the differences between X and Y2 and X and Y3 respectively seem less substantial in comparison to the perception of participants who have a lower PfC. Given their preference for consistency rather than inconsistency, participants with a high PfC might see similarities rather than differences. This is less important for Y1 where similarity is obvious, even for participants with a low PfC.

Although some of the present results support the hypothesis that high PfC leads to stronger LAC, interpretations must be taken with a grain of salt. The moderation analysis did not show a moderation by PfC of generalization from focal to lateral attitude change. Furthermore, albeit nonsignificant, the interaction pattern (more positive lateral attitudes when PfC was high) was also found for baseline condition participants, indicating there might have also been a stimulus-specific effect.

### **Lateral Contrast**

While not the focus of Experiment 6, I also assessed lateral contrast, that is, the possibility that focal change in one direction is followed by lateral change in the opposite direction. This possible effect was theorized to be the result of either associations, which included relational information that defined the opposite nature of the association or as a propositional-only phenomenon. In the case of an associative phenomenon, both implicit and explicit attitude change opposite to focal results would be expected. In the case of a propositional phenomenon, implicit lateral effects in line with focal effects and explicit lateral effects opposite to focal effects would

have been expected. In general, results suggest that there was lateral contrast. Both topics that the pretest had suggested as contrast topics were evaluated more negatively after participants had read a message intended to evoke positive focal effects. Indeed, source effects were statistically significant regarding implicit and explicit contrasting attitude change. However, given the lack of any other implicit effects in line with my predictions, such as implicit generalization, this is no hard evidence in favor of associative contrast. The problem of sensitive measurements of implicit effects has already been discussed. Therefore, whereas results in Experiment 6 suggest lateral contrast as an associative and propositional phenomenon, previously discussed problems of reliable implicit measurement, as well as the lack of other implicit effects, cast some doubt on any attempt at a conclusive interpretation.

### **Value Preferences**

Finally, the pattern of value orientation was sensitive to the manipulation aimed at focal attitudes. When the manipulation was aimed at a value itself, the pattern of participants' value orientation, operationalized via similarity to "others" expressing the corresponding values, changed depending on the source. With regard to the higher-order value of conservation this is not especially surprising. The focal topic "tradition" was, although assessed in a different manner, identical in content to one of the facets of conservation. It is, however, interesting and consistent with LAC as well as the idea of an interconnected value circle (Schwarz, 2012) that seemingly the whole value pattern was influenced, shifting value priorities toward conservation values. That this only occurred when the message aimed at the level of values can be seen as a result of a larger strength of association between a value-based (vs. policy-based) message and value priorities.

### Conclusion Experiment 6

I have discussed theories of minority influence (e.g., Alvaro & Crano, 1997; Wood et al., 1994) as an explanation of indirect attitude change (= LAC). Especially in light of the results of Experiment 6, it is worth considering whether minority influence, especially as conceived by LCT (Alvaro & Crano, 1997; Jung et al., 2017), might offer a better explanation of results than does the LAC model. I have also discussed the fact that the sources used in Experiment 6 diverged from the generalization versus displacement manipulations used prior to this experiment: source effects might have induced focal attitude change and simultaneously have served as cues to reject the message. Nonetheless, results are not completely in favor of either LAC or LCT. The displacement-like pattern found in the CDU condition would favor LCT if the CDU was conceived as a minority that is listened to. However, the fact that a similar, albeit less influential, pattern was found for the AfD condition favors LAC. Although defining Germany's ruling party of the last 15 years as an in-group minority might be something of a stretch, the assumed underlying process (Alvaro & Crano, 1997) of “having a contract to listen to them but not to agree” might explain the results. However, applying the same logic in order to explain the results in the AfD condition would require the assumption that a similar contract was in effect, which is rather unlikely. The LAC explanation of automatic spreading of associative evaluation is, on the other hand, unable to explain the apparent occurrence of parallel generalization and displacement, and might be in need of modification (see General Discussion). Given the absence of trustworthy implicit data I cannot deliver a final verdict on the underlying process of the results found in Experiment 6.

To sum up, Experiment 6 provided evidence of a rejected source being more influential toward an attitude object moderately remote from the target of its influence attempt. Although it does not provide strong support for LAC as a mechanism of an underlying process of political



and populist influence, the experiment offered indications that such processes were worthy of further detailed study.

### General Discussion

In six experiments, I tested the basic premises of the LAC model (Glaser et al., 2015), that is, the first three postulates and the moderators: similarity, PFC and hierarchy. Furthermore, I tested LAC as a mechanism of attitude change toward policies and values.

In the first three experiments consumer goods were used as focal and lateral topics. Generalization and displacement from focal to lateral products as a function of (non-)rejection were tested as well as moderation by similarity. In Experiment 1, implicit and explicit focal attitude change effect, elicited by customer reviews, generalized from focal to lateral bathroom and outdoor products. In Experiment 1, I also found evidence supporting the assumption of a moderation by similarity of explicit LAC; generalization was stronger for lateral products more similar to the focal product. However, the manipulation aimed at invalidating the customer reviews failed to elicit a complete rejection of the initial influence attempt. Despite this, the rejection condition resulted in different effects than the affirmation condition; attenuated generalization yet no displacement.

Using the same design but other product categories and a stronger rejection manipulation, Experiment 2 provided further evidence of explicit generalization moderated by similarity. Implicit data indicated a focal associative contrast effect that did not generalize to lateral topics. Although participants reacted to the reinforced rejection manipulation, I again failed to completely prevent focal attitude change. Similar to Experiment 1, participants in the rejection condition showed attenuated generalization instead of displacement. Nonetheless, the effect of invalidation was relatively stronger on focal than lateral attitudes.

In Experiment 3, using the stimuli from Experiment 1 and the strong rejection manipulation from Experiment 2, I again found explicit generalization, moderated by similarity. Furthermore, an experimental manipulation of PFC provided some evidence for a moderation of

LAC by individual Pfc. Similar to Experiment 2, the data again implied a relatively stronger effect of rejection on focal (vs. lateral) attitudes. Indeed, the pattern of results in one of the valence condition resembled the reversed U-curve, I had theorized as the expression of a displacement effect.

In the second part of the present study, I no longer used products as topics but instead attitudes toward values and policies, which I deemed to be of social importance. Experiment 4 was an extended replication of a study by Blankenship and colleagues (2012), who had tested indirect influence effects of an influence attempt toward the evaluation of the value of “equality” on attitudes toward the policy of affirmative action. I was able to replicate the central effect that attitude change toward a value generalized to attitudes toward a (lateral) policy. By extending the design, I was also able to test differences in bidirectional LAC, that is from value to policy and from policy to value. Although results did not completely support the notion of LAC being moderated by the focal topic’s level of hierarchy, there was some support for the hypothesis that attitude change on a higher hierarchical level leads to stronger LAC effects. In Experiment 4, attitude change toward a focal value also generalized to several further lateral policies, but attitude change toward a focal policy did not generalize to lateral values nor was generalization moderated by similarity as hypothesized.

In Experiment 5, I again tested LAC from values to policies. Furthermore, a manipulation of the relation between focal and lateral topics was introduced to experimentally test the possibility of lateral contrast. Although, I found indications of explicit and implicit LAC from focal values to lateral values and policies, other aspects of the experiment were less successful. No evidence could be provided for either lateral contrast or for a moderation by hierarchy. For the absence of both effects, methodological and theoretical explanations were discussed (see discussion Experiment 5).

Finally, in Experiment 6 I examined LAC effects on values and policies when the persuasive source was a political party that was either respected or derogated. Results suggested explicit generalization of focal effects but also returned a displacement-like pattern of lateral effects in both source conditions. That is, attitudes toward all topics were more positive when the respected (vs. derogated) party had been the source. Additionally, the LAC was largest toward the topic of medium similarity (value and policy), resulting in a “reversed U-curve” pattern in both source conditions. However, findings of implicit effects were few. Experiment 6 also returned some results that indicated moderation by hierarchy and by (trait) PFC as well as implicit and explicit contrast effects.

One aim of Part II of the present thesis was to test LAC in the domain of political influence. In order to do so, I took some leaps between experiments. Whereas, the first three experiments focused on testing LAC in a rather confined domain, in the latter three experiments I attempted to use LAC processes to examine much broader and more abstract topics. In many cases, that approach yielded very interesting results. I was able to show generalization effects in almost every experiment and with the majority of all stimuli, regardless of whether they were products, values or policies. Experiment 6 showed that even the attitudes of a left-leaning sample could be influenced by conservatives arguing about a subject other than the one assessed. Nonetheless, conceptually and in terms of experimental design, the leaps between the experiments may have also limited the clarity of findings in some cases. Therefore, some questions remain unanswered, require discussion, and, perhaps, further testing.

Below, I first discuss the main subjects of the present paper – examining Postulates 1 to 3 and some of the moderators included in the LAC model. This includes suggestions for the continuation of LAC research and discusses the applicability of the present data. Finally, I

discuss conclusions of the present research for the LAC model as a whole in more detail and present alternative options for modeling LAC.

### **LAC Postulates 1 – 3 and Implicit Attitude Change**

Any evaluation of the first two postulates of LAC based on the present data unfortunately has to be more interpretative than would be ideal. Postulate 1 states that the mere perception of an influence attempt will lead to an association of the focal object X, with the valence incorporated in the attempt. Postulate 2 states that the change in evaluation of X spreads to lateral objects (Glaser et al., 2015). Both processes are presumed to be implicit only and cannot necessarily be reported by subjects.

The development of indirect measure to assess implicit processes such as the IAT (Greenwald et al., 1998), implicit priming procedures (Fazio et al., 1995), or the AMP (Payne et al., 2014) has helped immensely to bring light into the “black box” that contained unreported processes underlying explicitly measurable effects. The data collected by methods to assess implicit attitudes have also spawned several theories about the “true nature” of implicit attitudes (see Introduction). However, in recent years, there has been intense discussion on whether conceptualizations of “the implicit” were adequate (cf. De Houwer, 2019; Corneille & Hütter, 2020; Van Dessel et al, 2020). For example, Corneille and Hütter (2020) criticize conceptual ambiguities regarding implicit attitudes. They provide criticism and explanations of several often used yet different interpretations of the nature of the “implicit”. For example, what “implicit” means can be defined via the indirect assessment of implicit attitudes, the automaticity of the activation, the underlying associative processes, and combinations or qualified versions of these approaches. The LAC model as well as the present thesis follow Gawronski and Bodenhausen (2006a, 2011) in defining the “implicit” via the underlying associative processes that are expressed as spontaneous affective reactions. Corneille and Hütter (2020) criticize this approach

by stating, that implicit attitude evaluations would capture more than only associations and that there was little evidence for assumptions of associative learning as stated by APE. Furthermore, they state that the unspecified, unclear concept of “implicit” was harmful to research in general and should be replaced by more accurate definitions of whatever was specifically examined.

De Houwer et al. (2020) also discuss the perspective of attitudes being associations in memory but suggest a purely propositional perspective as an alternative to two-process models (e.g., implicit vs. explicit evaluations). Specifically, De Houwer and colleagues (2020) propose adopting a propositional perspective toward all attitudinal phenomena, even those thought to be primarily associative, such as EC and implicit evaluations. They provide evidence that implicit evaluations and other associative processes are also influenced by specifically propositional aspects such as truth-values. They do not dispute the existence of spatio-temporal, that is, associative information, but claim it was always mediated by propositional processes. Implicit evaluations were, therefore, not necessarily different in quality from explicit evaluations but merely responses evoked under suboptimal conditions. For example, implicit evaluations might represent evaluations with a lower degree of context-integration.

How can these new conceptualizations be integrated into future research regarding LAC? The justified criticism from Corneille and Hütter (2020) should be taken seriously, and all future LAC research should be careful in defining what exactly is measured when implicit attitudes are being regarded. Perhaps the term implicit attitudes could be completely replaced by associative attitudes. Taking this approach a step further to incorporate the suggestions of a propositional single-process model, as proposed by De Houwer and colleagues (2020), could, in my opinion, be implemented via two ways. First, LAC could be conceptualized as a completely propositional model with both generalization and displacement explained via propositional processes. Second, if implicit measures are being kept as a part of the LAC-approach, implicit attitudes could be

regarded as a less integrated representations of a given attitude object. Thus, while rejection information would be influential to lesser degree for implicit (versus explicit) attitudes as rejection necessitates the integration of a further source of information, implicit attitudes would not be completely independent of propositional processes. These elaborations will be considered when alternative concepts of LAC are proposed at the end of the General Discussion.

Nonetheless, despite the use of different implicit measures in four experiments, that is, the AMP in Experiments 1, 2, and 5 and an affective priming procedure in Experiment 6, the data shed little light on implicit processes potentially underlying LAC.

Failure to consistently find implicit attitude change in line with my hypothesis may not have been the result of wrong theory but may have had methodological reasons. Not only is there evidence that the number of critical trials is positively correlated with reliability (Payne & Lundberg, 2014) in general, some researchers (Tomasik & Freund, 2015) have proposed that at minimum 12 critical trials per attitude object were necessary to achieve satisfactory psychometric characteristics. In the present experiments, however, I opted to use only eight critical trials per attitude object due to time constraints, given the high number of attitude objects in LAC research. Thus, despite there also being successful AMP research using less than 12 trials (e.g. Gawronski & Ye, 2014; cf. Payne & Lundberg, 2014) the relatively low number of critical trials used to assess implicit attitude may have impeded reliable measurements.

On a general note, the requirements of LAC for the use of implicit measures are very challenging. Testing the full model demands: (a) independent (vs. comparative) measurement of several dependent variables, and (b) at least three lateral topics per focal topic in order to test the similarity hypothesis. Therefore, the number of necessary, independent measurements severely limits the choice of instruments to assess implicit attitudes, both for theoretical and for economic reasons. For example, using IATs (Greenwald et al., 1998) would be of little use when attempting

to assess attitudes non-comparatively, and using single-target IATs (Wigboldus et al., 2004) would increase an experiment's length. Additionally, every increase in the test strength of an AMP or a priming procedure via the increase in trials would also entail a significant lengthening of the respective experiment. Problems regarding implicit measurement are even more severe when novel findings by Cummins et al. (2019) are taken into account. Cummins et al. (2019) reported findings suggesting that effects of the AMP chosen in LAC-research for its economic advantages are driven by influence-awareness and, thus, cannot be considered completely implicit.

In Experiment 1, I discussed whether slight differences in similarity can be reflected on implicit attitudes at all. Following the definition of Gawronski and Bodenhausen (2006a), implicit attitudes are “automatic affective reactions” (p. 693) based on associations. Even if the AMP was assumed to measure implicit attitudes (but see Cummins et al., 2019) and considering the high effects sizes reported for the AMP (e.g., Cameron et al., 2012; Payne & Lundberg, 2014), the procedure might not be sufficiently sensitive to detect minimal differences in affective reactions. However, generalization to lateral objects of gradually decreasing similarity to a focal object might produce only minimal differences. Thus, it remains unclear whether the failure to reliably find implicit effects on every occasion was caused by a true absence of effects on an associative level or my inability to measure them.

In addition to questions regarding sensitivity to small differences in affective reactions, one might also query the specific sensitivity of associative attitudes to information invalidating previous influence attempts. On the one hand, there is some evidence that associative evaluations (vs. propositional evaluations) are less sensitive to (delayed) validity information (e.g., Gawronski & Bodenhausen, 2006a; Gregg et al., 2006; Peters & Gawronski, 2011; Petty et al., 2007). This evidence seems to support the assumption included in the LAC model that implicit



attitude change is less influenced by rejection, which contains information of a relational quality, thus, allowing for displacement when there are reasons to reject focal attitude change. On the other hand, there is also some evidence that AMP scores are equally sensitive to invalidation as propositional evaluations (Moran et al., 2017). This, however, might be due to propositional aspects influencing participants' response behavior regarding the AMP (cf. Cummins et al., 2019). Nonetheless, although the supposition that there is a relatively lowered sensitivity of associative (vs. propositional) processes to rejection is already in support of LAC, future research might consider the notion for the conceptualization and interpretation of LAC experiments, especially if a less clear-cut distinction between associative and propositional processes were to be introduced (cf. De Houwer et al., 2020).

Unsatisfactory results in measuring implicit attitude change using the AMP led to a change of methodology. Instead of the AMP, I used an affective priming procedure (Fazio et al., 1995) in Experiment 6. However, using a different procedure did not lead to the revelation of implicit LAC.

I have mentioned that the measurements I had at my disposal may have not been able to register differences in spontaneous affect toward lateral products that are, albeit of decreasing similarity to a focal product, still relatively similar toward each other. In a similar vein, it is conceivable that many of the topics used in Experiments 5 and 6 were too abstract to either elicit spontaneous affective reactions or to automatically activate associated topics. In some cases, such as with a value like "freedom" it seems thoroughly possible, even likely, that the topic elicits an automatic affective reaction and that there are associations with representations of other topics. However, this seems less likely for some other topics. For example, in the case of an "unconditional basic income", it is intuitively unlikely that spreading to lateral topics occurs solely due to existing associations without accompanying propositional reasoning about relational

information, that is, the factors that define similarity. While both the basic income and, for example, an increase in taxes can be viewed as left-wing policies and as such are similar, it seems less likely that these topics are associatively connected via a shared learning history (cf. Hebb, 1949), at least within a significant part of our sample.

On the one hand, the assumption of stronger spread when the focal topic was on a higher hierarchical level (e.g., the value freedom) is in line with my predictions. On the other hand, activation may not be solely based on hierarchy but rather on prior contact with a given topic as well as the topic's complexity and abstraction. However, I have tested neither the general accessibility of topics nor the strength of association on an implicit level. Including these measures to pretests might enhance implicit measurements in the future. Given that there is evidence that primes that are more accessible (Musch & Klauer, 2003) elicit larger effects in affective priming procedures, more abstract topics that might be less accessible may also elicit smaller effects.

Furthermore, although there is ample research showing that the AMP (Payne et al., 2014) delivers results even if primes are words (e.g., Deutsch & Gawronski, 2009; Gawronski & Ye, 2014) or if the priming has a semantic rather than an affective quality (e.g., Imhoff et al., 2011; Gawronski & Ye, 2014, Experiment 4), there is also evidence that words are less effective primes than pictures (e.g., Spruyt et al., 2002; tested in an affective priming procedure). The necessity of a high testing power to find implicit effects, as discussed above, is also highlighted by the findings of Klauer and colleagues (2007), who showed that masked priming by novel prime-words was possible but produced very small effect sizes.

To sum up, a reduced sensitivity due to the relatively low number of trials (Experiments 1, 2, and 5) and the use of abstract word-primers (Experiments 5 and 6) might have been reasons why generalization to lateral attitude objects was not detected by implicit measures. I cannot be

certain if the reported observations of implicit effects were the result of problems with the (implicit) testability of LAC or if there simply was no implicit generalization as hypothesized. On the one hand, I used multiple, partially very complex stimuli in combination with methods which perhaps were not ideally suited to measuring attitudes toward the stimuli, (and, perhaps, not enough test power). On the other hand, I did find some implicit effects, although not as regular and clear-cut as expected.

Unless one chooses to discard the whole LAC model for a lack of reliable implicit data, there are few options left but to treat implicit attitudes within the LAC framework as a “black box”. I cannot be completely sure of what associative processes were (not) happening as the result of the experimental manipulation and, therefore, I have to infer from explicit data. If explicit effects were a function of propositional acceptance or rejection of associative processes as hypothesized, I might be able to draw conclusions for the evaluation of LAC. The analyses conducted in the present research regularly returned initial explicit attitude change as a result of my experimental manipulations. If this was interpreted as propositional acceptance of initial implicit attitude change, Postulate 1 was supported. I also found explicit generalization in most experiments. Applying the same logic as before, this could be interpreted as support for Postulate 2. However, there is ample evidence of diverging implicit and explicit effects (Payne et al., 2008; Wilson et al., 2000), highlighting the difficulty of treating associative processes as a black box. Therefore, I have to conclude that there is little hard evidence to support or reject Postulates 1 and 2. Inferences drawn from explicit results are in support of the postulates, but drawing inferences is problematic in itself.

When evaluating Postulate 3, there is a similar problem, albeit one of a lesser degree, as not only implicit but also explicit effects were predicted. Effects hypothesized by Postulate 3

were generalization on an associative level and either focal and lateral attitude change (explicit generalization) or lateral attitude change only (displacement) on a propositional level.

The experiments returned evidence for explicit generalization as described by LAC. However, results for displacement as conceptualized by Glaser and colleagues (2015) are less promising. In Experiments 1 and 2, in the rejection (vs. affirmation) condition both focal and lateral attitude change were reduced, that is, there was attenuated generalization instead of displacement.

In Experiment 3 evidence indicated a displacement effect (almost) as hypothesized. Although there was no complete negation of focal attitude change in the rejection condition, there was (1) considerably less attitude change toward the focal product in the rejection (vs. the affirmation) condition, (2) a linear generalization to lateral products in the affirmation condition, and (3) the strongest LAC effect on the product of medium similarity in the rejection condition, thus, a pattern of lateral effects in the shape of a “U-curve”. However, the results indicating displacement were found in only the negative but not the positive valence condition. Additionally, according to the LAC model, explicit displacement is a result of implicit generalization. However, data regarding the predicted implicit generalization were not conclusive (Experiments 1, 2, and 6) or not assessed (Experiment 3). To sum up, while I found evidence of explicit generalization, there was only weak evidence suggesting the expected displacement effects.

The weak evidence in favor of displacement can be explained in three different ways. First, displacement exists as hypothesized but the experimental conditions to elicit displacement were flawed. In Experiments 1 to 3 the rejection conditions (reviews are fake, reviews were bought) failed to achieve a complete negation of focal attitude change; in Experiment 6 the affirmation condition (a respected party as the source) failed not to impede focal attitude change (compared to LAC). Whereas the rejection manipulation was designed with the goal to

completely negate any attitude change that had been induced by the valence manipulation, it only succeeded in reducing its impact (with the exception of Experiment 6). The difficulties in creating a successful rejection manipulation became visible not only on the dependent variables but were underlined by the results of the manipulation checks. Reviews unequivocally designated to be fake and/or bought by agencies were reported to be almost as credible as non-discredited reviews in Experiment 1, and to a lesser degree in Experiment 3.

Effects of persevering attitude change as well as difficulties of eliminating effects of previously conveyed information have been described in research (e.g., Gregg et al, 2006; Schul, 1993). Research on misinformation, for example, has shown that retracting or correcting information does not always result in the intended effect (Lewandowsky et al., 2012). These effects may explain the problem of negating focal change in Experiments 1 to 3 and may, therefore, also pose a significant problem for creating the necessary conditions to allow for displacement in future research.

Thus, if displacement existed as an effect, future research should find better ways to invalidate focal attitude change. Some ideas regarding how the negation of focal attitude change could be accomplished have already been discussed (Discussion Part I). Results of Experiment 6 might also be helpful in finding a rejection manipulation that completely negates focal attitude change in line with the influence attempt. Indeed, framing the source as a derogated party resulted in the absence of significant focal attitude change in Experiment 6. The personal relevance to participants might have been the reason why this manipulation succeeded in preventing focal attitude change. Nonetheless, Experiment 6 is no perfect illustration of the hypothesized divide in generalization versus displacement either. Contrary to predictions, I found a displacement-like pattern in the affirmation condition. Furthermore, using a source which is a

priori derogated, admired or otherwise evaluated, entails the danger of confounding rejection and valence effects.

Second, there might have been only weak evidence in favor of displacement because the assumptions stated in the LAC model are false and in reality there is no such effect as displacement. Especially in comparison to generalization, there is little empirical evidence in favor of displacement. On the one hand, the reason why only a few studies reported effects which could be interpreted as displacement (e.g., Alvaro & Crano, 1997; Steele & Ostrom, 1974) could simply be that few attitude researchers even looked for LAC in general and displacement in particular. On the other hand, even research dedicated to testing LAC, which reported findings of generalization, failed to find evidence of a displacement effect (Brannon et al., 2019; Cruz, 2019). In addition to a lack of empirical evidence, one could also argue that displacement may be unlikely from a more theoretical perspective. The LAC model adopts APE's (Gawronski & Bodenhausen, 2006a) assumption that associative reactions are propositionally confirmed by default. However, it seems also conceivable that the influence of implicit on explicit attitudes was exaggerated and associative reactions are instead overwritten by propositional reasoning in most cases (cf. Hahn & Gawronski, 2018). Thus, an associative spread of evaluation to lateral object might not necessarily result in displacement. If explicit lateral attitudes are less based on implicit lateral attitude than on propositional reasoning about the respective attitude object, implicit generalization may not be the precursor of displacement as expected from the viewpoint of LAC.

Third, the reason why displacement effects did not occur regularly in lab experiments is that displacement, even if it exists at all, may be a very rare phenomenon outside of a lab as well. In order for displacement to occur in an experimental setting or in daily life, there must be an influence attempt which is sufficiently effective to produce an initial implicit (attitude change) effect on the focal object, allowing for implicit generalization. This influence attempt, however,

must also be invalidated, subverted or countered to prevent explicit attitude change toward the focal object. Furthermore, this subversion of the initial influence attempt must be of such a quality that it succeeds in completely negating the propositional effect of the influence attempt without, in turn, eliciting a second associative spread of evaluation. If the subversion affected associative processes to such a degree that any valence immanent to the rejection manipulation was associated to the focal object, this would also not result in displacement but instead in a second generalization, spreading the evaluation associated with the subversion. One might speculate that this, at least to a degree, happened in Experiment 6. There, the rejection manipulation contained not only reasons to reject the message but also negative valence which the participants may then have associated with the focal and the lateral topics. Indeed, although results were rarely significant, many analyses for Experiment 6 returned a trend toward negative attitude change toward focal and lateral topics in the rejection condition.

Besides discussing whether the concept of displacement as proposed within the LAC model (Glaser et al., 2015) can be operationalized, exists at all or might be very rare, there is also the possibility of attempting to revise and rethink displacement and its postulated preconditions. The original concept of displacement consisted of two parts. On an implicit level, any influence attempt leads to focal and lateral attitude change. On an explicit level, the rejection manipulation completely negates an attitude change toward the focal object without affecting LAC at all. This concept of displacement, especially the assumption of absolutely no focal attitude change but completely unaffected LAC, is very strict and categorical. One might argue, that this original formulation of displacement (Glaser et al., 2015) is indeed too categorical and that a reformulation might be in order, which does not assume a complete cancellation of focal effects as a necessary precondition for displacement. There is plenty of evidence showing that a complete elimination of attitude change that had already occurred is rare (e.g., Anderson et al,

1983; Nyhan & Reifler, 2010; Pennycook et al., 2020) and that attitude change tends to persevere even if challenged (e.g. Lewandowsky et al., 2012). Furthermore, attitudes are no binary system in which a given object is either absolutely positive or absolutely negative but instead there is a continuum of evaluations ranging between these absolute positive/negative evaluations of the object (Bohner & Dickel, 2011).

In order to modify Postulate 3, displacement may be conceptualized less in terms of a categorical but rather in terms of a dimensional model. Thus, for a new conceptualization, I propose an effect pattern to describe displacement as follows:

- (1) Lateral attitude change occurs. Without (any) LAC, there can be no displacement.
- (2) Persons who perceive invalidation of an initial influence attempt show at least a partial suppression of focal attitude change. That is, an attempt to invalidate the initial influence attempt results in reduced focal attitude change in comparison to a condition without invalidation. In the present research, I found (partial) focal suppression in all experiments that contained a rejection manipulation.
- (3) Compared to focal attitude change, LAC is relatively less impacted by the rejection manipulation. LAC that is completely unaffected by rejection represents the schematic ideal of displacement. However, the LAC model itself includes the possibility of rejection influencing the evaluations of lateral attitude objects. The assumption of less LAC toward the very similar lateral object compared to the moderately similar object already includes a transfer of reasons to reject attitude change from the focal to the very similar lateral object. Furthermore, evaluations of lateral objects can be affected by deliberations about the focal object that are initiated by the rejection manipulation (Glaser et al., 2015, Postulate 4). Nonetheless, as the rejection manipulation is designed specifically to subvert attitude change toward the focal object, it should have less of an effect on the lateral objects. Therefore, in a nutshell, the core of a displacement



effect would be an asymmetry of the effect experimental conditions had on focal versus lateral attitude change. Suppression effects of a rejection may influence focal as well as lateral attitude change but are stronger regarding focal objects. Thus, in relative terms, evaluative differences regarding lateral (vs. focal) objects as a result of a valence manipulation such as positive versus negative reviews should be less affected by invalidation.

Such an effect could not be explained only by the notion of attenuated generalization as proposed in Experiments 1 to 3. If LAC effects are regarded as a function of focal attitude change, and this is the case for (attenuated) generalization, LAC should be equally affected when focal attitude change is reduced as a result of invalidation. For displacement, however, the rationale states that explicit attitude change is based on an associative spread of attitude change that occurs independently of focal suppression. Thus, focal-lateral asymmetries regarding the effect of rejection on valence evaluations can be seen as an expression of (dimensional) displacement rather than attenuated generalization.

Although this alternative conceptualization of displacement had not been hypothesized a priori, I tested it by examining differences regarding the influence of rejection on focal versus lateral attitude products and topics. Overall, results tentatively suggest a stronger effect of rejection on focal attitudes. In addition to generally smaller focal and smaller lateral effects in the rejection condition (attenuated generalization) in Experiments 1 to 3, reductions of effects were even larger for focal (vs. lateral) evaluations (displacement). Despite this support for the alternative conceptualization of displacement, results were not unambiguous. I did not find the effect in Experiment 1 at all and in Experiment 3 there was a focal-lateral asymmetry but no LAC in the rejection condition. In Experiments 4 and 5, the design did not allow for testing of the revised displacement hypothesis. In Experiment 6, result patterns were nearly parallel in the affirmation and the rejection condition. For Experiment 6, I suggested that the affirmation

condition was, in fact, a rejection condition with a more positive inherent valence. Although the findings of stronger attitude change toward the moderately similar topics (vs. focal topic, other lateral topics) seems to suggest displacement, the criteria described above for displacement cannot be applied to the results of Experiment 6.

Additionally, there is an alternative interpretation of the stronger effects of rejection on focal evaluations. Effects of the valence manipulation were stronger for focal (vs. lateral) objects. Therefore, the finding of relatively stronger effects of rejection on focal objects might have occurred because there was a larger initial valence difference that could be affected.

To sum up, while there is some evidence indicating that displacement, in a revised version, occurred at least in some experiments of the current research, results are hardly unambiguous.

Above, I discussed altering the concept of displacement insofar as to view it as a less categorical construct. I also discussed the possibility of a more fluent interaction, a parallel influence of both generalization and displacement (Experiment 6). Overall, evidence suggests that invalidation of an initial attempt to change one's attitude, influences focal and lateral attitudes, albeit not in a perfectly parallel manner. However, there was little evidence to completely support Postulate 3 of the LAC model in its current form.

### **Moderators**

Experiments 1 to 6 also tested potential moderators of LAC. I found strong evidence for moderation by similarity, some evidence for moderation by hierarchy, and some indication of moderation by preference for consistency.

### ***Similarity***

In Experiments 1 to 3 I found generalization moderated by similarity, that is, linear generalization (on an explicit level). In the rejection condition of Experiment 3 I found quadratic

effects as expected for displacement. However, the effect only occurred in one of the valence conditions. In Experiment 4 results for similarity did not match my hypotheses. In Experiment 5 examining effects of similarity was not the focus of the analyses. In Experiment 6 I found result-patterns, indicating an effect of similarity as hypothesized for displacement, albeit not only in the rejection but also in the affirmation condition. I have discussed the latter effect as the possible consequence of both sources being recognized as out-groups, leading to stronger effects for the topic which was not identified with the party while still close enough to the focal object to be affected by a spreading of elaboration. In sum, while not conclusive, plenty of evidence supports the assumption that LAC is moderated by the similarity between focal and lateral topics. Evidence is also in line with results found by other researchers (e.g., Brannon et al., 2019; Crawford et al., 2002; Shook et al., 2007), who also reported a moderation of generalization by similarity.

There are however, some conceptual problems with the operationalization of similarity. I did not consistently apply a clear definition of what exactly constitutes similarity or strength of association for that matter. I used different approaches to assess similarity in the pretests: The pretests for Experiments 1 and 3 assessed similarity via paired comparisons whereas the pretest for Experiment 2 used rank-order evaluations of similarity. For Experiment 4 I had pretested subjective expectations regarding LAC. Attitude relations for Experiments 5 and 6 were pretested with a spatial arrangement and multidimensional scaling (MDS) methods. In the case of Experiment 6 the spatial arrangement was combined with correlation scores before being subjected to MDS.

Similarity is relative (cf. Waldzus & Mummendey, 2004) and dependent on the stimuli present. Regarding LAC, this might reduce ecological validity, that is, whether results obtained with LAC experiments can be valid indications of effects in an environment with a completely

different set of available stimuli (see Part II). Additionally, the relativity of similarity poses a problem in terms of creating the experimental environment and stimuli to test hypotheses derived from LAC. Even if extensive pretesting is conducted, it still only yields limited insights into similarity in absolute terms, instead it indicates whether a stimulus is very, moderately, or hardly similar compared to the other pretested material. For once, this means that LAC experiments need several lateral objects, if only to provide comparison categories. Secondly, this makes a priori hypotheses on generalization and a posteriori interpretations dependent on estimations of similarity. Nevertheless, despite the issues discussed, the experiments provided much evidence suggesting LAC effects depending on similarity. Within the frame of pretested stimuli, hypotheses regarding LAC moderated by similarity were supported in a majority of the present experiments. Effects of similarity were more in line with the hypotheses in Experiments 1 to 3 than those in Experiments 4 to 6. This might have been the consequence of the similarity being easier to recognize when focal and lateral objects belonged to the same category (=brand), as was the case in the first three experiments.

**Future Research on Similarity.** Instead of experiment-based stimuli, future research might look toward larger databases collecting similarities (or connotative relations, spatial relations) of a much broader set of stimuli. While this would mean a self-restriction in terms of available stimuli as well as specific demands on the nature of similarity (cf. Part II) it would solve the issues of similarity as a construct describing perceived relation within a small set of topics. The dataset on the stereotype-based proximity of different occupations by Imhoff et al. (2018), the Novel Object and Unusual Name (NOUN) Database by Horst & Hout (2016) as well as the “Multidimensional Scaling Database with Similarity Ratings for 240 Object Categories from the *Massive Memory* Picture Database” (MM-MDS; Hout et al., 2014) all represent approaches of describing relations between a larger set of stimuli using multidimensional scaling

procedures. Whether using an existing database or creating a new one, basing LAC-experiments on similarity data that includes wider descriptions of stimuli-relations might enable an even more conclusive test of moderation by similarity, albeit without eliminating the ambiguities immanent to the concept of similarity altogether. Alternatively, previously unknown or objectively scalable stimuli could be used, which would allow for either experimental learning of similarity (Glaser & Kuchenbrandt, 2017) or rather objective ways to create similarity such as morphing (Verosky & Todorow, 2010).

Potentially, it might also be worth considering a conceptualization of LAC less dependent on an exact a priori knowledge of degrees of similarity. This will be discussed below (LAC-revised). Finally, I have discussed effects of similarity being potentially either direct (focal to lateral) or indirectly conveyed via higher-order topics (see Part II). In Experiments 4 to 6, in parts, I tried to disentangle these processes. Nonetheless, it was not the specific research aim to test the relative influence of both processes and little conclusive evidence could be gained. This provides another goal for further study.

### ***Hierarchy***

In Experiments 4 and 6 I found some evidence of LAC being moderated by the hierarchical status of the focal object. Although results were not clear-cut enough to be completely satisfactory and allow acceptance of the moderation by hierarchy hypothesis, they were promising and warrant further exploration. There are however some issues that have to be discussed.

More precisely, there are two main issues, the first relates to the concrete operationalization I used, whereas the second is a more abstract, critical scrutiny of the basic premise of LAC toward implicit effects of hierarchical relations.

In Experiments 4 to 6, I used value–policy relations to operationalize moderation by hierarchy. This might have created some problems on its own. The theoretical assumption behind moderation by hierarchy is that the evaluation of the hierarchically higher topic serves as a premise for the evaluation of the hierarchically lower topic. The evaluation of the policy can be inferred from the evaluation of the value. Their relation, however, is the relation between two related but largely separate entities. In contrast, other possible operationalization of hierarchy such as group–group member (Glaser & Kuchenbrandt, 2017) or ideology–policy (or ideology related constructs such as SDO; as suggested by Glaser et al., 2015) are characterized by the topic of the lower hierarchical level conceptually being a part of the topic of the higher hierarchical level.

If LAC is viewed from a connectionist perspective (e.g., Smith & Conrey, 2007), generalization can be understood as a partial activation of the same pattern. Intuitively, this seems more likely if one object is conceptually a part of the other. Thus, the choice of concepts to define the hierarchical structure might have reduced potential LAC effects. Furthermore, in Experiments 4 to 6 the experimental treatment of values mirrored that usually used toward attitudes. That is, experimental manipulation was used in order to change participants' evaluation of the values' valence, which was then assessed via single or multiple items asking participants directly how much they (dis)liked the respective value. Given that most of modern value research (e.g., Schwartz, 1992, 2012; cf. Rohan, 2000) considers value change more in terms of changing priorities within an interrelated network (or circle) of different values, this might not have been the ideal kind of assessment. In Experiment 6 I did some explorative analyses and found tentative evidence suggesting changing patterns of value–priority (cf. Schwarz, 2012) adding to the effect of evaluative change toward values in Experiments 4 to 6. Thus, although the approach I used (as well as, e.g., Blankenship et al., 2012) yielded interesting results, a more priority-based approach

might have returned even more conclusive results. For example, instead of value-evaluations, I could have asked for the importance of one value compared to the importance of another, dissimilar value.

Finally, the use of values as hierarchically high-level objects has to be considered within the context of the difficulty in testing the LAC model as a whole. Testing LAC requires more than one lateral topic. If the requirements due to the similarity-related hypotheses (linear vs. quadratic trends) are combined with the assessment of topics of different levels of hierarchy (high vs. low), at least six lateral topics are necessary. These topics would consist of two sets of stimuli with parallel gradients of similarity and equal cross-hierarchical similarity: Y1, Y2, and Y3 of low and high hierarchy categories should be equally similar to both focal objects of different hierarchical levels. This is a further demand to add to the already difficult preconditions to test LAC. Problems have become evident in Experiments 4 and 6. On the one hand, in Experiment 4 extensive pretesting had identified lateral values and policies that provided a good fit for the criteria described above. This, however, might have led to the neglect of other characteristics (see Experiment 4). In Experiment 6, on the other hand, varying similarity may have been a potential alternative explanation to moderation by hierarchy.

Besides concrete problems of operationalization, there are also theoretical issues with the assumption of moderation by hierarchy. LAC-predictions (Glaser et al., 2015) are straightforward. Attitude change on a higher (vs. lower)-order focal object results in stronger LAC. Indeed, on a propositional level, the assumed moderation by hierarchy is very plausible. If the higher level object constitutes the premise of the evaluation of the lower level topic, changes in the opinion toward the first topic change the basis of evaluation for the second; thus, LAC becomes likely. There is an asymmetry immanent to this relationship as there is less reason to reconsider a fundamental premise on the basis of attitude change toward a single, specific topic.

In a similar vein, if the lower level object is part of the higher level object, such as an exemplar that belongs to a category or a policy that is part of an ideology, propositional asymmetrical effects seem also likely. Evaluations of exemplars or specific topics can be inferred from evaluations of the category to which the specific object belongs. If specific individuals do not like any fruits at all, they also do not like pears. If these individuals do not like pears, however, they do not necessarily dislike all fruits. Although classical research on the contact hypothesis (Allport, 1954) has shown that, under the right circumstances, attitude change toward an exemplar can generalize to the category, the reverse seems more likely. This, however, is only true from the perspective of effects resulting from propositional reasoning.

If generalization (or displacement for that matter) is viewed as a spreading of activation along edges of a semantic or connectionist network (cf. Anderson, 1983), there is less support for the assumption of stronger LAC if there is focal change on a hierarchically higher object. I have described higher-order attitudes as being characterized by being centers of cognitive structures (see introduction), linked to many (lower-order) topics. In terms of activation-distribution this should lead to a spread to a larger amount of connected nodes (topics) but with a reduced strength, as the load is shared among more different targets (cf. Anderson & Pirolli, 1984; Van Overwalle et al., 2001). Additionally, in terms of cognitive dissonance, the notion of a central position within a network leads to two assumptions.

First, a change of evaluation toward the higher order attitude would create dissonance if the focal object was “surrounded” by lower-level attitude objects that are related but differently evaluated, increasing the pressure to reject attitude change toward the focal object.

Second, attitude change toward a central object might lead to a spreading of evaluation to several interconnected nodes (topics), thus, increasing pressure to regain consistence by changing the attitude toward any single subordinate object. Finally, on an intuitive level it seems more



likely that an assumption of associative spread directionally favors a concrete to abstract causality—therefore the opposite of the assumption for propositional processes. If evaluations of concrete topics are based on an abstract concept, an automatic activation of the topic’s evaluative premise seems more likely than an activation of a specific (arbitrary) topic as a result of the activation of the superordinate object (or even category). To illustrate: When someone sees a pear, the category of fruit is easily available. However, when the category of fruit is activated, several different specific fruits are activated, perhaps with a focus on more prototypical or well-known fruits but without any specific focus on the pear. Thus, while larger LAC effects as the result of focal change on a higher hierarchical level is likely as a propositional process, the same is not necessarily also true on an associative level. Indeed, it might even be the opposite; focal change on a lower hierarchical level might lead to larger associative LAC effects on the higher-level object.

With regard to LAC as a potential tool for eliciting attitude change in politics, framing a message to target a value offers several advantages. As shown by Blankenship et al. (2012) and replicated in the present thesis, values can be attacked in order to elicit attitude change toward related policies. Furthermore, although evidence is not unambiguous, I found some support for the assumptions that LAC effects are stronger if based on focal change toward a hierarchically high (vs. low) topic such as a value. Thus, there is first, tentative evidence in favor of the moderation by hierarchy hypothesis. Finally, given the centrality of values (Feldman, 2003; Thagard, 2015), LAC would suggest that attitude change toward values would not only result in stronger but also in broader (i.e., more) LAC effects—a hypothesis that should be tested in future research.

**Future Research on Hierarchy.** So far, I have tested moderation by hierarchy via values that presumably constituted the basis of evaluation of specific policies (cf. Blankenship et al.,

2012, 2015). Given the methodological problems I discussed, one might consider using a set of stimuli with less abstract relations. For once, one could use social groups as higher level stimuli and group members as lower-level topics. This has already been carried out with some success by Glaser and Kuchenbrandt (2017). An operationalization of using groups and group members has the advantage of having a clear measure of relations, as one is part of the other.

In a similar vein, ideology or ideology-related constructs such as SDO could be used as higher-order topics with related policies as lower-level attitudes objects (as suggested by Glaser et al., 2015). Compared to value–policy relations this might have the advantage of clearer relations between ideology and policy. A policy is not only derived from an ideology but may conceptually also be seen as a part of it. However, depending on operationalization, the problem of unclear cross-hierarchical similarity would remain if ideology–policy relations were used to represent hierarchical relations. While creating an experiment to test if attitude change toward an ideology changed an attitude toward a related policy more than vice versa seems unproblematic, testing whether attitude change toward an ideology (vs. a policy) affected a third, moderately similar policy to a larger degree is more difficult and more dependent on a priori relations. Additionally, there is plenty of evidence that many people have no concept of what (policies) actually constitutes an ideology (Jost, 2006). Therefore, to provide clear evidence for a moderation by similarity, it might be more meaningful to use more abstract stimuli, perhaps combined with a learning paradigm, that allows for a combination of similarity and hierarchical levels.

On a more theoretical level, it would also be interesting to test not only the strength of generalization as a result of attitude change on a higher level but also the range of generalization. Perhaps future research could involve a higher number of lateral attitude objects, expecting a greater reach of generalization as a result of high (vs. low) level focal change.

### *Preference for Consistency*

While I found some evidence in favor of a moderation by experimentally induced Pfc (Experiments 3) as well as trait Pfc (Experiment 6), in Experiment 5, the introduction of trait Pfc did not alter generalization effects. Nevertheless, some of the results tentatively suggest a moderation of LAC by Pfc as hypothesized—an assumption which is also in line with literature on indirect attitude change. For example, the previously discussed computational model by Jung et al. (2018) suggested that minority influence elicits social change. The model, however only worked if cognitive rebalancing, that is the alignment of one attitude to another is included. Nonetheless, further research is required to deliver a verdict on the function of Pfc for LAC. As previously discussed (Experiment 3), one aspect that should be examined regarding Pfc is the hypothesized two-step process of Pfc increasing focal change via attitudes being aligned to the valence immanent to the persuasive attempt and Pfc increasing LAC via lateral attitudes being aligned to the (changed) focal attitude. Future research might also include increasing the salience of the consistency motive (cf. Cialdini et al., 1995).

### *Further Potential Moderators of LAC*

Some of the moderators proposed by Glaser et al. (2015) have not been specifically tested in the present research (e.g., diagnosticity), others have only been brushed. For example, while attitude strength, as tested in Part II, can be considered to be related to processing effort (Petty & Cacioppo, 1986), processing effort itself has not been tested. These aspects should be examined in future research. Additionally, further concepts could be relevant for the likelihood of the occurrence and strength of LAC effects. A concept would be a relevant moderator of LAC if its expression influenced the strength of generalization and displacement as a result of focal attitude change.

**The Construal Level of Attitude Objects.** Construal level theory (CLT; Trope & Liberman, 2010) describes concrete versus abstract thinking as a function of psychological distance (between the object and the self). In the context of the present research about higher-order objects, Trope and Liberman (2010) describe values as “relatively abstract and decontextualized” (p. 22). Thus, although seen as “high-level behavioral guides” (p. 22), according to CLT they will be mostly applied to psychologically distant situations (Eyal et al., 2009). A similar process is assumed for the effect of ideological orientation on more concrete policies. The more distant a policy, such as increasing the deportation of illegal immigrants in the distant (vs. the near) future, the more important the ideology’s assumed influence. Therefore, CLT supports the assumption that higher-level structures influence LAC on specific attitudes.

More importantly, CLT could also be incorporated into LAC theory. The construal level of attitude objects could be relevant to LAC via two processes. First, CLT assumes a matching of construal levels, that is, abstract concepts are more relevant for decisions regarding event that are far away, concrete concepts are relevant for decision regarding events in the near future. It seems not to be too far-fetched to assume, that a matching of the construal levels of attitude objects is also indicative of (a) an association between two attitude objects and (b) a similar basis of propositional evaluation. Thus, LAC should be stronger when focal and lateral attitude object are construed similarly. Second, according to CLT and as illustrated above, a moderation of LAC by the hierarchical level of focal change might in turn be moderated by psychological distance. LAC from attitude objects of a higher to a lower hierarchical level should be stronger regarding lateral topics of a more distant nature. This could easily be tested within a LAC framework, such as by adding a date, near vs. distant, to specific policy suggestions.

**Beliefs.** Beliefs are conceptualized as a person’s estimates that their knowledge is correct or that an event has happened or will happen (Wyer & Albarracin, 2005).

Yi (1990) reported evidence of indirect attitude and belief change. In his study, an attempt to change the belief that a car would possess certain attributes also resulted in change toward previously unmentioned beliefs as well as in attitude change. The indirect attitude and belief change was moderated by belief confidence. These results contain several aspects which may be relevant to LAC. First, the results indicate that indirect change might not be restricted to attitudes but may also occur regarding beliefs. Second, they underline the possibility of confidence (attitude strength) influencing LAC (also see Blankenship et al., 2012, but for results Experiment 4).

Third, according to Fishbein (1976) an attitude toward a given object is the result of (a) the belief that the object contained a certain attribute and (b) the evaluation of that attribute. From this perspective, my attempts to induce rejection can be viewed as an attempt to change participant's beliefs about the positive or negative attributes of the attitude object. Importantly, beliefs are estimates and vary in strength (Wyer & Albarracin, 2005), thus varying degrees of the belief that a given attitude object possesses an attribute might influence the degree to which there would be generalization versus displacement (see below, LAC-revised). Furthermore, generalization could also be understood as a primarily propositional process (see below, LAC-revised). In this case, generalization, or rather, the degree to which lateral attitude change is a function of focal attitude change depends on the belief that lateral evaluations can indeed be derived from focal evaluations as well as reasons to change them. Thus, the strength of the belief that change toward X was relevant to change toward Y would moderate LAC.

### **Lateral Contrast**

In Experiment 5 and to a degree also in Experiment 6, I attempted to find evidence for lateral contrast. Lateral contrast was defined as LAC with an opposite valence change to that immanent to the persuasive attempt and, therefore, focal change. That is, if an influence attempt

and resulting focal change were of a positive valence, lateral contrast would suggest attitude change toward a more negative valence for lateral topics.

I have argued that lateral contrast is easily conceivable as the result of a process of reasoning. This assumption is also supported by the results reported by Maris et al (2016). However, whether associative lateral contrast can even exist is debatable (cf. Deutsch et al., 2006, Mayo, 2015, Thagard, 2010; see Experiment 5). An associative contrast between a focal and a lateral attitude object would require additional relational information. That is, there would be a necessity for the association between X and Y to be qualified by the information that the association is opposite in nature. Whether relational information (a) can be a part of multi-layered associative structures, (b) is always propositional in nature, or (c) would make a distinction between associative and propositional void is being discussed, to my knowledge without a conclusive result (cf. De Houwer et al., 2020; Gawronski & Bodenhausen, 2018)

Nevertheless, even if associative, thus, implicit contrast were impossible, explicit contrast effect could also be explained by an interaction of associative and propositional processes. If there is associative spreading from a focal to lateral topic, the change toward the lateral topic might become obvious to people. This, in turn, might induce a propositional elaboration of the subject. This elaboration might then lead a person to a conclusion opposite to the affective reaction triggered by the focal effect (cf. Glaser et al., 2015, – Postulate 5). If propositional reasons are strong enough to reject the automatic evaluation, which had been in line with the focal effect, an associative spreading concurrent with focal change could initiate reasoning leading to an explicit contrast effect.

Nonetheless, the results I found in Experiments 5 and 6 cannot solve the question as to whether there is associative contrast or explicit contrast only to a satisfactory degree. While theoretical considerations seem to favor the assumption of explicit-only lateral contrast, I found

indications of associative contrast in one experiment. Thus, future research may be necessary to clarify the issues. Experiment 5 returned few interpretable results, possibly for methodological reasons. In Experiment 6, I found lateral contrast on an explicit as well as on an implicit level. However, despite the temptation to view this result as evidence for the theory of associative (and propositional) lateral contrast, it hardly suggests anything but the existence of explicit lateral contrast, which may or may not be based on implicit contrast. Given the lack of other hypothesized implicit results in Experiment 6, I cannot be certain whether the collected implicit data reflects true (non-)effects, that is, no implicit generalization but implicit contrast, a lack of sensitivity of the measuring devices, or false positive results.

Thus, there is some evidence that focal change can lead to attitude change contrary to the initial information and, thus, focal attitude change. However, I have only results of Experiment 6 to clearly support explicit lateral contrast and little evidence that can help to discover which process might be underlying explicit lateral contrast. Nevertheless, the results warrant further exploration of lateral contrast as a part of a revised LAC model.

Testing LAC in a social domain was the specific goal of Experiments 5 and 6. In Experiment 5, I assessed the values freedom and equality as socially relevant concepts that also seemed to be ideal for experimentally manipulating contrast. These values are perceived as being in an obscure relation to each other with the viewpoint varying between the extremes of them being either mutually reinforcing or opposing values. Nevertheless, for future research it seems advisable to examine the concept of lateral contrast in another way. On the one hand, it would be simpler and less dependent on a successful second manipulation (i.e., a contrast manipulation) to test lateral contrast with topics having an opposite nature that is already established and widely accepted. Although, to some extent, this has been done in Experiment 6, even more clear-cut a priori contrasting topics should be used. On the other hand, if an experimental manipulation is

used to define the relation of two topics, it would make sense to consider using previously unknown stimuli (e.g., aliens, see Glaser & Kuchenbrandt, 2017) or very abstract stimuli (e.g., beans, Shook & Fazio, 2009; or geometric shapes, e.g., Bierley et al., 1985). Furthermore, regarding future research, changing the sequence of manipulation attempts and measurements in order to avoid possible interaction effects (Experiment 5) would constitute a potential improvement.

### **Implications of Findings for the LAC Model**

What do the results acquired in Experiments 1 to 6 mean for an evaluation of the entire LAC model? For once, the present experiments highlight the importance of lateral (indirect) attitude change per se. Nearly every time a focal attitude was changed there was also attitude change toward another, related, topic. Furthermore, the experiments returned evidence in support of several hypotheses derived from LAC such as generalization and moderation by similarity. However, I was not successful in finding sufficient evidence to conclude that the current conceptualization of “LAC-as-a-whole” was correct. I have already discussed the mechanism underlying generalization versus displacement (Postulate 3) and the problems with implicit measurements. Thus, to put it in a nutshell, LAC theory as of yet suffers from two major problems: theoretical issues with the notion of displacement and general testability.

Up to this point, the collected data have not been conclusive for some hypotheses derived from LAC theory, especially those regarding Postulate 3, that is, generalization or displacement depending on focal rejection. In the discussion of Postulate 3, I elaborated on reformulating LAC into a less strictly categorical model. Results indicated that even participants who had received invalidating information still changed their focal attitudes, which then generalized to lateral attitudes. However, there was also evidence that the effect of invalidation was relatively stronger



for the focal (vs. lateral) topic. Therefore, I proposed defining displacement as lateral attitude change that is relatively less affected by invalidation information.

In Experiment 6, results again indicated focal attitude change that generalized to lateral topics. However, the pattern of lateral effects was consistent with displacement hypotheses—in both the rejection and in the affirmation condition. This might have been the result of both conditions actually being displacement conditions. However, conditions differed regarding focal evaluations as a result of the valence immanent to the source, which may have generalized to the lateral topics. Both previously described results indicate that there is no clear-cut distinction between generalization and displacement. It seems that it might not be enough to formulate displacement less strictly, but to consider giving up the separation of generalization and displacement altogether.

The elusiveness of displacement and the failure to find clear-cut evidence for two distinct processes—generalization and displacement—poses the question of the general usefulness of a two-process model<sup>37</sup>. Instead of postulating that, depending on environmental or experimental conditions, either one or the other process and outcome emerges, it might be more sensible to view generalization and displacement as a single process with generalization being the default that is moderated by rejection (invalidation). The influence of the moderator invalidation could be considered to be dependent on applicability, mirroring the original LAC assumptions regarding the moderation of displacement effects by similarity between focal and lateral objects. Conceptualizing invalidation as a moderator of generalization would provide a better explanation

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<sup>37</sup> One might argue, that the distinction between generalization and displacement does not constitute a two-process model as both generalization and displacement are explained by the same process. The difference would therefore not be a difference of two distinct processes but that of one process with two categorically different outcome expectation patterns. Nonetheless, the aim of the alternative conceptualization described is to replace the strict categorical distinction in either generalization or displacement (processes or outcomes) and replace it with a single but more nuanced and flexible process.

of the results found in Experiments 1, 2, 3, and 6. In Experiment 1, invalidation attenuates all generalization; in Experiments 2 and 3 invalidation attenuates generalization with larger effects on the focal object which is the prime target of the invalidation attempt; in Experiment 6 invalidation attenuates generalization with larger effects on the focal object and the most similar lateral object. The latter result is in line with LAC, as reasons to reject the focal object can also be applied to the most similar topic. However, giving up the heuristic clarity of a two-process model in favor of a single-process model focusing on a process which is influenced by a moderated (applicability) moderator (invalidation) would not help to simplify an already complex model.

There is also the option of re-conceptualizing LAC while taking both the present data into account and keeping the clarity of two separate processes. Generalization and invalidation could be viewed as two parallel, competing processes, with their interaction and relative strength determining the outcome of LAC. In this line of thinking, the focus is less on displacement as an outcome and more on invalidation as a condition leading to a specific outcome. Indeed, Postulate 3, formulated as an intersection deciding the path of LAC processes, has probably been somewhat artificially exaggerated in its function as the primary junction of LAC. Although formulated as a two-process model (but see Footnote 37), LAC theory never claimed the pathways of either generalization or displacement were in fact distinct processes. Rather, the conceptual elegance of LAC is that a single underlying process is responsible for both effects. The labeling of an observed pattern as either generalization or displacement is conceptually an a posteriori event. If there is focal and lateral attitude change (implicit and explicit), it is generalization; if there is implicit generalization and only lateral explicit attitude change, it is displacement.

This should not derogate LAC predictions as circular (for a brief discussion of circular argumentation in psychology see, e.g., Hahn et al., 2005). LAC is very clear in a priori

assumptions about which hypotheses can be derived from environmental factors in order to predict generalization and displacement. Nevertheless, as previously suggested, the underlying one-process structure opens up the option of restructuring the model to emphasize the single process that can explain different variations of LAC outcomes. Thus, LAC could result in any outcome, from complete generalization to complete displacement. Nonetheless, the outcome would be a function of moderating factors, including the applicability of information invalidating aspects of the initial influence attempt to focal and lateral evaluations.

However, whereas the distinction in generalization and displacement might not constitute a two-process (but: outcome) model, a distinction in associative and propositional processes certainly does. Indeed, it might be necessary to have another look at the implicit and explicit processes underlying LAC. For example, De Houwer and colleagues' (2020) suggestion that all process were propositional could be adopted for LAC. Furthermore, if the assumption of a completely categorical rejection or affirmation of the influence attempt were dismissed, new issues would emerge. For example, if the process of generalization is dominated by competing influences of the negating information and the share of the initial persuasive information that remained after the experimental attempts to rule it out completely, a specification of the "success rate" of the invalidation was necessary in order to make predictions about LAC effects.

Additionally, when several lateral topics are taken into account, an interaction with the degree of similarity to the focal object becomes possible. To specify, rejection (if working) might be more or less diagnostic than the initial information driving the focal effect. For example, there is research showing that (implicit) evaluations are quite insensitive to single pieces of invalidating information (Cone & Ferguson, 2015). On the other hand, the same authors also showed that if the information was "deemed highly *diagnostic* of the target's true nature" (p. 1), a complete reversal of implicit attitudes followed. Diagnosticity may be constituted by an

interaction of similarity and quality of information, negative information may be highly relevant for the focal topic but less so for the lateral objects. LAC effects resulting from both initial information eliciting focal change and invalidation might be asymmetrical. As the applicability of the initial influence attempt as well as the invalidating information might vary regarding focal versus lateral attitude objects, a priori LAC hypotheses would become more complicated.

Besides deliberations of a theoretical nature, the LAC model might also have a problem with testability. In order to test the theory several preconditions have to be met, a difficulty that is increasingly problematic if moderators are included. In order to test hypotheses regarding generalization versus displacement, several attitude objects as well as a working invalidation manipulation are necessary. Attitudes toward all attitude objects have to be measured on an explicit and an implicit level—and the most economic implicit measure, the AMP, might not measure implicit attitudes at all (Cummins et al., 2019). Additionally, not just any attitude objects but objects with a specific similarity-based relation to each other are needed. If a moderator such as hierarchy is also examined, the necessity of using similar (high, medium, low) stimuli is qualified by additionally necessary qualitative relations between topics (e.g., acceptance or rejection of one constituting the premise for the evaluation or the other). Future research needs to focus on designs that are as simple as possible while still being able to test LAC effects.

Furthermore, my deliberations have primarily been derived from observations of explicit response behavior. When writing about generalization, I have in fact (mostly) written about explicit focal and explicit lateral effects. When I wrote about displacement, it was about explicit lateral attitude change in the absence of (or a relatively stronger reduction of) explicit focal attitude change. I was not able to show the combined patterns of implicit and explicit evaluations and, unfortunately, I cannot be certain why. The problems of implicit measurements in the context of LAC have already been discussed. However, it is also important to consider what this

means for deliberation about the LAC model as a whole. Not only in terms of the basic value of testability but also in terms of the interpretation of the data collected in the present research.

Mostly, I followed the assumption that the underlying process of LAC based on APE (Gawronski & Bodenhausen, 2006a; Glaser et al., 2015) is basically correct, and that LAC was an automatic spreading of association combined with propositional deliberations about affirmation versus rejection. As a result of the present research, I, for example, proposed the need for LAC to be adjusted by including the option of partial acceptance/rejection as a result of a moderation of generalization by invalidation information. However, in truth, the data collected provide little evidence in favor of the assumption that there is always implicit generalization. I argued that the reason for a lack of implicit results in line with the hypotheses was not necessarily of a theoretical nature but rather a problem of measurement. Although this might very well be true, it is also possible that the premise that there is always a spreading of evaluation on an associative level is false (but see, e.g., Gawronski & Quinn, 2013; Hughes et al., 2018), or at least could not be replicated by me. If this were the case, I could hardly explain the explicit lateral effect by an affirmation of assumed, yet invisible, implicit effects. Rather, there is the alternative that all effects, focal and lateral, can be explained via propositional reasoning alone.

Although there were LAC effects toward topics that had not been mentioned at all, it is important to remember that all measurements were conducted in an experimental setting. The problem, which thus emerged is similar to Schrödinger's famous cat (Schrödinger, 1935, cited after Monroe et al., 1996). If I did not ask for it, I could not know whether there was any lateral attitude change. If I asked for it, I introduced new factors, which may explain the results. Outside of a laboratory it seems possible that lateral processes initiated by an influence attempt toward a focal topic remain inaccessible to a person, allowing them to bypass propositional deliberations. Within the laboratory setting however, the "not even mentioned" aspect of LAC remains true

only until the assessment of explicit attitudes (which usually, is not very long). As soon as participants are asked to evaluate a lateral topic it is likely that they form subjective theories (cf. Wänke, 2007) on why they were asked this question and what this question has to do with the (very limited amount) of other information they have received. This does not only mean that moderation by similarity has to be viewed in the context of a stimulus-poor environment, it might also increase propositional deliberations altogether. This, in turn, could lead to stronger propositional generalization and displacement.

At this point, whether it is about testing the original LAC model or an adjusted version, regarding future research it is paramount to consider the complete pattern of implicit and explicit effects. Otherwise, one would remain in the realm of speculating on what an explicit effect might be revealing about an invisible underlying effect.

#### **LAC Revised – Toward a Single-Process Model?**

When discussing the present state of LAC research and, thus, implications for a refinement of the model, some issues should be addressed: (1) The implicit data I collected cannot help to explain underlying LAC processes. (2) Even if one were to assume that the lack of support by implicit data was due to methodological reasons and implicit processes were as expected, albeit not observable, hypotheses regarding Postulate 3, the core of the LAC model, were only partially supported at best. Neither Part I nor Part II of the present research nor Brannon et al. (2019) or Cruz (2019) found clear evidence in favor of displacement as described by LAC theory (Glaser et al., 2015). Additionally, the revised, less categorical definition of displacement (see Postulate 3) was also only partially supported. (3) Although evidence for the moderators of similarity, hierarchy, and PFC was not unambiguous, results seem to support their hypothesized role in general. (4) There was some evidence for lateral contrast.

While the present research did not examine Postulates 4 to 6 expressly, I believe the results (especially with regard to Postulate 3) warrant the attempt to re-conceptualize LAC. Some ideas have already been discussed above; nonetheless, three potential alternative conceptualizations of LAC are described here in detail. All revised models of LAC focus on propositional processes as implicit results of the present studies had little conclusiveness. For economic reasons, the revised models display only the core assumptions of LAC and not all potential moderators nor lateral contrast. These concepts should, nevertheless, be tested in future research.

### ***Revised Model 1***

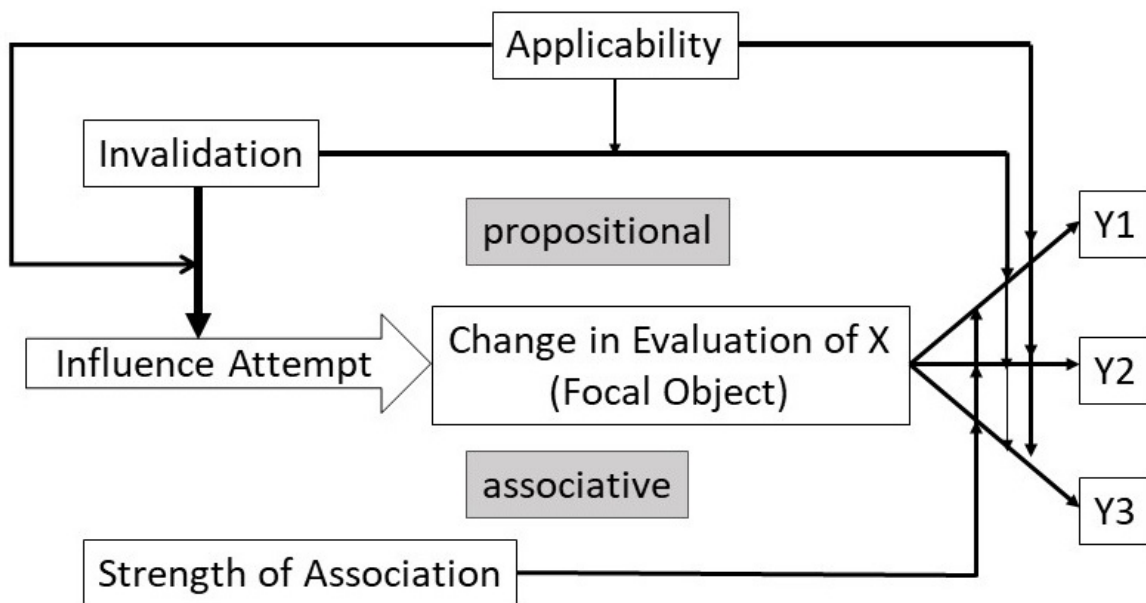
Currently, displacement is hypothesized as an alternative to generalization, triggered by invalidation (=rejection) of the influence attempt. Whether displacement is described as LAC-only or relatively stronger LAC (vs. focal change), the principle that there is either generalization or displacement is the same. Alternatively, the notion of displacement could be dropped completely and replaced with a focus on invalidation and applicability (see Figure 30).

Following this approach means that the assumptions regarding the general principles of generalization are still considered to be valid, that is, lateral attitudes are a linear function of focal valence and distance between lateral and focal object. However, invalidation would be assumed to moderate the process of generalization, and explicit attitudes would partially be based on implicit attitudes. If an initial influence attempt is being invalidated this should result in a decreased focal effect. Generalization effects, as a consequence of that (decreased) focal effect, are also affected. Reasoning about the focal and lateral objects, might lead to generalization. For example, if a ban on plastic bags is evaluated as being positive because it is environmentally friendly, a CO<sub>2</sub> tax is probably also a good idea (cf. LAC Postulate 4). If an invalidation such as “the source is a biased environmentalist” reduced focal change, LAC would also be affected: “If

these environmentalists cannot be trusted anyway, why should I worry about CO<sub>2</sub>.” However, the effects of invalidation on generalization (vs. on focal effects) are assumed to be less influential.

**Figure 30**

*Revised LAC Model 1*



*Note.* For reasons of clarity, potential effects of invalidation on associative processes (cf. De Houwer et al., 2020) are not displayed.

First, the invalidation is targeted at the influence attempt which in turn targets the focal object. Invalidation, however, might not succeed completely (“even if these environmentalists are a bit radical, there are still some good arguments”), allowing for generalization. If successful in significantly decreasing the initial influence or even negating it completely, thinking about the subject might still result in LAC (“These people just want to sell me their paper bags, but protecting the environment is still a just cause, which can be helped by a CO<sub>2</sub> tax”).



Second, the impact of invalidation depends on applicability. For once, this is what LAC (Glaser et al., 2015) described as a moderation by similarity. If a lateral object is of a moderate similarity to a focal object, reasons to apply invalidation to the lateral object are not a given, whereas they are usually tailored to invalidate the influence attempt toward the focal object. Thus, it is worth considering the applicability of the invalidation attempt for all topics. For example, if attitude change toward a ban on plastic bags is rejected because radical environmentalists were the source, the reason to invalidate might be applied to the CO<sub>2</sub> tax as well. If, however, a ban on plastic bags is rejected because the source was a paper bag lobbyist, the reason to invalidate would not be applied to the CO<sub>2</sub> tax. Thus, applicability moderates LAC via two processes. First, akin to moderation by similarity, applicability moderates the strength of generalization. On a propositional level, generalization from focal to lateral object depends on applicability insofar as: (a) Generalization occurs if an influence attempt that conveys arguments to change an attitude toward the focal object also applies to lateral objects (“it is important to protect the environment”) and: (b) Generalization occurs if attitude change toward the focal object induces reasoning which in turn leads to LAC (“If the conclusion that banning plastic bags is correct, other restrictive policies aimed at protecting the environment, such as a CO<sub>2</sub> tax, may also make sense”). As previously described, applicability also moderates the influence of invalidation on lateral attitudes.

On an associative level, the strength of association would still be considered as the prime factor determining associative generalization. Drawing on suggestions by De Houwer and colleagues (2020), associative processes might, however, be regarded as less independent of propositional processes compared to the original assumptions as described in the LAC framework (Glaser et al., 2015). Thus, not only explicit but also implicit attitudes could be influenced by invalidation, and implicit attitudes toward lateral attitude objects could be influenced by

propositional deliberations regarding the focal object, with respect to an invalidation attempt or otherwise<sup>38</sup>. Nonetheless, implicitly, invalidation is assumed to be less influential (Gawronski & Bodenhausen, 2006a; Gregg et al., 2006; Peters & Gawronski, 2011; Petty et al. 2007; but Moran et al., 2017). One might speculate that besides a reduced implicit effect of invalidation, applicability as a process assumed to be propositional might also influence the amount to which an associative evaluation was propositionally affirmed. That is, the more valid reasoning about invalidation appears, the less an explicit attitude toward the focal object needed to be dependent on an implicit evaluation; thus, if invalidation were highly applicable, explicit attitudes would be less likely to be based on “gut feelings”. For lateral topics, on the other hand, this depends on whether reasons to invalidate can be applied. However, this is very much speculation, as there is little evidence concerning the effects of explicit versus implicit invalidation on lateral objects.

While this conceptualization of LAC is very similar to the one proposed by Glaser et al. (2015), there are two important differences. First, I would no longer assume two separate processes (outcomes) but instead only generalization which is moderated by invalidation. Second, invalidation does not necessarily lead to a complete rejection of focal attitude change, therefore some generalization effects would remain. For example, reduced attitude change on a focal object might still generalize if there was invalidation, depending on the applicability of reasons to generalize and the applicability of reasons not to generalize.

This approach could explain results found in Experiment 6. Since both parties might have been rejected as an outgroup source, attitude change was stronger for a lateral object, where reasons to reject the source could not be applied (or at least, less so). However, different focal effects as a result of source valence still generalized to lateral topics. Despite advantages, this

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<sup>38</sup> Given the highly speculative nature of these deliberations, they are not included in the illustration of the first revised LAC model (Figure 30).

conceptualization still contains some of the problems described earlier. While applicability might potentially be more specific than similarity, a priori determination might require even more pretesting. Problems of relative similarity and pretesting issues remain. In the same vein, the problems of testability in general and implicit measurements in particular remain as well. In addition, despite my earlier acknowledgement of Corneille and Hütter's (2020) criticism of unclear definitions of the "implicit", in the revised Model 1 I opted not to fundamentally rework the assumptions regarding associative processes. The reasoning behind this decision was that Model 1 is an attempt to alter the LAC model's assumptions in light of the results presented in this thesis and not to completely overhaul the model. Nonetheless, future conceptualizations might opt to radically change assumptions regarding "implicit" processes.

To sum up, although testing hypotheses based on this revised LAC model would not necessarily be easier, the fit for the present experiments is better and theoretical accuracy might be higher.

### ***Revised Model 2***

Whereas I conceptualized LAC as a single moderated process of generalization in the first revised model suggested, Model 2 proposes LAC as a result of competing influences. Regarding Model 1, I argue that invalidation moderated by applicability defined the outcome of generalization to different lateral objects. In contrast to that, it is also possible to conceptualize generalization and displacement as qualitatively separate but competing processes.

Generalization has been defined (Glaser et al., 2015) as a spreading of evaluation from one to further attitude objects. Taking similarity into account, generalization is a spreading of evaluation, continuously decreasing with declining similarity (Glaser et al., 2015). Displacement, on the other hand, has been described as a spreading of evaluation, strongest when similarity between focal and lateral object was moderate (see Introduction). In contrast to original LAC

suggestions but in line with previous suggestions (cf. Experiment 6), generalization and displacement could be considered independent influences, with the sum of their interaction predicting the outcome of LAC.

Thus, in Model 2, I specify predictions of the specific influence strength of generalization and displacement on each lateral object (Y1, Y2, Y3). As before, for generalization I would assume a linear effect of decreasing influence (positive or negative), for displacement a reversed U-curve. Depending on the predicted amount of invalidation, the relation of generalization and displacement would lead to an exact prediction of the spread of evaluation to each lateral object (Figure 31). A priori predicted “success” rates of invalidation (e.g., 50% for a mediocre attempt at invalidating the initial information) would function as weights, adjusting the relative influence of both processes.

This approach to LAC has one prime advantage: It offers a good basis for a computational modeling of LAC. This, in turn, would allow for a testing of several variations of the relation of displacement and generalization. Therefore, gradients of LAC, that is, the spreading of evaluation to lateral objects of decreasing similarity, could be computed as a function of predicted initial degrees of invalidation. This degree, however, would have to be determined on the basis of either theory-based estimates or empirical pretest data. For example, to what degree would the realization that the source arguing in favor of a ban of plastic bags was a paper-bag industry lobbyist lead to an invalidation of the otherwise good arguments? Perhaps, it would be 50%? While source credibility is an important factor in persuasion (Pornpitakpan, 2004), a significant effect might still remain if the arguments were good enough.

Besides the opportunity to model gradients of LAC, the consideration of parallel influences might also lead to a further simplification of the LAC model. If the predictions of the baseline gradients based on LAC theory (Glaser et al., 2015) are correct, the relation of

generalization and displacement would in fact only be visible on Y1. For Y2 and Y3, any given relation of generalization and displacement would lead to the same outcome. To specify: If the influence of generalization on lateral attitudes were expressed in numbers, the highest number would be assigned to Y1, followed by decreasing effects for Y2, and Y3; thus,  $Y1 = 3, Y2 = 2, Y3 = 1$  for positive and  $Y1 = -3, Y2 = -2, Y3 = -1$  for negative attitude change. For displacement, the largest effect is hypothesized for Y2. In fact, the effect is expected to be equivalent to a generalization effect, which is not suppressed by rejection. Regarding Y1 and Y3 smaller effects are expected, as attitude change is suppressed (Y1) or there was little associative spread of evaluation on which explicit attitude change could be based (Y3). Thus, for displacement, effects would be expressed as follows:  $Y1 = 1, Y2 = 2, Y3 = 1$  for positive and  $Y1 = -1, Y2 = -2, Y3 = -1$  for negative attitude change. If weights were applied, effects would be adjusted by the estimated strength of generalization versus displacement. However, differences between estimates of the strength of displacement would become visible only on Y1. Independent of weights, expected results for Y2 and Y3 are always the same. For example, for positive attitude change and 50% displacement, that is,  $\sum(g \times 0.5 + d \times 0.5)$ , the result pattern would be:  $Y1 = 2, Y2 = 2, Y3 = 1$ . For 75% displacement, that is,  $\sum(g \times 0.25 + d \times 0.75)$ , the result pattern would be:  $Y1 = 1.5, Y2 = 2, Y3 = 1$ . Thus, regarding the strength of displacement, only Y1 would be diagnostic, leading to a simplified model (Figure 31).

The second revised LAC model shares the assumption of a dimensional effect of LAC with the first suggestion. While the first model suggested a moderation of generalization by invalidation and applicability, the second model proposes two independent factors influencing LAC, depending on their relative strength. Nevertheless, the notion that LAC is not “either...or” but a single process having an outcome that depends on the strength of the rejection of the initial influence attempt is shared. By leaving out the notion of applicability, the second model is also

less complicated, albeit perhaps at the expense of precision. Furthermore, this conceptualization again treats generalization and displacement as distinct processes instead of different interpretations of specific outcome patterns.

Finally, the second revised model is intended primarily as a computer model rather than an experimental design, allowing for easy manipulation of influence parameters. Besides the problem of a priori definitions of the exact extent of displacement versus generalization, further issues of testability (see above) are not solved. This, of course, includes the problem of implicit measurements.

**Figure 31**

*LAC as a Function of Generalization and Displacement, Revised Model 2*



*Note.* In the first figure, effects of displacement are equivalent to the overall outcome of LAC; in the last figure effects of generalization are equivalent to the overall outcome of LAC.

*Revised Model 3*

I found explicit LAC effects in all experiments (albeit not always exactly as hypothesized) but hardly any implicit effects. This might have been the result of problems with the methodology in combination with LAC demands. While operating under the assumption that implicit LAC processes were happening within a black box—I could not observe them but infer them from explicit data—is one option, assuming explicit-only LAC would be another option. Thus, the third revised LAC model is a solely propositional model (cf. De Houwer et al., 2020). There is plenty of evidence for explicit generalization (e.g., Brannon et al., 2019, Cruz, 2019; Pettigrew, 1997; Pettigrew, 2009; Tausch et al., 2010). Therefore, the relevant question for a solely propositional LAC model is whether there is a necessity for theorizing implicit processes in order to explain displacement.

If Postulate 4 of the LAC model is being adhered to, any reasoning about the focal object might lead to attitude change toward related objects. According to the predictions regarding the moderation by similarity, attitude change toward lateral objects would be less affected by rejection, thus leading to displacement effects. However, without the assumption of associative spreading via an associative network, it would arguably be far less likely that that reasoning about the focal object would lead to deliberations about lateral topics that were not included in the initial influence attempt. Nonetheless, despite the absence of spontaneous affective reaction as a result of associative spreading of evaluation in this conceptualization, there would still be knowledge about attitude objects' relations, independent of evaluations. For example, many people know that (a ban on) plastic bags and a CO<sub>2</sub> tax are related, regardless of how they evaluate either attitude object. This knowledge can be expected to influence the application of reasons to affirm or to reject a focal object to the evaluation of lateral objects. Nonetheless, it is also likely that, under the right circumstances, reasoning about a focal object might activate a



higher-order concept, which in turn could influence lateral topics. For example, (invalidated) arguments against plastic bags might lead to thoughts about environmental protection. This, in turn, could influence attitudes toward paper bags and a CO<sub>2</sub> tax.

Therefore, explicit-only displacement seems possible, but would be far more dependent on additional factors, both within the recipient of an influence attempt and the topic itself. A deep elaboration (cf. De Dreu & De Vries, 1996; Petty & Cacioppo, 1986) of the focal topic would be a requirement for any explicit-only processes in the absence of an automatic spread. Furthermore, without a salient higher-order concept, displacement would be less likely. While lateral objects might also be propositionally related to the focal object, even in the absence of a shared higher-order concept, that relation would increase the likelihood of rejection being also applied to lateral objects.

Model 3, explicit-only LAC, is similar to explanations of displacement-like effects in the domain of minority influence (see Introduction). It is, for example, similar to explanations of indirect effects of (in-group) minorities, who can elicit conversion despite being rejected (cf. Alvaro & Crano, 1997; Jung et al., 2017). An elaboration of (invalidated) arguments in favor of or against a focal topic might lead to lateral effects. Not being the target of an attempt to invalidate (see applicability, Model 1) would even allow for relatively stronger lateral (vs. focal) effects. However, the absence of an underlying automatic spread would lead to generally weaker and more context-dependent effects. As a result, explicit-only LAC would suggest LAC in general to be much rarer than originally (or as in revised Model 1) assumed. Given that the basic premise of LAC is that indirect attitude change was a frequently occurring yet rarely studied phenomenon this alternative model would represent a significant deviation from the initial aspirations of LAC.

## **Conclusion**

To sum up, the evidence collected in the present studies might not be enough for a final verdict on whether LAC (including adjusted versions) is a parsimonious model to explain indirect attitude change. I reliably showed generalization and moderation by similarity. I have also showed that indirect attitude change can be found across different domains of study. However, I was unable to find conclusive evidence that the underlying mechanism, that is, propositional confirmation of associative spreading of evaluation, was the same in all experiments. Therefore, it is not clear whether the explanation provided by LAC is significantly better than the multitude of explanations of a more specific nature (see Introduction). The collected data, in some cases, indicated support for displacement effects, moderation by PfC and hierarchy, but further testing of an adjusted model of displacement is necessary to test whether effects are stable.

Despite these limitations, I found remarkable effects of LAC. Reviews aimed at one product led to positive or negative attitudes toward novel products. I showed (and replicated) that attitudes toward policies can be changed without mentioning them at all. Attitudes toward a topic as controversial as gender-related affirmative action were changed by attacking a topic as abstract as equality. A sample of left-wing students changed their attitudes toward migration-related topics when a conservative party argued about a related policy or value. Therefore, I believe that the study of LAC, that is, indirect attitude change, has to be continued, as it might be able to explain attitude change on a micro- as well as on a macro-level. Although data may not provide sufficient evidence to accept the LAC model as the currently best attempt at an explanation, there are still roads open to explore. Further studies using the proposed methodological and theoretical refinements may shed light on underlying processes and would allow for reasonable adjustments of the model.

Besides theoretical deliberations about the precise shape of a model of LAC, the findings presented are also relevant for issues of daily life. The reliable finding of generalization shows that attempts to change attitudes rarely affect only a single attitude, the attempt's target, but also related attitudes. If a single product is advertised, this can affect other, similar products, the brand of the products, both, and perhaps even products or brands of a contradictory nature. Likewise, arguments in favor of one policy may also affect attitude change toward other, related policies. Some evidence suggested that this effect was even stronger if the initial message targeted a personal value from which a policy–attitude can be inferred<sup>39</sup>. This might explain why advertising of a political or a commercial nature often tries to invoke values in order to strengthen the message. Even if the focus on indirect attitude change as the result of value-manipulation has not been extensively researched, using values as the focus of a message might have proved effective in changing lateral attitudes.

I also raised the question of whether an influence attempt could be effective in eliciting LAC despite the absence of a direct effect. If there were resistance to the source of a piece of information, could the information still be influential, albeit indirectly? First, results showed that reasons to reject an influence attempt were not always translated into (successful) resistance to a persuasive message. Second, although not completely clear, there was some evidence of displacement. Therefore, even if focal attitude change were resisted, the influence attempt could still be influential in changing people's minds. The fact that I was able to indirectly change left-wing students' attitudes toward migration (a much-contested subject) despite stating the source was a political opponent illustrates the potential power of the effect<sup>40</sup>.

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<sup>39</sup> Of course, the same should be true for topics other than policy evaluations. For example, advertising a specific product via targeting a value which is implied to be the point of reference of the respective product would thus be more effective.

<sup>40</sup> This experiment, however, has not been replicated as of yet and effect sizes were not particularly great; for a brief discussion of the effect sizes see Albarracín and Shavitt (2017).

Thus, if valid, an understanding of the displacement effect is very important as it provides evidence that valenced information can always be effective, even in the face of resistance. This possibility opens up several lines of thought. The effect could explain the influence of populist parties that are gaining influence and are affecting attitude change despite being (initially) rejected by a majority of the population. Similarly, even if tagging false information, such as on social media, were to be successful in preventing focal attitude change, a resulting lateral attitude change would be far less affected by any measures taken. Finally, if there were displacement as hypothesized and the assumptions regarding underlying mechanisms were correct, any high quantity of information would always be successful in creating attitude change toward whole systems of attitudes—at least toward those that were not specifically mentioned.

Despite not being able to present a concluding assessment about the LAC model, the present research underlines the importance of considering indirect attitude change as a consequence of social influence. Every time an attempt to change an attitude is made, whole systems of attitudes are affected.

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### **Eigenständigkeitserklärung**

Ich versichere, dass ich meine Dissertation “Targeting one Attitude to Change Another: Lateral Attitude Change as a Mechanism to Indirectly Influence Evaluations of Products, Policies, and Values” selbstständig und ohne unerlaubte Hilfe angefertigt habe und mich dabei keiner anderen als der von mir ausdrücklich bezeichneten Quellen und Hilfen bedient habe. Die Dissertation wurde in der jetzigen oder einer ähnlichen Form noch bei keiner anderen Hochschule eingereicht, und hat noch keinen Prüfungszwecken gedient.

Hamburg, 20.09.2020

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(Roman Linne)

**Appendix A**

**Pretest Results**

**Pretests for Part I**

**Experiment 1**

**Table A1**

*Pretest Valence Ratings for Products and Brand Name Matching*

Brand Names	<i>M (SD)</i>	First Choice
all iffu	4.02 (1.33)	41.02%
oteyef	3.49 (1.58)	43.01%
beao	2.92 (1.53)	47.06%

*Note.*  $N = 51$  (39 female, 11 male, 1 not indicated;  $M_{\text{age}} = 21.72$ ,  $SD_{\text{age}} = 3.80$ ). First Choice = the percentage of participants choosing the respective name as best for the product; participants were given 10 brand names per product. Valence was assessed on a 7-point scale (1 = *very negative* to 7 = *very positive*).

**Experiments 1 and 3**

**Table A2**

*Pretest Valence and Similarity (to the Focal Object) Ratings for Products Used in Experiments 1 and 3*

	Bathroom products	Valence <i>M (SD)</i>	Similarity <sup>a</sup> <i>M (SD)</i>	Outdoor products	Valence <i>M (SD)</i>	Similarity <sup>a</sup> <i>M (SD)</i>
X	Shower gel	3.39 (1.54)*		Backpack	4.31 (1.85)	
Y1	Bath foam	3.71 (1.70)	5.71 (1.49)	Hiking shoes	3.84 (1.70)	5.04(1.95)
Y2	Lipstick	3.57 (1.89)	4.57 (1.55)	Cap	4.96 (1.28)*	3.53 (1.76)
Y3	Toilet paper	3.59 (1.80)	3.25 (1.40)	Trousers	3.49 (1.54)*	2.80 (1.44)
D E1	Refrigerator	4.20 (1.65)		Refrigerator	4.20 (1.65)	
D E2 & E3	Cell phone	4.25 (1.73)		Cell phone	4.25 (1.73)	

*Note.*  $N = 51$  (39 female, 11 male, 1 not indicated;  $M_{\text{age}} = 21.72$ ,  $SD_{\text{age}} = 3.80$ ). X = focal objects, Y = lateral objects, D = distractor objects. Valence and similarity were assessed on a 7-point scale (1 = *very negative* to 7 = *very positive*; 1 = *not similar at all* to 7 = *very similar*).

<sup>a</sup>All similarity scores differed significantly, e.g., shower gel–bath foam were rated more similar than shower gel–lipstick,  $t(50) = 5.24$ ,  $p < .001$ ,  $d = .76$ .

\*Significant difference to 4 (midpoint of the scale).

**Experiment 3**

**Table A3**

*Pretest Valence and Similarity (to the Focal Object) Ratings for Products Used in Experiment 2*

	Fitness products	Valence	Similarity <sup>a</sup>	Household products	Valence	Similarity <sup>a</sup>
		<i>M (SD)</i>	Mean Rank		<i>M (SD)</i>	Mean Rank
X	Elliptical trainer	5.18 (2.41)		Refrigerator*	5.80 (2.19)	
Y1	Exercise bike	5.05 (2.41)	1.59	Freezer	5.10 (2.23)	1.38
Y2	Weight bench	5.05 (2.24)	5.41	Microwave*	6.13 (2.28)	5.10
Y3	Yoga mat*	5.83 (2.10)	8.23	Hairdryer*	5.73 (1.71)	7.80

*Note.*  $N = 41$  (14 male, 25 female, 2 not indicated;  $M_{age} = 24.74$ ,  $SD_{age} = 5.11$ ). X = focal objects, Y = lateral objects, D = distractor objects. Valence was assessed on a 9-point scale (1 = *not at all* to 9 = *very much*); similarity was assessed via a computer-based rank-order task.

<sup>a</sup>Friedman tests were used to identify the mean rank of each product. All mean ranks differed significantly to the respective next rank (Wilcoxon test, all  $p < .05$ ).

\*Significant difference to 5 (midpoint of the scale).



## **Pretests for Part II**

Experiments 4, 5 and 6 required more extensive and complex pretesting. Therefore, in contrast to the pretests for Experiments 1 to 3, pretests for Experiment 4 to 6 are reported in text form and in more detail.

### **Experiment 4 Pretest 1**

The goal of Experiment 4 was to test whether the findings of Blankenship et al. (2012) would replicate and if additional LAC assumptions might further our understanding. Therefore, I would have preferred to attempt a replication using exactly the same stimuli as Blankenship et al. (2012) and add further stimuli specifically tailored for testing additional LAC hypotheses. However, whereas the original study was conducted in the United States, using English stimuli, Experiment 4 was to be conducted with a German sample using German language stimuli. Thus, differences in both evaluation and in connotation of the values and policies could not be ruled out. The concept of affirmative action, in particular, is not as prominent in Germany as it is in the US. In general, concepts for policies of supporting minorities or underprivileged groups are mostly tailored to specific groups. Indeed, there is no broadly used translation for “affirmative action”. The phrase mostly used, “positive discrimination” (Eickhoff & Schmidt, 2016), has a negative connotation. However, a specific variant of affirmative action, supporting women by forcing employers to fill (at least) a certain percentage of available jobs with women, is the subject of much discussion (e.g., Storvik & Teigen, 2010) and, in part, enacted (Burow et al., 2018). Therefore, I decided that gender-related affirmative action (“Frauenquoten” in German) was a better equivalent to affirmative action than “positive discrimination” or “positive action” when relevance to German society was taken into account. The value of equality (“Gleichheit”) on the other hand was expected to be of similar relevance to the public. In the same vein, we also

assumed that the relation between *equality* and *affirmative action* in a US context was similar to “*Gleichheit–Frauenquoten*” in a German context. Pretest 1 was designed to test whether these expectations were supported by data.

## Method

### Participants

A total of 54 participants (31 female, 22 male, 1 not indicated;  $M_{\text{Age}} = 23.57$ ,  $SD_{\text{Age}} = 4.15$ ) were included in the analyses of responses to the questions of an online questionnaire. The questionnaire was mostly advertised on the campus of Bielefeld University or online platforms related to Bielefeld University. Therefore, the majority of participants were students ( $n = 53$ ), whose participation was compensated with EUR 2.

### Procedure

Before starting the online questionnaire, participants were told it was about attitudes toward different values and policies, that they would remain anonymous and that they were free to end their participation at any point. Subsequently, participants were presented with a list of 14 values (Table A4) and asked to rate valence (“What do you think of the following value?”) and importance (“what importance do you assign to the following value?”) on a 7-point scale (1 = *very negative*, 7 = *very positive*; 1 = *not important at all*, 7 = *very important*). Equality was always displayed first, the order of the other values was randomized once prior to assessment and then presented in the same order for all participants. Prior to the rating itself, participants were asked to answer both questions (valence and importance) independently of each other.

Subsequent to the valence and importance ratings, participants were told that the next task was about assessing the relations between values. Participants were then asked to imagine a third

person<sup>41</sup> whose attitude toward equality changes. Subsequently, they were asked to guess the probability of the same person also changing their opinion toward other values as a result of the prior attitude change toward equality. Participants were also told that the change of opinion toward other values might not necessarily be in the same direction, that is, rating equality more positively might lead to rating other values more negatively. Their task was to indicate the probability on a horizontal slider from -100 (= *change in the opposite direction*), to 0 (= *no change*), to 100 (= *change in the same direction*). Following the instruction, participants were given a list of the same values as before, containing one slider-scale per value.

The same procedure was then repeated with 16 policies instead of the values. That is, first participants were asked for valence and importance ratings of the policies and, second, they were asked to rate the relations between gender-related affirmative action and the 15 other policies. The same scales and labels as before were used. Afterward, values and policies were combined. Participants were asked for the probability of a third person changing their attitude toward values, when the attitude toward gender-related affirmative action had changed and the probability of a third person whose attitude toward policies changes, when the attitude toward equality action had changed. Again, the same scales and labels were used.

Finally, participants were asked for demographic data and were given a code that enabled them to collect the EUR 2.

## Results

### Valence Ratings

Valence ratings for values and policies are displayed in Tables A4 and A5. Both equality,

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<sup>41</sup> I chose a third person instead of the participants themselves (as, e.g., Alvaro & Crano, 1997, did) in order to avoid resistance to the idea of being inconsistent (“third-person effect”; Davison, 1983). However, it might have made more sense to ask participants to imagine a prototype rather than an exemplar, which might have automatically happened when participants were asked to imagine one individual rather than a group (see Smith & Zarate, 1992).

$t(53) = 5.20, p < .001, d = 0.71$ , and gender-related affirmative action,  $t(53) = 2.48, p = .016, d = 0.34$ , were evaluated as positive rather than neutral (as defined by the midpoint of the scale; 4). Given the relatively positive evaluation of all listed topics in general (see tables), further *t*-tests were conducted to examine the relative valence evaluation of equality and affirmative action in relation to the other available values and policies (equality was compared to values, gender-related affirmative action was compared to policies). Indeed, equality was evaluated as more negative than the averaged other values ( $M = 5.42, SD = 0.48$ ),  $t(53) = -2.40, p = .020, d = -0.40$ . There was no significant difference between the evaluation of gender-related affirmative action and the averaged other policies ( $M = 4.42, SD = 0.49$ ),  $t < 1$ .

**Table A4**

*Pretest Valence Ratings for Values  
 Used in Experiment 4*

Values	<i>M</i>	<i>SD</i>
Freedom	6.46	0.75
Justice	6.46	0.86
Preservation of Nature	6.22	1.02
Tolerance	6.17	1.18
Honesty	6.09	1.14
Benevolence	6.02	1.14
Solidarity	5.94	1.00
Voluntariness	5.61	1.16
Modesty	5.43	1.11
Equality	5.00	1.41
Merit	4.81	1.35
Hedonism	4.06	1.02
Authority	3.83	1.16
Power	3.30	1.28

**Table A5**

*Pretest Valence Ratings for Policies Used in  
 Experiment 4*

Policies	<i>M</i>	<i>SD</i>
Employment based on merit – not origin or gender	6.13	1.35
Laws demanding equal pay for men and women	5.98	1.17
Severe penalties for discriminating companies	5.43	1.11
Expanding the influence of unions	5.00	1.20
Wage limits for high-earners	4.72	1.73
Inclusion at schools	4.61	1.68
Unconditional basic income	4.56	1.75
Nationalization of important companies (e.g., hospitals)	4.52	1.68
Gender-related affirmative action	4.46	1.37
Increased video surveillance in public places	4.44	1.68
Preferential treatment of disabled persons in job application procedures	4.41	1.62
Impunity for freedom of speech, even in critical cases (e.g., holocaust denial)	3.91	1.86
Quota systems for minorities	3.89	1.60
Restricting the right of asylum	3.56	1.76
Privatization of railway lines	3.00	1.59
Use of nuclear energy	2.19	1.48

### **Importance Ratings**

Importance ratings of equality ( $M = 4.72$ ,  $SD = 1.76$ ) were higher than the midpoint of the scale (4),  $t(53) = 3.01$ ,  $p = .004$ ,  $d = 0.41$ , whereas importance ratings of gender-related affirmative action ( $M = 4.28$ ,  $SD = 1.63$ ) were not,  $p = .216$ . Neither topic was rated as more or less important as the respective comparison group of values ( $M = 5.03$ ,  $SD = 0.48$ ) or policies ( $M = 4.35$ ,  $SD = 0.92$ ), both  $p > .16$ .

### **Strength of Association**

Tables A6 to A9 show participants' assessments of the probability of attitude change toward policies and values as a result of attitude change toward equality and gender-related affirmative action. These assessments provided the grounds for choosing lateral topics for Experiment 4 (Table A10).

**Table A6**

*Pretest of Ratings of Subjective Expectations of Attitude Change Toward Policies as a Result of Attitude Change Toward Equality for Experiment 4*

Policies	<i>M</i>	<i>SD</i>
Laws demanding equal pay for men and women	59.50	40.61
Employment based on merit – not origin or gender	45.70	47.08
Inclusion at schools	37.65	42.40
Severe penalties for discriminating companies	35.29	47.16
Unconditional basic income	35.09	39.74
Gender-related affirmative action	33.30	51.77
Preferential treatment of disabled persons in job application procedures	26.63	45.64
Wage limits for high-earners	25.43	44.00
Quota systems for minorities	24.70	46.41
Expanding the influence of unions	13.41	38.25
Nationalization of important companies (e.g., hospitals)	13.31	33.26
Use of nuclear energy	0.52	30.52
Increased video surveillance in public places	-3.63	27.84
Restricting the right of asylum	-5.15	51.82
Privatization of railway lines	-5.63	34.25

**Table A7**

*Pretest Ratings of Subjective Expectations of Attitude Change Toward Policies as a Result of Attitude Change Toward Gender-Related Affirmative Action for Experiment 4*

Policies	<i>M</i>	<i>SD</i>
Laws demanding equal pay for men and women	67.52	36.19
Severe penalties for discriminating companies	36.28	44.72
Preferential treatment of disabled persons in job application procedures	28.09	37.84
Quota systems for minorities	26.41	50.39
Unconditional basic income	20.78	33.73
Wage limits for high-earners	18.80	37.01
Inclusion at schools	15.76	36.55
Increased video surveillance in public places	9.30	33.91
Expanding the influence of unions	7.24	37.11
Employment based on merit – not origin or gender <sup>^</sup>	6.06	55.64
Nationalization of important companies (e.g., hospitals)	3.81	28.24
Restricting the right of asylum	1.17	36.73
Privatization of railway lines	-2.15	31.98
Use of nuclear energy	-4.92	26.88



**Table A8**

*Pretest Ratings of Subjective Expectations of Attitude Change Toward Values as a Result of Attitude Change Toward Gender-Related Affirmative Action for Experiment 4*

Values	<i>M</i>	<i>SD</i>
Equality	39.65	50.18
Tolerance	36.46	40.81
Justice	35.24	52.06
Solidarity	24.07	36.72
Freedom	22.02	35.63
Honesty	14.67	34.17
Merit	14.65	47.78
Modesty	12.63	30.78
Preservation of Nature	11.76	24.04
Voluntariness	11.44	29.75
Benevolence	8.85	25.55
Power	-3.06	33.99
Hedonism	-3.11	25.66
Authority	-9.93	38.41

**Table A9**

*Pretest Ratings of Subjective Expectations of Attitude Change Toward Values as a Result of Attitude Change Toward Equality for Experiment 4*

Values	<i>M</i>	<i>SD</i>
Justice	45.52	50.10
Solidarity	42.26	45.47
Tolerance	38.37	47.29
Authority	-32.11	40.49
Freedom	27.04	47.16
Modesty	21.80	36.80
Benevolence	24.76	31.72
Honesty	21.19	36.84
Voluntariness	18.93	39.88
Preservation of Nature	12.57	31.10
Merit	0.54	40.96
Hedonism	-7.22	30.91
Power	-26.11	42.10

**Table A10**

*Pretest Ratings for Expected (Lateral) Attitude Change as a Result of Attitude Change Toward Equality and Gender-Related Affirmative Action for Policies and Values Chosen for Experiment 4*

		Equality		Gender-Related Affirmative Action		<i>t</i>
		<i>M</i> (%)	<i>SD</i>	<i>M</i> (%)	<i>SD</i>	
<b>Lateral Policies</b>						
Y1	Equal pay for men and women	59.50	40.61	67.52	36.19	1.16
	Severe penalties for discriminating					
Y2	companies	35.30	47.16	36.28	44.72	0.15
Y3	Wage limits for high-earners	25.43	44.00	18.80	37.12	1.05
YC	Restricting the right of asylum	-5.15	51.82	1.17	36.73	0.87
<b>Lateral Values</b>						
Y1	Justice	45.52	50.10	35.24	52.06	1.18
Y2	Tolerance	38.37	47.29	36.46	40.81	0.29
Y3	Honesty	21.19	36.84	14.67	34.17	0.99
YC	Hedonism	-7.22	30.91	-3.11	25.66	-0.90

*Note.* Negative values indicate the probability of an attitude change in the opposite direction; no *t*-test returned a significant difference, all  $p > .11$ .

There were two main criteria for choosing lateral topics. First, in order to have lateral topics of high, medium and low (and contrasting) similarity, objects of decreasing strength of association were sought after. Second, lateral topics of each degree of similarity (high, medium, low) should be equally similar to both focal objects. Examination of decreasing similarity was conducted by consideration of descriptive data. In order to test equal similarity to the focal

objects, paired *t*-test were conducted. The *t*-tests compared the probability of attitude change toward the respective value or policy as a result of attitude change toward equality with the probability of attitude change toward the respective value or policy as a result of attitude change toward gender-related affirmative action. As Table A10 shows, none of the *t*-tests reported significant differences in similarity, all  $p > .11$ .

### Discussion

While both intended topics seem to have been evaluated somewhat positively, this observation is only valid in absolute terms (i.e., with regard to the midpoint of the 7-point scale), not in relative terms (with regard toward other values or policies). The same is true for participants' ratings of importance. Since the manipulation attempt in Experiment 4 is aimed at reducing participants' opinion of the topics, a slight divergence toward a more positive evaluation does not pose a problem. Evaluations of lateral topics were even more positive than evaluations of focal objects. While not completely ideal (as positive valence might indicate strong existing attitudes), neither values nor related policies are usually completely neutral. Additionally, lateral attitude change is expected to be in line with focal attitude change, that is, changing the attitude for the worse. Thus, ceiling effects are not expected and high positivity does not impair hypothesis testing. Selected lateral objects display a pattern of decreasing similarity to the focal objects, suited to testing moderation-by-similarity. Furthermore, equal similarity to focal objects enables examination of moderation-by-hierarchy without confounding effects due to varying degrees of similarity between "classes" of stimuli (higher-order values and lower-order policies). Theoretical questions about differences between relative and absolute similarity and the operationalization of strength of association (similarity) are discussed elsewhere (see General Discussion).

## Experiment 4 Pretest 2

In order to examine the suitability of the control-condition subject (“Use of robots in care”) another short pretest was conducted for Experiment 4. The goal of Pretest 2 was to examine whether “robots in care” was related to either equality or gender-related affirmative action.

### Method

#### Participants

After excluding three participants for incomplete data or insufficiently meticulous (e.g., giving the same answer to every question) responses to the online-questionnaire’s questions, the data of  $N = 31$  participants (17 female, 12 male, 1 other, 1 missing data;  $M_{\text{Age}} = 21.57$ ,  $SD_{\text{Age}} = 2.95$ ) was included in the analysis. Recruitment for the experiment was conducted solely on the campus of Bielefeld University; all participants were students (presumably there is no data for  $n = 3$  participants). Participation was voluntary and participants received no compensation.

#### Procedure

The procedure was mostly identical to Pretest 1. However, the number of topics was greatly reduced. Participants’ ratings of valence, importance and relations between topics were collected for two policies (use of robots in care, gender-related affirmative action) and two values (security and equality; the evaluation of security, however, was not important for Experiment 4). The introduction, scales and phrasing were identical to Pretest 1, but answering the questionnaire took only about five minutes.

### Results

Ratings of valence and importance are displayed in Table A11.

**Table A11**

*Pretest Valence and Importance Ratings of Focal Topics in Experiment 4*

	Valence		Importance	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Security	5.77	1.18	5.77	1.18
Equality	5.65	1.52	5.55	1.52
Gender-related affirmative action	4.48	1.75	4.74	1.61
Use of robots in care	3.06	1.50	3.61	1.52

Next, expectations of probability of attitude change of one topic as a result of attitude change toward another topic were averaged over direction (e.g. Attitude change toward robots in care leads to attitude change toward equality and attitude change toward equality leads to attitude change toward robots in care). Resulting data, indicating strength of association between the control condition topic and the two focal topics is displayed in Table A12.

**Table A12**

*Pretest Ratings for Expected Probability of Attitude Change Toward Focal Topics Used in Experiment 4*

	<i>M</i>	<i>SD</i>
Gender-related affirmative action and equality	28.14	44.46
Use of robots in care and equality	0.81	24.91
Use of robots in care and gender-related affirmative action	-3.34	22.45

*Note.* Expected probabilities in %.

## Discussion

Results implied no association whatsoever between the use of robots in care and either focal object. Therefore, the topic was used in Experiment 4.

### Pretest Experiment 5

In Experiment 5, I wanted to test LAC effects from a higher to a lower hierarchy level. More importantly, the experiment was designed to shed light on the idea of a changing quality of LAC depending on the relation between two topics. In case of an antagonistic relationship, the LAC theory might be specified to include contrast effects.

The values equality and freedom, historically either seen as being mutually reinforcing or believed to be antagonistic (Giebler & Merkel, 2016), were chosen as focal topics because their relation might have offered a good opportunity to change the relationship between two topics experimentally (see Experiment 5). The valence manipulation intended for Experiment 5 aimed to achieve attitude change, thus initiating LAC. To do so, participants would be instructed to generate arguments against the respective value.

Therefore, the first objective of the pretest for Experiment 5 was to examine participants' valence ratings of the values as well as ease of argument generation. Specifically, the goal of this pretest was to test whether floor or ceiling effects regarding the values could occur which might render attitude change impossible and whether ease of argument generation was different for freedom versus equality. The second objective of the pretest was to identify topics that were viable lateral objects. The latter were supposed to be policies similar to one but not both focal values. Lateral topics were phrased in a way implying similarity with equality or freedom without using the specific words (e.g., freedom of...). Valence ratings of a list of preselected policies were collected. In order to examine relative similarity (i.e., to both focal objects), participants were given a computer based sorting task, namely the spatial arrangement method (SpAM<sup>42</sup>; Hout et al., 2013), which included both focal objects and all potential lateral topics.

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<sup>42</sup> JAVA version, all data were collected on the same kind of monitor (1920x1080, 24 inches, 60Hz)

## Method

### Participants and Procedure

In total,  $N = 36$  (18 male, 18 female;  $M_{\text{age}} = 22.50$ ,  $SD_{\text{Age}} = 3.82$ ) participants were recruited on the campus of Bielefeld University. Participants were welcomed by an experimenter and were seated in front of a table which had been prepared with a switched-off computer screen and a short booklet containing the pen and paper questionnaire.

Before starting with the questionnaire, participants were informed of the goals of the pretest. No cover story was provided, and participants were also not told that this was a pretest for an upcoming experiment. Participants were informed that they would remain anonymous (i.e., the data could not be traced back to them) and that they might end their participation at any point. Subsequently, participants were asked to judge how difficult it would be for them to find concrete arguments as to why equality and freedom were good (bad). They were instructed that this task was about judging the effort needed to generate arguments concerning different subjects. Participants were asked to imagine having only a limited time to come up with specific argument in favor of or against an abstract concept. They were also given an example<sup>43</sup> in order to help them imagine what kinds of arguments were required. After being reminded that their task was only to rate difficulty and not generate arguments, participants were asked to indicate difficulty (“How easy or hard it would be for you to find concrete arguments as to why...” a) “Freedom is good”, b) freedom is bad”, c) “equality is good”, d) “equality is bad”) on a 7-point scale (1 = *very easy*, 7 = *very hard*).

Afterward, participants were given extensive instructions for the sorting task. They were

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<sup>43</sup> The value security and the argument that increasing security is accompanied by consequences such as an increased risk of privacy violations.

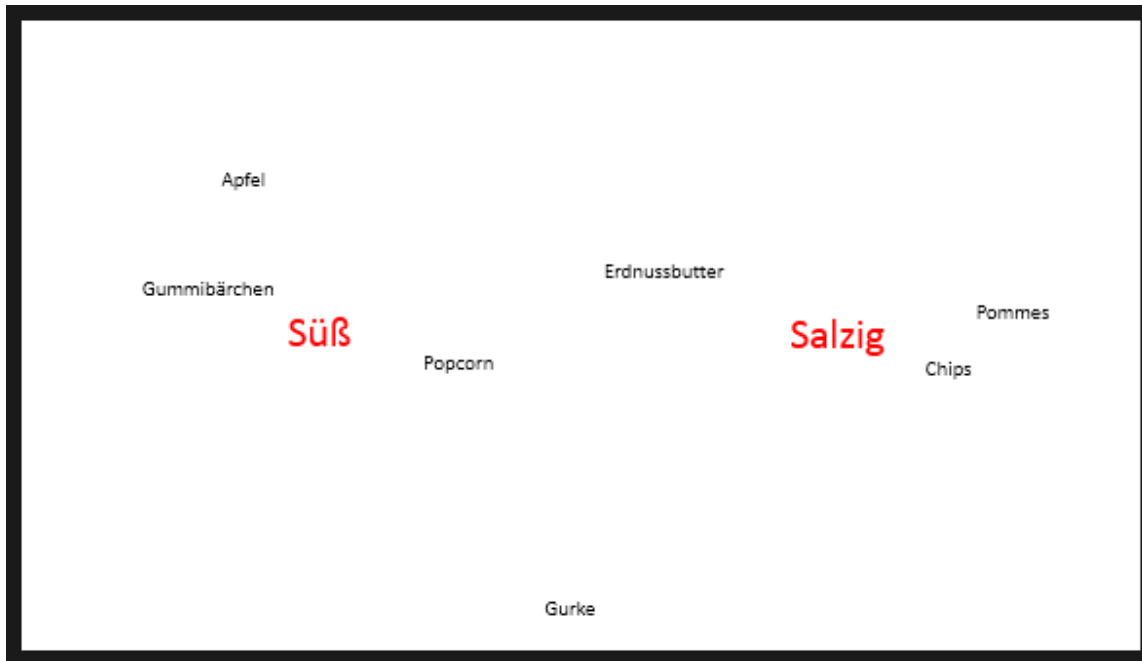
told they would see a white screen with the words equality, freedom and 16 additional terms of a political nature. Participants were then told to sort these terms according to their relation to both equality and freedom: if a concept was closely related with equality (freedom), they were to drag and drop it into the vicinity of equality (freedom); if it was closely related with both values they were to drag and drop it between equality and freedom; if it was closely related with one but opposed to the other they were to drag and drop it into the vicinity of one but away from the other. Participants were also given an example of a starting point and a finished sorting task (with sweet and salty as anchors; see Figure A1 for the completed example). At the bottom of the page which displayed the sorting task example, a short text stated that participants were now to switch on the PC monitor and start the sorting task.

After finishing the sorting task, participants continued with the pen & paper questionnaire. They were asked to evaluate the valence of all concepts they had previously sorted on a seven-point scale (e.g., “How do you rate freedom”, 1 = *very bad*, 7 = *very good*). Freedom and equality were always presented first, with the order of the other topics having been randomized once prior to the pretest. Subsequently, participants were asked for demographic data and political self-assessment. Afterward they were thanked, rewarded and dismissed.



**Figure A1**

*Example of a Sorting Task*



*Note.* This example was shown to participants.

**Results**

Participants' expected effort to generate arguments is displayed in Table A13. Finding arguments in favor (vs. against) the (averaged) values seemed to be significantly easier,  $t(35) = -7.41, p > .001, d = -1.65$ . No differences between equality and freedom were reported for expected effort to generate arguments in favor of,  $p = .114$ , or against,  $p = .91$ , the values. Valence ratings of all preselected attitude objects are displayed in Table A14. Both freedom,  $t(34) = 14.42, p < .001, d = 2.43$ , and equality,  $t(35) = 6.53, p < .001, d = 1.09$ , were rated more positively compared to the midpoint of the scale (4).

**Table A13**

*Pretest Ratings of Expected Effort to  
Generate Arguments Regarding Focal  
Values Used in Experiment 5*

	<i>M</i>	<i>SD</i>
Freedom – good	2.31	1.06
Freedom – bad	4.31	1.45
Equality – good	2.75	1.52
Equality - bad	4.33	1.29

## APPENDIX A

**Table A14**

*Pretest Valence Ratings for Preselected Attitude Objects to be Potentially Used in Experiment 5*

	<i>M</i>	<i>SD</i>
Same-sex marriage <sup>a</sup>	6.56	0.91
Freedom	6.14	0.88
Mandatory minimum wage	6.06	1.35
No expression of opinion shall be punishable <sup>b</sup>	5.75	1.56
Voting rights for immigrants	5.72	1.06
Having the option to choose between different kinds of schools <sup>c</sup>	5.64	1.22
Equality	5.53	1.40
Gradual abolition of borders	5.36	1.27
Unconditional basic income	4.78	1.64
Affirmative action to support disadvantaged social groups	4.42	1.50
Tax cuts	4.33	1.04
No restriction on religious practices	4.31	1.65
Tax-financed public-service media	4.22	1.69
Complete inclusion instead of special needs schools	4.14	1.44
Ban of full body veils <sup>d</sup>	3.45	1.52
Legal home schooling	3.36	1.48
Private health insurance	2.94	1.67
Mandatory military service	2.72	1.47

*Note.* <sup>a</sup>The direct translation of the German term for same-sex marriage would be

“marriage for all”; <sup>b</sup>In Germany the expression of certain opinions is illegal. Examples

include Holocaust denial or glorification of National Socialism; <sup>c</sup>In Germany there are

different kinds of public schools with different standards; critics claims this would further

social inequality; <sup>d</sup>For example, a burka-ban.

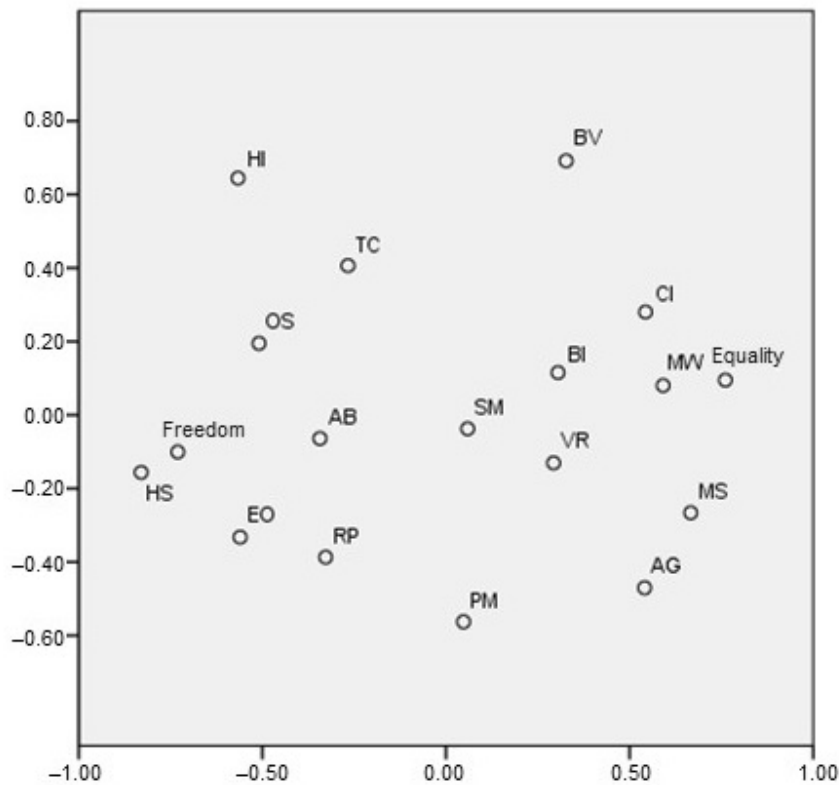
In order to identify lateral topics participants' results of the sorting task were examined with a multidimensional scaling procedure (MDS; for an introduction see Hout et al., 2013). The matrix of relations of topics that had been created on the basis of the x and y coordinates<sup>44</sup> was analyzed using a proxscal MDS procedure (Busing et al., 1997) in order to arrange the objects in low n-dimensional space. The proxscal MDS transformed the data into a (dis)similarity map of proximities, with Euclidian distances between topics describing similarity, or rather, how much objects were seen as being (un)related to equality and freedom. A two-dimensional configuration produced a solution with an excellent goodness-of-fit level, stress = .02 (Kruskal, 1965). The result of the MDS is shown in Figure A2. Additionally, Tables A15 and A16 display means and standard deviations of the non-transformed distances (pixels) of the close potential lateral topics separately per pre-defined focal value.

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<sup>44</sup> Data were processed with a VBA macro for MS Excel, downloaded from michaelhout.com, 2017

**Figure A2**

*Two-Dimensional Map of Topic Relations for Experiment 5*



*Note.* BI = Basic Income, SM = Same-sex marriage, AB = Abolition of borders, HS = Home Schooling, CI = Complete inclusion, BV = Burka ban, HI = Private Health Insurance, PM = Tax-financed public media, EO = No punishable expression of opinion, MW = Minimum wages, VR = Voting rights for immigrants, AG = Affirmative action, RP = Total religious freedom, TC = Tax cuts, OS = Option to choose school, MS = Mandatory military service.

**Table A15**

*Pretest of Spatial Distances Between  
 Lateral Policies and the Focal Value  
 Freedom for Experiment 5*

Lateral Topics	<i>M</i>	<i>SD</i>
Home schooling	224.75	127.28
<i>Freedom of expression</i>	227.69	138.36
<i>Freedom of Religion</i>	294.14	198.48
Border-dismantling	330.31	178.62
Choice of school	345.83	227.96

*Note.* Distances are measured in pixels.

Expressions of topics shortened.

**Table A16**

*Pretest of Spatial Distances Between  
 Lateral Policies and the Focal Value  
 Equality for Experiment 5*

Lateral Topics	<i>M</i>	<i>SD</i>
Minimum wage	206.94	118.02
<i>Inclusion</i>	257.17	139.16
Voting rights for immigrants	305.64	150.90
<i>Basic income</i>	305.75	206.36
Affirmative action	343.31	179.90

*Note.* Distances are measured in pixels.

Expressions of topics shortened.

### Discussion

Positive evaluations of focal values were unproblematic as the manipulation was intended to lower participants' opinion of the focal values, thus avoiding potential ceiling effects.

Experiment 5 was designed to test generalization only. Consequently, there was no need to examine a hypothesized quadratic shape of moderation-by-similarity, which would require at least three lateral topics per focal topic. Instead, two lateral topics were chosen in order to a) test whether LAC effects would replicate within the experiment and b) test whether generalization was stronger for the topic more similar to the focal object. For freedom, the statements: "no

expression of opinion shall be punishable” (Freedom of expression, very similar) and, “all religious practices are legal” (Freedom of religion, less similar but still clearly related) were chosen as lateral topics. For equality the policies of Inclusion (very similar) and an Unconditional basic income (less similar but still clearly related) were chosen as lateral topics.

### **Experiment 6 Pretest 1**

The first pretest for Experiment 6 was designed with three goals in mind. First, to examine whether the envisaged source of persuasion, the AfD as a populist party<sup>45</sup> (determined by theoretical considerations) fitted the preconditions necessary to test LAC (i.e., being disliked by a majority of student participants), and to identify an additional, suitable source of persuasion (not disliked) as a comparison condition. Second, to examine the persuasive message, which was supposed to be at least moderately effective, i.e. persuasive. Third, to gain a first impression of which topics might be suitable as focal and lateral topics. Whereas relations (= similarity) between topics could not be determined in Pretest 1, valence ratings were assessed.

### **Methods**

#### **Participants**

There were 37 participants (17 female, 20 male;  $M_{Age} = 22.22$ ,  $SD_{Age} = 3.49$ ) who answered the online questionnaire. The questionnaire was mostly advertised on the campus of Bielefeld University. Thus, the majority of participants were students ( $n = 35$ ), who took part in the survey in exchange for earning mandatory course credits. In addition, participants were compensated by having the opportunity to take part in a voucher draw.

#### **Procedure**

Before starting the online questionnaire, participants were informed of the goals of the pretest (there was no cover story), that no data could be traced back to them and that they were

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<sup>45</sup> While the AfD was the “favorite” as populist source, no final decision was made prior to the pretest.

allowed to end their participation at any point.

Subsequently, they were asked about their own political affiliations. First, participants were asked which party they would vote for if there was a general election the next day. They were given the option to choose one of the parties currently represented in the German parliament, a third party (with the option to indicate which; “other, namely: \_\_\_\_”) or none at all. Secondly, participants were asked to indicate their self-assessment on a left (0 = *very left*) to right (100 = *very right*) horizontal slider scale. The midpoint of the slider scale (50) served as the starting position for each judgment.

Subsequent to the political self-assessment, participants were asked to evaluate several political parties and organizations. Participants evaluated the party/organization on a valence scale (1 = *very bad* to 9 = *very good*) and a competence scale (1 = *very incompetent* to 9 = *very competent*). Furthermore, participants were asked to imagine reading or hearing an argument made by the party/organization. They were then asked to indicate the likelihood of their rejecting any message from that specific source, independent of the message’s content (1 = *very unlikely* to 9 = *very likely*). Besides evaluations of the political parties currently represented in parliament, participants also reported evaluations of eight different real or fictitious organizations and political groups (e.g., “Pegida - Patriotic Europeans for the Defense of the Occident”). Participants were also provided with the statement: “if you don’t know any of the following groups, please follow your intuition”; the organizations’ names were presumed to be sufficient to create an impression (for a complete list, see results).

After evaluating political groups, participants were asked to evaluate political topics. They were given two lists—first a list of 22 values, second a list of 20 policies—and were then asked to evaluate all values and policies on a 9-point scale (1 = *very bad* to 9 = *very good*). The order of values and policies had been randomized once prior to the assessment. All participants



saw all values and policies in the same (previously randomized) sequence.

Subsequently, participants were given the experimental manipulation. There was no cover story; participants were aware that the message was tested as a potential tool for other experiments. The manipulation shown to participants was a message that argued in favor of a ceiling on immigration. However, the manipulation was construed in a way that the same message could also be used to argue in favor of other conservative or populist positions (i.e., conservative values such as tradition or security but also other policies related to a conservative approach to immigration). In order to do so, the message made several points about the (high) quality of German society and the problems it might undergo due to immigration. The message used a combination of reasonable lines of argumentation (such as an emphasis on achievements of German/western societies; underlining the influence of socialization on individuals immigrating from authoritarian societies), overstatements and exaggerations (e.g., “the Imam is always more important than the police”), fear-inducing statements (e.g., about terrorism) and a restrained style of arguing (e.g. “it is not about degrading other cultures but defending our own”; “it is not about rejecting immigration completely but about restricting it [by introducing ceilings]”). Most paragraphs ended with a repetition of the main message and an integration of the previous arguments with the main message.

In this pretest, the message argued in favor of the introduction of a ceiling on immigration (e.g., “[...] and, therefore, a ceiling on immigration is necessary in order to [...]”; “[...] the introduction of a ceiling on immigration is a policy that might help with this problem.”) but this could be replaced with other topics (e.g., “[...] and, therefore [topic] is necessary in order to [...]”). The aim was to test whether the message created was at least moderately convincing in order to be able to induce attitude change and, therefore, LAC effects. Furthermore, I planned to use the message in different source conditions. Thus, the message was written in a way that

participants should be able associate it with both a mainstream conservative and a populist source (depending on condition).

After reading the message, participants were given lists of political parties and organizations and were asked to indicate the likelihood that the message had been created by this (each) group on a horizontal slider scale (0 = *very unlikely* to 100 = *very likely*). The midpoint of the slider scale (50) served as the starting position for each judgment. Participants were also asked who else might have written the message. Subsequently, participants were asked to rate the message in terms of power of persuasion on a 9-point scale (1 = *not convincing at all* to 10 = *very convincing*<sup>46</sup>). They were asked to indicate how many of 100 randomly selected persons might be convinced by the message on a horizontal slider scale (0 to 100). The midpoint of the slider scale (50) served as the starting position for each judgment. Participants were also asked to indicate to what degree the message corresponded to their own opinion on a 9-point scale (1 = not at all to 9 = absolutely). Additionally, participants rated the message's quality ("independently of the degree to which the message corresponds to your opinion") on four 9-point semantic differentials (*very bad – very good; difficult – easy; inarticulate – fluent; amateurish – professional*). As a final issue regarding the message, we told participants that sometimes we use "real" essays and sometimes ("*if necessary*") we create essays ourselves. Participants were asked to indicate whether they believed the message originated from us (0) or from a party / organization (100) on a horizontal slider scale.

Subsequent to questions on the message, we asked for participants' demographic information and, finally, for their consent to use the data collected.

Before the end of the survey, participants received a code that led them to another website where they could enter their email address in order to take part in the draw without connecting

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<sup>46</sup> Changing the scale was not intentional

their personal information to the data collected.

## Results and Interpretation

### Political Self-Assessment

As a mean, the sample can be described as leaning to a center-left political self-assessment ( $M = 37.49$ ,  $SD = 14.55$ ). This also becomes evident in participants' choice of political parties. Of the participants, 24 would vote for left or center-left parties, 10 indicated they would vote for center-right parties (Table 1). Thus, both conservative and populist right-wing sources might be viewed as an out-group that supports opposing political beliefs and positions.

**Table A17**

*Pretest Ratings for Party Preferences, Potential Sources for Experiment*

Party Preference	#	%
SPD (Social-Democratic Party Germany; center-left)	12	32.4
Die Grünen (Greens; center-left)	7	18.9
CDU (Christian Democratic Union; center-right conservatives)	6	16.2
Die Linke ("the Left"; left-wing)	5	13.5
FDP (Free Democratic Party; center-right liberals)	4	10.8
andere, und zwar: ("other, namely:") <sup>a</sup>	2	5.4
keine ("none")	1	2.7
AfD (Alternative for Germany; right-wing)	0	0
CSU (Christian-Social Union; center-right)	0	0

*Note.* <sup>a</sup>others were "The Party" ( $n=1$ , satirical) and "V-Party" ( $n=1$ , animal protection)

**Evaluations of Parties**

Corresponding to their self-assessment participants, participants prefer center-left parties (Table 2). However, the CDU is also rated as more positive than the center of the scale (4),  $t(36) = 2.56, p = .015, d = 0.42$ . The AfD, on the other hand is evaluated more negatively,  $t(36) = -17.86, p < .001, d = -2.94$ . Whereas participants preferred center-left parties in valence ratings, they rated center-right parties as more competent (Tables A 18 & A19).

**Table A18**

*Pretest Valence Ratings for Parties Potentially Used as Sources for Experiment 6*

	<i>M</i>	<i>SD</i>
SPD	5.22	2.02
Die Grünen	4.97	2.12
CDU	4.81	1.93
Die Linke	4.27	2.14
FDP	4.03	1.89
CSU	2.97	1.52
AfD	1.38	0.89

**Table A19**

*Pretest Competence Ratings for Parties Potentially Used as Sources for Experiment 6*

	<i>M</i>	<i>SD</i>
CDU	5.35	1.98
FDP	4.84	2.04
Die Grünen	4.73	1.94
SPD	4.65	2.12
Die Linke	4.19	1.86
CSU	3.35	1.80
AfD	1.76	1.36

Furthermore, participants indicated the probability of rejecting a message out of hand as highest when the message originated with the AfD and lowest when it originated with the SPD (Table A20).

**Table A20**  
*Pretest Ratings for Party Rejection  
 Probabilities, Potential Sources for  
 Experiment 6*

	<i>M</i>	<i>SD</i>
AfD	7.86	2.06
CSU	5.03	2.86
FDP	4.08	2.52
Linke	3.68	2.20
CDU	3.54	2.34
Grüne	3.51	2.60

**Evaluations of Organizations**

Rating of valence, competence of political organizations and likelihood of rejection of their message (independent of content) can be viewed in Tables A21, A22, and A23.

**Table A21**

*Pretest Valence Ratings for Organizations Potentially Used as Sources for Experiment 6*

	<i>M</i>	<i>SD</i>
Forum of Scientific Journalists	5.94	1.51
Initiative for a New Social Market Economy <sup>a</sup>	5.06	1.33
International Federation of Atheists	4.86	1.27
German Parliament Immigration and Integration Committee	4.83	1.58
Ministry of the Interior Immigration and Integration Committee	4.77	1.57
Declaration 2018 <sup>b</sup>	4.28	1.14
Declaration 2018 – Alliance of Conservative Intellectuals	3.58	1.36
Pegida (Patriotic Europeans for the Defense of the Occident)	1.86	1.29

*Note.* <sup>a</sup>This is a market-friendly lobby organization. It is, however, unclear whether this was known to participants. <sup>b</sup>This was a declaration that demanded less immigration and stronger anti-immigration laws which was supported by several conservative and right-wing academics.

## APPENDIX A

**Table A22***Pretest Competence Ratings for Organizations Potentially Used as Sources for Experiment 6*

	<i>M</i>	<i>SD</i>
Forum of Scientific Journalists	5.40	1.17
International Federation of Atheists	4.54	1.48
Initiative for a New Social Market Economy	4.49	1.54
Ministry of the Interior Immigration and Integration Committee	4.26	1.76
German Parliament Immigration and Integration Committee	4.11	1.79
Declaration 2018	4.03	1.15
Declaration 2018 – Alliance of Conservative Intellectuals	3.69	1.49
Pegida (Patriotic Europeans for the Defense of the Occident)	1.86	1.26

**Table A23***Pretest Ratings for Organization Rejection Probabilities, Potential Sources for Experiment 6*

	<i>M</i>	<i>SD</i>
Pegida (Patriotic Europeans for the Defense of the Occident)	7.14	2.58
Declaration 2018 – Alliance of Conservative intellectuals	4.86	2.24
Declaration 2018	4.51	1.84
International Federation of Atheists	4.00	2.21
Initiative for a New Social Market Economy	3.71	2.09
Ministry of the Interior Immigration and Integration Committee	3.17	1.96
German Parliament Immigration and Integration Committee	3.06	1.96
Forum of Scientific Journalists	2.97	1.81

**Attitudes toward Values and Policies**

**Table A24**

*Pretest Valence Ratings for Values Potentially Used in Experiment 6*

	<i>M</i>	<i>SD</i>
Helpfulness	8.19	1.22
Tolerance	8.08	1.14
Openness	7.89	1.24
Security	7.73	1.31
Humanism	7.59	1.66
Benevolence	7.19	1.45
Multiculturalism	7.06	1.69
Cultural pluralism	6.78	1.57
European value orientation	6.03	1.88
Adaptation/Conformity <sup>a</sup>	5.95	2.27
Altruism	5.81	1.62
National autonomy	5.68	1.65
Universalism <sup>b</sup>	5.47	1.59
Cultural relativism	5.25	1.70
Tradition	5.19	2.09
Specific German responsibility <sup>c</sup>	4.97	2.05
Utilitarianism	4.78	1.94
Conformity <sup>d</sup>	4.67	1.77
“Guiding culture” <sup>e</sup>	4.14	2.07
Religion	4.08	2.33
Christianity	4.00	2.12
Conservatism	3.68	1.70

Note. *N* = 36-37. <sup>a</sup>The German “Anpassung” can arguably be translated into “adaptation” and/or “conformity”. <sup>b</sup>The German “Universalismus” is arguably different to the higher-order value “universalism” as defined by Schwartz (1994). <sup>c</sup>as a lesson learned from the National Socialist past. <sup>d</sup> The German “Konformität” has a more negative connotation than “Anpassung”. <sup>e</sup> A political term primarily used by conservatives in order to support the notion of preserving the native culture.



Tables A24 and A25 show means and standard deviations of all values and policies.

**Table A25**

*Pretest Valence Ratings for Policies Potentially Used in Experiment 6*

	<i>M</i>	<i>SD</i>
Mandatory language courses	8.35	0.92
Daycare centers with a focus on teaching language	7.11	1.78
Educational scholarships for refugees	6.95	1.70
Absolute freedom of religion	6.84	2.75
Family reunions <sup>a</sup>	6.22	2.32
Tougher border entry controls	6.11	2.22
Ankle monitors for those who might threaten state and citizens	6.11	2.31
Limitation on immigration	5.43	2.46
Value-education at schools	5.41	2.52
Reception centers at the borders	5.27	2.41
Teaching of Islam in public schools	5.27	2.48
Resolute deportations	5.27	2.60
Burka ban	5.08	2.62
Headscarf ban for children under 14 years	4.76	2.74
Open borders	4.76	2.50
Ceiling on immigration	4.38	2.56
Unconditional immigration	3.68	2.38
Borders within Europe	3.59	2.49
General headscarf ban	2.86	2.62
Closing of borders	2.65	2.07

Note. N = 37. <sup>a</sup>That is, migration of family members of those already in the country of destination. <sup>b</sup> The German term “Gefährder“ was used. It describes people who are believed to be dangerous (e.g., because of intelligence data) but have not (necessarily) committed a crime or have not been sentenced

**Evaluation of the Experimental Manipulation**

Participants thought it most likely that the essay had been authored by members of the CSU (Table A26). Likelihood of authorship by members of the AfD, CDU and the FDP was on a similar level, all  $p > .47$ , whereas participants thought it less likely that the essay was written by members of left or center-left parties. The high likelihood of CSU-authorship has to be considered with regard to the Germany-wide discussion about ceilings on immigration (“Obergrenzen”) initiated by the former CSU chairman Horst Seehofer, who postulated “If I say so, it counts. There will be no going back on the ceiling – the 200,000 [ceiling] remains” (“Seehofer verwirrt mit Kommentar zur Obergrenze”, 2017). The likelihood of authorship by specific members of political organizations is displayed in Table A27.

**Table A26**

*Pretest Ratings for Likelihood of Authorship (Parties)  
 for the Essay Used as a Manipulation in Experiment 6*

	<i>M</i>	<i>SD</i>
CSU	74.06	21.98
AfD	60.75	32.96
CDU	59.67	19.98
FDP	58.11	12.24
SPD	44.74	20.96
Die Grünen	29.89	20.96
Die Linke	29.11	28.01

**Table A27**

*Pretest Ratings for Likelihood of Authorship (Organizations) for the Essay Used as a Manipulation in Experiment 6*

	<i>M</i>	<i>SD</i>
German Parliament Immigration and Integration Committee	58.12	24.78
Declaration 2018 – Alliance of Conservative intellectuals	58.09	22.37
Ministry of the Interior Immigration and Integration Committee	53.24	25.34
Declaration 2018	50.21	16.46
Pegida (Patriotic Europeans for the Defense of the Occident)	49.86	32.39
Forum of Scientific Journalists	44.21	22.39
International Federation of Atheists	38.24	26.15
Initiative for a New Social Market Economy	30.50	22.45

When asked, whether the essay was written by a party/organization or by us, participants' data indicated a trend toward the assumption that we wrote the essay ourselves ( $M = 43.61$ ,  $SD = 21.14$ ). A  $t$  - test vs. the midpoint of the scale was conducted,  $t(35) = - 1.81$ ,  $p = .078$ . While it would have been ideal if there had been no suspicion at all, the result was regarded as positive. A sample of students who are accustomed to being subjected to experiments was not completely sure that the test had been written by us. This is especially relevant since conversational logic might suggest that, simply by asking the question, I might have hinted that the essay was written for experimental purposes (cf. Grice, 2002).

Participants indicated that the essay was moderately convincing ( $M = 5.31$ ,  $SD = 2.33$ ), and there was no significant deviation from the center of the scale (5.5),  $p > .05$ . However, they also presumed that more than half of 100 random *other* persons would be convinced by the essay ( $M = 56.89$ ,  $SD = 19.22$ ),  $t(35) = 2.2$ ,  $p = .039$ ,  $d = 0.36$ . In addition, they generally considered

the text to be of good quality (Table A28). The text is rated as significantly more positive (independent of one's own opinion) than average (midpoint of the scale = 5),  $t(35) = 3.44$ ,  $p = .002$ ,  $d = 0.57$ , as significantly easier,  $t(35) = 7.60$ ,  $p < .001$ ,  $d = 1.27$ , and as more fluent,  $t(35) = 4.50$ ,  $p < .001$ ,  $d = 0.75$ . However, the rating of professionalism does not deviate from the center of the scale,  $p = .29$ . Finally, participants rated the essay as differing moderately from their own opinion ( $M = 4.58$ ,  $SD = 2.42$ ). There was no significant deviation from the midpoint of the scale,  $p = .16$ .

**Table A28**

*Pretest Evaluations of the Essay Used as Manipulation in Experiment 6*

	<i>M</i>	<i>SD</i>
Valence ( <i>very bad – very good</i> )	6.17	2.04
Difficulty ( <i>difficult – easy</i> )	7.08	1.65
Fluency ( <i>inarticulate – fluent</i> )	6.56	2.08
Professional ( <i>amateurish – professional</i> )	5.39	2.17

### Discussion

The idea of using the AfD as a source of the manipulation was supported by most of the pretest data. The party is not only rated as the most disliked and least competent but also as the source of information whose claims would be discarded out of hand. These results suggest a high likelihood of focal rejection, allowing for displacement effects. As a comparison group the CDU is the most sensible choice. While not the most-liked, it is seen as competent and having arguments that are not usually discarded without reason. Most importantly, despite these differences, participants indicated the likelihood that the text originated from the CDU (vs. AfD) as nearly identical.

The idea of using a political organizations instead of parties was discarded for different reasons. First, and most importantly, I wanted to use the AfD as a source because I deemed the party to be the most prominent populist influence in Germany at that time (unless empirical data had suggested the use of another source, which had not been the case). Thus, we also needed a party as a comparison group. Second, the groups we had pretested were heterogeneous in nature, with some being real, some fictitious, some having connections to the government and some not.

The experimental manipulation was rated as at least moderately persuasive and its quality was also regarded as—at least—acceptable. Thus, it should be able to serve as a manipulation to induce a focal effect. The fact that the likelihood of CDU/AfD authorship was only at around 60% was not ideal. Nevertheless, an increase in this parameter for one party might result in a decrease for another party. Therefore, a 60% likelihood was regarded as sufficient.

Valence ratings served as the basis for the selection of focal and lateral topics, which is described in Pretest 2.

## Experiment 6 Pretest 2

In Experiment 5, I found no lateral attitude change from focal values to lateral policies. One of the possible explanations was that lateral topics were not closely enough related with focal topics. While Euclidian distances were low (implying high strength of association), correlations were also low (indicating that participants' valence ratings of focal and lateral topics had little in common). LAC does not specify what similarity (or SoA; see Interlude and General Discussion) exactly is, and to what degree accordance in attribution of valence is a necessary precondition for the spreading of evaluation. While not necessarily defining the relation, shared valence might also be the result of otherwise shared features such as a superordinate value-orientation and, thus, an important part of LAC processes. These considerations were borne in mind when the second pretest for Experiment 6 was designed.

Pretest 1 had already established sources and means of the focal manipulation. In addition, valence ratings for 22 values and 20 policies had been assessed. The goal of the second pretest was to choose four values and four policies to use as focal and lateral topics in Experiment 6. In order to do so, similarity had to be established. Ideally I hoped to find values/policies central to a distribution and other values/policies clustering around them in decreasing similarity. In order to simultaneously measure similarity of several topics with several other topics, we again turned to a sorting task, as there were too many objects to allow for testing via the use of paired-comparisons

## Method

### Pre-selection, Participants and Procedure

Even when a sorting task was used, it was necessary to carry out a preliminary reduction in the number of items—expecting participants to depict the subjective pattern of similarity of 42 topics was deemed unrealistic. Therefore, I eliminated topics, that: (1) I believed to be too

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ambiguous or complicated to guarantee that a majority of participants would understand them in the same way (e.g., cultural relativism, teaching of Islam at schools), (2) were not specific enough (e.g., European value orientation), (3) were rated too extreme in Pretest 1 (e.g., mandatory language courses).

**Table A29**

*Preselected Topics to be Included in a Sorting Task to Examine Relations of Topics  
Pretested for Experiment 6*

Values	Policies
Conformity/adaptation	Ceiling on immigration
Tradition	Consequent deportations
Multiculturalism	Educational scholarships for refugees
Christianity	Family reunions
Altruism	Tougher border entry controls
Benevolence	Ankle monitors for those who might threaten state and citizens
Security	Daycare centers with a focus of teaching language
Conservatism	Value-education at schools
	Burka ban
	Reception centers at the borders
	General headscarf ban
	Open borders

Finally, a list of 20 topics, 8 values and 12 policies emerged (Table A29). Similar to the pretest for Experiment 5, I subjected participants to a sorting task. However, in order to increase

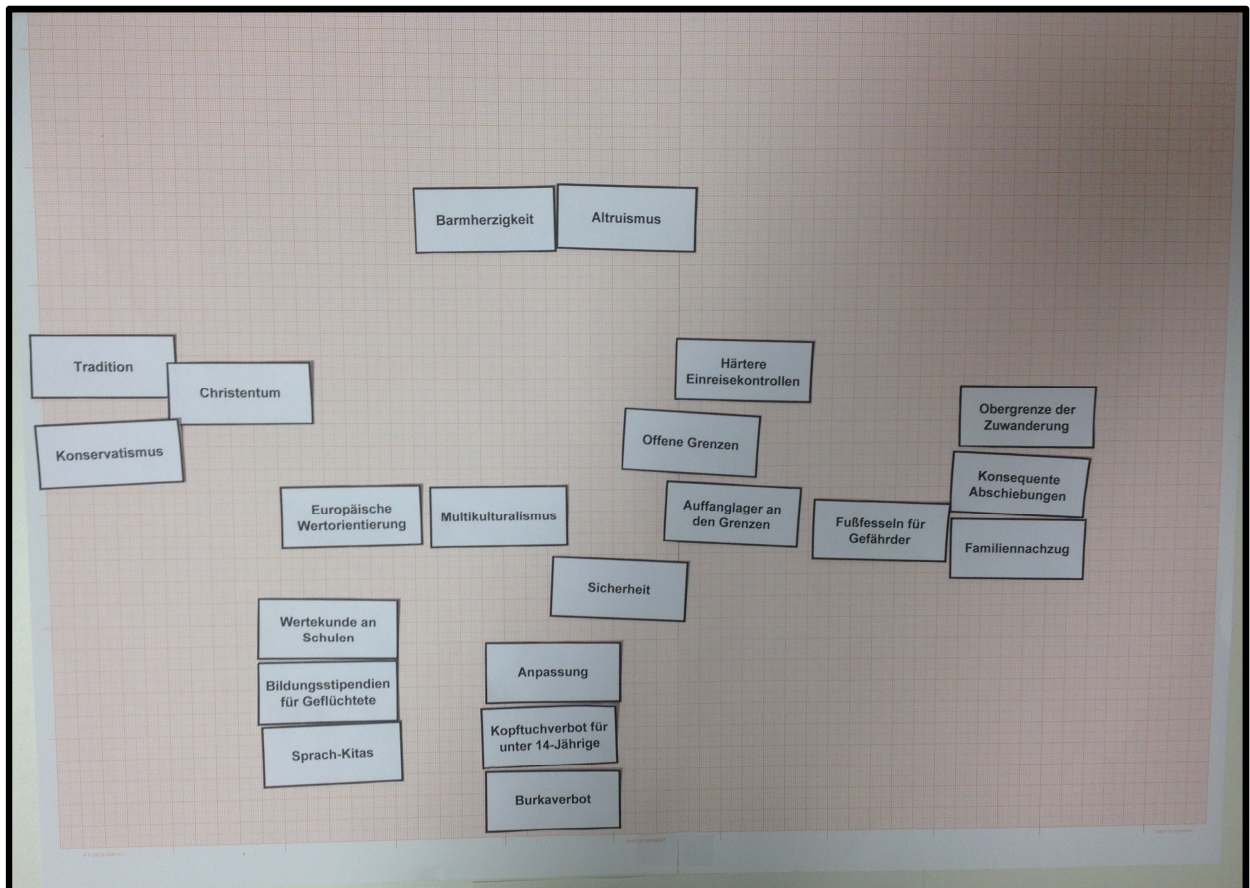


participants' visceral experience, to allow for a better overview and to be able to use more stimuli, we decided to use a pen and paper procedure (instead of a computer-based procedure).

In total, 40 participants (17 male, 23 female;  $M_{\text{age}} = 23.80$ ,  $SD_{\text{Age}} = 4.21$ ) were recruited on the campus of Bielefeld University. Participants were welcomed by an experimenter and were seated in front of a table prepared with a sheet of graph paper. Subsequently, they were given instructions and a pile of paper notes (6.2 cm×2.8 cm; participants 1 to 3: 8.4 cm×3.9 cm), each one representing one of the topics (Figure A3). The instructions stated that participants were to sort the topics (= the notes) according to their relation to each other. Objects that "had a lot in common" should be arranged close to each other, whereas objects that had "nothing in common" were to be placed far apart from each other. Participants were also told, that it was not important how they (the participants) evaluated the topic and that it was not important how any specific relation between the objects might have been constituted. Finally, participants were told they could approach the task however they liked, but were asked to take their time (at least 10 min). In addition to sorting the topics, participants answered a few questions on demographic information. Afterward, participants were thanked, dismissed and were given the choice to take some sweets as a thank you for their help. When participants had left, the experimenters, noted the x and the y position of the upper left corner of each topic (note).

**Figure A3**

*Example of a Finished Sorting Task to Test Relations of Topics Pretested for Experiment 6*



## Results

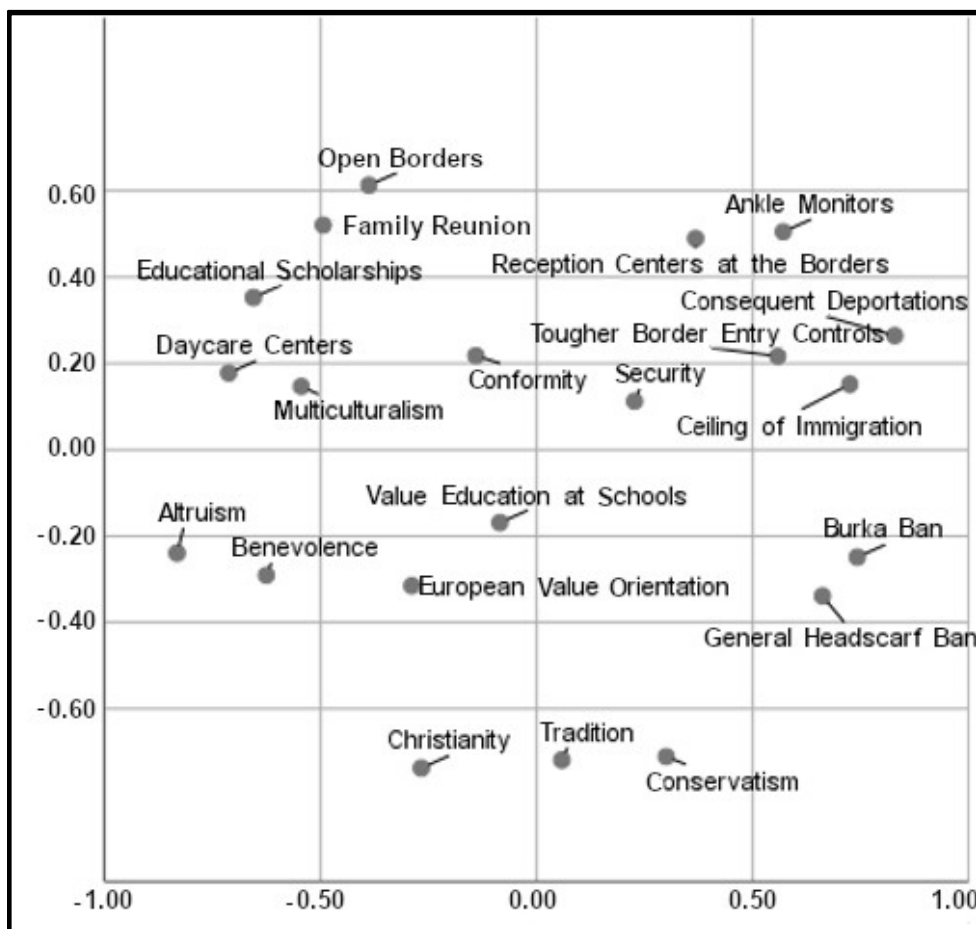
### Sorting Task

The first three participants were excluded due to a different and excessively large note format, resulting in the data of 37 participants (16 male, 21 female;  $M_{\text{age}} = 23.92$ ,  $SD_{\text{Age}} = 4.29$ ) being included in the following analysis. The matrix of relations of topics that had been created on the basis of the x and y coordinates was analyzed using a proxscal MDS (Busing et al., 1997)

procedure in order to arrange the objects in low n-dimensional space. The proxscal MDS transformed the data into a (dis)similarity map of proximities, with Euclidian distances between topics describing similarity (or rather how much objects had “*in common*”). A two-dimensional configuration produced a solution with an acceptable goodness-of-fit level (stress = .052; according to Kruskal, 1965, stress = .05 is a “good” fit). While a three-dimensional solution would have offered an even better goodness-of-fit level (stress = .021; “excellent” according to Kruskal) the 2-dimensional solution was chosen for reasons of clarity. The result of the MDS is shown in Figure A4.

**Figure A4**

*2-Dimensional Map of Spatial Relations of Topics Pretested for Experiment 6*



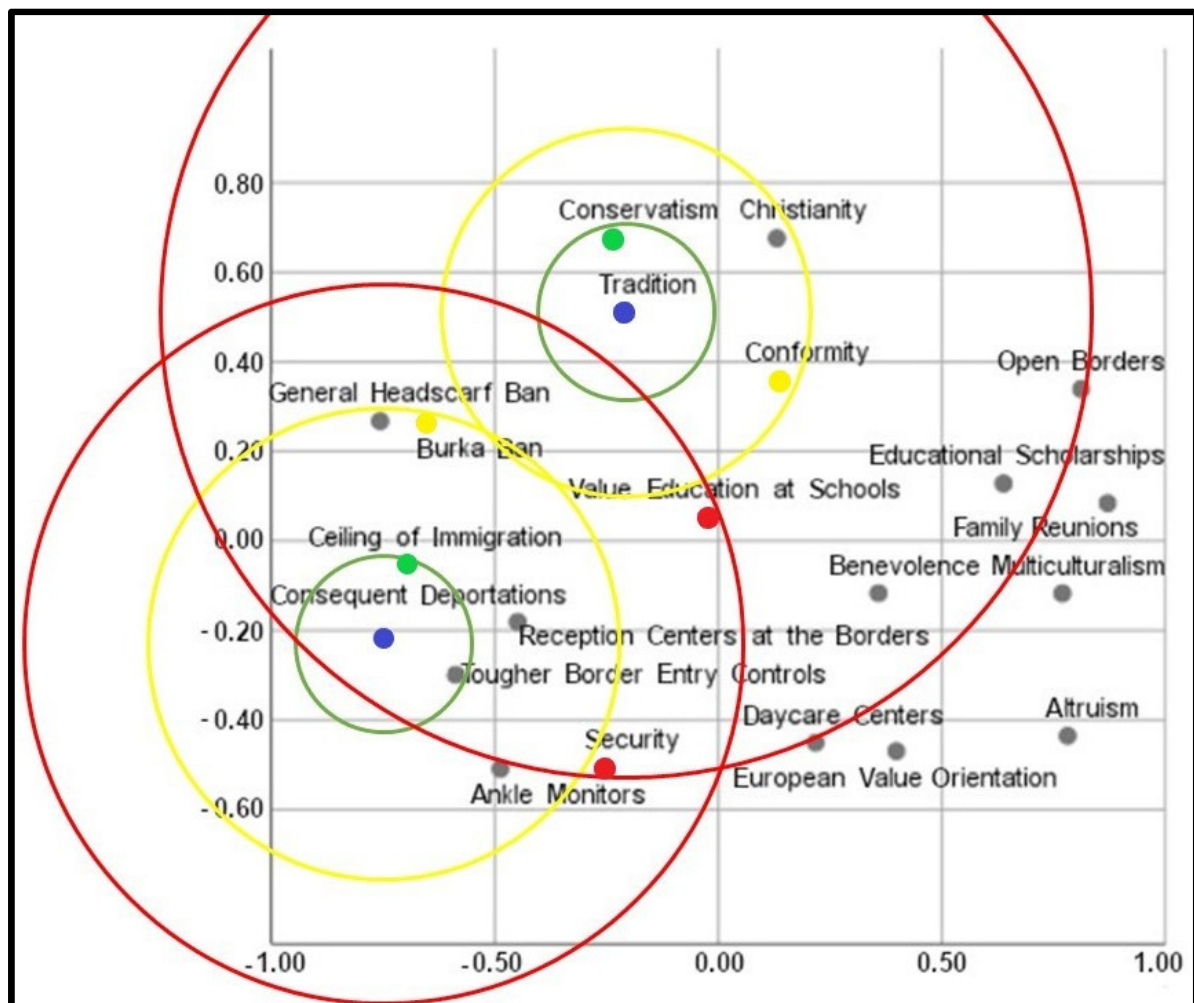
### **Integration**

The MDS on the basis of the sorting task provided me with a proximity map of similarities or even the “sameness” (Hout et al., 2014, p. 1) of our topics. However, results of Experiment 5 had shown that similarity on the basis of MDS might not be enough to allow for generalization. In addition, participants had been instructed to ignore valence of topics in the sorting task. Thus, it was reasonably safe to assume that two measures of similarity had been assessed: An undefined “sameness” (what objects “had in common”) in the form of Euclidian distances (Pretest 2) and raters’ corresponding valence evaluation in the form of correlations (data from attitudes toward values and policies; Pretest 1).

To achieve a holistic approach to strength of association for topics, I decided to combine both aspects of object–relations for the selection of focal and lateral topics for Experiment 6. While both aspects are listed for the chosen attitude objects in Table A30, I also wanted to combine the measurements and display the final result graphically. In order to do so, I assigned a correlational coefficient and a Euclidian distance to each pair of topics. Then, a correlational matrix was created in the same format as the matrix of Euclidian distances. Next, the correlational coefficients underwent Fisher’s z-transformation, and the Euclidian distances underwent z-transformation. Afterward, a new MDS was computed, including both transformed matrices as bases of the analysis. Consequently, a new “map” of topic-relations was created, based on equally weighted correlations and distances. In order to interpret the MDS, a two-dimensional solution was chosen. The goodness of fit was slightly reduced in comparison to the sorting-task-only version of the MDS, but was still “fair” (stress = .069, Kruskal, 1964). The second map of object-relations was used to choose focal and lateral topics.

Figure A5

2-Dimensional Map of Spatial and Correlative Relations of Topics Used in Experiment 6



Note. Focal topics are blue, Y1 = green, Y2 = yellow, Y3 = red.

For the choice of dependent variables two factors were relevant. For policies and values respectively, a focal object had to be chosen which fitted the experimental manipulation previously pretested and could credibly be the subject of a line of argumentation which allegedly

originated from an AfD (CDU) source (thus, topics such as open borders were excluded as focal objects). Secondly, for both focal topics (one from values, one from policies), three lateral topics of decreasing strength of association were necessary.

Contrary to Experiment 4, an equal strength of association between focal and lateral topics across values and policies (e.g., between a focal value and a lateral policy) was given a lesser priority.

In addition to lateral topics, I decided to also include objects that were even more distant to the focal objects on the MDS map in order to test potential contrast effects. Table A30 lists the topics chosen for Experiment 6.

**Table A30**

*Pretested Euclidian Distances and Correlations with the Respective Focal Topic for Values and Policies Used in Experiment 6*

	Values	$\Delta$	$r$	Policies	$\Delta$	$r$
Focal X	Tradition			Resolute deportations		
Lateral Y1	Decreasing	.24	.53	Ceiling on immigration	.17	.53
Lateral Y2		.80	.35	Burka ban	.44	.33
Lateral Y3		1.2	.37	Value-education at school	.91	.36
Contrasting	Multiculturalism	1.0	-.11	Open borders	1.3	-.51

**Appendix B**  
**Additional Tables, Figures, and Analyses for Experiments in Part II**

**Additional Table Experiment 4**

**Table B1**

*Evaluations of Focal and Lateral Topics as a Function of the Order Condition in Experiment 4*

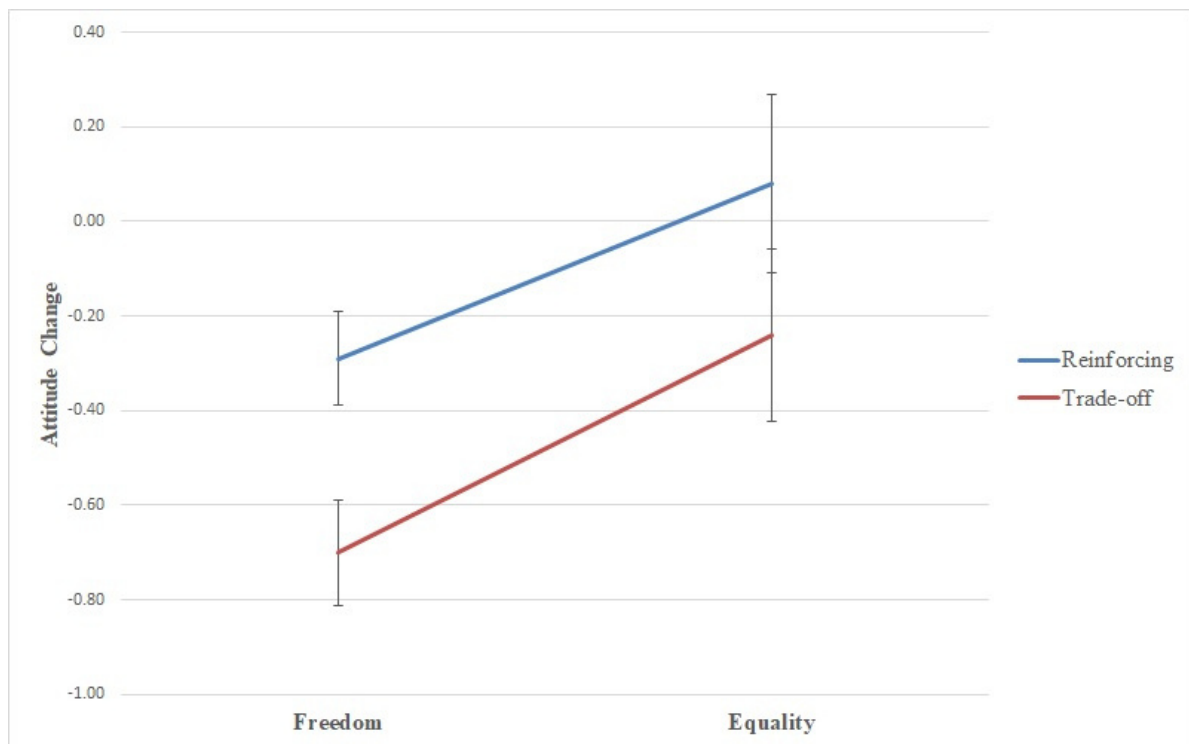
		Topics	Order Condition	
			Value First	Policy First
Values	X (Y1)	Equality	5.09 (1.45)	5.55 (1.23)
	Y2	Justice	6.24 (1.14)	6.58 (0.72)
	Y3	Tolerance	5.97 (1.21)	6.39 (0.87)
	Y4	Honesty	5.96 (1.07)	6.30 (0.90)
	Y5	Hedonism*	4.32 (1.34)	4.80 (1.33)
Policies	X (Y1)	Gender-related affirmative action	3.97 (1.59)	4.14 (1.63)
	Y1	Equal pay	6.36 (1.23)	6.53 (0.98)
	Y2	Severe penalties	5.33 (1.36)	5.35 (1.42)
	Y3	Wage limits	3.85 (1.56)	4.04 (1.79)
	Y4	Restricting the right of asylum	3.13 (1.76)	3.14 (1.73)
	Y5	Robots in care	3.57 (1.56)	3.64 (1.74)

*Note.* Results are averaged over topic condition.

**Additional Figures Experiment 5**

**Figure B1**

*Explicit Attitudes Toward Freedom (focal) and Equality (lateral) Depending on Relation Condition in Experiment 5*

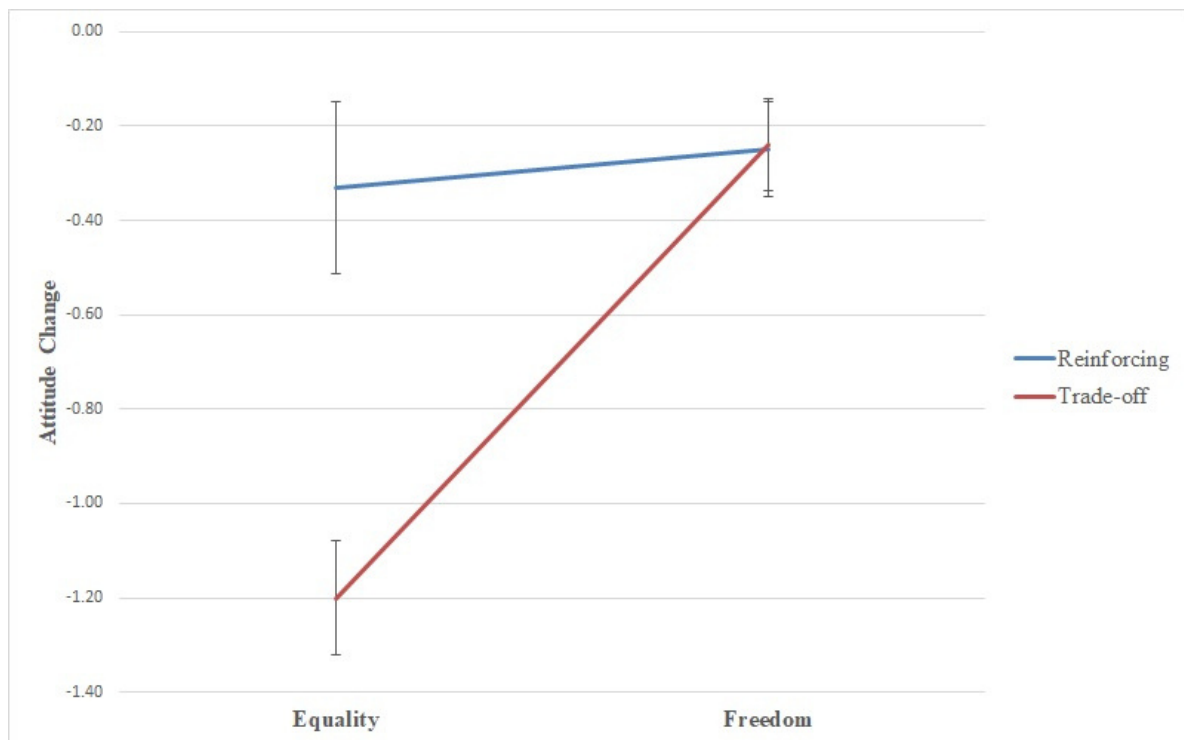


*Note.* Numbers on the Y-axis are deviations from the control group mean. Negative evaluations are in line with the manipulation if values are mutually reinforcing.



**Figure B2**

*Explicit Attitudes Toward Equality (focal) and Freedom (lateral) Depending on Relation Condition in Experiment 5*

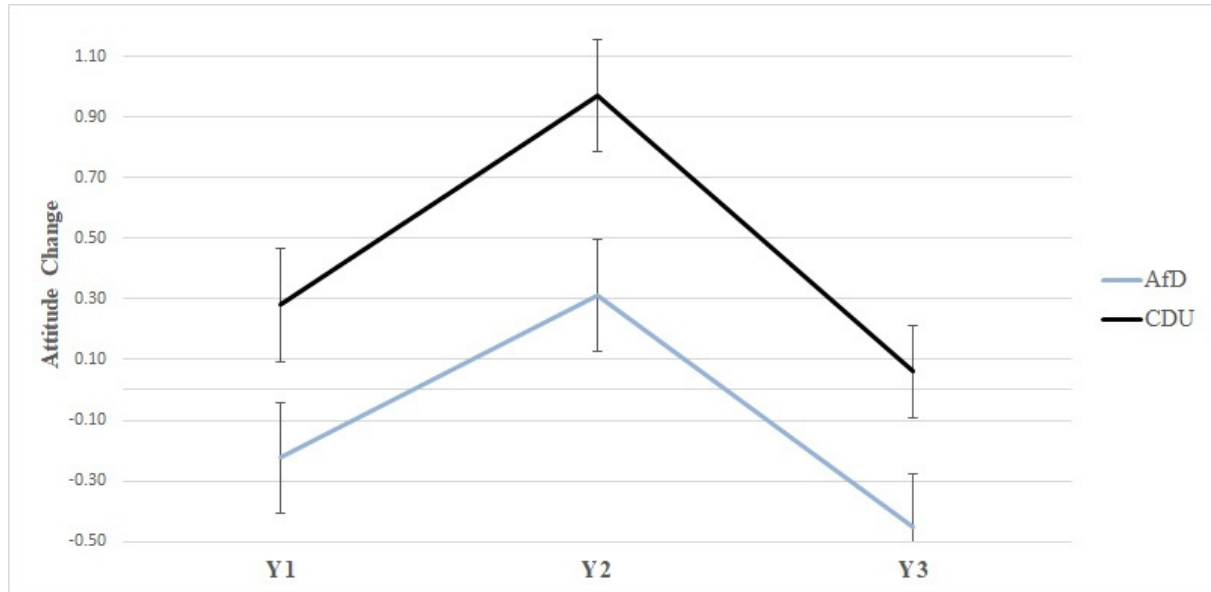


*Note.* Numbers on the Y-axis are deviations from the control group mean. Negative evaluations are in line with the manipulation if values are mutually reinforcing.

Additional Figures Experiment 6

Figure B3

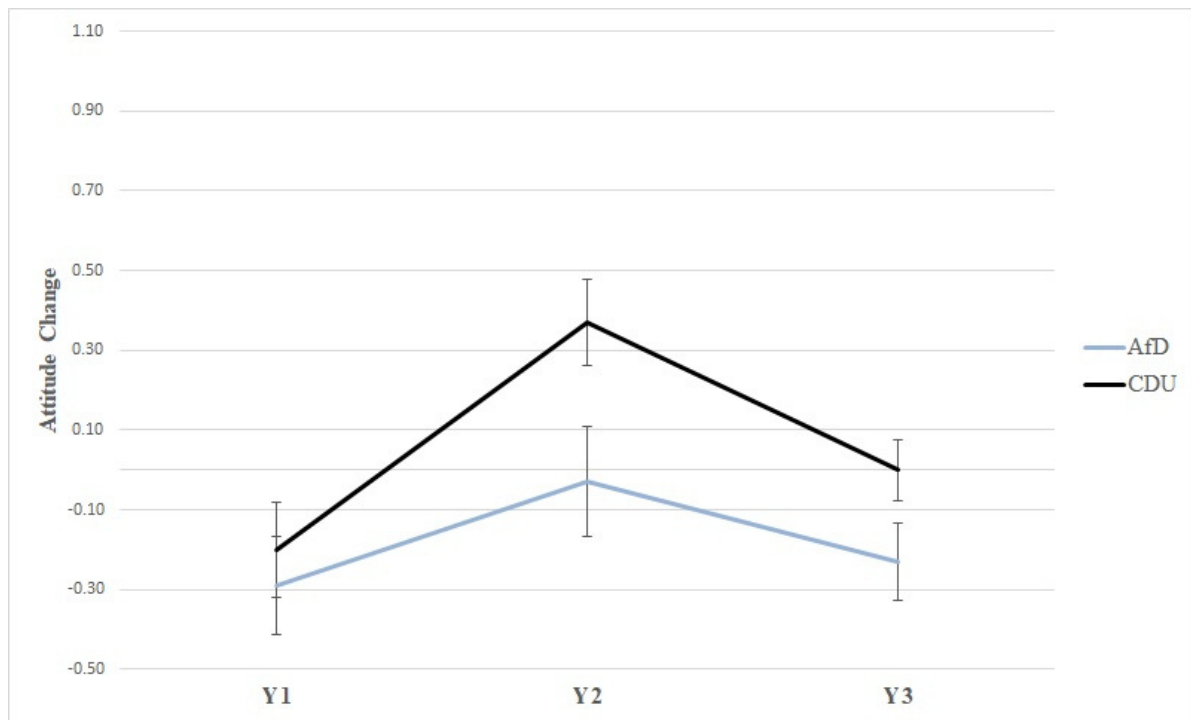
*Explicit LAC Toward Policies as a Function of the Source Condition in Experiment 6*



*Note.* Numbers on the Y-axis represent deviations from the baseline mean.

**Figure B4**

*Explicit LAC Toward Values as a Function of the Source Condition in Experiment 6*



*Note.* Numbers on the Y-axis represent deviations from the baseline mean.

### Additional Analyses in Experiment 6

Several further analyses for Experiment 6 are described below. Whereas most analyses in the main text use averaged topics (policies and values) as focal and lateral objects, the following tests were conducted to examine whether there were different effects for (focal, lateral, and contrasting) values and policies. Unless otherwise specified, all ANOVAs include source, hierarchy, and sequence as between-subjects factors.

#### Reaction Time Differences

In order to test differences in reaction times regarding reactions to targets as a function of whether the target was either a value or a policy, I averaged RTs for all positive and negative prime-target combinations for policies ( $M = 690.29$ ,  $SD = 136.88$ ) and values ( $M = 683.26$ ,  $SD = 141.31$ ) respectively. A t-test confirmed that RTs regarding values (vs. policies) were significantly shorter,  $t(224) = -2.27$ ,  $p = .024$ ,  $d = 0.15$ . The effect size, however, is minimal.

#### Explicit Attitude Change Toward Value and Policy Topic

In order to examine whether experimental effects varied between the two (potential) focal objects, two more analyses for the respective topics were conducted.

There was more attitude change toward resolute deportations (focal policy) in the CDU ( $M = 0.35$ ,  $SD = 1.53$ ) than in the AfD condition ( $M = -0.14$ ,  $SD = 1.47$ ). An ANOVA confirmed significance of the source-condition,  $F(1, 180) = 4.92$ ,  $p = .028$ ,  $\eta^2 = .027$ . However, neither sequence nor hierarchy condition nor any interactions were significant, all  $p > .13$ . Next,  $t$ -tests versus zero were conducted for both source conditions to examine attitude change (i.e., deviation from the baseline condition). Indeed, the attitude toward resolute deportations was more positive in the CDU condition,  $t(93) = 2.21$ ,  $p = .030$ ,  $d = 0.23$ . In the AfD condition, there was no attitude change toward resolute deportations,  $t < 1$ .

When the ANOVA described above is computed once more, including political orientation as a covariate, the source effect is only marginally significant,  $F(1,187) = 2.82$ ,  $p = .095$ ,  $\eta^2 = .016$ . However, the effects of sequence,  $F(1, 180) = 5.13$ ,  $p = .025$ ,  $\eta^2 = .028$  and hierarchy,  $F(1, 180) = 3.18$ ,  $p = .076$ ,  $\eta^2 = .017$  become (marginally) significant. Regarding the former, attitude change toward resolute deportations was more positive when the source was mentioned prior to ( $M_{adjusted} = 0.33$ ,  $SE = 0.14$ ) rather than after the manipulation ( $M_{adjusted} = -0.11$ ,  $SE = 0.14$ ). Concerning the latter, attitude change was more positive in the policy ( $M_{adjusted} = 0.28$ ,  $SE = 0.14$ ) rather than the value ( $M_{adjusted} = -0.07$ ,  $SD = 1.14$ ) condition. An ANOVA with participants' ratings of tradition (focal value) as the DV showed that evaluations were independent of the source of the persuasive message,  $p = .25$ . Attitude change toward tradition, however, is more positive (or less negative) in the value ( $M = -0.09$ ,  $SD = 1.03$ ) than in the policy condition ( $M = -0.44$ ,  $SD = 1.18$ ),  $F(1, 180) = 4.64$ ,  $p = .033$ ,  $\eta^2 = .025$ . Thus, the ratings of tradition were more positive when the message argued specifically in favor of tradition vs. in favor of resolute deportations. In addition, attitude change toward tradition is also more positive when the source was mentioned before ( $M = -0.09$ ,  $SD = 1.06$ ) rather than after ( $M = -0.43$ ,  $SD = 1.14$ ) the message,  $F(1, 180) = 4.25$ ,  $p = .041$ ,  $\eta^2 = .023$ . Despite the lack of a source effect, t-tests versus zero were conducted to test for attitude change. Attitude change toward tradition was negative in the AfD condition,  $t(93) = -2.91$ ,  $p = .005$ ,  $d = -0.30$ . There was no significant attitude change in the CDU condition,  $p = .12$ . Furthermore, negative attitude change toward tradition was significant in the policy condition,  $t(93) = -3.62$ ,  $p < .001$ ,  $d = -0.37$ , but not in the value condition,  $t < 1$ .

When political orientation is added as a covariate to the ANOVA described above, only the main effect of sequence remains significant,  $F(1, 180) = 7.29$ ,  $p = .008$ ,  $\eta^2 = .039$ . To sum up, effects of the experimental conditions are not identical for the focal policy and the

focal value respectively. Regarding the focal policy, the source is more important; regarding the focal value, hierarchy is more important. Including political orientation as a covariate changes results for both the focal policy and the focal value.

In order to gain a better insight into the influence of political orientation on attitude change toward focal topics, it was included in an ANOVA as a median split between-subjects factor ( $Mdn = 32.50$ ). However, the resulting groups do not represent left- versus right-leaning participants but rather very left-leaning ( $M = 18.00$ ,  $SD = 9.74$ ,  $n = 116$ ) and center-leaning ( $M = 46.93$ ,  $SD = 10.82$ ,  $n = 112$ ) participants. Subsequent analysis on attitude change toward the averaged focal objects revealed the expected main effect of political orientation,  $F(1, 180) = 34.16$ ,  $p < .001$ ,  $\eta^2 = .166$ . There was positive attitude change ( $M = 0.50$ ,  $SD = 1.08$ ) for centrist participants and negative attitude change for left-wing participants ( $M = -0.44$ ,  $SD = 1.28$ ). Furthermore, a three-way interaction of political orientation, source and sequence emerged,  $F(1, 180) = 5.37$ ,  $p = .022$ ,  $\eta^2 = .030$ . Focal evaluations of politically moderate participants differ on the basis of source (more positive in the CDU condition) only when the source is mentioned prior to the manipulation. On the other hand, very left-leaning participants show next to no differences in evaluation (between source conditions) when the source is mentioned prior to the manipulation but rate the object more negatively when the information that it was written by the AfD was presented after the manipulation. Besides, all other main effects remain as reported for the ANOVA without covariate (effects are larger).

### **Implicit Attitude Change Toward Value and Policy Topic**

When the focal topics are viewed independently, an ANOVA for resolute deportations returned a trend of a 3-way interaction between all experimental factors (source, hierarchy, sequence),  $F(1, 177) = 2.99$ ,  $p = .086$ ,  $\eta^2 = .017$ . When the source is mentioned prior to the manipulation, attitude change is more positive in the AfD and values (thus lateral) and CDU and

policies (thus focal) condition; when the source is mentioned afterward, the pattern is reversed.

Descriptively, it seemed that the previously observed pattern (3-way interaction of all experimental factors) did reverse for the implicit attitude change toward tradition, but the pattern was not significant,  $p = .142$ . In order to examine whether the observed pattern did indeed reverse, focal topics were introduced as a within-subjects factor (policy, value). The interaction of all experimental factors with the within-subject factor was significant,  $F(1, 176) = 5.60, p = .019, \eta^2 = .031$ .

### **Explicit Lateral Attitude Change Toward Values and Policies**

In order to examine the possibility of results for lateral policies or values being different, attitude change toward lateral policies and values was averaged separately. An ANOVA on attitude change toward lateral policies revealed a significant main effect of the source,  $F(1, 180) = 9.24, p = .003, \eta^2 = .049$ . Attitude change toward the lateral policies was more positive when the source was the CDU ( $M = 0.44, SD = 1.21$ ) rather than the AfD ( $M = -0.12, SD = 1.25$ ). A t-test versus zero revealed significant LAC in the CDU condition,  $t(93) = 3.49, p = .001, d = 0.36$ , but not in the AfD condition,  $t < 1$ .

A second ANOVA revealed that, unlike attitude change toward the focal value, attitude change toward the lateral values was influenced by the source of the message,  $F(1, 180) = 4.55, p = .034, \eta^2 = .025$ . Attitude change was more positive when the message allegedly originated with the CDU ( $M = 0.06, SD = 0.65$ ) than in the AfD condition ( $M = -0.18, SD = 0.88$ ). Furthermore, there was a marginally significant effect for hierarchy,  $F(1, 180) = 3.04, p = .083, \eta^2 = .17$ . Attitude change was more positive when the message argued in favor of the value ( $M = 0.03, SD = 0.81$ ) rather than the policy ( $M = -0.16, SD = 0.75$ ). Attitude change toward lateral values is also explained (marginally significant) by a three-way interaction between the source, the hierarchy level, and the sequence,  $F(1, 180) = 3.64, p = .058, \eta^2 = .20$ . A t-test versus

zero revealed no LAC in the CDU condition,  $t < 1$ , but not in the AfD condition, but marginally significant negative attitude change in the AfD condition,  $t(93) = -1.97, p = .051, d = -0.20$ .

### **Implicit Lateral Attitude Change Toward Values and Policies**

An ANOVA on implicit attitude change toward averaged lateral policies returned no significant results, all  $p > .112$ . An ANOVA on implicit attitude change toward averaged lateral values returned a marginally significant effect for the source condition,  $F(1, 177) = 2.89, p = .091, \eta^2 = .016$ . Implicit attitude change was more positive in the AfD ( $M = 10.22, SD = 86.47$ ) than in the CDU condition ( $M = -9.90, SD = 76.03$ ).

### **Lateral Contrast**

I conducted two ANOVAs on the contrasting explicit topics, one policy and one value. The first ANOVA revealed a highly significant main effect of the source,  $F(1,180) = 11.19, p = .001, \eta^2 = .059$ , on the contrasting policy. Attitude change toward Open borders was more negative in the CDU ( $M = -0.64, SD = 1.67$ ) than in the AfD ( $M = 0.14, SD = 1.47$ ) condition. The second ANOVA revealed a significant main effect of the source,  $F(1,180) = 4.38, p = .038, \eta^2 = .024$ , on the contrasting value. Attitude change toward multiculturalism was more negative in the CDU ( $M = -0.32, SD = 1.16$ ) than in the AfD ( $M = 0.00, SD = 0.91$ ) condition ( $M = 6.09, SD = 1.13$ ). Neither ANOVA revealed additional main or interaction effects. Thus, independently of the exact topic of the persuasive message, the arguments of the CDU led to a contrast effect on negatively related subjects. Including PFC in the ANOVA revealed no further significant effects, all  $p > .24$ .

Separate analyses on implicit attitudes toward the contrasting policy and value revealed only a significant interaction of hierarchy and sequence for multiculturalism,  $F(1,177) = 3.96, p = .048, \eta^2 = .022$ . Implicit attitude change toward multiculturalism was more negative when the source information had been provided prior to a message about resolute deportations or after a message



about tradition.

### Personal Values

The ANOVA on value priority change toward the higher-order value conservation returned a significant effect for the source,  $F(1,180) = 4.12, p = .044, \eta^2 = .022$ , and an interaction of source and hierarchy,  $F(1,180) = 4.47, p = .036, \eta^2 = .024$ . Value priority change toward conservation was larger in the CDU ( $M_{policy} = -0.12, SD = 0.49; M_{value} = 0.13, SD = 0.43$ ) than in the AfD ( $M_{policy} = -0.13, SD = 0.53; M_{value} = -0.17, SD = 0.53$ ) condition. The effect, however, only appeared in the value condition.

The ANOVA on value priority change toward the higher-order value of openness to change returned a significant effect for the interaction of source and hierarchy,  $F(1,180) = 7.55, p = .007, \eta^2 = .040$ . Value priority change away from openness to change was larger in the CDU condition, when the message had argued in favor of tradition ( $M_{policy} = 0.17, SD = 0.43; M_{value} = -0.07, SD = 0.40$ ) and larger in the AfD condition when the message had argued in favor of the resolute deportations ( $M_{policy} = 0.13, SD = 0.53; M_{value} = -0.17, SD = 0.53$ ) condition. Results support the interpretations drawn from Figure 28.

## Appendix C

### Materials

Below, I provide materials used in Experiments 1 to 6. Most materials are provided screen by screen, that is, in the way they were presented to participants. Individuals' difference measures are presented only via examples. The research material is German, only the specific purpose of the respective material is translated. More translations will be provided on request.

### Experiment 1

#### Screen 1: Introduction

Liebe Teilnehmerin, lieber Teilnehmer,  
vielen Dank für Ihre Bereitschaft zur Teilnahme an dieser Studie.  
In dieser Studie geht es um die individuelle Bewertung von Produkten.  
Zu einigen Produkten werden Ihnen vorab Informationen gegeben, zu anderen nicht.  
Im Anschluss sollen Sie die Produkte bewerten. Bitte bearbeiten Sie alle Aufgaben  
spontan. Es gibt keine richtigen und falschen Antworten.  
Ihre Teilnahme ist freiwillig und kann jederzeit beendet werden.  
Selbstverständlich werden Ihre Antworten streng vertraulich und anonym behandelt.  
Bitte klicken Sie auf „Weiter“, um mit der Studie zu beginnen.

#### Screen 2: AMP Practice

Bevor wir Ihnen nun die Produkte präsentieren, möchten wir Sie bitten, kurz eine andere  
Aufgabe zu üben, welche Sie im späteren Verlauf erneut durchlaufen werden. Bitte  
klicken Sie auf „Weiter“, um nähere Instruktionen zu erhalten.

#### Screen 3 + 4: AMP Instructions

Im Folgenden werden Sie nacheinander Bilder und chinesische Schriftzeichen sehen. Sie  
sollen sich bitte jedes Schriftzeichen ansehen und entscheiden, ob Sie es eher  
ANGENEHM oder UNANGENEHM finden. Um Ihnen eine spontane Entscheidung zu  
erleichtern, wird das chinesische Schriftzeichen nur kurz gezeigt und dann von einem  
neutralen Pixelbild überdeckt, bis Sie Ihre Antwort gegeben haben.

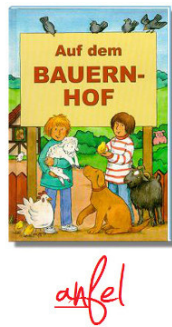
Vor dem Schriftzeichen wird Ihnen jeweils kurz ein Bild gezeigt. Dieses Bild signalisiert nur, dass gleich wieder ein Schriftzeichen erscheint. Es ist anzumerken, dass das gezeigte Bild in einigen Fällen die Beurteilung des Schriftzeichens beeinflussen kann. Da wir daran interessiert sind, wie Menschen diese Beeinflussung vermeiden können, geben Sie ihr Bestes, bei der Bewertung des Schriftzeichens das vorherige Bild zu ignorieren! Geben Sie uns eine ehrliche Einschätzung des Schriftzeichens, unabhängig von dem zuvor gezeigten Bild.

Bitte drücken Sie gleich die mit 'A' markierte Taste, wenn Sie das Schriftzeichen eher ANGENEHM finden und die mit 'U' markierte Taste, wenn Sie das Schriftzeichen eher UNANGENEHM finden.

Nochmal zusammengefasst: Sie sehen nun also immer ein Bild, anschließend ein Schriftzeichen und dann ein Pixelbild. Erst wenn das Pixelbild erscheint, entscheiden Sie bitte, ob das zuvor gesehene Schriftzeichen ANGENEHM oder UNANGENEHM war und drücken die mit 'A' oder 'U' markierten Tasten.

Los geht's!

#### AMP Practice Stimuli



#### Screen 5-8: Manipulation

Ihnen werden nun Kundenrezensionen mehrerer Produkte gezeigt. Wir zeigen Ihnen zunächst jeweils immer nur die Rezensionen für ein Produkt. Bitte lesen Sie sich die Kundenrezensionen aufmerksam und vollständig durch. Jede Seite wird für genau 1 Minute dargeboten. Im Anschluss erfolgt automatisch die nächste Rezension.

Product Reviews: all iffu positive, all iffu negative, oteyed positive, oteyed negative, beau neutral



**all iffu**

## all iffu Shower Gel Classic



89 Kundenrezensionen

### Top Kundenrezensionen:



#### Sahne zum Duschen

Von *Eve* am 12.02.2017

Das Gel Classic ist ein Mercedes unter allen Duschprodukten! Sahne zum Duschen. Ein Genuss für die Sinne. Der Preis ist wirklich gut für ein Produkt, welches nachhaltig und ohne Parabene hergestellt wird. Anstatt Blumen oder Pralinen lieber mal sowas Tolles verschenken! Würde ich sofort wieder kaufen, absolute Empfehlung.



#### Tolles Produkt

Von *Heike K.* am 24.01.2017

Das tolle Gefühl beim Duschen ist einfach genial. Die Haut fühlt sich schon beim einseifen wunderbar zart und gepflegt an. Ich benutze dieses Duschgel seit fast 3 Wochen und es kann auch Einbildung sein, aber meine Haut fühlt sich wirklich zarter an! Ich werde es auf jeden Fall wieder kaufen!



#### Sehr angenehmes Duschgel und ein tolles Geschenk

Von *Galetta* am 03.02.2017

Ich habe dieses Duschgel meiner Mutter zu Weihnachten geschenkt. Sie hat sich sehr gefreut. Ich fand es toll wegen den natürlichen Inhaltsstoffen und ihr gefällt der Duft sehr gut.



#### Nie mehr was Anderes!

Von *Mark S.* am 18.03.2017

Da ich zu trockener und empfindlicher Haut neige, wollte ich dieses Duschgel ausprobieren und bin wirklich begeistert. Es ist ein angenehmes Gefühl auf der Haut. Aber das Beste ist das es sehr ergiebig ist und zudem die Haut pflegt. Für den Preis absolut top!



## all iffu Shower Gel Classic



89 Kundenrezensionen

**all iffu**

### Top Kundenrezensionen:



**Pflege: mittelmäßig – Inhaltsstoffe: durchgefallen**

*Von Eve am 12.02.2017*

Unter der Dusche lässt sich die Pflegedusche nicht so gut verteilen. Darüber hinaus frage mich wirklich, warum die Industrie mehrere bedenkliche Stoffe in ein Produkt packt, obwohl ihre schädliche Wirkung mittlerweile hinlänglich bekannt ist! Da verzichte ich lieber darauf und leg ein paar Cent mehr auf den Ladentisch, um ein besseres Produkt zu bekommen.



**Absoluter Fehlkauf!**

*Von Heike K. am 24.01.2017*

Seitdem ich dieses Produkt benutze ist meine Haut total trocken und rissig geworden! Noch nie hat sich meine Haut so schlecht angefühlt! Ich bin total unzufrieden... Finger weg von dem Produkt!!!!



**Nichts Besonderes, ein durchschnittliches Duschgel wie jedes andere!**

*Von Galetta am 03.02.2017*

Vom Geruch her hat mich dieses Duschgel anfangs irritiert. Ich muss sagen, dass es so gar nicht mein Duft ist, auch wenn er ziemlich schnell verfliegt. Dieses Duschgel ist für mich ein Durchschnittsprodukt und fällt in die Kategorie "Kann man nehmen, muss aber nicht". Fazit: Nicht unbedingt zu empfehlen!



**Wo sensitiv drauf steht, sollte es auch drin sein!**

*Von Mark S. am 18.03.2017*

Als Mensch mit sensibler Haut mag ich Soft- und Sensitive-Produkte. In diesem Produkt sind jedoch leider Inhaltsstoffe wie „Acrylamid“ und „Polyquaternium“ enthalten. Polyquaternium verschließt die Poren und mit (geringen Mengen) Acrylamid kann es potenziell krebserzeugend, erbgutverändernd, giftig und reizend. Unter "Sensitive" stelle ich mir etwas anderes vor. Menschen mit empfindlicher Haut sollten hier vorsichtig sein!



**oteyef**

## oteyef Wanderrucksack



85 Kundenrezensionen

### Top Kundenrezensionen:



#### Top Rucksack mit ausreichend Stauraum und stabilem Rückteil

Von Harald B. am 02.03.2017

Der Rucksack hat ein stabiles Rückenteil, hält auch bei Regen gut dicht und lässt sich komfortabel tragen. Der Stauraum ist sehr ordentlich bemessen und durch mehrere Fächer bietet er genug Möglichkeiten für einen individuellen Zweck. Im täglichen Gebrauch konnte er sich absolut beweisen und auch nach 9 Monate im Einsatz sieht er immer noch aus wie neu! Super Qualität, daher volle fünf Sterne!



#### Ich bin absolut begeistert - definitiv besser als erwartet

Von S. Lear am 29.01.2017

Beim ersten Auspacken ist mir bereits die Größe positiv aufgefallen. Die Trageriemen und Rückenpolster sind ebenfalls angenehm im Tragemodus. Alles ist sauber verarbeitet - die Druckknöpfe, das Leder, die Schnallen und die Nähte. Mein Fazit: Mehr, als ich erwartet habe. Auch heute benutze ich den Rucksack noch regelmäßig und ich bin nach wie vor mehr als zufrieden



#### Mein Liebling und treuer Begleiter, einfach super!

Von Gabi am 12.03.2017

Ich liebe diesen Rucksack. Warum? Er ist super verarbeitet und sieht einfach toll aus. Als treuer Begleiter auf jeder Reise unentbehrlich. Definitiv weiterzuempfehlen!



#### Der perfekte Reisebegleiter - fünf Sterne!

Von Julia F. am 24.02.2017

Ich hatte den Rucksack auf einer 4-wöchigen Reise auf den Philippinen dabei. Selbst unter widrigen Bedingungen hat er mich nicht enttäuscht. Mit Sonne, Regen, Salzwasser, Dreck etc. wurde er ohne Probleme fertig. Als Wanderrucksack für längere Reisen daher super geeignet, da er wirklich sehr rutschfest sitzt und trotz einiges an Gewicht kaum zu spüren ist. Die Leichtigkeit ist überwältigend. Ich empfehle den Rucksack mit dem größten Vergnügen weiter!



oteyef

## oteyef Wanderrucksack



85 Kundenrezensionen

### Top Kundenrezensionen:



#### Eine wahre Qual für den Rücken

Von Harald B. am 02.03.2017

Bereits beim ersten Tragen habe ich gemerkt, der taugt nichts. Kaum eine halbe Stunde gelaufen und schon tut alles weh! Die Last verteilt sich nicht richtig auf dem Rücken und außerdem schneiden die Tragegurte total ins Fleisch. Das war leider ein totaler Fehlkauf...



#### Klein & Hässlich

Von S. Lear am 29.01.2017

Enttäuscht, sehr wenig Stauraum, nicht einmal DIN A4 passt ungeknickt rein. Jede mittlere Handtasche hat mehr Volumen. Zu dünnes Material, bei schwereren Inhalt hängt der Rucksack wie eine Tüte oder Beutel am Rücken und schlägt Beulen, da das Material wie gesagt zu dünn und instabil ist. Sicher Geschmackssache, aber ich würde den Rucksack eher nicht weiterempfehlen.



#### Qualitativ nicht zufriedenstellend

Von Gabi am 12.03.2017

Schlechte Qualität. Bereits nach 2 Wochen ist das Rückenteil gerissen. Weiterhin ist der Stoff mittlerweile durch eine Vielzahl an großen Löchern gekennzeichnet. Aber da der Stoff vorher schon wasserdurchlässig war, macht das jetzt auch keinen Unterschied mehr. Sehr, sehr unzufrieden.



#### Aus der Traum vom Wanderurlaub

Von Julia F. am 24.02.2017

Ich hatte den Rucksack auf einer 4-wöchigen Reise auf den Philippinen dabei. Unter widrigen Bedingungen hat er mich nur enttäuscht. Mit Sonne, Regen, Salzwasser, Dreck etc. wurde er absolut nicht fertig. Als Wanderrucksack für längere Reisen daher absolut ungeeignet. Ich würde jedem von einem Kauf abraten!



## beao Kühlschrank



92 Kundenrezensionen

### Top Kundenrezensionen:



#### Nobody's perfect

Von *TheBasic* am 17.01.2017

Das Gerät macht spontan einen guten Eindruck und ist auch sehr schnell in Betrieb. Funktioniert super! Es ist ein bisschen schade, das der Kühlschrank schon recht klein ist, aber ansonsten gibt wenig auszusetzen. Jaaa... die Glühbirne brennt immer mal wieder durch, muss man mit leben, aber es gibt schlimmeres. Daher gibt's trotz dieser Kleinigkeiten eine Kaufempfehlung von mir.



#### Für das Nötigste reicht's

Von *Sonja W.* am 15.02.2017

Der Kühlschrank wirkt insgesamt durchschnittlich in der Qualität. Das Gehäuse ist aus recht instabilem Plastik, sodass man manchmal beim Auf- und Zumachen das Gefühl hat, dass gleich etwas abfällt. Auch die Fächer innen sind ziemlich wackelig und schlecht verarbeitet. Aber ansonsten tut das Ding, was es soll – mein Essen bleibt kalt. Muss reichen.



#### Stromsparer aufgepasst ;) Dies ist was für euch!

Von *Nadine M.* am 30.03.2017

Dank Energieeffizienzklasse A++ ist das Gerät sehr stromsparend und verbraucht nur einen Bruchteil des Strombedarfs anderer Kühlschränke, was für mich persönlich ein überzeugendes Kaufargument ist.



#### Außen warm, innen kalt

Von *Andy* am 23.02.2017

Der Kühlschrank ist für diesen Preis in Ordnung. Er benötigt laut Hersteller nur wenig Strom (mal sehen in der Praxis) und ist für eine Person genau richtig in der Größe. Er kühlt sehr gut und vor allem schnell. Bei 30° Außentemperatur war der Kühlschrank zwar innen kalt, aber die Seiten sehr warm, da sollte man den Kühlschrank wohl nicht all zu sehr zustellen.



**Screen 9: Confirmation Condition:**

Sie haben nun alle Produktrezensionen gesehen. Bitte klicken Sie auf „Weiter“, um mit der Studie fortzufahren.

**Rejection Condition:**

**ACHTUNG!**

Sie haben nun alle Produktrezensionen gesehen. Bitte beachten Sie, dass alle Kundenrezensionen, die Sie bisher gesehen haben, **frei erfunden** sind.

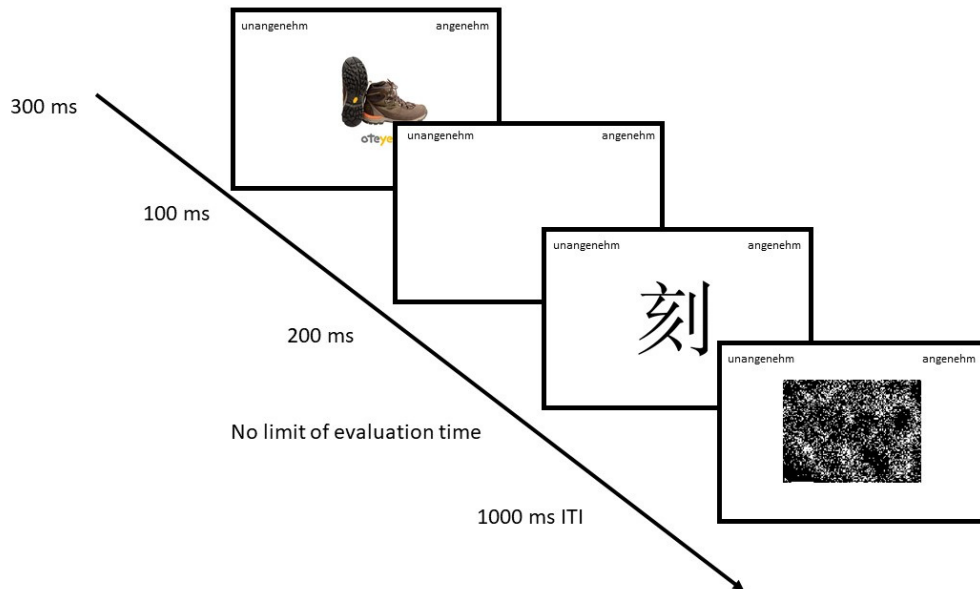
Bitte klicken Sie auf „Weiter“, um mit der Studie fortzufahren.

**Screen 10: AMP**

Im Folgenden sollen Sie nun dieselbe Aufgabe bearbeiten, die Sie zu Beginn schon einmal bearbeitet haben. Dieses Mal wird die Aufgabe jedoch etwas länger dauern. Nochmal zur Erinnerung: Sie sehen jeweils zunächst ein Bild, anschließend ein Schriftzeichen und dann ein neutrales Pixelbild. Wie zuvor, geht es auch hier um Ihre ehrliche Einschätzung des Schriftzeichens, unabhängig von dem zuvor gezeigten Bild. Wenn Sie das Schriftzeichen als ANGENEHM empfinden, drücken Sie 'A'. Wenn Sie es als UNANGENEHM empfinden, drücken Sie bitte 'U'.

Los geht's!

**AMP Summary**



**Screen 11: Explicit Evaluations**

Nun werden Ihnen verschiedene Produkte gezeigt. Neben den Produkten, die Sie bereits aus den Rezensionen kennen, werden auch andere Produkte erscheinen. Bitte beurteilen Sie, wie gut oder schlecht Ihnen die Produkte gefallen. Zur Beurteilung steht Ihnen eine Skala von "sehr schlecht" bis "sehr gut" zur Verfügung. Klicken Sie mit der Maus auf den Balken und ziehen Sie ihn an die Stelle, die Ihnen passend erscheint.

**Scale**



all iffu

sehr schlecht  sehr gut

Weiter

**Stimuli**



all iffu

X



all iffu

Y1



all iffu

Y2



all iffu

Y3



oteyef

X



oteyef

Y1



oteyef

Y2



oteyef

Y3



beao

**Manipulation Checks**

**Screen 12 Manipulation check I: Credibility**

Vielen Dank! Das war es auch schon fast. Nun werden Ihnen noch einige Fragen zu dieser Studie gestellt:

- Wie fanden Sie die Kundenrezensionen über das Duschgel von "all iffu"?
- Wie fanden Sie die Kundenrezensionen über den Kühlschrank von "beao"?
- Wie fanden Sie die Kundenrezensionen über den Trekking-Rucksack von "oteyef"?

➔ Scale: 1 = very negative to 7 = very positive

- Glauben Sie dem Inhalt der Kundenrezensionen über das Duschgel von "all iffu"?
- Glauben Sie dem Inhalt der Kundenrezensionen über den Kühlschrank von "beao"?
- Glauben Sie dem Inhalt der Kundenrezensionen über den Trekking-Rucksack von "oteyef"?

➔ Scale: 1 = *not at all credible* to 7 = *very credible*

Wie ist Ihre generelle Einschätzung der Kundenrezensionen?

➔ Scale: 1 = *fictitious* to 7 = *real*

**Screen 13: Manipulationscheck II: Motivation der Bewertungen (randomisierte Präsentation)**

Im Folgenden werden Ihnen einige Aussagen bezüglich Ihrer Produktbewertungen dargeboten. Bitte beurteilen Sie jeweils, wie sehr diese Aussagen auf Sie zutreffen:

- Ich habe die Produkte aufgrund ihrer Qualität bewertet.
- Ich habe die Produkte aufgrund ihres Aussehens bewertet.
- Ich habe die Produkte aufgrund der Informationen aus den Kundenrezensionen bewertet.
- Ich habe die Produkte aufgrund ihrer Zugehörigkeit zu einer bestimmten Firma bewertet.
- Ich habe die Produkte aufgrund spontaner Intuition bewertet.
- Wenn mir ein Produkt von einer Firma gefällt, gefallen mir meist auch weitere Produkte von der gleichen Firma.
- Ob die Produkte von der gleichen oder einer anderen Firma produziert wurden, hat für mich bei der Bewertung der Produkte keinen Unterschied gemacht.

Gibt es noch andere Gründe aufgrund derer Sie die Produkte bewertet haben?

➔ *Antwortoptionen ja/nein*

*Nächste Frage nur bei Auswahl „ja“:*

Ich habe die Produkte aus folgenden anderen Gründen bewertet:

**Screen 14: Manipulationscheck III: Zweck der Studie**

Was glauben Sie sollte in dieser Studie untersucht werden? Haben Sie eine Vermutung über den Zweck der Studie?

**Screen 15: Manipulationscheck IV: Vorwissen**

Haben Sie schon mal an einer ähnlichen Studie teilgenommen?  
→ Antwortoptionen ja/nein

*Nächste Frage nur bei Auswahl „ja“:*

Bitte beschreiben Sie kurz, was Sie in dieser Studie machen mussten?  
(damit wir einschätzen können, ob das wirklich eine Studie von uns war)

**Screen 16: Demographische Daten**

- Alter
- Geschlecht
- Beruf
- Muttersprache

**Screen 17: Debriefing**

Vielen Dank für Ihre Teilnahme an dieser Studie!

Um unbeeinflusste Antworten zu erhalten, ist es in der psychologischen Forschung manchmal notwendig, einen Teil der Information über die Fragestellung einer Studie vorerst zurückzuhalten. Auch in dieser Studie konnten wir Ihnen zu Beginn leider nicht alle Details zu unserer Studie mitteilen, weshalb wir das nun nachholen. Zunächst einmal handelte es sich um fiktive Produkte, fiktive Firmennamen und fiktive Kundenrezensionen. Dies bedeutet, dass es weder diese Produkte oder Firmen, noch diese Rezensionen gibt. Sie sind lediglich für den Zweck der Studie erfunden worden. Die Kundenrezensionen sollten hierbei eine positive bzw. negative Einstellung gegenüber einem bestimmten Produkt hervorrufen. Anschließend wird dementsprechend untersucht, ob und unter welchen Bedingungen sich diese Einstellung auf Produkte überträgt, die dem ursprünglichen Produkt ähnlich sind. Daran anknüpfend liegt ein weiterer besonderer Fokus der Untersuchung auch darauf herauszufinden, inwiefern diese Einstellungsübertragung variiert, wenn die Teilnehmer\*innen schon vor der Bewertung der Produkte in dem Bewusstsein sind, dass es sich ausschließlich um fiktive Kundenrezensionen handelt. Hierzu wurde ein Teil der Teilnehmer\*innen bereits nach der Präsentation der Kundenrezensionen darauf hingewiesen, dass die zuvor gesehenen Informationen lediglich frei erfunden sind, während dem anderen Teil keine weiteren Informationen dargelegt wurden.

Wir bitten um Ihr Verständnis dafür, dass wir Sie über diesen Aspekt unserer Untersuchung nicht schon zu Beginn informieren konnten.

**Screen 18: Einverständniserklärung**

Bitte geben Sie nun an, ob Sie jetzt, in vollständiger Kenntnis der Fragestellung, mit der Verwendung Ihrer Daten einverstanden sind.

Sollten Sie nicht einverstanden sein, werden Ihre Daten gelöscht.

**Screen 19: Thank You**

Nochmals herzlichen Dank für Ihre Teilnahme.

Bei weiteren Fragen wenden Sie sich bitte an die Versuchsleitung.

## Experiment 2

### Screen 1: Introduction

Liebe Teilnehmerin, lieber Teilnehmer,  
vielen Dank für Ihre Bereitschaft zur Teilnahme an dieser Studie.  
In dieser Studie geht es um die individuelle Bewertung von Produkten.  
Zu einigen Produkten werden Ihnen vorab Informationen gegeben, zu anderen nicht.  
Im Anschluss sollen Sie die Produkte bewerten.  
Bitte bearbeiten Sie alle Aufgaben spontan. Es gibt keine richtigen und falschen  
Antworten.  
Ihre Teilnahme ist freiwillig und kann jederzeit beendet werden.  
Selbstverständlich werden Ihre Antworten streng vertraulich und anonym behandelt.

Bitte klicken Sie auf „Weiter“, um mit der Studie zu beginnen.

### Screen 2-5: Manipulation

Ihnen werden nun Kundenrezensionen mehrerer Produkte gezeigt. Wir zeigen Ihnen  
zunächst jeweils immer nur die Rezensionen für ein Produkt. Bitte lesen Sie sich die  
Kundenrezensionen aufmerksam und vollständig durch. Jede Seite wird für genau 90  
Sekunden dargeboten. Im Anschluss erfolgt automatisch die nächste Rezension.

Product Reviews: Vigor positive, Vigor negative, Hoop positive, Hoop negative, iniq neutral



## Vigor Crosstrainer X-9700



89 Kundenrezensionen

### Top Kundenrezensionen:

★★★★★ schnelle Lieferung, leichte Montage

Von Klaus am 06.06.2017

Das Gerät wurde sehr gut verpackt und pünktlich zum Lieferungstermin zugesendet. Auch der Aufbau gestaltete sich dank der perfekt detaillierten Anleitung recht einfach. Ich habe den Crosstrainer in nur ca. einer Stunde auspacken und zusammenbauen können. Für das Geld bin ich absolut zufrieden!

★★★★★ Jeden Cent wert!

Von Laura am 19.09.2017

Das Produkt ist Original wie auf dem Bild. Super Preis- Leistungsverhältnis, top Verarbeitungsqualität! Das Gerät ist sehr stabil und hält damit, was es verspricht. Außerdem wirkt es auch optisch nicht "billig", was mir persönlich sehr wichtig war. Ich würde den Crosstrainer in jedem Fall wieder kaufen!

★★★★★ Einwandfrei!

Von Mike am 25.07.2017

Trotz meiner anfänglichen Bedenken gefällt mir der Crosstrainer wirklich gut! Man musste zwar zunächst ein bisschen Anstrengung und Zeit aufwenden um die Schrauben richtig festzudrehen, aber jetzt wackelt nichts mehr. Noch dazu ist das Gerät relativ leise und nimmt wenig Platz weg. Fazit: Perfekt, um sich entspannt vor dem Fernseher zu bewegen, aber nichts für schwache Nerven!

★★★★★ Tolles Gerät, toller Kundenservice!

Von Sophie am 21.08.2017

Das Trainingsgerät ist ideal für alle, die ernsthaft mit dem Gedanken spielen dauerhaft an ihrer Fitness zu arbeiten. Je nach Tagesform lässt sich das Training durch 7 einstellbare Stufen individuell gestalten. Zudem bietet der Hersteller einen guten Support bei Fragen zum Gebrauch. Wer also keine Lust auf Fitnessstudio oder große Ausgaben für Markengeräte hat, ist hiermit gut beraten!





## Vigor Crosstrainer X-9700



89 Kundenrezensionen

### Top Kundenrezensionen:



**Made in China**

*Von Klaus am 06.06.2017*

Nie wieder! Die Lieferung des Trainers erfolgte viel zu spät. Noch ärgerlicher war aber, dass die beige-lieferten Schrauben nicht passten, wodurch eine Montage quasi unmöglich war! Wir haben uns 2 Stunden mühsam rumgeschlagen um am Ende doch zu keinem Ergebnis zu kommen, unfassbar!



**Schade, ich hätte wirklich mehr erwartet!**

*Von Laura am 19.09.2017*

Ich hatte mich für dieses Gerät entschieden, da es für mich den besten Eindruck machte. Leider wurden meine Erwartungen nur teilweise erfüllt. Generell sehe ich es eher als Basismodell, was seine Funktion zwar erfüllt, aber an der einen oder anderen Stelle ein paar Mängel aufweist. Der Kundenservice teilte mir freundlicherweise mit, dass sich umgehend jemand darum kümmern würde. Bis dahin bleibt mir wohl nur der Weg ins Fitnessstudio ...



**Einfach schlecht und billig!**

*Von Mike am 25.07.2017*

Der Crosstrainer ist absolut nicht weiterzuempfehlen, er klappert, die Schrauben lassen sich nicht richtig befestigen und auch äußerlich ist das verwendete Material aus billigem Plastik! Kauft euch also lieber einen teuren, aber dafür qualitativ hochwertigeren Crosstrainer!



**leider nicht zu gebrauchen**

*Von Sophie am 21.08.2017*

Schon nach 40 Minuten hat das Gerät angefangen zu quietschen. Mittlerweile sind die Geräusche unerträglich laut und sogar trotz lauter Musik noch zu hören. Auf Dauer nervt das einfach! Meiner Meinung nach daher leider nicht zu gebrauchen, da das Training so einfach keinen Spaß macht. Totaler Fehlkauf!



## Hoop Kühlschrank HKS 615

★★★★★ 95 Kundenrezensionen

### Top Kundenrezensionen:

★★★★★ **Faires Preis-Leistungsverhältnis**

*Von Lukas am 15.10.2017*

Ich wollte mir eigentlich einen gebrauchten Kühlschrank holen, habe mich dann aber doch für ein neueres Modell entschieden. Ich hatte keine riesigen Erwartungen, kann jetzt nach 3 Wochen in Benutzung aber feststellen, dass das Gerät wirklich in Ordnung ist! Es bietet genug Platz für ein bis zwei Personen und die Lieferung ging auch sehr schnell.

★★★★★ **Bin total begeistert!!**

*Von Horst am 10.06.2017*

Bin äußerst zufrieden mit dem Produkt! Mein alter Kühlschrank war ständig defekt und dieser hier funktioniert ohne Probleme, ich bin wirklich glücklich! Da meine Küche verhältnismäßig klein ist, wollte ich gern ein kleines und schlichtes Modell und habe das Perfekte gefunden.

★★★★★ **Absolut top! Klein und süß!**

*Von Anita am 14.07.2017*

Das Gerät erfüllt zu vollster Zufriedenheit seinen Zweck! Ich wollte einen praktischen Kühlschrank haben, der mehr Stauraum bietet als normalerweise, für den Fall, dass man mal viele Gäste erwartet. Trotz des günstigen Preises funktioniert alles bestens, er ist wunderschön leise und hat eine sehr gute Energieeffizienz. Ich wüsste nichts daran auszusetzen. Von daher: nur weiterzuempfehlen!

★★★★★ **solides Einsteigermodell, lohnt sich**

*Von Julia am 29.09.2017*

Da mein Sohn in seine erste eigene Wohnung gezogen ist, brauchte er dringend einen Kühlschrank. Ich konnte keine Mängel feststellen, laut aktueller Aussage meines Sohnes ist „alles top“! Platz genug für Essen und Getränke ist vorhanden. Sehr gute Investition!



## Hoop KÜhlschrank HKS 615



95 Kundenrezensionen

### Top Kundenrezensionen:



**Fehlkauf!**

Von Lukas am 15.10.2017

Was soll ich sagen? Ich bin ziemlich genervt! Angefangen hat es mit der verspäteten Lieferung und dann war das umworbene Gerät gleich nach zwei Tagen defekt. Regler und Licht waren kaputt. Habe es dann zähneknirschend austauschen lassen. Ich hatte mir das etwas unkomplizierter vorgestellt. Fürs nächste Mal: mehr investieren, weniger Stress!



**geht so, kein Gewinnermodell**

Von Horst am 10.06.2017

Naja, habe bei dem Preis nicht wirklich viel erwartet. Ein grundsolides Modell, was seinen Zweck erfüllt, leider ohne Gefrierfach. Kein absoluter Fehlkauf, aber auch kein Schnäppchen. Meiner Frau gefällt das "Retromodell" ganz gut, daher werden wir es wohl behalten.



**KÜhlschrank ist brummig...und ich auch!**

Von Anita am 14.07.2017

Der brummt schon ganz ordentlich! Ist daher auch eher was für den Keller und da steht er auch bei mir. Werde ich definitiv nicht für die Küche oder den Wohnraum empfehlen. Spottbillig, schlicht, läuft. Das beschreibt den KÜhlschrank wohl am besten!



**Ärgerlich!**

Von Julia am 29.09.2017

Anfangs war alles ok, aber dann bildete sich nach zwei Wochen so ein komischer Geruch, und der kam nicht vom Essen! Auch schließt die Tür nicht perfekt, weshalb Energie verloren geht. Um eine Retoure werde ich wohl nicht herumkommen. Mist!



**iniq**

## iniq 4G Smartphone



92 Kundenrezensionen

### Top Kundenrezensionen:



**Super Smartphone!**

*Von Nadine am 13.06.2017*

Das Smartphone verfügt über eine große Anzahl an Zusatzprogrammen. Es besitzt ein integriertes Navigationssystem und ist zudem in verschiedenen Farben erhältlich. Ich bin sehr zufrieden.



**Ok**

*Von Sonja am 17.09.2017*

Das Handy bedarf keiner Installation von speziellen Programmen für den Datenaustausch mit dem Computer, was sich als angenehm erweist. Allerdings finde ich die Kamera nicht optimal, da die Bilder leicht verpixelt sind. Zudem spricht mich das Design des Smartphones nicht sehr an.



**Leider schnell kaputt!**

*Von Andy am 07.07.2017*

Zuerst war ich sehr zufrieden mit dem Smartphone, da es sehr handlich und leicht zu bedienen ist. Nach zwei Monaten war nur leider schon der Akku kaputt. Bei meiner Freundin ist es ebenfalls nach drei Monaten kaputtgegangen. Sehr schade, da es mir ansonsten sehr gut gefällt!



**Licht flackert**

*Von Bernd am 28.10.2017*

Leider hat nach einer Woche das Licht von der Kamera schon angefangen zu flattern, was sich als sehr irritierend erweist, da ich gerne Bilder mache. Ich würde es nicht noch mal kaufen.

**Screen 6: Confirmation Condition**

Sie haben nun alle Produktrezensionen gesehen. Bitte klicken Sie auf „Weiter“, um mit der Studie fortzufahren.

**Rejection Condition**

Achtung: Bitte lesen Sie sich die folgende Information gut durch!

Die Produktbewertungen, die Sie gerade gesehen haben, wurden alle von Agenturen gekauft.

Diese Agenturen verfolgen jeweils unterschiedliche Ziele, beispielsweise wollen die Agenturen, die für die Hersteller arbeiten, positive Bewertungen erstellen. Agenturen, die allerdings für Konkurrenzhersteller arbeiten, erkaufen sich negative Bewertungen. Somit basieren die Produktbewertungen auf keiner wahren Beurteilung.

Wir bitten Sie deshalb darum, den Produktbewertungen aller Produkte keinen Glauben zu schenken und die Bearbeitung aller folgenden Aufgaben so durchzuführen, als hätten Sie die Bewertungen nicht gelesen.

Wir bitten Sie deshalb darum, den Produktbewertungen aller Produkte keinen Glauben zu schenken und die Bearbeitung aller folgenden Aufgaben so durchzuführen, als hätten Sie die Bewertungen nicht gelesen.

Bitte klicken Sie auf „Weiter“, um mit der Studie fortzufahren.

**Screen 7-9: AMP**

Im Folgenden werden Sie nacheinander Bilder und chinesische Schriftzeichen sehen. Sie sollen sich bitte jedes Schriftzeichen ansehen und entscheiden, ob Sie es eher ANGENEHM oder UNANGENEHM finden. Um Ihnen eine spontane Entscheidung zu erleichtern, wird das chinesische Schriftzeichen nur kurz gezeigt und dann von einem neutralen Pixelbild überdeckt, bis Sie Ihre Antwort gegeben haben.

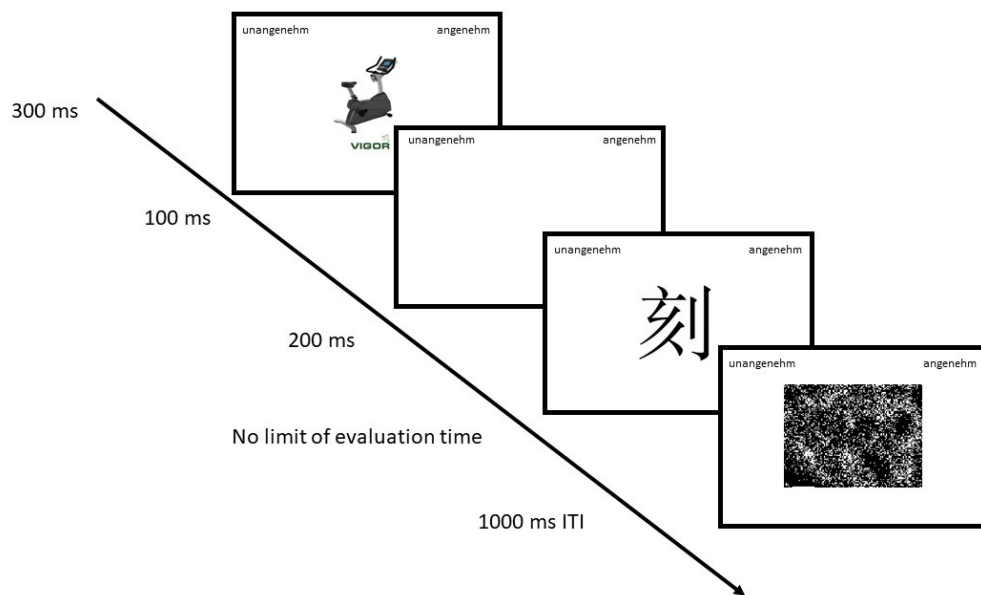
Vor dem Schriftzeichen wird Ihnen jeweils kurz ein Bild gezeigt. Dieses Bild signalisiert nur, dass gleich wieder ein Schriftzeichen erscheint. Es ist anzumerken, dass das gezeigte Bild in einigen Fällen die Beurteilung des Schriftzeichens beeinflussen kann. Da wir daran interessiert sind, wie Menschen diese Beeinflussung vermeiden können, geben Sie ihr Bestes, bei der Bewertung des Schriftzeichens das vorherige Bild zu ignorieren! Geben Sie uns eine ehrliche Einschätzung des Schriftzeichens, unabhängig von dem zuvor gezeigten Bild.

Bitte drücken Sie gleich die mit 'A' markierte Taste, wenn Sie das Schriftzeichen eher ANGENEHM finden und die mit 'U' markierte Taste, wenn Sie das Schriftzeichen eher UNANGENEHM finden.

Nochmal zusammengefasst: Sie sehen nun also immer ein Bild, anschließend ein Schriftzeichen und dann ein Pixelbild. Erst wenn das Pixelbild erscheint, entscheiden Sie bitte, ob das zuvor gesehene Schriftzeichen ANGENEHM oder UNANGENEHM war und drücken die mit 'A' oder 'U' markierten Tasten.

Los geht's!

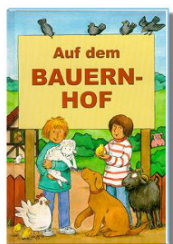
### AMP Summary



### Practice Stimuli



all iffu



anfel



fiscidi

### Screen 10-20: Explicit Attitudes

Nun werden Ihnen verschiedene Produkte gezeigt.

Bitte beurteilen Sie, wie GUT oder SCHLECHT Ihnen die Produkte gefallen.  
Zur Beurteilung steht Ihnen eine Skala von "sehr schlecht" bis "sehr gut" zur Verfügung.  
Klicken Sie mit der Maus auf den Balken und ziehen Sie ihn an die Stelle, die Ihnen  
passend erscheint.

➔ *Zur Bewertung ein Schieberegler von „sehr schlecht“ bis „sehr gut“*

Bitte beurteilen Sie jetzt, wie ANSPRECHEND Sie die Produkte finden.  
Zur Beurteilung steht Ihnen eine Skala von "gar nicht ansprechend" bis "sehr  
ansprechend" zur Verfügung. Klicken Sie mit der Maus auf den Balken und ziehen Sie ihn  
an die Stelle, die Ihnen passend erscheint.

➔ *Zur Bewertung ein Schieberegler von „gar nicht ansprechend“ bis „sehr ansprechend“*

Bitte beurteilen Sie nun, wie ÜBERZEUGEND Sie die Produkte finden.  
Zur Beurteilung steht Ihnen eine Skala von "gar nicht überzeugend" bis "sehr  
überzeugend" zur Verfügung. Klicken Sie mit der Maus auf den Balken und ziehen Sie ihn  
an die Stelle, die Ihnen passend erscheint.

➔ *Zur Bewertung ein Schieberegler von „gar nicht überzeugend“ bis „sehr  
überzeugend“*

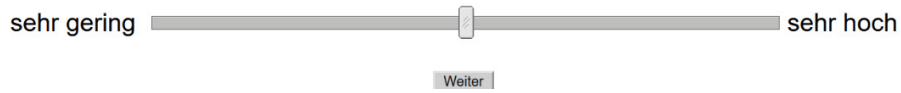
Bitte beurteilen Sie abschließend noch, wie groß die WAHRSCHEINLICHKEIT ist, dass Sie  
die Produkte kaufen würden, wenn Sie sie bräuchten.  
Zur Beurteilung steht Ihnen eine Skala von "sehr gering" bis "sehr hoch" zur Verfügung.  
Klicken Sie mit der Maus auf den Balken und ziehen Sie ihn an die Stelle, die Ihnen  
passend erscheint.

➔ *Zur Bewertung ein Schieberegler von „sehr gering“ bis „sehr hoch“*

**Scale**



*iniq*



**Stimuli**



**VIGOR**

X



**VIGOR**

Y1



**VIGOR**

Y2



**VIGOR**

Y3



**Hoop electronics**

X



**Hoop electronics**

Y1



**Hoop electronics**

Y2



**Hoop electronics**

Y3





### Manipulation Checks

#### Screen 21-28: Manipulationscheck I: Glaubwürdigkeit

Vielen Dank! Das war es auch schon fast. Nun werden Ihnen noch einige Fragen zu dieser Studie gestellt:

- Wie fanden Sie die Kundenrezensionen über den Crosstrainer von „Vigor“?
- Wie fanden Sie die Kundenrezensionen über den Kühlschrank von „Hoop“?
- Wie fanden Sie die Kundenrezensionen über das Smartphone von „iniq“?

➔ *Zur Bewertung eine 7-stufige Skala von „sehr negativ“ bis „sehr positiv“*

- Wie ist Ihre generelle Einschätzung der Kundenrezensionen?

➔ *Zur Bewertung eine 7-stufige Skala von „sind frei erfunden“ bis „sind real“*

- Glauben Sie dem Inhalt der drei Kundenrezensionen?

➔ *Zur Bewertung eine 7-stufige Skala von „gar nicht“ bis „sehr“*

#### Screen 29-31: Manipulationscheck II: Motivation der Bewertungen (randomisierte Präsentation)

Im Folgenden werden Ihnen einige Aussagen bezüglich Ihrer Produktbewertungen dargeboten. Bitte beurteilen Sie jeweils, wie sehr diese Aussagen auf Sie zutreffen:

- Ich habe die Produkte aufgrund ihrer Qualität bewertet.
- Ich habe die Produkte aufgrund ihres Aussehens bewertet.
- Ich habe die Produkte aufgrund der Informationen aus den Kundenrezensionen bewertet.
- Ich habe die Produkte aufgrund spontaner Intuition bewertet.
- Ich habe die Produkte aufgrund ihrer Zugehörigkeit zu einer bestimmten Firma bewertet.

- Wenn mir ein Produkt von einer Firma gefällt, gefallen mir meist auch weitere Produkte von der gleichen Firma.
- Ob die Produkte von der gleichen oder einer anderen Firma produziert wurden, hat für mich bei der Bewertung der Produkte keinen Unterschied gemacht.

Gibt es noch andere Gründe aufgrund derer Sie die Produkte bewertet haben?  
→ *Antwortoptionen ja/nein*

*Nächste Frage nur bei Auswahl „ja“:*

Ich habe die Produkte aus folgenden anderen Gründen bewertet:

**Screen 32: Manipulationscheck III: Zweck der Studie**

Was glauben Sie sollte in dieser Studie untersucht werden? Haben Sie eine Vermutung über den Zweck der Studie?

**Screen 33: Manipulationscheck IV: Vorwissen**

Haben Sie schon mal an einer ähnlichen Studie teilgenommen?  
→ *Antwortoptionen ja/nein*

*Nächste Frage nur bei Auswahl „ja“:*

Bitte beschreiben Sie kurz, was Sie in dieser Studie machen mussten?  
(damit wir einschätzen können, ob das wirklich eine Studie von uns war)

**Screen 34: Demographische Daten**

- Alter
- Geschlecht
- Beruf
- Muttersprache

**Screen 35: Debriefing**

Vielen Dank für Ihre Teilnahme an dieser Studie!

Um unbeeinflusste Antworten zu erhalten, ist es in der psychologischen Forschung manchmal notwendig, einen Teil der Information über die Fragestellung einer Studie vorerst zurückzuhalten. Auch in dieser Studie konnten wir Ihnen zu Beginn leider nicht alle Details zu unserer Studie mitteilen, weshalb wir das nun nachholen.

Zunächst einmal handelte es sich um fiktive Produkte, fiktive Firmennamen und fiktive Kundenrezensionen. Dies bedeutet, dass es weder diese Produkte oder Firmen, noch diese Rezensionen gibt. Sie sind lediglich für den Zweck der Studie erfunden worden. Die Kundenrezensionen sollten hierbei eine positive bzw. negative Einstellung gegenüber einem bestimmten Produkt hervorrufen. Anschließend wird dementsprechend untersucht, ob und unter welchen Bedingungen sich diese Einstellung auf Produkte überträgt, die dem ursprünglichen Produkt ähnlich sind.

Daran anknüpfend liegt ein weiterer besonderer Fokus der Untersuchung auch darauf herauszufinden, inwiefern diese Einstellungsübertragung variiert, wenn die Teilnehmer\*innen schon vor der Bewertung der Produkte in dem Bewusstsein sind, dass es sich ausschließlich um fiktive Kundenrezensionen handelt. Hierzu wurde ein Teil der Teilnehmer\*innen bereits nach der Präsentation der Kundenrezensionen darauf hingewiesen, dass die zuvor gesehenen Rezensionen lediglich gekauft sind, während dem anderen Teil keine weiteren Informationen dargelegt wurden.

Wir bitten um Ihr Verständnis dafür, dass wir Sie über diesen Aspekt unserer Untersuchung nicht schon zu Beginn informieren konnten.

**Screen 36: Consent**

Bitte geben Sie nun an, ob Sie jetzt, in vollständiger Kenntnis der Fragestellung, mit der Verwendung Ihrer Daten einverstanden sind.

Sollten Sie nicht einverstanden sein, werden Ihre Daten gelöscht.

**Screen 37: Thank You**

Nochmals herzlichen Dank für Ihre Teilnahme.

Bei weiteren Fragen wenden Sie sich bitte an die Versuchsleitung.

### Experiment 3

#### Introduction

Liebe/r Studienteilnehmer/in,

vielen Dank für Ihr Interesse an unserer Studie! Bevor Sie beginnen, möchten wir Sie bitten, sich kurz dieses Formblatt durchzulesen.

In dieser Studie geht es um den Einfluss der Persönlichkeit auf das Kaufverhalten von Personen. Die Erhebung besteht aus drei Teilen: Im ersten Teil werden wir Sie bitten, einen kurzen Persönlichkeitstest zu absolvieren. Im zweiten Teil werden Ihnen Kundenrezensionen zu verschiedenen Produkten präsentiert, die Sie sich bitte gut durchlesen. Im Anschluss werden Ihnen andere Produkte gezeigt, die Sie bitte bewerten. Der dritte Teil besteht aus dem Ausfüllen eines weiteren Persönlichkeitstests. Die Bearbeitungsdauer beträgt in etwa 20 Minuten. Alle Angaben werden wir selbstverständlich streng vertraulich im Rahmen der Studie behandeln. Wir versichern Ihnen, dass Ihre Daten anonym erhoben werden und daher keine Rückschlüsse auf Ihre Person zulassen!

Hiermit klären wir Sie zudem darüber auf, dass Ihre Teilnahme an unserer Studie freiwillig ist und Sie jederzeit die Möglichkeit haben, diese ohne Angabe von Gründen abzubrechen, und Ihnen daraus keine Nachteile entstehen! Wenn Sie einverstanden sind und verstanden haben, dass Ihre Teilnahme an unserer Studie freiwillig ist, machen Sie bitte bei den untenstehenden Aussagen ein Kreuz.

- Ja, ich habe zur Kenntnis genommen, dass meine Teilnahme an der Studie freiwillig ist und ich jederzeit die Möglichkeit habe diese ohne Angabe von Gründen abzubrechen und mir auch keine Nachteile daraus entstehen.

**Bitte machen Sie hier noch einige Angaben zu Ihrer Person!**

Alter: \_\_\_\_\_Jahre

Geschlecht:  männlich  weiblich

Studienfach (bitte keine Abkürzungen)/Beruf:

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Studieren Sie im Bachelor, Master oder Diplom?

Bachelor  Master  Diplom  Anderes

### Manipulation (PfC)

Bitte füllen Sie nun den Persönlichkeitstest aus und bringen ihn anschließend der Versuchsleiterin zur Auswertung.

### *Example Item RPDA-R*

**Nach den insgesamt 24 Fragen werden Ihnen noch 8 weitere Fragen mit konkreten Optionen vorgegeben.**

1. Ich versuche zu jedem, dem ich begegne, freundlich zu sein.

-- - + ++

## Manipulation (Valence)

Im Folgenden werden Ihnen mehrere Kundenrezensionen zu drei verschiedenen Produkten gezeigt. Bitte lesen Sie diese aufmerksam durch, da Sie am Ende des Experiments noch gebeten werden, einige Fragen dazu zu beantworten.

### Reviews



all iffu

ShowerGel Classic von all iffu

★★★★☆ 129

★★★★☆ **Schlecht für die Haut**

Von Anna am 01.04.2017

Das Duschgel enthält viele künstliche und keine natürlichen Konservierungsmittel. Meine Haut hat darauf allergisch reagiert, was rote Flecken verursacht und sehr gejuckt hat. Nicht zu empfehlen!

★★★★☆ **Kein Schaum**

Von Lisa am 08.03.2017

Ich bin mit dem ShowerGel nicht zufrieden. Es bildet keinen Schaum auf der Haut und lässt sich nicht leicht wieder abspülen, sodass meine Haut nach dem Duschen noch leicht geklebt hat. Leider riecht es auch nicht gut, hat mich an den Geruch im Schwimmbad erinnert.

★★★★☆ **Tierversuche!**

Von Marcel am 20.01.2017

Ich habe mir dieses Duschgel gekauft und danach herausgefunden, dass es an Tieren getestet wurde. Es enthält zudem Mikroplastik, also Kunststoffe, welche schädlich für die Gesundheit sind. Totaler Fehlkauf.

★★★★☆ **Ich rate entschieden ab**

Von Niko am 08.03.2017

Ich habe dieses Duschgel mit anderen verglichen und es hat meiner Meinung nach am schlechtesten abgeschnitten. Kein gutes Preis-Leistungsverhältnis. Das Duschgel hat einen meiner Meinung nach beißenden Geruch in der Nase verursacht und es lässt sich schlecht dosieren. Ebenfalls war meine Haut nach dem Duschen sehr trocken. Das Design gefällt mir auch nicht.



**Trekking Rucksack von oteyef** ★★★★★ 139

★★★★★ **Einfacher Zugang, sehr angenehm zu tragen!**

Von Mike am 25.04.2017

Der Trekking Rucksack ist angenehm zu tragen und sehr robust. Ein großer Pluspunkt ist der zusätzliche seitliche Reißverschluss, der einem einen einfachen Zugang zu seinem Inhalt ermöglicht. Er besitzt außerdem ein Frontlab, hinter dem beispielsweise ein unterwegs ausgezogener Pulli Platz findet. Ich habe damit eine fünfwöchige Tour gemacht und bin sehr zufrieden.

★★★★★ **Kompetente Anleitung**

Von Sonja am 17.03.2017

Ich bin sehr zufrieden mit dem Rucksack. Er beinhaltet ein Erklärungsheft mit Bildern, was eine kompetente Anleitung zur Benutzung des Rucksacks und eine individuelle Anpassung auf den Träger umfasst.

★★★★☆ **Super Rucksack!**

Von Klaus am 06.02.2017

Der Rucksack gefällt mir sehr gut. Er sieht sehr hochwertig aus, unter anderem durch seine gute Verarbeitung. Zudem sind die Schultern verstärkt, was das Tragen recht angenehm macht. Sehr zu empfehlen.

★★★★★ **Bin sehr zufrieden**

Von Laura am 19.01.2017

Ein toller Rucksack. Das verarbeitete Material ist stabil und robust und die Träger rutschen nicht hin und her. Ich kann den Rucksack weiterempfehlen.



Smartphone von iniq ★★★★★ 102

★★★★★ **Super Smartphone**

Von Julia am 13.04.2017

Das Smartphone verfügt über eine große Anzahl an Zusatzprogrammen. Zudem besitzt es ein integriertes Navigationssystem. Es ist in verschiedenen Farben erhältlich. Ich bin sehr zufrieden.

★★★★☆ **Ok**

Von Sonja am 17.03.2017

Das Handy bedarf keiner Installation von speziellen Programmen für den Datenaustausch mit dem Computer, was sehr angenehm ist. Allerdings finde ich die Kamera nicht optimal, da die Bilder leicht verpixelt sind. Auch das Design des Smartphones spricht mich nicht sehr an.

★★★☆☆ **Schnell kaputt**

Von Lukas am 07.03.2017

Zuerst war ich zufrieden mit dem Smartphone, da es sehr handlich und leicht zu bedienen ist. Nach zwei Monaten war nur leider schon der Akku kaputt. Bei meiner Freundin ist es ebenfalls nach drei Monaten kaputtgegangen. Schade!

★★☆☆☆ **Licht flackert**

Von Bernd am 28.02.2017

Leider hat nach einer Woche das Licht von der Kamera schon angefangen zu flattern, was sich als sehr irritierend erweist, da ich gerne Bilder mache. Ich würde es nicht noch mal kaufen.

## Manipulation (Rejection)

Achtung: Bitte lesen Sie sich die folgende Information gut durch!

Die Produktbewertungen, die Sie gerade gesehen haben, wurden alle von Agenturen gekauft. Diese Agenturen verfolgen jeweils unterschiedliche Ziele, beispielsweise wollen die Agenturen, die für die Hersteller arbeiten, positive Bewertungen erstellen. Agenturen, die allerdings für Konkurrenzhersteller arbeiten, erkaufen sich negative Bewertungen. Somit basieren die Produktbewertungen auf keiner wahren Beurteilung.

Wir bitten Sie deshalb darum, den Produktbewertungen aller Produkte keinen Glauben zu schenken und die Bearbeitung aller folgenden Aufgaben so durchzuführen, als hätten Sie die Bewertungen nicht gelesen.



### Explicit Attitudes

Es werden Ihnen nun verschiedene Produkte gezeigt. Neben den Produkten, die Sie bereits aus den Rezensionen kennen, werden auch andere Produkte erscheinen.

Bitte beurteilen Sie, wie Ihnen die Produkte gefallen.

Zur Beurteilung steht Ihnen eine neunstufige Skala von "sehr negativ" bis "sehr positiv" zur Verfügung.

\*\*

Bitte beurteilen Sie jetzt, wie ansprechend Sie die Produkte finden.

Zur Beurteilung steht Ihnen eine neunstufige Skala von "nicht ansprechend" bis "sehr ansprechend" zur Verfügung.

\*\*

Bitte beurteilen Sie nun, wie außergewöhnlich Sie die Produkte finden.

Zur Beurteilung steht Ihnen eine neunstufige Skala von "nicht außergewöhnlich" bis "sehr außergewöhnlich" zur Verfügung.

\*\*

Bitte beurteilen Sie nun, wie überzeugend Sie die Produkte finden.

Zur Beurteilung steht Ihnen eine neunstufige Skala von "nicht überzeugend" bis "sehr überzeugend" zur Verfügung. param(a2)

\*\*

Bitte beurteilen Sie noch, wie groß die Wahrscheinlichkeit ist, dass Sie die Produkte kaufen würden, wenn Sie sie bräuchten.

Zur Beurteilung steht Ihnen eine neunstufige Skala von "sehr gering" bis "sehr hoch" zur Verfügung.



Vielen Dank für die Bewertung der Produkte.

Wir kommen nun zum letzten Teil dieses Experiments:

Bitte beantworten Sie die folgenden Items, die zu dem Persönlichkeitstest ADQ-R gehören.

**PfC (Example Item; Heitland et al., 2009)**

Wie sehr stimmen Sie folgenden Aussagen zu?

	Stimme überhaupt nicht zu					Stimme voll zu	
	1	2	3	4	5	6	7
Mir ist es lieber, wenn ich die Reaktion meiner Mitmenschen voraussehen kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***Manipulation checks***

Vielen Dank!

Wir haben zum Schluss noch drei Fragen an Sie.

Wie ist Ihre generelle Einschätzung der Rezensionen?

Glauben Sie dem Inhalt der drei Rezensionen?

Was sind Ihre Vermutungen bezüglich des Zwecks und Untersuchungsgegenstands dieser Studie?

**Debriefing**

Liebe/r Studienteilnehmer/in,

vielen Dank für die Teilnahme an unserer Studie!

Leider mussten wir Ihnen zu Beginn das wahre Ziel dieser Studie vorenthalten und möchten Sie nun darüber informieren. In dieser Erhebung ging es nicht um die Untersuchung des Einflusses der Persönlichkeit auf das Kaufverhalten von Personen.

Stattdessen interessiert uns die Generalisierung oder Verschiebung von Einstellungen. Generalisierung von Einstellungen meint, dass Sie beispielsweise die positiven Informationen über den Wanderrucksack auf Objekte übertragen, die mit dem Rucksack zusammenhängen, wie beispielsweise die Wanderschuhe. Der Verschiebungseffekt beinhaltet, dass Sie Ihre Einstellung trotz beispielsweise positiver Kundenrezensionen für den Rucksack nicht positiv verändern, Sie aber dann Objekte, die mit dem Rucksack zusammenhängen, positiver bewerten.

Im ersten Teil des Experiments haben Sie einen Persönlichkeitstest ausgefüllt. Sowohl der Test selber als auch die Rückmeldung, die Sie dazu erhalten haben, waren fiktiv und lassen keinerlei Schlüsse auf Ihre wahre Persönlichkeit zu. Welche Rückmeldung Sie bekamen, wurde per Zufall ausgewählt. Dieses Vorgehen war für unsere Studie unumgänglich und wir entschuldigen uns für möglicherweise auftretende emotionale Reaktionen. Die fiktive Rückmeldung zum Persönlichkeitstest diente zur Untersuchung des Einflusses vom Streben nach Konsistenz auf die Bewertung der Objekte. Wir gehen davon aus, dass Personen, die die Rückmeldung bekommen haben, dass sie ein hohes Streben nach Konsistenz besitzen, stärkere Generalisierungs- und Verschiebungseffekte zeigen als Personen, die eine Rückmeldung erhalten, dass sie ein niedriges Streben nach Konsistenz besitzen.

Wir bitten Sie Verständnis für das Vorenthalten dieser Aspekte zu Beginn der Studie zu haben. Bitte behalten Sie die gewonnenen Informationen über diese Studie die nächsten drei Wochen für sich, damit noch weitere Personen unvoreingenommen an der Studie teilnehmen können.

Bitte geben Sie nun, in Kenntnis der eigentlichen Fragestellung an, ob Sie mit der Verwendung Ihrer Daten einverstanden sind.

- Ja, ich bin mit der Verwendung meiner Daten einverstanden.
- Nein, ich möchte, dass meine Daten gelöscht werden.

Wir danken Ihnen ganz herzlich für Ihre Teilnahme! Die Versuchsleiterin steht Ihnen gerne für Rückfragen zur Verfügung!

## Experiment 4

### Introduction

Liebe Teilnehmerin, lieber Teilnehmer,

vielen Dank für Ihre Bereitschaft, an dieser Studie teilzunehmen!

Natürlich ist die Teilnahme freiwillig und Sie können die Durchführung jederzeit ohne Angabe von Gründen abbrechen.

Die erhobenen Daten werden vollkommen anonym behandelt und können nicht auf Sie als Person zurückgeführt werden.

Die Teilnahme an dieser Studie wird etwa 15-20 Minuten dauern. Im Anschluss daran können Sie sich als kleines Dankeschön für eine Gewinnspiel registrieren, in der 10 Gutscheine von BestChoice im Wert von je 20 Euro unter allen Teilnehmern verlost werden.

Diese Studie enthält Materialien aus zwei verschiedenen Untersuchungen.

Im ersten Teil soll die Verständlichkeit von einzelnen Artikeln in verschiedenen Zeitschriften beurteilt werden. Der zweite Teil hingegen besteht aus einer generelleren Umfrage, deren Ergebnis die Grundlage für zukünftige Studien werden soll.

Bitte lesen Sie alle nachfolgenden Instruktionen sorgfältig durch, bevor Sie die einzelnen Aufgaben bearbeiten, und bearbeiten Sie die Studie nur an einem Laptop, Computer oder Mac und nicht über ein Smartphone.

Wenn Sie alle Informationen verstanden haben und an dieser Studie teilnehmen möchten, bestätigen Sie dies bitte mit einem Klick auf „Weiter“.

### Allgemeine Informationen

Die vorliegende Studie wird im Rahmen eines Forschungsprojekts der Arbeitseinheit 05 der Fakultät Psychologie

der Universität Bielefeld durchgeführt. Die Teilnahme dauert ca. 15-20 Minuten und wird mit der Teilnahme an einer Gutscheinverlosung vergütet.

### Was geschieht mit meinen Antworten?

Ihre Angaben dienen rein wissenschaftlichen Zwecken. Sie werden in keiner Weise kommerziell verwendet, sondern ausschließlich im Rahmen der psychologischen Grundlagenforschung ausgewertet. Selbstverständlich werden Ihre Antworten streng vertraulich und anonym behandelt. Abgesehen von einigen allgemeinen Merkmalen wie z.B. Alter und Geschlecht werden keine Daten erhoben, die auf Sie als Person hinweisen würden.

### Und wenn ich später Bedenken bekomme?

Die Teilnahme an dieser Studie erfolgt auf rein freiwilliger Basis. Das bedeutet, dass Sie Ihre Teilnahme jederzeit beenden können, ohne dass sich negative Konsequenzen für Sie ergeben. Ihre bis dahin gegebenen Antworten werden in diesem Fall nicht verwendet, sondern gelöscht.

Sollten Sie Fragen zur Studie zu der Studie haben, können Sie mich gerne per E-Mail kontaktieren:  
[roman.linne\[at\]uni-bielefeld.de](mailto:roman.linne[at]uni-bielefeld.de)

**!Wichtig!:**

Aus technischen Gründen möchten wir Sie bitten das Fenster erst dann zu schließen, wenn Sie dazu aufgefordert werden (erst dann haben Sie die letzte Seite erreicht und Ihre Teilnahme kann vom Befragungssystem gewertet werden).

Ich habe alle Informationen vollständig gelesen und verstanden.

Mit der beschriebenen Handhabung der erhobenen Daten bin ich einverstanden. Die Aufzeichnung und Auswertung der Daten erfolgt anonym. Ich weiß, dass die Teilnahme an der Studie freiwillig ist und ich die Teilnahme jederzeit ohne Angabe von Gründen beenden kann.

Ich bin bereit  
unter den  
beschriebenen  
Bedingungen  
an der Studie  
teilzunehmen.

**Instruction**

Wie Sie vielleicht bereits wissen, arbeiten Psychologie und Erziehungswissenschaften häufig gemeinsam an Projekten, welche die Lesefähigkeit untersuchen. Heute werden Sie einen wertvollen Beitrag zu einer dieser Untersuchungen leisten.

Das Ziel dieser Studie ist es, Ihre Reaktionen auf den Inhalt eines Zeitschriftenbeitrages zu erfassen. Auf der folgenden Seite werden wir Ihnen daher Teile daraus präsentieren.

Bitte lesen Sie sich diese Auszüge aufmerksam und sorgfältig durch, da ihre Reaktionen darauf sehr wichtig für unsere Forschung sind.

Um fortzufahren klicken Sie bitte auf „**Weiter**“.

**Persuasive Message in Condition 1**

Ihnen wurde per Zufall ein Artikel zum Thema: „Gleichheit“ zugewiesen!

Das Ziel der ersten Studie ist die Untersuchung der Verständlichkeit einzelner Artikel aus verschiedenen Zeitschriften. Bei der folgenden Aufgabe sollen Sie sich Auszüge aus einem Artikel aufmerksam durchlesen.

Einige Wissenschaftler und Wissenschaftlerinnen verschiedener Fachbereiche haben in letzter Zeit in Frage gestellt, dass es sich bei dem Wert der Gleichheit um einen integralen Bestandteil einer idealen Gesellschaft handelt.

Ein Grund hierfür ist unter anderem, dass Gleichheit zwar auf den ersten Blick als etwas Positives erscheint, gleichzeitig aber auch zu vielen negativen Konsequenzen für unsere Kultur und Gesellschaft führen kann.

Auf der nächsten Seite wird Ihnen ein Artikel vorgelegt, in dem einige Argumente von verschiedenen Wissenschaftlern und Wissenschaftlerinnen aufgeführt werden. Diese äußern sich kritisch zum Thema Gleichheit und erläutern, warum Gleichheit weder ein berechtigtes noch ein angemessenes Ziel unserer Gesellschaft sein sollte.

Um fortzufahren klicken Sie bitte auf „**Weiter**“.

„Die Idee der Gleichheit hat zwar eine sehr begrüßenswerte Zielsetzung, allerdings ist die Umsetzung von gleichen Chancen für alle innerhalb einer Gesellschaft bestenfalls ein schwieriges Unterfangen. Erzwingt man Gleichheit in einer Gesellschaft wie der unseren, ruft dies zahlreiche Probleme hervor und bedroht unsere Kultur. Hierzu folgen nun einige Beispiele:

Erst kürzlich wurde eine lokale Feuerwache von der Landesregierung angewiesen, dieselbe Anzahl von Männern und Frauen zu einem Bewerbungsgespräch für eine freie Stelle als Feuerwehrmann bzw. Feuerwehrfrau einzuladen.

Unter den insgesamt 96 Bewerbungen befanden sich 92 von Männern und nur vier von Frauen.

Als Ergebnis war die Feuerwache gezwungen, entsprechend ihrer Vorgaben vier Frauen und nur vier Männer einzuladen, obwohl es zwei der vier Frauen an ausreichender Erfahrung mangelte und nur eine der Frauen den körperlichen Anforderungen der Position gerecht werden konnte (z.B. das Tragen eines 90 kg schweren Dummys durch ein Treppenhaus).

Folglich zwang die strikte Anwendung des Gleichheitsgrundsatzes die Feuerwache dazu, aus einem kleineren Kreis von geeigneten Bewerbern zu wählen, was ihre Effizienz und Sicherheit in Notfällen reduzierte.

Darüber hinaus führen Gesetze, die Gleichheit erzwingen dazu, dass versäumt wird Menschen zu belohnen, die sich über ihren Aufgabenbereich hinaus in ihrem Tätigkeitsfeld engagieren. In der Zeitschrift „The American Journal of Business Practices“ ist kürzlich eine Studie erschienen, die bei einer Anzahl von privaten Softwareherstellern durchgeführt wurde. Um eine ungleiche Bezahlung von Männern und Frauen zu korrigieren, hatten diese eine Initiative zur Gleichbezahlung von allen Entwicklern, unabhängig von Bildungsniveau, Alter und insbesondere vom Geschlecht, eingeführt.

Drei Monate nach der Einführung verringerte sich die Produktivität der Betriebe um 42% im Verhältnis zu vergleichbaren Betrieben, welche keine solche Richtlinie eingeführt hatten. Einige Betriebe mussten inzwischen sogar Bankrott erklären. Diese negativen Folgen können Mitarbeitern zugeschrieben werden, die weniger motiviert sind, qualitativ hochwertige Produkte hervorzubringen, wenn es an entsprechenden Belohnungen als Anreiz mangelt.

Es ist wichtig festzustellen, dass im Herzen unserer Gesellschaft eine individualistische Mentalität verankert ist, die bestimmt, wer wir sind und wie wir dazu wurden. Eine Kultur wie die unsere ist nicht dafür geeignet Gleichheit per Gesetz herzustellen.

Wenn die Gleichheit aller Menschen im Mittelpunkt steht, bedeutet das auch immer, dass individuelle Unterschiede, Persönlichkeiten und Kreativität nicht ausgedrückt werden können, da diese zu wenig Beachtung erfahren.

Ein berühmter Anthropologe schrieb kürzlich, dass Bürger in Gesellschaften wie Dänemark oder Finnland, in denen Gesetze zur Etablierung von Maßnahmen, die Gleichheit fördern sollen, sehr verbreitet sind, weniger zur natur- und geisteswissenschaftlichen Forschung beitragen als beispielsweise Deutschland, in denen solche Gesetze noch keine derartig große Rolle spielen.

Als Beweis führt er die geringe Anzahl von Patenten auf den Gebieten Medizin und Technik an, die Dänemark und Finnland vorweisen können. Während beide Länder in den letzten 20 Jahren gemeinsam auf fünf Patente kommen, sind es 435 die im gleichen Zeitraum auf Deutschland entfallen. Selbst wenn man die größere Zahl von Universitäten und Akademikern in Deutschland bedenkt, ist dies ein sehr deutlicher Unterschied.

Zusammenfassend kann festgehalten werden, dass der Wert der Gleichheit lediglich als Floskel für Politiker im Wahlkampf geeignet ist. Im wirklichen Leben, in dem echte Gleichheit weder sinnvoll noch wünschenswert ist, keine große Relevanz besitzen sollte."

Bitte klicken Sie auf "**Weiter**", um fortzufahren.

## Persuasive Message in Condition 2

### Message 2:

„Die Idee von Frauenquoten hat zwar eine sehr begrüßenswerte Zielsetzung, allerdings ist die Umsetzung von gleichen Chancen für alle innerhalb einer Gesellschaft bestenfalls ein schwieriges Unterfangen. Erzwingt man Maßnahmen wie Frauenquoten in einer Gesellschaft wie der unseren, ruft dies zahlreiche Probleme hervor und bedroht unsere Kultur. Hierzu folgen nun einige Beispiele:

Erst kürzlich wurde eine lokale Feuerwache von der Landesregierung angewiesen, dieselbe Anzahl von Männern und Frauen zu einem Bewerbungsgespräch für eine freie Stelle als Feuerwehrmann bzw. Feuerwehrfrau einzuladen, mit anderen Worten wurde eine Frauenquote eingeführt.

Unter den insgesamt 96 Bewerbungen befanden sich 92 von Männern und nur vier von Frauen.

Als Ergebnis war die Feuerwache gezwungen, entsprechend ihrer Vorgaben vier Frauen und nur vier Männer einzuladen, obwohl es zwei der vier Frauen an ausreichender Erfahrung mangelte und nur eine der Frauen den körperlichen Anforderungen der Position gerecht werden konnte (z.B. das Tragen eines 90 kg schweren Dummys durch ein Treppenhaus).

Folglich zwang die strikte Anwendung der Förderungsrichtlinien, zur Umsetzung der Frauenquote, die Feuerwache dazu, aus einem kleineren Kreis von geeigneten Bewerbern zu wählen, was ihre Effizienz und Sicherheit in Notfällen reduzierte.

Darüber hinaus führen Gesetze wie Frauenquoten, die eine Gleichbehandlung erzwingen, dazu, dass versäumt wird Menschen zu belohnen, die sich über ihren Aufgabenbereich hinaus in ihrem Tätigkeitsfeld engagieren. In der Zeitschrift „The American Journal of Business Practices“ ist kürzlich eine Studie erschienen, die bei einer Anzahl von privaten Softwareherstellern durchgeführt wurde. Um eine ungleiche Bezahlung von Männern und Frauen zu korrigieren, hatten diese eine Initiative zur Gleichbezahlung von allen Entwicklern, unabhängig von Bildungsniveau, Alter und insbesondere vom Geschlecht, eingeführt.

Drei Monate nach der Einführung verringerte sich die Produktivität der Betriebe um 42% im Verhältnis zu vergleichbaren Betrieben, welche keine solche Richtlinie eingeführt hatten. Einige Betriebe mussten inzwischen sogar Bankrott erklären. Diese negativen Folgen können Mitarbeitern zugeschrieben werden,

die weniger motiviert sind qualitativ hochwertige Produkte hervorzubringen, wenn es an entsprechenden Belohnungen als Anreiz mangelt.

Es ist wichtig festzustellen, dass im Herzen unserer Gesellschaft eine individualistische Mentalität verankert ist, die bestimmt, wer wir sind und wie wir dazu wurden. Eine Kultur wie die unsere ist nicht dafür geeignet eine Gleichbehandlung der Geschlechter durch Gesetze wie Frauenquoten herzustellen.

Wenn das Merkmal Geschlecht, vermittelt über Quoten im Mittelpunkt, steht, bedeutet das auch immer, dass individuelle Unterschiede, Persönlichkeiten und Kreativität nicht ausgedrückt werden können, da diese zu wenig Beachtung erfahren.

Ein berühmter Anthropologe schrieb kürzlich, dass Bürger in Gesellschaften wie Dänemark oder Finnland, in denen Frauenquoten sehr verbreitet sind, weniger zur natur- und geisteswissenschaftlichen Forschung beitragen als beispielsweise in Deutschland, wo Frauenquoten noch keine derartig große Rolle spielen.

Als Beweis führt er die geringe Anzahl von Patenten auf den Gebieten Medizin und Technik an, die Dänemark und Finnland vorweisen können. Während beide Länder in den letzten 20 Jahren gemeinsam auf fünf Patente kommen, sind es 435, die im gleichen Zeitraum auf Deutschland entfallen. Selbst wenn man die größere Zahl von Universitäten und Akademikern in Deutschland bedenkt, ist dies ein sehr deutlicher Unterschied.

Zusammenfassend kann festgehalten werden, dass die Maßnahme Frauenquoten einzuführen, lediglich als Floskel für Politiker im Wahlkampf geeignet ist. Im wirklichen Leben, in der Frauenquoten weder sinnvoll noch wünschenswert sind, sollte diese Maßnahme jedoch keine große Relevanz besitzen.“

## **Baseline Condition (Robots)**

### **Message 3:**

"Die Zahl der pflegebedürftigen Menschen wächst rasant und stellt für das Pflegepersonal eine enorme zeitliche Belastung dar, die zu großem Stress führt. Grundsätzlich ist die Idee, den Stress durch den Einsatz von Pflegerobotern zu mindern und so gleichzeitig mehr persönlichen Kontakt zwischen Pflegern und Pflegebedürftigen zu ermöglichen, eine begrüßenswerte Zielsetzung. Allerdings bedeutet der Einsatz von Pflegerobotern nicht zwangsläufig, dass Personal entlastet wird und dadurch mehr Zeit für Patienten hat. Schließlich gibt es genug Beispiele, in denen die moderne Technik zur "Wegrationalisierung" von menschlichen Arbeitskräften geführt hat. Dies wäre gerade im Pflegebereich ein gravierender Fehler und der Einsatz von Robotern somit ein enormes Risiko.

Ein Pflegeroboter kann das Pflegepersonal nicht adäquat entlasten und schon gar nicht ersetzen, da menschliche Pflege eine sehr komplexe Aufgabe ist, die vom Pflegepersonal viel Erfahrung und Einfühlungsvermögen verlangt. Pflegeroboter sind bisher nicht ausgereift genug, als dass sie in der Lage wären die Lücke zwischen Mensch und Maschine so zu füllen, dass sie die individuellen Bedürfnisse der Patienten erfüllen könnten.

Auch die Entlastung der Angehörigen und Pflegenden von körperlich anstrengenden Tätigkeiten bei der Pflege, wie z.B. Umbetten des Pflegebedürftigen, diesen in einen Rollstuhl setzen etc. erscheint auf den ersten Blick sinnvoll. Dabei darf jedoch nicht außer Acht gelassen werden, dass die Robotertechnik gerade für diesen Bereich, in dem die betroffenen Menschen eine besonders vorsichtige Behandlung benötigen, zu unsensibel ist, als das garantiert werden könnte, dass sie unbeschadet bleiben.



"Ich sehe darüber hinaus noch ein ganz anderes Problem" sagt Prof. Dr. Christina Danzenberg vom Hephaistos Institut für Mensch/Maschine-Interaktion. "Pflegeroboter würden, unabhängig davon ob bei den Pflegekräften gespart wird, nicht zu einem Mehr an persönlichem Kontakt zwischen dem Personal/Angehörigen und den pflegebedürftigen Personen führen, weil diese dann mehr Zeit hätten. Im Gegenteil, es käme zu einem Kontaktverlust, da sich, durch den Versuch, Zeit für wichtige Aufgaben zu sparen, eine Mentalität des "aufs Abstellgleis Schiebens" etablieren würde.

Sobald wir damit beginnen, solche hochsensiblen, intimen Aufgaben Maschinen zu überlassen, besteht die Gefahr, dass die Gesellschaft pflegebedürftige und/oder alte Menschen mehr und mehr ausblendet. Ein Pflegeroboter sollte, wenn überhaupt, nur unter der direkten Aufsicht eines menschlichen Pflegers mit Aufgaben am Menschen betraut werden. Ein Roboter ist schlicht nicht dazu in der Lage emotionale Wärme zu spenden oder ein Gespräch mit seinem Gegenüber zu führen, bei dem sich dieses verstanden und aufgehoben fühlt. Wir sollten nicht in die Versuchung kommen zu glauben, dass die Technik in absehbarer Zeit auch nur annähernd dazu in der Lage sein wird solche essentiellen menschlichen Qualitäten nachzubilden."

Ein weiteres Argument ist, dass der Einsatz von Pflegerobotern eine sehr kostspielige Angelegenheit ist und somit für die meisten Pflegeeinrichtungen zu teuer wäre. Karl Neuhaus, Verwaltungsleiter einer großen deutschen Klinik, hat einmal durchgerechnet was die Anschaffung von Pflegerobotern kosten würde. Sein Fazit "Ohne zugleich auf Angestellte und die durch sie entstehenden monatlichen Ausgaben zu verzichten, wäre es für uns unmöglich wirtschaftlich zu bleiben. Kliniken wie wir würden nur draufzahlen."

Zu guter Letzt bleibt das Problem, das ein Pflegeroboter eine Maschine ist, bei der es durch Programmierfehler oder Stromausfälle zu Unfällen mit den pflegebedürftigen Personen kommen könnte. Es ist nicht auszuschließen, dass es hierbei auch zu gesundheitlichen Schäden bei diesen Menschen kommen könnte.

"Die rechtlichen und ethischen Probleme, die bei einer solchen Fehlfunktion mit Personenschäden auftreten würden, wurden vom Gesetzgeber bisher nicht befriedigend gelöst" sagt Verbraucherschutzanwalt Theodor Kuhn. "Ein Pflegeroboter müsste bei mehreren Notfällen die Behandlungspriorität festlegen können, doch nach welchem Muster sollte er dabei vorgehen? Sollte der Fall mit der höchsten Genesungswahrscheinlichkeit vorgehen, oder soll hier gar der Zufall entscheiden? Und wenn dann rückblickend festgestellt wird, dass die Entscheidung des Roboters zu einem Todesfall geführt hat, wer wird dann zur Verantwortung gezogen? Die Klinik, der Hersteller? Hier stellen sich viele Fragen, für die wir letztlich eine gesetzliche Regelung brauchen, damit Geschädigte im Ernstfall wissen, gegen wen sie vorgehen können".

Zusammenfassend kann festgehalten werden, dass sich der Einsatz von Pflegerobotern zwar im ersten Moment als etwas Innovatives und Erstrebenswertes anhören mag, aber bei genauerer Betrachtung auffällt, dass viele Fragen und Probleme in Zusammenhang mit dieser neuen Technologie nur unzureichend oder gar nicht geklärt sind. Deswegen muss von einem ernsthaften Einsatz zurzeit abgeraten werden."

## Control Variables

Wie überzeugend fanden sie diesen Artikel?

überhaupt nicht

sehr überzeugend



**Als wie schwer empfanden Sie es, die Informationen aus dem Text aufzunehmen?**

sehr leicht sehr schwer

**Wie passend fanden Sie die vorgebrachten Argumente für das vorgestellte Thema?**

überhaupt nicht passend sehr passend

**Ausgehend von Ihrem persönlichen Empfinden, was glauben Sie, wie lange Sie für das Lesen des Textes gebraucht haben?**

wenig Zeit viel Zeit

### Dependent Variables

Im Folgenden werden wir Ihnen zu verschiedenen gesellschaftlichen Themen jeweils zwei Fragen stellen.

Zum einen möchten wir erfahren, wie Sie das Thema bewerten, also ob Sie es gut oder schlecht finden, oder ob Sie sich mit Ihrer Meinung zu dem Thema irgendwo in der Mitte einordnen.

Zum anderen werden wir Sie jeweils fragen, wie sicher Sie sich in dieser Bewertung sind.

So ist es zum Beispiel möglich, dass Sie zwar eine positive oder eine negative Einstellung zu einem Thema haben, ohne dass Sie voll hinter dieser stehen. Hierfür kann es verschiedene Gründe geben, wichtig ist für uns nur, dass wir erfahren wie sicher Sie sich in ihrer Meinung sind.

Letztlich gibt es auf beide Fragen natürlich auch hier keine richtigen oder falschen Antworten, wir interessieren uns nur für Ihre persönliche Meinung!

Um fortzufahren klicken Sie bitte auf „Weiter“.

**Bitte geben Sie an, wie Sie den folgenden Wert einschätzen:**

**Gleichheit**

sehr negativ sehr positiv

**Wie sicher sind Sie sich in Ihrer Meinung zu diesem Thema?**





Bitte geben Sie an, wie Sie den folgenden Wert einschätzen:

**Ehrlichkeit**

sehr negativ

sehr positiv



Wie sicher sind Sie sich in Ihrer Meinung zu diesem Thema?

sehr unsicher

sehr sicher



Bitte geben Sie an, wie Sie den folgenden Wert einschätzen:

**Hedonismus**

(ein Lebensstil, der nach Lust bzw. Freude strebt)

sehr negativ

sehr positiv



Wie sicher sind Sie sich in Ihrer Meinung zu diesem Thema?

sehr unsicher

sehr sicher



Bitte geben Sie an, wie Sie die folgende Maßnahme einschätzen:

**Gleiche Bezahlung von Männern und Frauen**

sehr negativ

sehr positiv



Wie sicher sind Sie sich in Ihrer Meinung zu diesem Thema?

sehr unsicher

sehr sicher





**Bitte geben Sie an, wie Sie die folgende Maßnahme einschätzen:**

**Einsatz von Robotern in der Krankenpflege**

sehr negativ



sehr positiv

**Wie sicher sind Sie sich in Ihrer Meinung zu diesem Thema?**

sehr unsicher



sehr sicher

### Suspicion Check

Zum Abschluss möchten wir Sie noch bitten, einige Fragen zu dieser Studie zu beantworten sowie einige Angaben zu Ihrer Person zu machen.

Bitte klicken Sie auf "Weiter"

**Was glauben Sie, was genau wir in dieser Studie untersuchen wollen?**

**Wie intensiv haben Sie sich in der Vergangenheit mit dem Thema des Essays auseinandergesetzt?**

kaum



sehr intensiv

**Ist Ihnen beim Lesen des Artikels etwas aufgefallen?**

### Demographic Information

**Wie alt sind Sie?**

**Bitte geben Sie Ihr Geschlecht an.**

- weiblich  
 männlich

Anderes, und zwar:

**Bitte geben Sie Ihr Studienfach und Ihre Semesterzahl, oder Ihren Beruf an.**

## Compensation



Wenn Sie an der Verlosung teilnehmen möchten, für die Chance einen der 10 Best-Choice Gutscheine im Wert von je 20 Euro zu gewinnen, dann klicken Sie bitte **hier**.

Andernfalls klicken Sie bitte ein letztes Mal auf **"Weiter"**, um zur "Aufklärung" zu gelangen.

## Debriefing

Liebe Teilnehmerin, Lieber Teilnehmer,

leider ist es in der sozialpsychologischen Forschung manchmal unabdingbar die Teilnehmerinnen einer Studie, also Sie, über den eigentlichen Zweck der Untersuchung zu täuschen.

Bei dem Experiment, welches sie soeben durchgeführt haben, handelt es sich um eine solche Untersuchung. Anders als beschrieben, war der Zweck der Studie nicht die Erfassung der Lesefähigkeit vorzunehmen.

Tatsächlich haben wir versucht mit dem Text, den Sie gelesen haben, Ihre Meinung, entweder zur Frauenquote, zu dem Wert der Gleichheit oder zu dem Einsatz von Pflegerobotern zu ändern.

Anschließend haben wir gemessen ob sich Ihre Einstellung tatsächlich geändert hat und ob es hierdurch auch zu einer Veränderung ihrer Einstellung gegenüber weiteren, ähnlichen Themen gekommen ist. Auf diese

Weise versuchen wir mehr darüber zu erfahren wie sich Einstellungsveränderungen zu einem Thema, auf weitere zunächst gar nicht angesprochene Themen, auswirken.

Wir bitten um Entschuldigung für die Täuschung und bitten um Ihr Verständnis, dass dies notwendig war!

Wenn Sie an den Ergebnissen dieser Untersuchung interessiert sind, können Sie uns gerne ihre Email-Adresse hinterlassen.

Sobald Ergebnisse vorliegen werden wir Sie gerne darüber informieren.

Sollten Sie noch Fragen haben, melden Sie sich gerne unter [roman.linne\[at\]uni-bielefeld.de](mailto:roman.linne[at]uni-bielefeld.de).

**Sie können das Fenster nun schließen.**

## Experiment 5

### Introduction

Liebe Teilnehmerin, lieber Teilnehmer,

zunächst möchten wir uns ganz herzlich für Ihr Interesse an unserer Studie bedanken.

#### Allgemeine Informationen

Die vorliegende Studie wird im Rahmen eines Forschungsprojekts der Arbeitseinheit 05 der Fakultät Psychologie der Universität Bielefeld durchgeführt. Die Teilnahme dauert ca. 20 Minuten und wird mit 3 Euro vergütet. Informationen über Details zum Inhalt und Ablauf der Untersuchung erhalten Sie in den folgenden Abschnitten.

#### Was geschieht mit meinen Antworten?

Ihre Angaben dienen rein wissenschaftlichen Zwecken. Sie werden in keiner Weise kommerziell verwendet, sondern ausschließlich im Rahmen der psychologischen Grundlagenforschung ausgewertet. Selbstverständlich werden Ihre Antworten streng vertraulich und anonym behandelt. Abgesehen von einigen allgemeinen Merkmalen wie z.B. Alter und Geschlecht werden keine Daten erhoben, die auf Sie als Person hinweisen würden.

#### Und wenn ich später Bedenken bekomme?

Die Teilnahme an dieser Studie erfolgt auf rein freiwilliger Basis. Das bedeutet, dass Sie Ihre Teilnahme jederzeit beenden können, ohne dass sich negative Konsequenzen für Sie ergeben. Ihre bis dahin gegebenen Antworten werden in diesem Fall nicht verwendet, sondern gelöscht.

#### Was bekomme ich für meine Teilnahme?

Alle Studienteilnehmerinnen bekommen 3 Euro für Ihre Teilnahme.

---

#### Inhalte dieser Studie

In dieser Studie möchten wir Sie bitten, zu zwei verschiedenen Themen eigene Argumente zu generieren. Um ihre Argumentation einordnen zu können, werden Sie anschließend noch verschiedene Themen sowie Bilder bewerten. Eine genaue Anleitung erhalten Sie, sobald das Experiment beginnt. Bitte bearbeiten Sie alle Aufgaben spontan. Es gibt keine richtigen und falschen Angaben; wir sind an Ihrer persönlichen Einschätzung interessiert.

Sollten Sie noch Fragen zur Studie und ihrem Ablauf haben, wenden Sie sich bitte an die Versuchsleitung.

### Consent Form

Ich bin über die Studie und den Versuchsablauf informiert worden. Ich habe alle Informationen vollständig gelesen und verstanden.



Mit der beschriebenen Handhabung der erhobenen Daten bin ich einverstanden. Die Aufzeichnung und Auswertung der Daten erfolgt anonym. Ich weiß, dass die Teilnahme an der Studie freiwillig ist und ich die Teilnahme jederzeit ohne Angabe von Gründen beenden kann.

Ich bin bereit, an der Studie teilzunehmen. Ich bin einverstanden, dass meine anonymen Daten zu Forschungszwecken verwendet werden können.

Ich bin NICHT  
einverstanden und nehme  
NICHT teil.

Ich bin einverstanden  
und nehme teil

### Instruction

Liebe\*r Teilnehmer \*in,

vielen Dank für die Teilnahme an dieser Untersuchung!

Bei diesem Experiment untersuchen wir, wie unter bestimmten Rahmenvoraussetzungen argumentiert wird. Konkreter heißt das, dass wir Ihnen vorgeben werden, wofür/wogegen Sie argumentieren sollen. Wie Sie dies dann tun, ist Ihnen überlassen und wird später von uns ausgewertet.

Wenn Sie bereit sind zu beginnen, klicken Sie auf 'Weiter'.

---

Bei den zwei folgenden Aufgaben werden Sie gebeten, auf eine bestimmte Art und Weise zu argumentieren.

Die Auswahl, welche Teilnehmer \*innen was argumentieren sollen, erfolgt dabei vollkommen zufällig. Dementsprechend kann es gut sein, dass Sie gebeten werden anders zu argumentieren, als Sie dies üblicherweise machen würden. Da es bei diesem Experiment darum geht, bestimmte Arten der Argumentation zu analysieren, bitten wir Sie, sich hierauf einzulassen. Sie könnten sich beispielsweise vorstellen, Sie wären in einem Wettbewerb mit dem Ziel Ihr Gegenüber zu überzeugen.

### Valence Manipulation

#### VERSION A:

Bei der ersten Argumentationsaufgabe geht es jetzt darum zu beschreiben,

**warum Freiheit etwas Schlechtes ist.**

Bitte schreiben Sie Argumente auf, warum diese Aussage zutreffen könnte. Damit Sie sich besser vorstellen können, wie dies aussehen könnte, folgen Beispiele, warum 'Sicherheit' bzw. 'Tradition' etwas Schlechtes sein könnten.

Warum Sicherheit etwas Schlechtes sein könnte:

„Konkrete Maßnahmen zur Sicherheit bedeuten immer auch eine Einschränkung. Beispielsweise könnte Überwachung Sicherheit erhöhen, führt aber gleichzeitig zu Verletzungen der Privatsphäre.“

Warum Tradition etwas Schlechtes sein könnte:

„Das Festhalten an Traditionen führt auch dazu, dass eine Gesellschaft stagniert und sich notwendigem Fortschritt verweigert.“

---

**Warum Freiheit etwas Schlechtes ist.**

Bitte schreiben Sie Argumente zu diesem Thema in die Textfelder. Dabei ist jedes der Textfelder für jeweils nur ein Argument vorgesehen. Wir haben zwar insgesamt vier Textfelder angegeben, das heißt aber nicht, dass auch jedes der Felder ausgefüllt werden muss. Schreiben Sie so viele Argumente auf, wie Ihnen einfallen. Auch wenn Ihnen das Bilden von Argumenten schwerfallen sollte, denken Sie bitte intensiv über die Aufgabe nach und versuchen Sie diese Gedanken aufzuschreiben.

Es gibt für diese Aufgabe keine Zeitbegrenzung. Versuchen Sie aber bitte nicht mehr als fünf Minuten auf dieser Seite zu bleiben. Sie können auf 'weiter' klicken sobald mindestens eines der Textfelder ausgefüllt ist.

Argument 1

Argument 2

Argument 3

Argument 4

**Weiter**

---

**VERSION B:**

Bei der ersten Argumentationsaufgabe geht es jetzt darum zu beschreiben,

**warum Gleichheit etwas Schlechtes ist.**

Bitte schreiben Sie Argumente auf, warum diese Aussage zutreffen könnte. Damit Sie sich besser vorstellen können, wie dies aussehen könnte, folgen Beispiele, warum 'Sicherheit' bzw. 'Tradition' etwas Schlechtes sein könnten.

Warum Sicherheit etwas Schlechtes sein könnte:

„Konkrete Maßnahmen zur Sicherheit bedeuten immer auch eine Einschränkung. Beispielsweise könnte Überwachung Sicherheit erhöhen, führt aber gleichzeitig zu Verletzungen der Privatsphäre.“

Warum Tradition etwas Schlechtes sein könnte:

„Das Festhalten an Traditionen führt auch dazu, dass eine Gesellschaft stagniert und sich notwendigem Fortschritt verweigert.“

---

**Warum Gleichheit etwas Schlechtes ist.**

Bitte schreiben Sie Argumente zu diesem Thema in die Textfelder. Dabei ist jedes der Textfelder für jeweils nur ein Argument vorgesehen. Wir haben zwar insgesamt vier Textfelder angegeben, das heißt aber nicht, dass auch jedes der Felder ausgefüllt werden muss. Schreiben Sie so viele Argumente auf, wie Ihnen einfallen. Auch wenn Ihnen das Bilden von Argumenten schwerfallen sollte, denken Sie bitte intensiv über die Aufgabe nach und versuchen Sie diese Gedanken aufzuschreiben.

Es gibt für diese Aufgabe keine Zeitbegrenzung. Versuchen Sie aber bitte nicht mehr als fünf Minuten auf dieser Seite zu bleiben. Sie können auf 'weiter' klicken sobald mindestens eines der Textfelder ausgefüllt ist.

Argument 1

Argument 2

Argument 3

Argument 4

Weiter

## Relation Manipulation

### VERSION A

Bei der zweiten Argumentationsaufgabe geht es jetzt darum zu beschreiben.

**warum Freiheit und Gleichheit wenig gemeinsam haben oder sich sogar widersprechen.**

Bitte schreiben Sie Argumente auf, warum diese Aussage zutreffen könnte.

Erneut ein Beispiel:

Warum Tradition und Sicherheit wenig gemeinsam haben oder sich sogar widersprechen könnten:  
„Eine Erhöhung der Sicherheit benötigt zwangsläufig auch einen Eingriff in bewährte und traditionelle Abläufe und Veranstaltungen. Ein Weihnachtsmarkt etwa, der an den Enden mit Betonpollern eingegrenzt und von schwer bewaffneten Polizisten geschützt wird, wirkt eher wie ein Hochsicherheitsgefängnis.“

---

### Warum Freiheit und Gleichheit wenig gemeinsam haben oder sich sogar widersprechen.

Bitte schreiben Sie Argumente zu diesem Thema in die Textfelder. Dabei ist jedes der Textfelder für jeweils nur ein Argument vorgesehen. Wir haben zwar insgesamt vier Textfelder angegeben, das heißt aber nicht, dass auch jedes der Felder ausgefüllt werden muss. Schreiben Sie so viele Argumente auf, wie Ihnen einfallen. Auch wenn Ihnen das Bilden von Argumenten schwerfallen sollte, denken Sie bitte intensiv über die Aufgabe nach und versuchen Sie diese Gedanken aufzuschreiben.

Es gibt für diese Aufgabe keine Zeitbegrenzung. Versuchen Sie aber bitte nicht mehr als fünf Minuten auf dieser Seite zu bleiben. Sie können auf 'weiter' klicken sobald mindestens eines der Textfelder ausgefüllt ist.

Argument 1

Argument 2

Argument 3

Argument 4

**Weiter**

---

**VERSION B:**

Bei der zweiten Argumentationsaufgabe geht es jetzt darum zu beschreiben.

**warum Gleichheit und Freiheit viel gemeinsam haben oder sogar nur zusammen existieren können.**

Bitte schreiben Sie Argumente auf, warum diese Aussage zutreffen könnte.

Erneut ein Beispiel:

Warum Tradition und Sicherheit wenig gemeinsam haben oder sich sogar widersprechen könnten: „Eine Erhöhung der Sicherheit benötigt zwangsläufig auch einen Eingriff in bewährte und traditionelle Abläufe und Veranstaltungen. Ein Weihnachtsmarkt etwa, der an den Enden mit Betonpollern eingegrenzt und von schwer bewaffneten Polizisten geschützt wird, wirkt eher wie ein Hochsicherheitsgefängnis.“

---

**Warum Gleichheit und Freiheit viel gemeinsam haben oder sogar nur zusammen existieren können.**

Bitte schreiben Sie Argumente zu diesem Thema in die Textfelder. Dabei ist jedes der Textfelder für jeweils nur ein Argument vorgesehen. Wir haben zwar insgesamt vier Textfelder angegeben, das heißt aber nicht, dass auch jedes der Felder ausgefüllt werden muss. Schreiben Sie so viele Argumente auf, wie Ihnen einfallen. Auch wenn Ihnen das Bilden von Argumenten schwerfallen sollte, denken Sie bitte intensiv über die Aufgabe nach und versuchen Sie diese Gedanken aufzuschreiben.

Es gibt für diese Aufgabe keine Zeitbegrenzung. Versuchen Sie aber bitte nicht mehr als fünf Minuten auf dieser Seite zu bleiben. Sie können auf 'weiter' klicken sobald mindestens eines der Textfelder ausgefüllt ist.

Argument 1

Argument 2

Argument 3

Argument 4

**Weiter**

### **Assessment of Explicit Attitudes and Attitude Strength**

Um Ihre Argumentationen besser einordnen zu können, würden wir an dieser Stelle gerne noch mehr über Ihre Einstellung zu einigen Themen erfahren.

Hierbei handelt es sich sowohl um die Werte, zu denen Sie eben argumentiert haben, als auch um einige weitere Themen.

Hierfür werden Ihnen zu jedem Thema mehrere Fragen gestellt.

Es gibt keine richtigen oder falschen Antworten, uns interessiert nur Ihre persönliche Meinung.

Klicken Sie auf 'Weiter', um zu den einzelnen Themen zu gelangen.

**Weiter**

---

#### **Freiheit**

Sie können immer erst dann auf „Weiter“ klicken, wenn Sie alle Fragen beantwortet haben.

**Freiheit ist...**

negativ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	positiv
schädlich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	nützlich
nicht erstrebenswert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sehr erstrebenswert

**Wie sicher sind Sie sich bezüglich der Annahmen, die Sie oben gemacht haben?**

unsicher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sicher
----------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	--------

**Wie wichtig ist Ihnen dieses Thema?**

unwichtig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	wichtig
-----------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	---------

**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sehr viel
-----------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------

**Weiter**

---

**Gleichheit**

Sie können immer erst dann auf „Weiter“ klicken, wenn Sie alle Fragen beantwortet haben.

**Gleichheit ist...**

negativ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	positiv
schädlich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	nützlich
nicht erstrebenswert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sehr erstrebenswert

**Wie sicher sind Sie sich bezüglich der Annahmen, die Sie oben gemacht haben?**

unsicher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sicher
----------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	--------

**Wie wichtig ist Ihnen dieses Thema?**

unwichtig         wichtig

**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht         sehr viel

**Weiter**

---

**Straffreie Meinungsäußerung zu allen Themen**

Sie können immer erst dann auf „Weiter“ klicken, wenn Sie alle Fragen beantwortet haben.

**Straffreie Meinungsäußerung zu allen Themen ist...**

negativ         positiv

schädlich         nützlich

nicht  
erstrebenswert         sehr  
erstrebenswert

**Wie sicher sind Sie sich bezüglich der Annahmen, die Sie oben gemacht haben?**

unsicher         sicher

**Wie wichtig ist Ihnen dieses Thema?**

unwichtig         wichtig

**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht         sehr viel

**Weiter**

---

**Bedingungsloses Grundeinkommen**

Sie können immer erst dann auf „Weiter“ klicken, wenn Sie alle Fragen beantwortet haben.

**Bedingungsloses Grundeinkommen ist...**





**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht         sehr viel

**Weiter**

---

**Keinerlei Einschränkungen religiöser Praktiken**

Sie können immer erst dann auf „Weiter“ klicken, wenn Sie alle Fragen beantwortet haben.

**Eine Ungleichheit religiöser Praktiken ist...**

negativ         positiv

schädlich         nützlich

nicht  
erstrebenswert         sehr  
erstrebenswert

**Wie sicher sind Sie sich bezüglich der Annahmen, die Sie oben gemacht haben?**

unsicher         sicher

**Wie wichtig ist Ihnen dieses Thema?**

unwichtig         wichtig

**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht         sehr viel


**Weiter**

## Control Variables and Manipulation Check

**Inwiefern sind A und B Ihrer Meinung nach miteinander vereinbar?**

Sie können immer erst dann auf 'Weiter' klicken, wenn Sie alle Fragen beantwortet haben. Auch wenn Sie auf der Startposition bleiben möchten, müssen Sie den Schieberegler einmal bewegen.

A) Freiheit  
B) Gleichheit  
widersprechen einander      kein Zusammenhang      benötigen sich




**Weiter**

---

**Inwiefern sind A und B Ihrer Meinung nach miteinander vereinbar?**

Sie können immer erst dann auf 'Weiter' klicken, wenn Sie alle Fragen beantwortet haben. Auch wenn Sie auf der Startposition bleiben möchten, müssen Sie den Schieberegler einmal bewegen.


A) Bedingungsloses Grundeinkommen  
B) Freiheit  
widersprechen einander      kein Zusammenhang      benötigen sich



**Weiter**

---

A) Bedingungsloses Grundeinkommen  
B) Gleichheit  
widersprechen einander      kein Zusammenhang      benötigen sich




**Weiter**

---

**Inwiefern sind A und B Ihrer Meinung nach miteinander vereinbar?**

Sie können immer erst dann auf 'Weiter' klicken, wenn Sie alle Fragen beantwortet haben. Auch wenn Sie auf der Startposition bleiben möchten, müssen Sie den Schieberegler einmal bewegen.


A) Straffreie Meinungsäußerung zu allen Themen  
B) Freiheit  
widersprechen einander      kein Zusammenhang      benötigen sich



**Weiter**

---

A) Straffreie Meinungsäußerung zu allen Themen  
B) Gleichheit  
widersprechen einander      kein Zusammenhang      benötigen sich



**Weiter**

---

**Inwiefern sind A und B Ihrer Meinung nach miteinander vereinbar?**

Sie können immer erst dann auf 'Weiter' klicken, wenn Sie alle Fragen beantwortet haben. Auch wenn Sie auf der Startposition bleiben möchten, müssen Sie den Schieberegler einmal bewegen.

- A) Vollständige Inklusion statt Sonderschulen
- B) Freiheit



- A) Vollständige Inklusion statt Sonderschulen
- B) Gleichheit



**Weiter**

**Inwiefern sind A und B Ihrer Meinung nach miteinander vereinbar?**

Sie können immer erst dann auf 'Weiter' klicken, wenn Sie alle Fragen beantwortet haben. Auch wenn Sie auf der Startposition bleiben möchten, müssen Sie den Schieberegler einmal bewegen.

- A) Keinerlei Einschränkungen religiöser Praktiken
- B) Freiheit



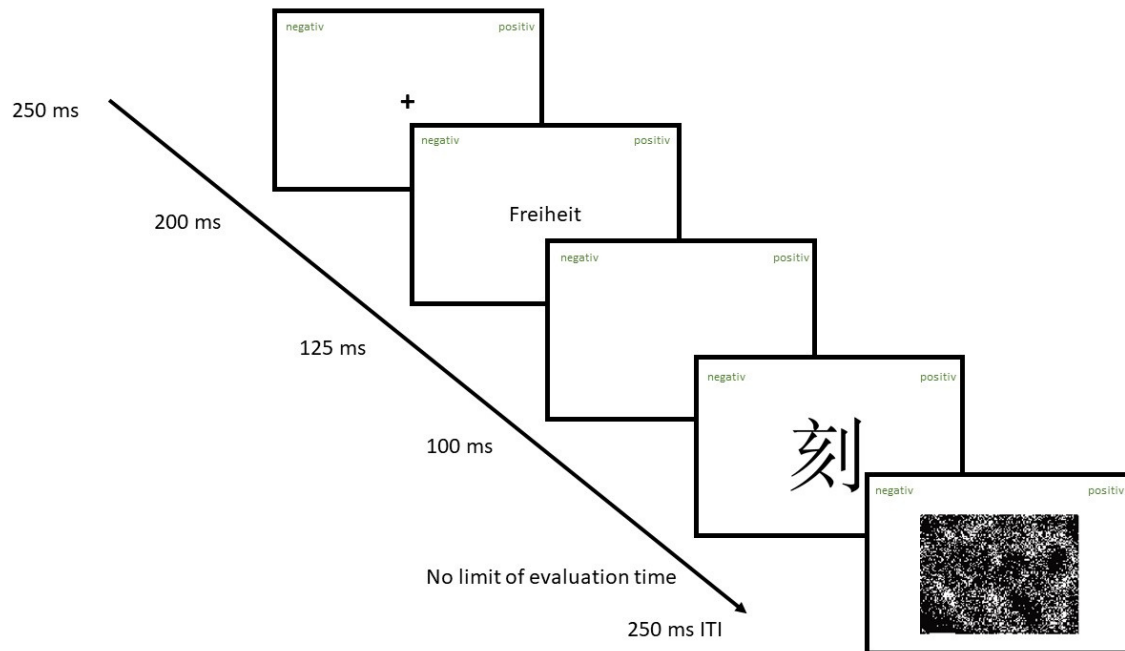
- A) Keinerlei Einschränkungen religiöser Praktiken
- B) Gleichheit



**Weiter**

**AMP (Implicit Attitudes)**

*AMP Overview*



### ***AMP Details***

Im Folgenden werden Sie nacheinander Wörter und chinesische Schriftzeichen sehen, die in kurzem Abstand voneinander gezeigt werden.

Zuerst sehen Sie ein Wort, zwei Wörter oder nur eine weiße Fläche, gefolgt von einem chinesischen Schriftzeichen und als Letztes ein Pixelbild. Ignorieren Sie die Wörter vor dem Schriftzeichen. Das Pixelbild können Sie ebenfalls ignorieren; es dient lediglich dazu, die Aufgabe zu erschweren.

Ihre Aufgabe ist es anzugeben, wie positiv oder negativ Sie das Aussehen des chinesischen Schriftzeichens im Vergleich zum Durchschnitt empfinden.

Drücken sie die LEERTASTE, um weiter zu kommen.

---

Wenn das chinesische Schriftzeichen auf Sie eher negativ wirkt, drücken Sie bitte die Taste 'E'. Empfinden Sie das Aussehen des chinesischen Schriftzeichens als eher positiv, drücken Sie bitte die Taste 'I'.

Es ist anzumerken, dass das zuerst gezeigte Wort in einigen Fällen die Beurteilung des Schriftzeichens beeinflussen kann. Da wir daran interessiert sind, wie Menschen diese Beeinflussung vermeiden können, geben Sie Ihr Bestes, bei der Bewertung des Schriftzeichens das vorherige Wort zu Ignorieren!

Geben Sie uns eine ehrliche Einschätzung des Schriftzeichens, unabhängig von dem zuvor gezeigten Wort.

Hier sehen Sie eine beispielhafte Abfolge von Wörtern und Bildern:

Bunte Kuh

池



Drücken sie die LEERTASTE, um weiter zu kommen.

---

Um ein Gefühl für die Aufgabe zu bekommen, starten wir mit einem Probelauf. Denken Sie daran: Ihre Aufgabe ist es, zu beurteilen, ob Sie das chinesische Schriftzeichen eher negativ oder eher positiv empfinden. Dazu drücken Sie entweder „E“ oder „I“.

Drücken sie die LEERTASTE, um weiter zu kommen.

---

negativ

positiv

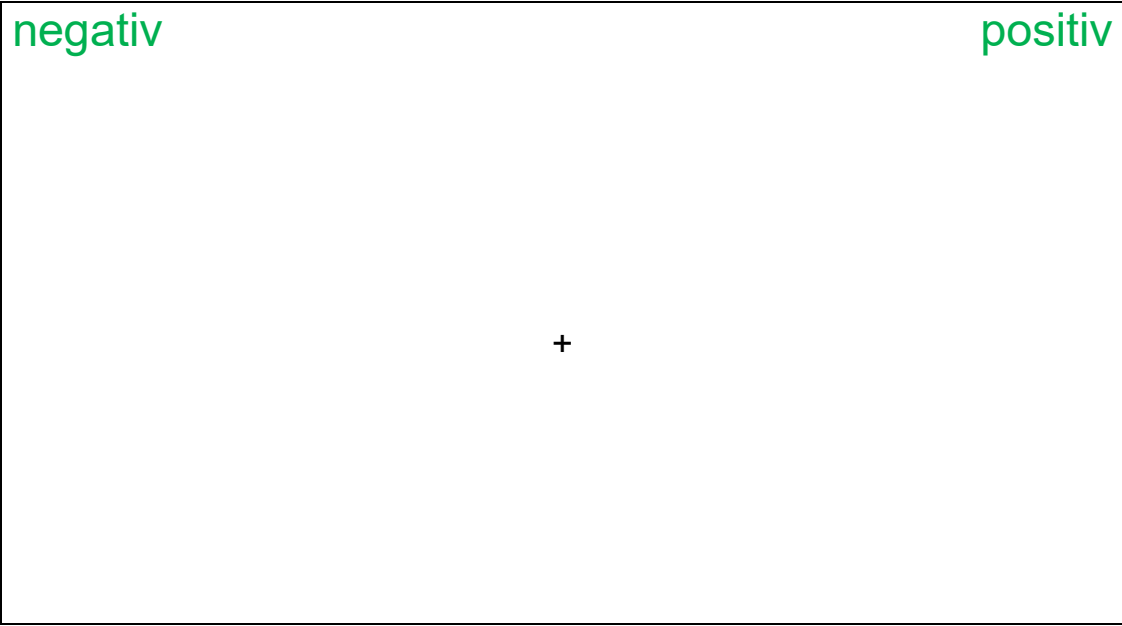
Es kann jetzt losgehen!

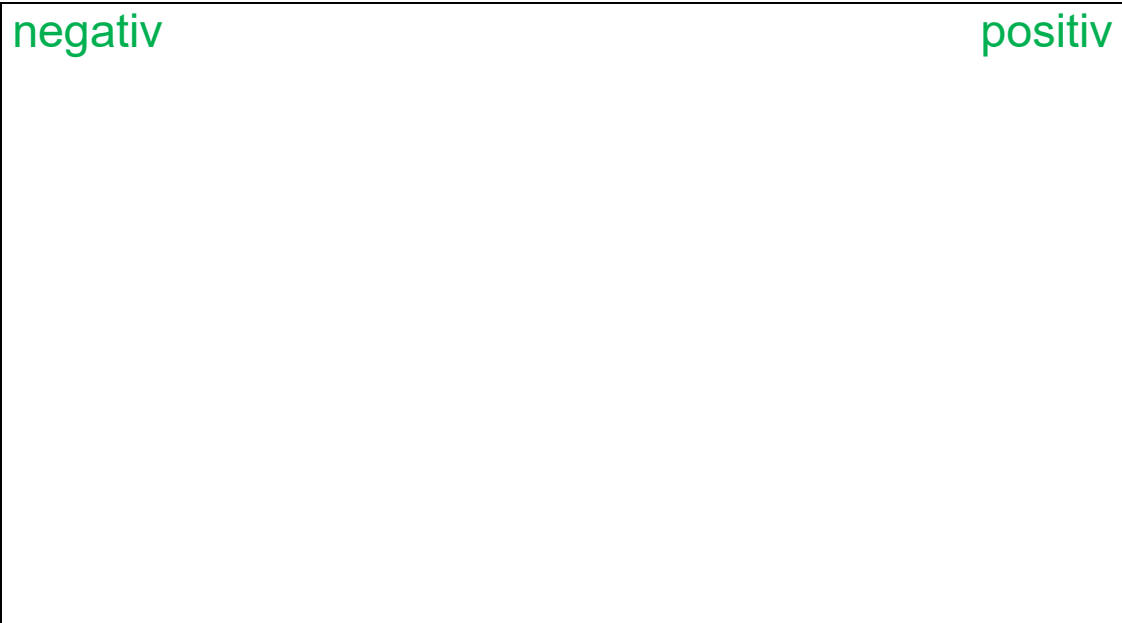
Legen Sie Ihre Zeigefinger auf die Antworttasten „E“ und „I“.

Drücken Sie mit dem Daumen auf die Leertaste, um das Experiment zu starten.

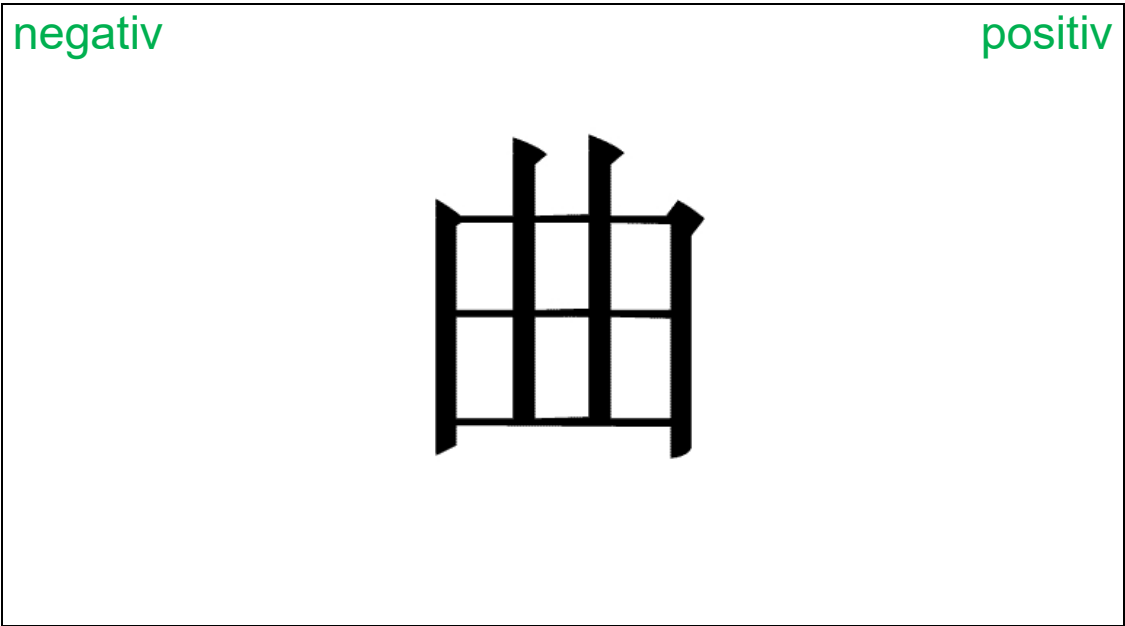
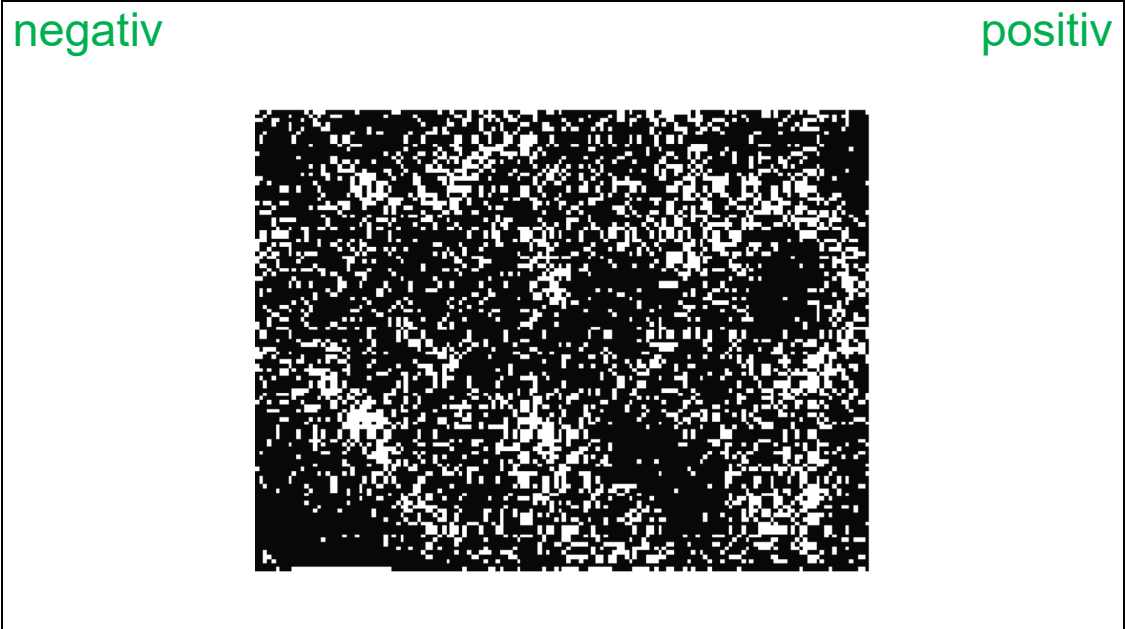
Drücken Sie die LEERTASTE, um zu starten

---









### PfC (Example)

Wie sehr stimmen Sie folgenden Aussagen zu?

	Stimme überhaupt nicht zu					Stimme voll zu	
	1	2	3	4	5	6	7
Es stört mich, wenn ich von jemandem abhängig bin, dessen Verhalten ich nicht vorhersehen kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Demographic Information

Zum Abschluss dieses Experiments bitten wir Sie, noch einige Fragen zu Ihnen und zur Studie zu beantworten.

Auch hier können Sie erst auf 'Weiter' klicken, wenn Sie alle Fragen auf einer Seite beantwortet haben.

---

Bitte beantworten Sie folgende Fragen zu Ihrer Person

1) **Geschlecht**

- weiblich
- männlich
- anderes

2) **Alter**

3) **Welcher Beschäftigung gehen Sie nach?**

- Studieren
- Andere Beschäftigung

4) **In welchem Studiengang sind Sie oder welcher Beschäftigung gehen Sie nach?**

5) **In welchem Semester sind Sie?**

**6) Kennen/verstehen Sie die Bedeutung der eben gezeigten chinesischen Schriftzeichen?**

- Nein, keine
- Von einigen wenigen
- Ja, von den meisten
- Ja, von allen

**Weiter**

---

### Suspicion Check, Control Questions

**7) Haben Sie jemals an einer ähnlichen Studie teilgenommen?**

- Ja
- Nein

**8) Falls Sie schon einmal an einer ähnlichen Studie teilgenommen haben, beschreiben Sie bitte kurz, was genau sie bei der anderen Studie machen mussten. Was sind Gemeinsamkeiten, wo liegen Unterschiede? Falls Sie nie an einer ähnlichen Studie teilgenommen haben, lassen Sie das nächste Feld einfach frei.**

**9) Was denken Sie, worum es in der aktuellen Studie ging?**

**Weiter**

### Debriefing

Liebe\*r Teilnehmer\*in,

bei manchen Experimenten ist es notwendig, dass die Teilnehmer\*innen erst am Ende der Untersuchung über das eigentliche Ziel des Experiments aufgeklärt werden. Dies war auch hier der Fall.

Ziel dieser Studie ist es nicht, die Art und Weise der Argumentation zu untersuchen. Es ging uns darum, herauszufinden, inwiefern die zwei Arten der Argumentation (gegen den Wert der Freiheit/Gleichheit; für einen Widerspruch oder Zusammenhang beider Werte) sich darauf auswirken wie diese von Ihnen bewertet werden. Dabei liegt unser Interesse vor allem darauf, wie sich die Bewertung des Wertes, gegen den jeweils nicht argumentiert wurde, in Abhängigkeit der Zusammenhangsargumentation verhält.

Für die notwendige Täuschung bitten wir um Entschuldigung. Sollten Sie noch Fragen haben, wenden Sie sich gerne an die Versuchsleiter\*innen.

**Sie können das Fenster nun schließen.**

**Weiter**

---

Das Experiment ist beendet.

Vielen Dank für Ihre Teilnahme!

Bitte melden Sie sich bei den Versuchsleiter\*innen, um Ihre Vergütung zu erhalten.

## Experiment 6

### Introduction

**Liebe\*r Teilnehmer\*in,**

zunächst möchten wir uns ganz herzlich für Ihr Interesse an unserer Studie bedanken.

#### **Allgemeine Informationen**

Die vorliegende Studie wird im Rahmen eines Forschungsprojekts der Arbeitseinheit 05 der Fakultät Psychologie der Universität Bielefeld durchgeführt. Die Teilnahme dauert ca. 40-45 Minuten und wird mit 10 Euro vergütet. Informationen über Details zum Inhalt und Ablauf der Untersuchung erhalten Sie in den folgenden Abschnitten.

#### **Was geschieht mit meinen Antworten?**

Ihre Angaben dienen rein wissenschaftlichen Zwecken. Sie werden in keiner Weise kommerziell verwendet, sondern ausschließlich im Rahmen der psychologischen Grundlagenforschung ausgewertet. Selbstverständlich werden Ihre Antworten streng vertraulich und anonym behandelt. Abgesehen von einigen allgemeinen Merkmalen wie z.B. Alter und Geschlecht werden keine Daten erhoben, die auf Sie als Person hinweisen würden.

#### **Und wenn ich später Bedenken bekomme?**

Die Teilnahme an dieser Studie erfolgt auf rein freiwilliger Basis. Das bedeutet, dass Sie Ihre Teilnahme jederzeit beenden können, ohne dass sich negative Konsequenzen für Sie ergeben. Ihre bis dahin gegebenen Antworten werden in diesem Fall nicht verwendet, sondern gelöscht.

#### **Was bekomme ich für meine Teilnahme?**

Alle Studienteilnehmerinnen bekommen 10 Euro für Ihre Teilnahme.

---

### **Inhalte dieser Studie**

In dieser Studie geht es um politische Kommunikation. Sie werden einen etwas längeren Text politischen Inhalts lesen und anschließend Ihre Meinung zu diesem Text sowie zu verschiedenen Themen abgeben. Des Weiteren werden Sie Wörter klassifizieren sowie einige Fragebögen beantworten. Bitte bearbeiten Sie alle Aufgaben spontan. Es gibt keine richtigen und falschen Angaben; wir sind an Ihrer persönlichen Einschätzung interessiert.

**Sollten Sie noch Fragen zur Studie und ihrem Ablauf haben, wenden Sie sich bitte an die Versuchsleitung.**

### **Consent Form**

Ich bin über die Studie und den Versuchsablauf informiert worden. Ich habe alle Informationen vollständig gelesen und verstanden.

Mit der beschriebenen Handhabung der erhobenen Daten bin ich einverstanden. Die Aufzeichnung und Auswertung der Daten erfolgt anonym. Ich weiß, dass die Teilnahme an der Studie freiwillig ist und ich die Teilnahme jederzeit ohne Angabe von Gründen beenden kann.

Ich bin bereit, an der Studie teilzunehmen. Ich bin einverstanden, dass meine anonymen Daten zu Forschungszwecken verwendet werden können.

Ich bin NICHT  
einverstanden und nehme  
NICHT teil.

Ich bin einverstanden  
und nehme teil

### Instruction

Liebe\*r Teilnehmer \*in,

vielen Dank für die Teilnahme an dieser Untersuchung!

Wir erleben zur Zeit eine intensive gesellschaftliche Diskussion über Migration, Integration sowie über die hierdurch entstehenden politischen und sozialen Folgen in den Ländern, die das Ziel der Fluchtbewegungen darstellen. In diesem Rahmen erforschen wir politische Aussagen, die sich auf diese Phänomene beziehen. Sie werden gleich einen längeren Text lesen, in dem zu einem Thema mit Migrationsbezug argumentiert wird. Wir untersuchen mehrere Texte mit unterschiedlichen Aussagen. Um die Dauer dieser Untersuchung relativ kurz zu halten, werde Sie aber nur einen, zufällig ausgewählten Text lesen.

Bitte lesen Sie den Text aufmerksam, auch dann, wenn er ihrer eigenen Meinung widersprechen sollte.

Anschließend werden wir Ihnen einige Fragen zu dem Text stellen.

Wenn Sie bereit sind, zu beginnen, klicken Sie auf „Weiter“.

**Weiter**

---

Bevor wir mit dem Text starten, geben Sie bitte noch an, wie Sie sich selbst politisch einordnen

Wie bewerten Sie Ihre eigene politische Einstellung?

eindeutig links

eindeutig rechts



**Weiter**

---

### Valence Manipulation

**Vorlage: AfD**

Im Folgenden lesen Sie eine Vorlage, die von einer Arbeitsgruppe der Alternative für Deutschland (AfD) im Bundestag eingebracht wurde. In der Vorlage (nach § 75 BTGO) aus dem Winter 2017 werden der Einfluss von Migration auf die deutsche Gesellschaft sowie mögliche Konsequenzen diskutiert. Die Vorlage wurde von den Abgeordneten der AfD angenommen.

**Weiter**

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***Manipulation A***

**Warum konsequente Abschiebungen eine Notwendigkeit darstellen**

Sie finden den Text in dem Briefumschlag vor Ihnen auf dem Tisch.

Bitte öffnen Sie jetzt den Umschlag und lesen den Text aufmerksam durch.

Klicken Sie auf 'Weiter' (erscheint nach einiger Zeit), um zu den Fragen zu dem Text zu gelangen.

**Weiter**

---

**Warum konsequente Abschiebungen eine Notwendigkeit darstellen**

Es können viele Argumente herangezogen werden, um die Aufnahme konsequenter Abschiebungen von Immigranten aus Deutschland zu diskutieren. Folgender Text soll darlegen, warum konsequente Abschiebungen unserer Meinung nach notwendig sind, um die Errungenschaften unserer Kultur zu bewahren.

Dass Deutschland ein vergleichsweise guter Ort ist, um hier zu leben, liegt nicht nur an der kulturellen Offenheit, sondern durchaus auch an der hiesigen Kultur selbst. Was ist die deutsche Kultur? „Bratwurst, Schützenfest & Bier“-Leitkultur? Möglicherweise. Gleichzeitig aber auch eine Mischung aus christlich-jüdischer Kultur, erweitert durch die Erkenntnisse der Aufklärung und die Errungenschaften der Moderne. Zusammengefasst könnte man sagen, es gibt eine grundsätzliche Wertschätzung des menschlichen Lebens an sich sowie eine Wertschätzung von Frauen und Männern. Die persönliche Freiheit des Individuums wird großgeschrieben - jeder kann seine Religion frei ausüben. Wir haben eine Gesellschaft mit vergleichsweise wenig Korruption, in der Menschen primär nach dem, was sie tun und leisten, und nicht nach dem Beruf ihrer Eltern beurteilt werden. Gewalt wird nicht toleriert, es gilt das Recht des Gesetzes und nicht das Recht des Stärkeren. Das Beschriebene mag auch in Deutschland nicht immer und nicht uneingeschränkt gelten; so sind es doch positive Errungenschaften, die verteidigt werden müssen. Was hat das damit zu tun, warum konsequente Abschiebungen durchgeführt werden müssen?

Die beschriebene Kultur und damit verbundene Werte bestehen so in keinem der Länder, aus denen der größte Teil der derzeitigen Migranten stammt. Wir wissen aus Sozial- und Erziehungswissenschaften, dass Menschen zu großen Anteilen ein Produkt ihres Umfeldes und ihrer Sozialisation sind. Nimmt man dies ernst, muss man eingestehen, dass die Menschen, die jetzt zu uns kommen, durchaus kulturelle Repräsentanten der Länder sind, aus denen sie stammen. In vielen Fällen bedeutet das, einer Kultur, die der unsrigen in vielen Fällen widerspricht. Darüber hinaus kann die Frage der Religion nicht übergangen

werden. In Deutschland herrscht Religionsfreiheit. Interessanterweise ist dies in keinem einzigen der Herkunftsländer der Fall. Genereller, in keinem Land, in dem der Islam Staatsreligion ist, werden Menschen anderer Religion gleichberechtigt behandelt. Weder ist der Islam per se etwas Schlechtes, noch soll Immigranten abgesprochen werden, dass diese in der Lage wären, dem deutschen Wertekanon zu folgen. Aber gerade eine große Menge an geflüchteten Menschen, die natürlich ihre eigene Kultur mitbringen, ist nicht unproblematisch. Vor allem dann, wenn eine häufige Auslegung der Religion, die mit dieser Kultur verknüpft ist, die Integration verurteilt. Eine kleinere Anzahl von geflüchteten Menschen könnte noch gut integriert werden, bei einer sehr großen Anzahl hingegen besteht eher die Gefahr, dass Aspekte einer Kultur, die wir eigentlich ablehnen sollten (wie z.B. die Abwertung von Frauen und Menschen anderer Religionen, ein sich Durchsetzen der Rücksichtslosen etc.), an Einfluss gewinnen. Bereits heute ist es nicht ganz ungefährlich, sich beispielsweise in Berlin-Neukölln als Mensch jüdischen Glaubens zu erkennen zu geben. Entwicklungen wie diese sind hochgradig gefährlich. Es geht nicht darum, andere Kulturen abzuwerten, sondern die Errungenschaften unserer Kultur selbstbewusst zu verteidigen. Selbst dann, wenn dies bedeutet, die Einwanderung aus Ländern mit stark abweichenden kulturellen Eigenschaften restriktiver zu handhaben. Mit konsequenten Abschiebungen zu beginnen, ist eine Maßnahme, die hier helfen kann.

Der Aspekt kultureller Unterschiede muss auch dann miteinbezogen werden, wenn über Kriminalität gesprochen wird. Sind Immigranten per se krimineller als Menschen mit deutschem Kulturhintergrund? Nicht unbedingt. Ist die Kriminalität in Stadtvierteln mit hohem Migrantenanteil höher? Absolut, das kann man in jeder Polizeistatistik sehen. Warum ist dies so? Sicherlich spielt der sozio-ökonomische Status eine Rolle. Aber es ist noch mehr. Für viele Migranten und Menschen mit Migrationshintergrund ist eine andere Autorität von Bedeutung als für Menschen deutscher Herkunft. Die Familie hat mehr zu sagen als der Staat, der Imam eine größere Autorität als die Polizei. Neben diesem kulturellen Aspekt spielen auch individuelle Erfahrungen eine nicht unproblematische Rolle. Viele Migranten stammen aus Gesellschaften, in denen die Polizei korrupt ist, in denen man oft nur zum Ziel kommt, indem man „tut, was man tun muss“, unabhängig davon, ob dies kriminell oder sogar gewalttätig ist. Hätten wir es mit einer geringeren Anzahl an Migranten zu tun, könnte noch Hoffnung bestehen, dass der positive Kontakt mit der Mehrheitsgesellschaft und den hiesigen Autoritäten dazu führt, dass diese individuellen Erfahrungen überwunden werden. Entstehen aber Parallelgesellschaften, ist es eher andersherum: Aus individuellen Erfahrungen kann hier die Norm werden.

Auch an dieser Stelle muss leider wieder auf die Rolle der Frau in vielen der Herkunftsländer der Einwanderer hingewiesen werden. Wenn Menschen aus einer Gesellschaft kommen, in der im Fernsehen erklärt wird, dass Frauen, die etwa zerrissene Jeans tragen, nicht nur dazu einladen würden vergewaltigt zu werden, sondern dies zu tun sogar „nationale Pflicht“ sei (Anwalt N. al-Wahsh im ägyptischen Fernsehen), wäre es mehr als naiv anzunehmen, dass diese Menschen in dem Moment, in dem sie die Grenze überqueren, frei von Gedanken dieser Art seien.

Zum Abschluss noch einige Worte zu einem traurigen Thema, welches leider immer aufkommt - und auch aufkommen muss - wenn über Migration oder deren notwendigen Beschränkungen, gesprochen wird: Terrorismus. London, Madrid, Paris, Berlin (wieder London, wieder Paris, zuletzt die Kleinstadt Carcassonne), alle diese Täter hatten den gleichen kulturellen und religiösen Hintergrund wie die Menschen, die derzeit einwandern. Dass es auch Christen gibt, die Abtreibungskliniken anzünden, oder Hindus, die heilige Kühe teilweise mit exzessiver Gewalt verteidigen, ist hier die Ausnahme, die die Regel bestätigt. Macht das alle Muslime zu Terroristen? Nein, sicher nicht. Bedeutet es, dass die Gefahr steigt, dass Terror importiert wird? – Absolut. Auch hier gilt, die Einwanderung muss nicht gestoppt werden, aber sie muss so geregelt werden, dass es möglich ist, genau zu wissen, wer warum ins Land kommt.

Zum Ende soll noch erwähnt werden, dass es nicht darum geht, Einwanderung generell abzulehnen. Allerdings zeigt sich auch, dass die Durchführung konsequenter Abschiebungen eine Notwendigkeit darstellt, um die Gründe zu erhalten, die Deutschland zu dem Land machen, in dem Menschen aus aller Welt leben wollen. Dies mag politisch nicht opportun sein und für einige Menschen schwer zu verarbeiten sein, ist aber zu wichtig, um deswegen ignoriert zu werden.



Deshalb brauchen wir konsequente Abschiebungen.

---

### ***Manipulation B***

#### **Warum eine Fokussierung auf die Tradition eine Notwendigkeit darstellt.**

Sie finden den Text in dem Briefumschlag vor Ihnen auf dem Tisch.

Bitte öffnen Sie jetzt den Umschlag und lesen den Text aufmerksam durch.

Klicken Sie auf 'Weiter' (erscheint nach einiger Zeit), um zu den Fragen zu dem Text zu gelangen.

**Weiter**

---

#### **Warum eine Fokussierung auf die **Tradition** eine Notwendigkeit darstellt**

Es können viele Argumente herangezogen werden, um die Bedeutung von Tradition im Rahmen der Migrationsdebatte zu diskutieren. Folgender Text soll darlegen, warum eine Fokussierung auf die Tradition unserer Meinung nach notwendig ist, um die Errungenschaften unserer Kultur zu bewahren.

Dass Deutschland ein vergleichsweise guter Ort ist, um hier zu leben, liegt nicht nur an der kulturellen Offenheit, sondern durchaus auch an der hiesigen Kultur selbst. Was ist die deutsche Kultur? „Bratwurst, Schützenfest & Bier“-Leitkultur? Möglicherweise. Gleichzeitig aber auch eine Mischung aus christlich-jüdischer Kultur, erweitert durch die Erkenntnisse der Aufklärung und die Errungenschaften der Moderne. Zusammengefasst könnte man sagen, es gibt eine grundsätzliche Wertschätzung des menschlichen Lebens an sich sowie eine Wertschätzung von Frauen und Männern. Die persönliche Freiheit des Individuums wird großgeschrieben - jeder kann seine Religion frei ausüben. Wir haben eine Gesellschaft mit vergleichsweise wenig Korruption, in der Menschen primär nach dem, was sie tun und leisten, und nicht nach dem Beruf ihrer Eltern beurteilt werden. Gewalt wird nicht toleriert, es gilt das Recht des Gesetzes und nicht das Recht des Stärkeren. Das Beschriebene mag auch in Deutschland nicht immer und nicht uneingeschränkt gelten; so sind es doch positive Errungenschaften, die verteidigt werden müssen. Was hat das damit zu tun, einen Schwerpunkt auf unsere Tradition zu legen?

Die beschriebene Kultur und damit verbundene Werte bestehen so in keinem der Länder, aus denen der größte Teil der derzeitigen Migranten stammt. Wir wissen aus Sozial- und Erziehungswissenschaften, dass Menschen zu großen Anteilen ein Produkt ihres Umfeldes und ihrer Sozialisation sind. Nimmt man dies ernst, muss man sich eingestehen, dass die Menschen, die jetzt zu uns kommen, durchaus kulturelle Repräsentanten der Länder sind, aus denen sie stammen. In vielen Fällen bedeutet das, einer Kultur, die der unsrigen in vielen Fällen widerspricht. Darüber hinaus kann die Frage der Religion nicht übergangen werden. In Deutschland herrscht Religionsfreiheit. Interessanterweise ist dies in keinem einzigen der Herkunftsländer der Fall. Genereller, in keinem Land, in dem der Islam Staatsreligion ist, werden Menschen anderer Religion gleichberechtigt behandelt. Weder ist der Islam per se etwas Schlechtes, noch soll Immigranten abgesprochen werden, dass diese in der Lage wären, dem deutschen Wertekanon zu folgen. Aber gerade eine große Menge an geflüchteten Menschen, die natürlich ihre eigene Kultur mitbringen, ist nicht unproblematisch. Vor allem dann, wenn eine häufige Auslegung der Religion, die mit dieser Kultur

verknüpft ist, die Integration verurteilt. Eine kleinere Anzahl von geflüchteten Menschen könnte noch gut integriert werden, bei einer sehr großen Anzahl hingegen besteht eher die Gefahr, dass Aspekte einer Kultur, die wir eigentlich ablehnen sollten (wie z.B. die Abwertung von Frauen und Menschen anderer Religionen, ein sich Durchsetzen der Rücksichtslosen etc.), an Einfluss gewinnen. Bereits heute ist es nicht ganz ungefährlich, sich beispielsweise in Berlin-Neukölln als Mensch jüdischen Glaubens zu erkennen zu geben. Entwicklungen wie diese sind hochgradig gefährlich. Es geht nicht darum, andere Kulturen abzuwerten, sondern die Errungenschaften unserer Kultur selbstbewusst zu verteidigen. Selbst dann, wenn dies bedeutet, die Einwanderung aus Ländern mit stark abweichenden kulturellen Eigenschaften restriktiver zu handhaben. Einen Schwerpunkt auf unsere Tradition zu legen, ist eine Maßnahme, die hier helfen kann.

Der Aspekt kultureller Unterschiede muss auch dann miteinbezogen werden, wenn über Kriminalität gesprochen wird. Sind Immigranten per se krimineller als Menschen mit deutschem Kulturhintergrund? Nicht unbedingt. Ist die Kriminalität in Stadtvierteln mit hohem Migrantenanteil höher? Absolut, das kann man in jeder Polizeistatistik sehen. Warum ist dies so? Sicherlich spielt der sozio-ökonomische Status eine Rolle. Aber es ist noch mehr. Für viele Migranten und Menschen mit Migrationshintergrund ist eine andere Autorität von Bedeutung als für Menschen deutscher Herkunft. Die Familie hat mehr zu sagen als der Staat, der Imam eine größere Autorität als die Polizei. Neben diesem kulturellen Aspekt spielen auch individuelle Erfahrungen eine nicht unproblematische Rolle. Viele Migranten stammen aus Gesellschaften in denen die Polizei korrupt ist, in denen man oft nur zum Ziel kommt, indem man „tut, was man tun muss“, unabhängig davon, ob dies kriminell oder sogar gewalttätig ist. Hätten wir es mit einer geringeren Anzahl an Migranten zu tun, könnte noch Hoffnung bestehen, dass der positive Kontakt mit der Mehrheitsgesellschaft und den hiesigen Autoritäten dazu führt, dass diese individuellen Erfahrungen überwunden werden. Entstehen aber Parallelgesellschaften, ist es eher andersherum: Aus individuellen Erfahrungen kann hier die Norm werden.

Auch an dieser Stelle muss leider wieder auf die Rolle der Frau in vielen der Herkunftsländer der Einwanderer hingewiesen werden. Wenn Menschen aus einer Gesellschaft kommen, in der im Fernsehen erklärt wird, dass Frauen, die etwa zerrissene Jeans tragen, nicht nur dazu einladen würden vergewaltigt zu werden, sondern dies zu tun sogar „nationale Pflicht“ sei (Anwalt N. al-Wahsh im ägyptischen Fernsehen), wäre es mehr als naiv anzunehmen, dass diese Menschen in dem Moment, in dem sie die Grenze überqueren, frei von Gedanken dieser Art seien.

Zum Abschluss noch einige Worte zu einem traurigen Thema, welches leider immer aufkommt - und auch aufkommen muss - wenn über Migration oder deren notwendigen Beschränkungen, gesprochen wird: Terrorismus. London, Madrid, Paris, Berlin (wieder London, wieder Paris, zuletzt die Kleinstadt Carcassonne), alle diese Täter hatten den gleichen kulturellen und religiösen Hintergrund wie die Menschen, die derzeit einwandern. Dass es auch Christen gibt, die Abtreibungskliniken anzünden, oder Hindus, die heilige Kühe teilweise mit exzessiver Gewalt verteidigen, ist hier die Ausnahme, die die Regel bestätigt. Macht das alle Muslime zu Terroristen? Nein, sicher nicht. Bedeutet es, dass die Gefahr steigt, dass Terror importiert wird? – Absolut. Auch hier gilt, die Einwanderung muss nicht gestoppt werden, aber sie muss so geregelt werden, dass es möglich ist, genau zu wissen, wer warum ins Land kommt.

Zum Ende soll noch erwähnt werden, dass es nicht darum geht, Einwanderung generell abzulehnen. Allerdings zeigt sich auch, dass eine Schwerpunktsetzung auf unsere Tradition eine Notwendigkeit darstellt, um die Gründe zu erhalten, die Deutschland zu dem Land machen, in dem Menschen aus aller Welt leben wollen. Dies mag politisch nicht opportun und für einige Menschen schwer zu verarbeiten sein, ist aber zu wichtig, um deswegen ignoriert zu werden.

Deshalb brauchen wir eine Fokussierung auf die Tradition.

---

### Control Questions, Part I

Bitte beantworten Sie jetzt einige Fragen zu dem Text, den Sie gelesen haben.

Von 100 zufällig ausgewählten Menschen in Deutschland, was denken Sie, wie viele stimmen den Kernaussagen des Textes zu?



Von 100 zufällig ausgewählten Menschen in Deutschland, die dem Thema zuvor neutral gegenüberstanden, was denken Sie, wie viele lassen sich von dieser Argumentation überzeugen?



### Argument Repetition

Geben Sie bitte zwei Argumente oder argumentative Ansätze aus dem Text an, bei denen Sie denken, dass besonders viele Menschen sich hiervon überzeugen lassen?

Hierfür können Sie auch gerne noch einmal in den Text schauen.

1

2

**Weiter**

---

Wir kommen später noch einmal auf den Text zurück. Damit wir besser einordnen können, wie Sie den eben gelesenen Text bewerten, möchten wir an dieser Stelle gerne noch mehr über Ihre Einstellung zu einigen Themen erfahren.



Weiter

---

**Tradition**

Sie können immer erst dann auf „Weiter“ klicken, wenn Sie alle Fragen beantwortet haben.

**Tradition ist...**

negativ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	positiv
schädlich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	nützlich
nicht erstrebenswert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sehr erstrebenswert

**Wie sicher sind Sie sich bezüglich der Annahmen, die Sie oben gemacht haben?**

unsicher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sicher
----------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	--------

**Wie wichtig ist Ihnen dieses Thema?**

unwichtig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	wichtig
-----------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	---------

**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sehr viel
-----------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------

Weiter

---

**Offene Grenzen**

Sie können immer erst dann auf „Weiter“ klicken, wenn Sie alle Fragen beantwortet haben.

**Offene Grenzen sind...**

negativ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	positiv
schädlich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	nützlich
nicht erstrebenswert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sehr erstrebenswert

**Wie sicher sind Sie sich bezüglich der Annahmen, die Sie oben gemacht haben?**

unsicher         sicher

**Wie wichtig ist Ihnen dieses Thema?**

unwichtig         wichtig

**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht         sehr viel

**Weiter**

---

**Multikulturalismus**

Sie können immer erst dann auf „Weiter“ klicken, wenn Sie alle Fragen beantwortet haben.

**Multikulturalismus ist...**

negativ         positiv

schädlich         nützlich

nicht         sehr  
erstrebenswert

**Wie sicher sind Sie sich bezüglich der Annahmen, die Sie oben gemacht haben?**

unsicher         sicher

**Wie wichtig ist Ihnen dieses Thema?**

unwichtig         wichtig

**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht         sehr viel

**Weiter**

---



**Wie wichtig ist Ihnen dieses Thema?**

unwichtig                                  wichtig

**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht                                  sehr viel

**Weiter**

---

**Obergrenzen der Einwanderung**

Sie können immer erst dann auf „Weiter“ klicken, wenn Sie alle Fragen beantwortet haben.

**Obergrenzen der Einwanderung sind...**

negativ                                  positiv

schädlich                                  nützlich

nicht  
erstrebenswert                                  sehr  
erstrebenswert

**Wie sicher sind Sie sich bezüglich der Annahmen, die Sie oben gemacht haben?**

unsicher                                  sicher

**Wie wichtig ist Ihnen dieses Thema?**

unwichtig                                  wichtig

**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht                                  sehr viel

**Weiter**

---





**Wie wichtig ist Ihnen dieses Thema?**

unwichtig      ●      ●      ●      ●      ●      ●      ●      wichtig

**Wie viel haben Sie sich bereits mit diesem Thema beschäftigt?**

gar nicht      ●      ●      ●      ●      ●      ●      ●      sehr viel

**Weiter**

---

### Affective Priming Task

schlecht gut

Sie werden jetzt eine Worterkennungs- und Sortieraufgabe durchführen.  
Hierzu werden gleich nacheinander verschiedene Wörter in der Mitte des Bildschirms erscheinen. Vor jedem der Wörter erscheint ein „\*\*\*“ als Signal, dass gleich ein Wort erscheinen wird.

Es werden drei Wörter für die Kategorie „schlecht“ angezeigt:  
GIFT, ALPTRAUM, TUMOR

Es werden drei Wörter für die Kategorie „gut“ angezeigt:  
SONNE, HEILUNG, FREUDE

Wenn das Wort zu der „schlecht“ Kategorie gehört, drücken Sie die Taste („E“).  
Wenn das Wort zu der „gut“ Kategorie gehört, drücken Sie die Taste („I“).  
Jedes Wort passt nur zu einer Kategorie. Wenn Sie einen Fehler machen erscheint ein rotes X.

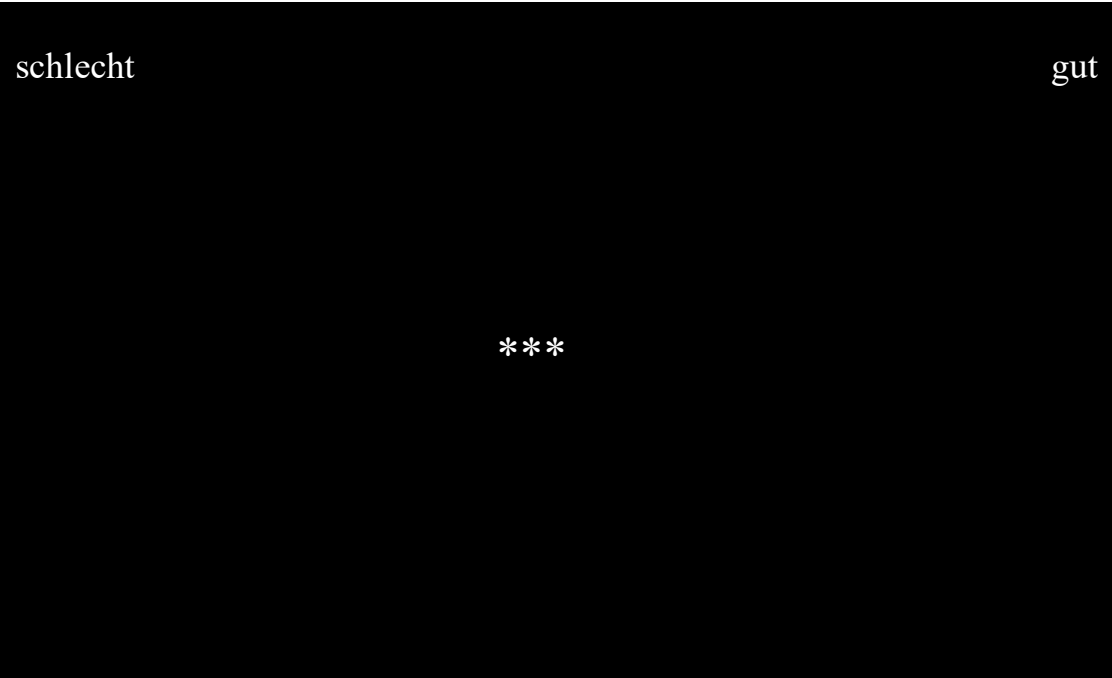
Dies ist eine Sortieraufgabe unter Zeitdruck. DRÜCKEN SIE SO SCHNELL SIE KÖNNEN und machen Sie dabei so wenig Fehler wie möglich.

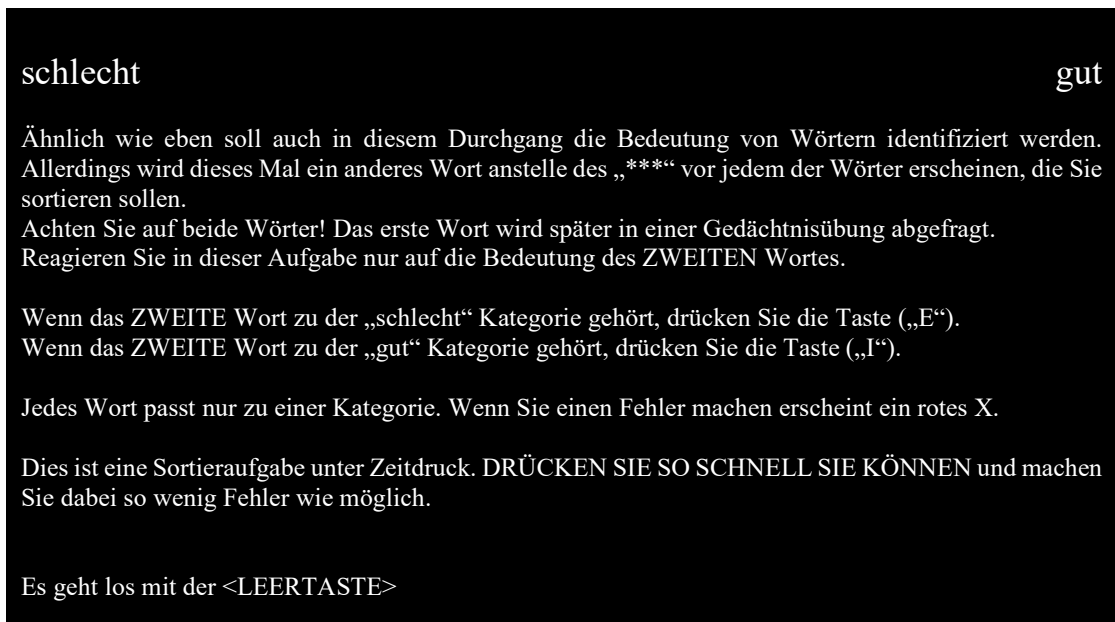
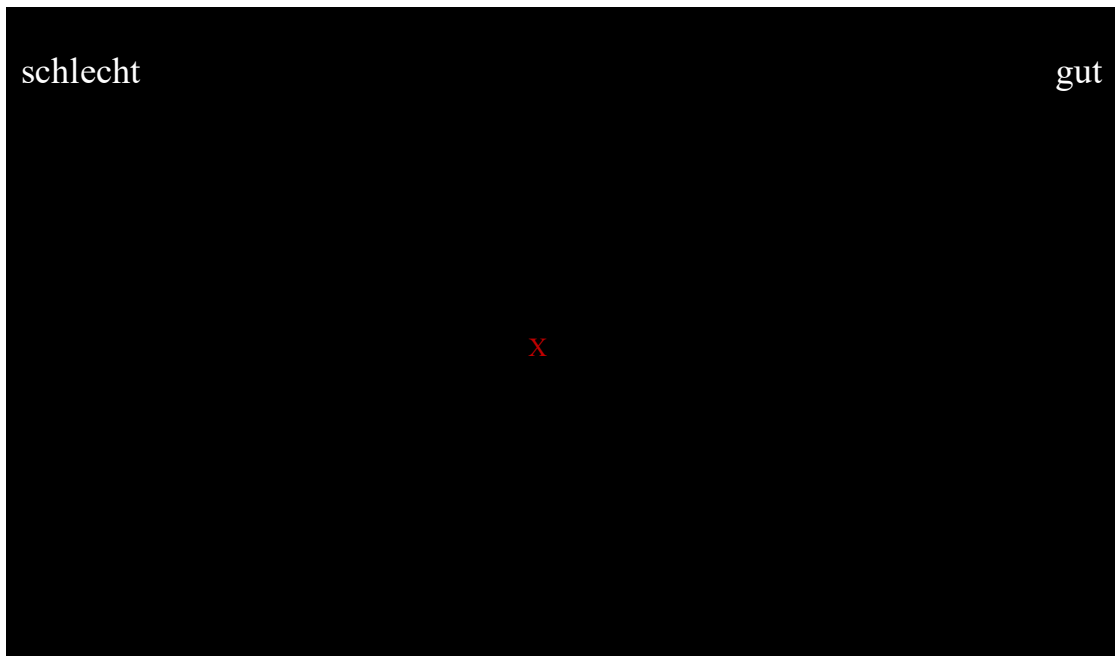
Es geht los mit der <LEERTASTE>

schlecht gut

Gleich geht es los!

Legen Sie Ihre Zeigefinger auf die E und die I Taste





---

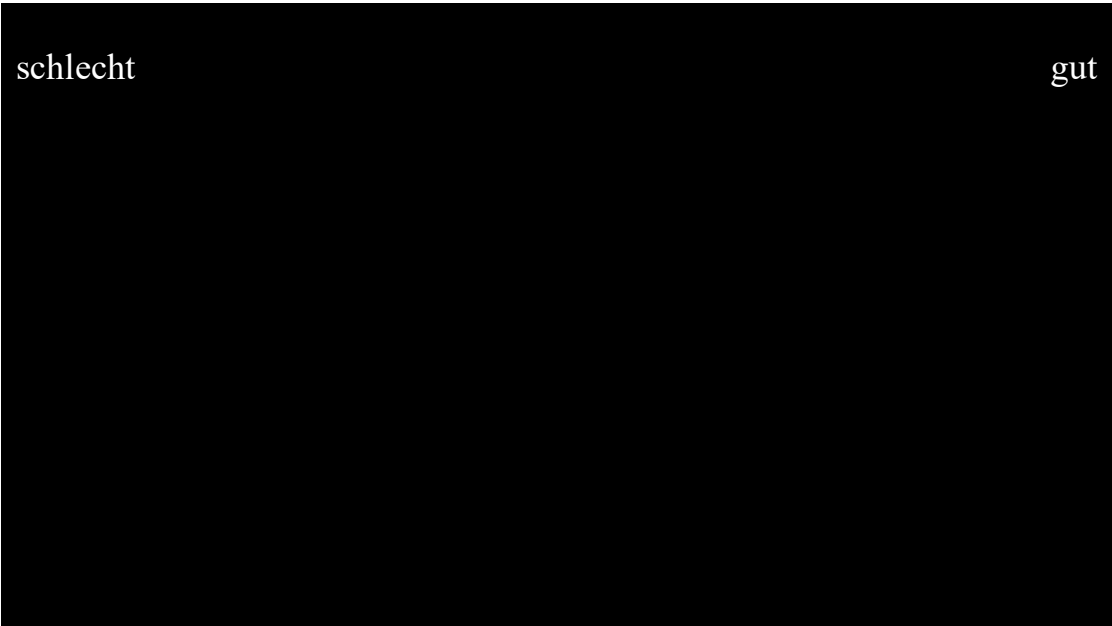
schlecht gut

Gleich geht es los!

Legen Sie Ihre Zeigefinger auf die E und die I Taste

---

TRADITION



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## Demographic Information and Participants' Backgrounds

An dieser Stelle bitten wir Sie, noch einige Fragen zu Ihrer Person und zur Studie zu beantworten.

Auch hier können Sie erst auf „Weiter“ klicken, wenn sie alle Fragen auf einer Seite beantwortet haben.

**Weiter**

---

Bitte beantworten Sie folgende Fragen zu Ihrer Person:

### Geschlecht

- weiblich
- männlich
- anderes

### Alter

### Gehören Sie einer Religionsgemeinschaft an?

- Keine Angabe
- Nein
- Ja, und zwar:

### Sind Sie, Ihre Eltern oder Ihre Großeltern nach Deutschland eingewandert?

Wir stellen diese Frage aufgrund möglicher Zusammenhänge mit dem hier untersuchten Thema.

- Ja
- Nein
- Keine Angabe

### Falls ja, woher?

**Weiter**

---



Bitte beantworten Sie folgende Fragen zu Ihrer Person:

**Welcher Beschäftigung gehen Sie nach?**

- Studieren
- Andere Beschäftigung

**In welchem Studiengang sind Sie oder welcher Beschäftigung gehen Sie nach?**

**In welchem Semester sind Sie?**

Falls Sie sich im Masterstudium befinden, zählen Sie bitte auch die Semester aus einem früheren Studium mit.

**Weiter**

---

## Control Variables Part II

Bitte beantworten Sie jetzt noch ein paar Fragen zu dem Text, den Sie gelesen haben.

Wie überzeugend fanden Sie den Text?

gar nicht sehr

A horizontal slider scale with 11 tick marks. The left end is labeled 'gar nicht' and the right end is labeled 'sehr'. A small grey slider marker is positioned at the 5th tick mark from the left, representing approximately 55%.

Wie sehr entspricht der Text Ihrer politischen Meinung?

gar nicht sehr

A horizontal slider scale with 11 tick marks. The left end is labeled 'gar nicht' and the right end is labeled 'sehr'. A small grey slider marker is positioned at the 5th tick mark from the left, representing approximately 55%.

Unabhängig davon, wie sehr der Text zu Ihrer Meinung passt, wie bewerten Sie die Qualität des Textes?

sehr niedrig sehr hoch

A horizontal slider scale with 11 tick marks. The left end is labeled 'sehr niedrig' and the right end is labeled 'sehr hoch'. A small grey slider marker is positioned at the 5th tick mark from the left, representing approximately 55%.

Unabhängig davon, wie sehr Sie mit dem Text übereinstimmen, wie wichtig sind Ihnen die im Text behandelten Themen?



**Weiter**

---

Bitte beantworten Sie jetzt noch ein paar Fragen zu dem Text, den Sie gelesen haben.

Von welcher Partei wurde der Text verfasst?

Wie sehr hat der Text den Erwartungen entsprochen, die Sie gegenüber der Partei haben, die ihn verfasst hat?



Falls der Text nicht den Erwartungen entsprochen hat, die Sie gegenüber der Partei haben, warum nicht?

Auf einer früheren Seite dieser Untersuchung haben wir Sie gebeten Argumente oder argumentative Ansätze aus dem Text finden, die sie besonders überzeugend fanden. Wie leicht oder schwer ist Ihnen dies gefallen?



**Weiter**

---

Bitte beantworten Sie jetzt noch ein paar Fragen zu dem Text, den Sie gelesen haben sowie zu der Sortieraufgabe.

Unabhängig davon ob Sie dem Inhalt zustimmen, wie gut passt die im Text dargelegte Argumentation zu dem Thema / der Forderung des Textes?

sehr schlecht

sehr gut



In einigen Studien untersuchen wir tatsächlich existierende Inhalte und Dokumente. In anderen erfordert die Intention der Untersuchung, dass wir selbst Material erstellen. Was denken Sie, war der Text, den Sie gelesen haben, von einer Partei oder wurde er von uns erstellt?

Von einer Partei

für das Experiment geschrieben



### Suspicion Check and Previous Experiments

Was denken Sie, worum ging es in der Sortieraufgabe, in der Sie Wörter als 'schlecht' oder 'gut' einsortieren sollten?

**Weiter**

---

Haben Sie jemals an einer ähnlichen Studie teilgenommen?

- Ja
- Nein

Falls Sie schon einmal an einer ähnlichen Studie teilgenommen haben, beschreiben Sie bitte kurz, was genau sie bei der anderen Studie machen mussten. Was sind Gemeinsamkeiten, wo liegen Unterschiede? Falls Sie nie an einer ähnlichen Studie teilgenommen haben, lassen Sie das nächste Feld einfach frei.

**Weiter**

---

Was denken Sie, worum es in der aktuellen Studie ging?

**Weiter**

---

Vielen Dank für Ihre Angaben!

Sie haben es fast geschafft. Bitte klicken Sie auf 'Weiter' um zu den Fragebögen gelangen, die diese Untersuchung abschließen

**Weiter**

---

Im Folgenden beschreiben wir Ihnen kurz verschiedene Personen.

Bitte lesen Sie jede Beschreibung durch und denken Sie darüber nach, inwieweit Ihnen die Person ähnlich oder unähnlich ist.

Bitte kreuzen Sie rechts an, wie ähnlich Ihnen die beschriebene Person ist.

### **PVQ (Example-Item; Schwartz, 2010)**

**Weiter**

---

WIE ÄHNLICH IST IHNEN DIE PERSON?

Ist mir über- haupt	Ist mir nicht ähnlich	Ist mir nur ein wenig ähnlich	Ist mir einiger- maßen ähnlich	Ist mir ähnlich	Ist mir sehr ähnlich
---------------------------	-----------------------------	--	---	--------------------	----------------------------

	nicht ähnlich	1	2	3	4	5	6
Es ist ihr wichtig, ihre eigene Sichtweise unabhängig von den Meinungen anderer zu entwickeln.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es ist ihr wichtig, dass in ihrem Land Sicherheit und Stabilität herrschen.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Weiter

---

### PfC (Example-Item; Heitland et al., 2009)

Wie sehr stimmen Sie folgenden Aussagen zu?

	Stimme überhaupt nicht zu					Stimme voll zu	
	1	2	3	4	5	6	7
Mir ist es lieber, wenn ich die Reaktion meiner Mitmenschen voraussehen kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Petitions

Im Rahmen gesellschaftlicher politischer Kommunikationen spielen auch Anliegen eine Rolle, die von Bürgerseite aus an die Politik herangetragen werden.

Im Folgenden sehen Sie jetzt einige Petitionen, die derzeit nach Unterschriften suchen. Falls Sie bei einer der Petitionen unterschreiben möchten, können Sie hier angeben bei welcher. Sie erhalten dann von uns eine Unterschriftenliste.

Sie können bei so vielen Petitionen teilnehmen, wie sie möchten!

Diese Seite ist für alle Teilnehmer\*innen identisch, einige der Petitionen sind in ihrem Inhalt dem Text ähnlich, den Sie gelesen haben, andere nicht.

- Beenden Sie das Sterben im Mittelmeer - Seenotrettung ist kein Verbrechen! (Eine Petition an den deutschen Außenminister bei [campact.de](http://campact.de))

- 'Endlich konsequent abschieben'- Rechtliche Voraussetzungen schaffen, Druck auf um die Heimatländer ausüben und Abschiebungen zur Chefsache machen (Eine Petition an die Abgeordneten des Bundestages bei Abgeordneten-check.de)
- Erhalt unserer deutschen Tradition! (Eine Petition an den deutschen Innenminister bei OpenPetition.de)
- Offene Grenzen für Menschen in Not! Keine Obergrenzen! (Eine Petition beiChange.org)
- 'Anpassung fordern, Integration fördern'- für einen angemessenen Umgang mit der Migration (Eine Petition an den Petitionsausschuss des Deutschen Bundestages)
- 'Burkaverbot' - Verbot der Ganzkörperverschleierung von Frauen im öffentlichen Raum (Eine Petition an den Petitionsausschuss des Deutschen Bundestages)
- Flüchtlingspolitik in Europa: Erst stirbt das Recht, dann der Mensch! Für eine humanere Flüchtlingspolitik (Eine Petition des Evangelischen Kirchentages u.a. bei Change.org)
- Deutschland bleibt bunt! Für den Erhalt eine multikulturellen Gesellschaft (Eine Petition an die Abgeordneten des Bundestages bei Abgeordneten-check.de)

**Weiter**

---

Vielen Dank für Ihre Teilnahme!

Das Experiment ist nun beendet.

Klicken sie bitte noch ein letztes Mal auf „Weiter“.

**Weiter**

---

## Debriefing

Liebe\*r Teilnehmer\*in,

bei manchen Experimenten ist es notwendig, dass die Teilnehmer\*innen erst am Ende der Untersuchung über das eigentliche Ziel des Experiments aufgeklärt werden. Dies war auch hier der Fall. Das bedeutet, dass der von Ihnen gelesene Text nicht von der jeweiligen Partei geschrieben oder angenommen wurde. Auch die Petitionen am Ende der Studie sind nicht durchgehend echt. Ziel dieser Studie war es, indirekte Einstellungsveränderungseffekte zu untersuchen. Konkreter: Wir wollten herausfinden, ob eine mögliche Veränderung in der Einstellung zu einem Thema auch Veränderungen der Einstellungen zu einem anderen Thema erzeugen. Darüber hinaus wollten wir untersuchen, ob es auch dann indirekte Einstellungseffekte gibt, wenn der Versuch einer Überzeugung abgelehnt wird, weil der Quelle dieser Information nicht vertraut wird. Effekte dieser Art könnten Erklärungen für

Veränderungen der öffentlichen Meinung darstellen, die selbst dann stattfinden, wenn diejenigen, die einen solchen Wandel propagieren, von einem Großteil der Bevölkerung abgelehnt werden.

Wir sind uns bewusst, dass wir, vom neutralen Standpunkt der Wissenschaft aus, sehr vorsichtig damit sein müssen, welche Themen wir für unsere Forschung nutzen. Wir sind der Ansicht, dass in diesem Fall ein potentieller Erkenntnisgewinn die Nutzung einer Botschaft, die einer politischen Richtung zuzuordnen ist, rechtfertigt. Der Inhalt wurde ausschließlich auf Basis wissenschaftlicher Erwägungen erstellt und spiegelt in keiner Weise die Anschauungen, der beteiligten Forscher\*innen wider.

Für die notwendige Täuschung bitten wir um Entschuldigung.

Bitte geben Sie der /dem Versuchleiter\*in Bescheid, dass Sie fertig sind. Sie erhalten noch einen weiteren Text, in dem auf die Aussagen des ersten Textes eingegangen wird. Bitte lesen Sie auch diesen sorgfältig durch.

**Beenden**

---

### **Debriefing baseline condition**

Liebe\*r Teilnehmer\*in,

Sie befanden sich in der Kontrollbedingung einer Untersuchung zu indirekter Einstellungsveränderung. Eine Kontrollbedingung wird als Vergleichsgruppe für die experimentellen Durchgänge genutzt, in denen wir durch gezielte Veränderungen versuchen die jeweiligen Themen zu untersuchen. Das heißt konkret, dass es bei Ihrer Untersuchung keinerlei versteckte Motive, Einflussversuche oder ähnliches gab. Die einzige Ausnahme stellen hier die Petitionen am Ende der Studie dar. Diese existieren nicht durchgehend wirklich und Sie haben an dieser Stelle auch keine Möglichkeit an einer von ihnen teilzunehmen. Hierfür bitten wir um Entschuldigung.

Sollten Sie noch Fragen, Kritik oder Anregungen haben, wenden Sie sich gerne an die Versuchsleiter\*innen

**Weiter**

---

Vielen Dank für Ihre Teilnahme.

Das Experiment ist jetzt beendet.

---

## Debriefing #2 / Counterpersuasion

Liebe\*r Teilnehmer\*in,

bevor Sie gehen, möchten wir an dieser Stelle noch einmal auf die genutzte Botschaft eingehen:

Der Text wurde insofern konstruiert, als dass er mindestens moderat überzeugend sein sollte, damit überhaupt Effekte gemessen werden können. Außerdem sollte es möglich sein, die Botschaft verschiedenen Quellen zuzuordnen. Beides wurde in vorherigen Studien untersucht.

Die Botschaft präsentiert dabei einige Punkte, die ggf. tatsächlich diskutiert werden können. Es wird aber auch versucht durch „Es geht nicht um alle,...aber [...]“-Konstruktionen sehr drastische Aussagen moderater wirken zu lassen. Darüber hinaus wird verallgemeinert, es werden unzulässige Schlüsse gezogen und vereinfachende Behauptungen aufgestellt.

So ist es zwar ein valider Punkt, dass positive Errungenschaften der hiesigen Kultur auch geschützt werden müssen. Allerdings ist es nicht nur verallgemeinernd sondern geradezu falsch, Zuwanderung als eine hierfür grundsätzliche Bedrohung darzustellen. Die Kultur in Deutschland, die der Text beschreibt ist eine Kultur, die erst dadurch entstanden ist, dass sie mit vielen verschiedenen Einflüssen in Kontakt gekommen ist. Die Fortschritte, die beschrieben wurden: Frauenrechte, Religionsfreiheit und andere, mussten erkämpft werden. Nicht selten gegen diejenigen, die eine Monokultur, die sich vom Unbekannten abschottet, erhalten wollten. Das bedeutet nicht, dass Positives nicht erhalten werden muss. Es bedeutet aber auch, dass eine Kultur sich nicht weiter entwickeln kann, nicht besser werden kann, wenn sie nicht offen dafür ist, auch neue Einflüsse zuzulassen. Insofern sollte nicht nur darauf geachtet werden, welche problematischen Einflüsse Menschen möglicherweise mitbringen, sondern auch welche positiven dabei sind.

Auch wenn man davon ausgeht, dass einige der Menschen, die nach Deutschland flüchten, Werte mitbringen, die in Teilen mit den hiesigen im Konflikt stehen, stellt sich die Frage, wie damit am besten umzugehen ist. Werden die Werte der Aufklärung dadurch geschützt, sich abzuschotten und andere ihrem Schicksal zu überlassen? Etwas, was durchaus als ein Aufgeben eben jener Werte gesehen werden könnte. Gibt es Möglichkeiten offensiv für positive Werte einzustehen? Beispielsweise könnten bessere Integrationsmaßnahmen und die Schaffung von Möglichkeiten einer aktiven Teilnahme und Teilhabe an der Gesellschaft dazu führen, die Werte, die hier verteidigt werden sollen, für alle deutlich attraktiver zu machen. Dadurch, Werte nicht nur zu vertreten sondern ihre positiven Folgen für eine Gesellschaft auch zugänglich und erlebbar zu machen, können sie gestärkt und verteidigt werden, ohne Mauern bauen zu müssen.

Der Text, den Sie eingangs als Botschaft einer Partei gelesen haben, arbeitet damit, eine Darstellung davon, wie die Zustände in Deutschland sind, gegen die Darstellung von Zuständen in der islamisch geprägten Welt zu kontrastieren. Dabei wird nicht nur massiv gekürzt (Hier = gut, da = schlecht) und verallgemeinert (z.B. hinsichtlich der Religionsfreiheit in islamischen Ländern, die in Teilen durchaus gegeben ist). Es wird an einer Erzählung des Gegeneinanders gearbeitet. Das bedeutet: Die Vereinfachung einer global verknüpften Welt auf ein kulturell definiertes „wir“ gegen „die“ soll zur gängigen Interpretation werden. Dabei ist diese Logik zwar eingängig, sie hat aber wenig Aussichten darauf, reale Probleme lösen zu können, ohne weitere Konflikte zu schaffen.

Grundsätzlich ist der Text bewusst sehr einseitig verfasst. Probleme der Einwanderung werden genannt, Vorteile verschwiegen. Dass eine lebendige, sich entwickelnde Kultur durch Pluralität und nicht durch Abschottung entsteht wurde bereits genannt. Darüber hinaus gibt es noch deutlich weniger abstrakte Vorteile der Migration. Die deutsche Gesellschaft benötigt Einwanderung, um Folgen des



demographischen Wandels abzuschwächen. Sowohl für Segmente des Arbeitsmarkts, qualifiziert und unqualifiziert, als auch für Renten- und Sozialsysteme ist Einwanderung mindestens hilfreich wenn nicht sogar notwendig.

Im zweiten Teil geht die angebliche Botschaft einer Partei auf zwei Phänomene ein, die üblicherweise Unbehagen oder sogar Angst auslösen. Kriminalität und Terrorismus. Allerdings wird auch hier verzerrt argumentiert.

Hinsichtlich der Kriminalität ist es zwar tatsächlich so, dass es relativ mehr Strafanzeigen gegenüber geflüchteten Menschen gibt (BKA, 2017). Diese Statistiken müssen allerdings genauer betrachtet werden, um keine Fehlschlüsse zu ziehen. Dabei spielen vor allem zwei Tatsachen eine Rolle:

Erstens, in die Statistik gehen nur diejenigen Geflüchteten ein, denen (noch) kein Asyl gewährt wurde. Das heißt, gerade über diejenigen, die mit Sicherheit ein Teil der Gesellschaft werden machen die Daten keine Aussage.

Zweitens, geflüchtete Menschen werden erheblich häufiger kontrolliert als dies in der Gesamtbevölkerung passiert. Hierdurch steigen im Vergleich zwangsläufig die Anzeigeraten, da die Dunkelziffer deutlich reduziert wird und Unterschiede künstlich höher werden. Hierzu trägt auch bei, dass die Anzeigerate, d.h. der Anteil der Vergehen auf die tatsächlich eine Anzeige folgt, bei Geflüchteten deutlich erhöht ist. Pfeiffer, Baier & Kliem, 2018 gehen davon aus, dass doppelt so viele Vergehen zur Anzeige gebracht werden wie in der Gesamtbevölkerung.

Es kann auch gefragt werden, welche Faktoren überhaupt dazu beitragen, dass Menschen kriminell werden. Es gibt soziodemographische Faktoren wie Alter und Geschlecht. Darüber hinaus gibt es situative Faktoren, die eine Rolle spielen: Bestehende Perspektiven und Möglichkeiten; Anschluss an soziale Gruppen, Wohnsituation und ökonomische Lage. Eine bessere Integration von Geflüchteten in die Gesellschaft, sozial wie ökonomisch, würde die Wahrscheinlichkeit, dass diese kriminell werden erheblich reduzieren.

Die Angst vor „importiertem Terrorismus“ ist ebenfalls nachvollziehbar. Was allerdings in der präsentierten Botschaft passiert, ist, dass ein angstausslösender Begriff in den Raum geworfen wird ohne dann näher darauf einzugehen. Tatsächlich ist die Gefahr durch Terror in Deutschland grundsätzlich sehr niedrig[Footnote]. Zum anderen kann nicht unbedingt davon ausgegangen werden, dass die Aufnahme geflüchteter Menschen die Terrorgefahr erhöht. Ein Großteil der Attentäter in Europa ist nicht eingewandert, sondern hat sich hier radikalisiert. Ein Dichtmachen der Grenzen würde hier wenig nützen. Dazu kommt, dass die beschriebene Polarisierung zwischen einem „wir“ und einem „die“ genau dem Narrativ entspricht, welches die großen terroristischen Gruppierungen vertreten und als Werkzeug zur Rekrutierung nutzen. Eine menschliche Politik, die nicht nur entlang ethnischer oder religiöser Grenzen verläuft, würde dieser Erzählung widersprechen.

Wir hoffen, dass mit dieser Gegendarstellung eine Balance zwischen den Argumentationen verschiedener Meinungen und deren Vertreter\*innen erreicht wurde.

Für die notwendige Täuschung bitten wir erneut um Entschuldigung. Sollten Sie noch Fragen, Kritik oder Anregungen haben, wenden Sie sich gerne an die Versuchsleiter\*innen.

Footnote: Seit 1991 sind in Deutschland 82 Menschen durch Terrorismus ums Leben gekommen. Hiervon wurden 20 Menschen von Jihadisten und 35 Menschen von Rechtsextremisten ermordet (Global Terrorism Database, University of Maryland). Dass die Gesamtzahl an Opfern des Terrorismus seit 1991 in etwa der Menge an Menschen entspricht, die alle 10 Tage im Straßenverkehr sterben (2017, Statistisches Bundesamt), soll den Terrorismus keinesfalls verharmlosen, gleichzeitig aber die realen Dimensionen aufzeigen. (Footnote was part of the