



SCHEMATIC EFFECTS OF RAPE MYTH ACCEPTANCE

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Philipp Süssenbach

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INTRODUCTION

Sexual violence lies at the heart of research on violence against women. The term “sexual violence” comprises different forms of sexually aggressive behavior ranging from rape, sexual abuse and rites of passage containing sexually violent elements to forced prostitution. From an epidemiological viewpoint, sexual violence is certainly a global problem. Solely focusing on sexual violence committed by a current or ex-partner, percentages of victimized women range between 10 to 30 per cent in the majority of countries (WHO, 2005). However, it is important to note that prevalence rates vary considerably between countries. Whereas in Japan, only 6 per cent of the contacted woman reported having suffered from sexual violence, 59 percent did so in Ethiopia (Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2006; WHO, 2005; for an anthropological investigation of rape-free versus rape-prone societies see Sanday, 1981). Taking into account that these data only refer to sexual violence committed by an intimate partner, it becomes apparent that sexual violence is not an isolated problem of few, but a challenge for virtually every society. Germany represents no exception to the rule. In a study by Barbara Krahe and her colleagues 1 in 4 young female adults reported having at least once been the victim of sexual violence as defined by German law (Krahe, Scheinberger-Olwig, & Waizenhöfer, 1999). Looking at more subtle attempts to gain sexual access, more than half of the participants in that same study reported that someone tried to make them drunk or drug them. About 6.3 per cent of the participants reported to have been raped. These high prevalence rates indicate that rape is a rather common phenomenon in Germany, especially under consideration of the rather young age of the women in that study (ranging between 18-20 years).

Apart from rather obvious health consequences for the victims of these crimes (Goodman, Koss, & Russo, 1993), the threat of rape may affect the lives of even more

women. Permanent fear to be victimized can lead to chronic anxiety and may foster coping strategies that have a negative impact on women's mobility, such as not leaving home alone or being picked up by a friend or family member at night (Beneke, 1982; Riger & Gordon, 1981). A variety of factors have been in the focus of etiological research on sexual violence. Initially research focused strongly on individual factors, conceptualizing sexual violence as a problem on the individual or interactive level. Key factors include personality traits and developmental risk factors of the perpetrator and the victim, as well as situational elements (cf., Heise, 1998). However, due to the feminist movement this perspective changed. Turning from individual-level factors toward societal-level factors, the feminist analysis of sexual violence placed an emphasis on the role of an imbalance of economic, political, and social power between the genders (Brownmiller, 1975). According to the feminist perspective every man is a potential rapist and every woman a potential victim. Thus, rape is not assumed to fulfill a sexual motive, but rather represents a (conscious or unconscious) tool for men to intimidate and control women. Empirically, the idea that rape is predominantly not a crime motivated by sexual urges, but instead strongly tied to power and dominance motivation, found some support (Groth, 1979; Knight & Prentky, 1990). Therefore, some researchers prefer to speak of "sexualized" (Ladiges & Stoike, 1993, p. 6) or "pseudosexual" (Groth, 1979, p. 13) violence instead of "sexual violence".

To integrate the individual, situational, as well as socio-cultural factors involved in the etiology of sexual violence, an ecological model (Bronfenbrenner, 1977) might be most effective. This approach provides a conceptual framework for understanding how a variety of factors on multiple levels relate to the construct of interest and thereby emphasizes the importance of studying the individual in a contextualized manner. Following Heise (1998), factors related to sexual violence can be located on different levels of the social ecology: Whereas some factors that evolve out of a direct interaction of the individual with other

persons such as family members (e.g., male dominance in the family, marital conflict) pertain to the microsystem, other factors do not relate to an immediate interaction but are rather a byproduct of changes in the social milieu (e.g., socio-economic status, delinquent peers) and pertain to the exosystem. In the present work I will focus on the acceptance of rape myths, a belief system that can be located on the macrosystem along with other cultural beliefs and values of relevance (e.g., rigidity of gender roles, acceptance of interpersonal violence) for the present analysis (cf. Heise, 1998). In general, macrosystem factors are assumed to permeate and influence the lower levels of the social ecology. Apparently, however, selecting one of many important factors can only lead to a partial explanation of the phenomenon at hand. Nevertheless, research on the role of RMA in the genesis of sexual violence is a worthwhile endeavor as they can be linked directly to behavior (Bohner et al., 1998; but see below). Furthermore, societal acceptance of these myths might contribute indirectly to the occurrence of rape via creating a climate that cultivates such behavior.

1 Rape Myth Acceptance

Rape myths have been introduced into the social psychological literature by Burt (1980), who defined rape myths as “prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists” (Burt, 1980, p. 217). These beliefs were assumed to maintain sexual violence via belittling, justifying or denying such acts. The content of these attitudes often focuses on the victims of sexual violence. This drawing of attention from the perpetrators of sexual violence to its victims might already be functional to view rape as a problem for females and not males (Bohner, 1998). Later Burt (1991) differentiated between four different content categories of female focused rape myths. Myths of the first type (a) deny that there was sexual contact between perpetrator and victim (“nothing happened”) and relate to false accusations. Myths of the second type (b) admit that sexual contact occurred, but deny the

injury associated with it (“no harm done”). They belittle rape or see rape as within the realm of normal sexual interactions. Myths of the third type (c) comprise beliefs that reframe rape as consensual sexual intercourse (“she wanted or liked it”) and relate to beliefs about token resistance or secret desires of women to be raped. Myths of the fourth type (d) acknowledge that unwanted sexual contact happened but blame the victim for the incident (“she asked for or deserved it”), because she engaged in “risky” behavior (e.g., flirting, drinking, provocative clothing, or just being present). Analogously, Burt (1991) described myths focusing on men. Among these is the myth (e) that rapists are mentally disturbed and not comparable to normal men – a belief which in turn allows for the opposite conclusion that a normal man would never rape. If this view is no longer tenable, another male-focused myth might be employed (f) that draws on beliefs regarding male sexuality. The steam-boiler metaphor excuses sexual violence via recruiting the widely held view that men cannot control their sexual urges (and women should know so and act accordingly). Because many of these myths involve statements that cannot be falsified empirically (e.g., secret desire to be raped) later definitions of rape myth acceptance no longer claim that these beliefs are false but take a functional perspective. Modern definitions of rape myth acceptance thus define them as beliefs “that serve to deny and justify male sexual aggression against women” (Lonsway & Fitzgerald, 1994, p. 134) or similarly “beliefs about rape (i.e., about its causes, context, consequences, perpetrators, victims, and their interaction) that serve to downplay or justify sexual violence that men commit against women” (Bohner, 1998, p. 14).

1.1 Research on Rape Myth Acceptance

Past research has studied effects of RMA on lay jurors’ decision making processes in mock juries (Lonsway & Fitzgerald, 1994), on men’s self-reported likelihood to rape (e.g., Bohner et al., 1998; Bohner, Siebler, & Schmelcher, 2006), and on rape victims’ recovery

process (e.g., Littleton, Axsom, Radecki Breitkopf, & Berenson, 2006). Furthermore, various issues including correlational links to other constructs (Lonsway & Fitzgerald, 1994), gender-specific and general functions of RMA (Bohner, 1998; Bohner, Weisbrod, Raymond, Barzvi, & Schwarz, 1993), as well as measurement issues resulting in the development of several scales (Burt, 1980; Cowan & Quinton, 1997; Gerger, Kley, Bohner, & Siebler, 2007; Payne, Lonsway, & Fitzgerald, 1999) have been investigated. In a nutshell, these studies demonstrate that the effort put into the topic is well-invested. From research by Bohner and colleagues (1998) uncovering the causal role of RMA in the genesis of sexual aggression to a study by Bondurant (2001) highlighting the impact of stereotypical rape scripts on women's inability to recognize sexual victimization experiences as such, stereotypical beliefs about rape play a central role in the area of sexual violence which is of utmost importance to society.

However, data about the acceptance of rape myths in the general population whether for Germany or for other nations are scarce. Apart from a few studies focusing on groups of special relevance to the topic (e.g., police officers: Page, 2008; therapists: Shechory & Isidis, 2006) the majority of studies relied on student samples. In Germany, Weis (1982) reported adherence to rape-related attitudes for a sample that was representative for the city of Saarbrücken. Although he did not use an established measure of rape myth acceptance, his results show that there is considerable endorsement of even very blatant rape myths. For example, around 7 per cent of his participants agreed with the statement that a lot of women desire to be raped, and 60 per cent believed that this was true for at least some women (Weis, 1982, p. 142). A more recent online study conducted by Temkin and Krahé (2008) provides some information on the level of RMA among the general public in the UK. Depending on the scale employed, between 25.3 (using a subscale of the Perceived Causes of Rape Scale, Cowan and Quinton, 1997) and 44.4 percent (using the Acceptance of Modern Myths about Sexual Aggression Scale, Gerger et al., 2007) scored above the scale midpoint. One goal of

the present research is to fill this gap and to investigate levels of RMA in a representative sample of German citizens using an established measure.

1.2 Rape Myth Acceptance as a Cognitive Schema

When looking at the cognitive functions of rape myth acceptance, researchers tend to conceptualize RMA in terms of a cognitive schema (see 1.4 for a definition) that “guides and organizes an individual’s interpretation” (Eyssel & Bohner, 2011, p. 1581; see also Bohner, 1998). Using a mock-jury paradigm, Eyssel and Bohner provided their participants with differing amounts of (irrelevant) information about complainant and defendant in a rape case, showing stronger effects of RMA on blame attributions when participants received more as compared to less information. This result was interpreted as demonstrating schematic processing of the information presented with more information –although irrelevant– leading to more bias. Additional support for the conceptualization of RMA in terms of a cognitive schema comes from a study by Krahe, Temkin, and Bieneck (2007). These authors varied the perpetrator-victim relationship and investigated the effects of this manipulation on participants’ judgments in a mock-jury paradigm. As assumed, RMA as well as type of prior relationship influenced the verdicts. More interestingly, participants with high RMA were more sensitive to the relationship manipulation and attributed more blame to the victim the closer the prior relationship to the perpetrator had been. This interaction effect might be interpreted as demonstrating an attentional bias in favor of schema-consistent information (i.e., hypervigilance) that fits well with a schema-account of RMA’s cognitive functioning. Furthermore, also researchers focusing on cognitive distortions (i.e., rape myths) of real offenders employ a schema-theoretic framework to investigate the effects of these cognitions (Ward, Polaschek, & Beech, 2006).

1.3 Methodological Problems

However, the research just reported faces some problems that negatively affect its generalizability and construct validity. Commonly researchers in this as well as related areas rely on text vignettes to systematically vary information that participants are presented with (e.g., more or less information; information about the perpetrator-victim relationship). However, the use of brief written scenarios comes with interpretational limitations. For one, brief scenarios lack a lot of information compared to a real rape trial, thereby diminishing ecological validity. Of more importance for research on cognitive processes, the focal pieces of information that are given in the context of a brief scenario necessarily draw attention. As a consequence of conversational norms (Grice, 1975), they might be interpreted as important for the present task by the participants. In fact, participants might assume that the researcher is observing general principles of cooperation and therefore only presents them with information that is relevant. Comparing written and video vignettes, Sled, Durrheim, Kriel, Solomon, and Baxter (2002) could show that the type of methodology greatly influenced blame attributions in rape cases, thus substantiating this critique. They report that participants blamed a rape victim that consumed alcohol prior to the assault more and were less likely to define the situation as rape when they received the written as compared to the video vignette.

Another critical issue concerns the fact that research on RMA as a cognitive schema heavily relies on outcome measures. From differences on these outcome measures (e.g., blame attributions) researchers then deduce which processes probably have been involved. This inferential handicap is by no means exclusive to research on RMA. However, direct measures such as physiological ones become more and more available to social psychologist in general (cf. Blascovich, Mendes, Vanman, & Dickerson, 2011).

The present research addresses these critical issues by (1) using a methodological approach that is less prone to the interpretational problems just mentioned, and (2) by employing process measures whenever possible. In the following, I will provide a short review on schema theory which constitutes the theoretical framework for the present research and thus links the individual manuscripts that will be presented in greater detail subsequently.

1.4 Schema Theory

Schemata in their present-day understanding were formally introduced into psychology by British psychologist Frederic Bartlett (1932)¹. Bartlett's focus lay on memory influences; he demonstrated that existing knowledge structures (i.e., schemata) affect the encoding of new information as well as its subsequent retrieval from memory. In one of his most well-known studies, participants read the American Indian folk story "The war of the ghosts" – a tale mostly unknown to his predominantly European American participants. Later participants were asked to recall the story several times. Analyses of these recalls revealed that participants transformed the story to their cultural background in an attempt to make sense of it. Although Bartlett's work was neglected at first, schema theory came to massive attention following the cognitive revolution in psychology.

A schema may be defined as a knowledge structure centered on a specific theme (mostly of the social world) which is stored in long-term memory and aids in the interpretation and processing of incoming information. It contains default values that are inserted whenever the individual is confronted with incomplete or ambiguous data allowing him or her to go "beyond the information given" (Bruner, 1957). This inference process can be either controlled and conscious or automatic and unconscious (Smith, 1984). Thus, schemata help to reduce effortful processing and are an effective tool to understand the world.

¹ However, already developmental psychologist Jean Piaget (1928) employed the term schema in his stage theory of cognitive development.

However, they come with a cost: From the transformation of new information to the omission or negligence of information that cannot easily be integrated, schemata may lead to bias whenever reality in fact does not fit the schema and inferences that were based on the schema's defaults are false. Furthermore, schemata not only provide a guideline for current understanding but also a mental framework to the understanding of future events giving rise to expectations and prejudice. Following the renewed interest on schemata, certain assumptions about their functionality have emerged (Smith & Queller, 2001)²: (1) Schemata can be activated either explicitly (e.g., via thinking about a topic) or implicitly (e.g., via encountering relevant information). (2) Schemata are independent units. This means that the activation of one schema does not necessarily lead to the activation of a related schema. (3) The use of a schema depends upon its accessibility. A schema which is often employed is highly accessible and as a consequence has a higher probability to be used in the future than a schema that is seldom used. (4) A cognitive schema guides attention. Whether schema-consistent or schema-inconsistent information attract more attention depends on the circumstances (e.g., high cognitive load increases the attention paid to inconsistent stimuli; Sherman, Conrey, & Groom, 2004).

The present research addresses these assumptions in various ways. The first manuscript focuses on RMA's relationship to other intolerant belief systems and argues that RMA may be understood as part of a broader intolerance schema. This study thus addresses the structural aspect of how the RMA-schema is embedded in long-term memory. The second manuscript focuses on the role of RMA strength for schematic effects to occur and therefore relates to the third of the above stated assumptions which asserts that the use of a schema depends upon its accessibility. However, applying the concept of attitude strength to schema

² The following list of assumptions is not exhaustive but includes those that directly relate to the present research.

theory broadened this assumption. The current research views accessibility as only one part of a schema's strength. Further factors influencing schema strength and therefore its use and impact could include personal relevance of a schema or knowledge about its topic. The third manuscript examines schematic effects of RMA on attention thus addressing the fourth assumption. Furthermore, the results of the experimental studies presented in this manuscript demonstrate that schemata need to be activated (see the first assumption) and that they are independent units (see the second assumption): In this research, only stimuli that could be anticipated in the context of a prior rape case story (i.e., activation) led to schematic processing whereas schema-consistent stimuli that could not be anticipated did not – thereby displaying the independence of units that pertain to the larger RMA schema.

Although schemata play a major role in social psychology and have been studied within many different contexts³, there is a lack of research focusing on the processes associated with schema theory. As already criticized above, research typically relies on outcome measures and has to deduce the processes involved in generating the outcome. To my knowledge, there is no published article yet, trying to detect schematic (or attitudinal) influences using eye-tracking methodology or other process-sensitive measures. The central aim of the present work is to fill this gap as well as to delineate the conditions under which schematic effects most likely occur.

³ An ISI web of knowledge search using the key term “schema” yielded more than 9500 overall results with 370 in the area of social psychology.

2 Present Research

This dissertation rests on three manuscripts. In Manuscript #1, acceptance of rape myths was studied in a representative sample of German residents with a focus on demographic and attitudinal correlates of RMA. This study addresses structural aspects of the RMA schema which is argued to be part of a broader intolerance schema. In Manuscript #2, the role of meta-cognitive attitude strength for the emergence of schematic processing was analyzed in a study employing visual stimuli in addition to a textual vignette. It thus examines the limits and boundaries of schematic effects. In Manuscript #3, to measure schematic processes online eye-tracking methodology was employed, subsequently the observed differences in viewing patterns were related to RMA. This manuscript investigated schematic effects of RMA on visual attention and outlines the conditions under which such effects do and do not occur.

2.1 Rape Myths as Part of an Intolerance Schema

As stated above, information about the acceptance of rape myths in the general population is virtually absent. One goal of Manuscript #1 was to fill this empirical gap and to take a more fine-grained look at the acceptance of individual rape myths that vary in their content. Apart from shedding light on the level of endorsement of rape myths in the general public, the major focus of this study was to relate RMA to demographic and attitudinal correlates thereby demonstrating that RMA can be conceptualized as part of a more global schema of intolerance.

Demographic variables related to RMA in past studies included sex, age, ethnicity, education, and income. Whereas some of these perceiver characteristics were related

consistently with RMA in an unambiguous manner, results for other demographics were more equivocal. Across student and nonstudent samples, level of education and income each were negatively associated with acceptance of rape myths (e.g., Amnesty International UK, 2005; Boakye, 2009; Klein, Kennedy, & Gorzalka, 2009). However, results for the other demographic variables are less straightforward: Although the majority of studies reports higher RMA for men compared to women (e.g., Aosved & Long, 2006; Sierra, Santo-Iglesias, Gutiérrez-Quintanilla, Bermúdez, Buela-Casal, 2010), some find no gender difference (e.g., Amnesty International UK, 2005). Similarly, inconsistent results have been observed for age. Whereas some studies report higher RMA with increasing age (e.g., Boakye, 2009; Kalra, Wood, Desmarais, Verberg, & Senn, 1998), others – especially in student samples – find a negative correlation indicating that in particular young people endorse rape myths (e.g., Ferro, Cermele, Saltzmann, 2008; Klein et al., 2009). The present study tries to address some of these inconsistencies.

Concerning attitudinal correlates of RMA, past research showed that the endorsement of rape myths is related to a variety of other intolerant belief systems such as sexism, racism, ageism, homophobia, religious intolerance or classism (Aosved & Long, 2006), thus forming a schema of intolerance (Aosved, Long, & Voller, 2009)⁴. In the present study we tried to replicate the finding that RMA is related to a variety of intolerant belief systems (Aosved & Long, 2006) in a more representative sample that is less prone to problems of range restriction. It is hypothesized that the RMA schema – as a knowledge structure stored in long-term memory – is part of a schema of intolerance that encompasses a variety of different prejudices.

⁴ It is important to note that the use of the term “schema” employed by Aosved and colleagues only refers to the structural aspects of the schema concept outlined above. The term “schema” is used here to reflect the interrelatedness of hostile attitudes toward disparate groups and does not speak to the socio-cognitive functioning of the underlying mental representation. Therefore, the use of other denominations like “syndrome of group-focused enmity” (Zick et al., 2008) or “generalized prejudice” (Altemeyer, 1998) is equally justified.

One source of such a schema of intolerance could be the connection of these prejudices with ideological attitudes. These social attitudes are typically considered to be antecedents of prejudices and are more abstract in nature. Two such ideologies that were measured in the present study are social dominance orientation (Pratto, Sidanius, Stallworth, & Malle, 1994) and right-wing authoritarianism (Altemeyer, 1981). Both of these have been linked to RMA (Gerger et al., 2007; Hockett, Saucier, Hoffman, Smith, Craig, 2009). However, whether they explain additional variance above effects of demographic variables and intolerant belief systems has not been addressed yet.

Manuscript #1 presents data from a representative sample of respondents who took part in a telephone interview conducted by a professional survey institute. Along with questions concerning demographics, the respondents were exposed to scales measuring a variety of intolerant beliefs and ideological attitudes. Furthermore participants responded to nine items from an RMA questionnaire (Gerger et al., 2007).

For the demographic variables, we obtained a U-shaped relationship between age and RMA, whereas gender was unrelated to RMA. Substantial correlations with other intolerant belief systems support the notion that RMA is part of a more general schema of intolerance.

2.2 The Role of Attitude Strength for the Emergence of Bias

Whereas the first manuscript focused on structural aspects of the RMA schema, the second manuscript addresses functional aspects of RMA as a cognitive schema (Bohner, 1998). The aim of manuscript #2 was to determine the limits and boundaries of schematic processing. Importantly, it includes an examination of attitude strength as a potential moderator of effects of RMA on thinking and behavior.

Past research studying schematic effects of RMA has heavily relied on the use of vignettes. To avoid interpretational difficulties associated with the vignette methodology, additional information was presented visually in the present study. It is assumed that this technique is less blatant than providing information in a text format and therefore reduces problems resulting from conversational norms and demand effects. Participants received written information about a rape case in a first step and were then instructed that they would view a photograph taken by a police officer the day after the incident. Participants then viewed a photograph of the plaintiff's living room. Across conditions elements within the photograph were varied. Whereas in the experimental condition participants could see cues that could be interpreted to confirm a rape myth (i.e., an alcoholic beverage and a poster depicting a nude male torso), in the control condition these cues were replaced with neutral stimuli (i.e., a coffee pot and a poster depicting the Eiffel Tower). Although both of these cues can be used to blame the victim, they differ regarding their expectedness, that is in how far participants depending upon their attitudes could have anticipated seeing the cue after they had read the rape case. Because the poster is stationary – it hangs on the wall independent of the situation and is therefore not related to the narrative of the case –, it is a rape-myth consistent yet unexpected cue. Contrary to the poster, the alcohol cue might be inserted as a default value in the context of the narrative by participants high in RMA and is for these

therefore highly expected. The role of expectations and schematic processing will be addressed in Manuscript III. Here, it was hypothesized that whether or not participants would use the information the cues convey to blame the victim or to deny the rape would depend (a) on participants' level of RMA and (b) on the subjective strength of these beliefs.

In this second manuscript, it is argued that schematic biases require the presence of a stable and relevant entity – the RMA schema stored in long-term memory. If on the other hand participants think about the topics addressed in a RMA questionnaire for the first time or consider their beliefs to be ambiguous and rather uninformed, then there is no underlying schema and thus no schematic processing should be observed. Therefore, high attitude strength is a necessary prerequisite for the emergence of biased processing especially when information is not readily available in text format but has to be inferred from visual stimuli. According to Krosnick and Petty (1995, p. 3) attitudes are strong if they are stable across time (“durability”) and influence behavior and decision-making (“impactfulness”). Research in other areas has shown that attitudes that are judged to be more important and stable show higher attitude-behavior consistency (Fazio & Zanna, 1978; Prislin, 1996).

Thus, a questionnaire measuring attitude strength was developed for the present study purposes following suggestions by Wegener, Downing, Krosnick, and Petty (1995). Taken together, the present manuscript investigates the socio-cognitive functioning of RMA under conditions that minimize the role of counter-explanations (e.g., conversational norms or demand effects) and at the same time maximize the need to autonomously draw inferences from visual stimuli. It is argued that under such conditions metacognitive attitudes (e.g., attitude strength) play a crucial role for the emergence of biased processing. Empirically this implies the prediction of a three-way interaction between RMA, type of photograph, and

attitude strength or – put differently – an interaction between RMA and RMA-related attitude strength in the experimental but not in the control condition.

Turning to behavioral intentions, a second study focused on attitude strength as a moderator of the link between rape myth acceptance and rape proclivity. Participants reported on their RMA, their RMA-related attitude strength, and completed a scenario-based rape proclivity measure. It was hypothesized that attitude strength would moderate the relationship between RMA and rape proclivity, with RMA having a stronger effect on rape proclivity under high attitude strength than under low attitude strength.

As hypothesized, metacognitive attitude strength interacted with RMA and type of photograph to influence judgments in the expected manner in the first study. Attitude strength also moderated the influence of RMA on self-reported rape proclivity in the second study. Taken together, these results suggest that metacognitive attitude strength can be economically assessed and constitutes an important moderator of schematic effects of RMA.

2.3 In the Eye of the Beholder: The use of process measures when speaking about processes

The research presented in Manuscript III builds upon the methodological innovation introduced in Manuscript II. By means of presenting participants with additional information in a photograph instead of a text format, eye-tracking methodology can be employed to investigate how participants view the photograph. This allows for an analysis of whether people high as compared to low in rape myth acceptance are associated with different viewing patterns, thereby enabling the researcher to look at processes on-line. Eye-tracking methodology provides two types of data that are relevant for the present study: (1) information on *when* a participant looks at a schematic stimulus (i.e. whether early or late), which represents a measure of hypervigilance, and (2) information on *how long* a participant looks at a schematic stimulus when he / she views it for the first time, which represents a measure of ease of processing. Both hypervigilance and ease of processing can be viewed as schematic processes. Whereas hypervigilance is an attentional bias in favor of schema-consistent information that leads the individual to be on the alert for the appearance of such stimuli, ease of processing refers to the cognitive effort necessary to understand a schema-consistent stimulus. Processing should be easier and thus faster when an incoming stimulus fits a default value of existing knowledge structures and therefore is schema-consistent.

In the present study, it is important to differentiate between the two cues that are varied in the photograph (also see 2.2). As outlined above, both cues can be interpreted to confirm a rape myth, however, only the alcohol cue is related to the narrative of the case. Therefore, it is assumed that participants will build an expectation to see the alcohol cue with increasing RMA but will not build an expectation for the poster cue after reading the story. This differentiation is important, because from eye-tracking research on natural scene perception (Nuthmann, Smith, Engbert, & Henderson, 2010) and on reading processes

(Balota, Pollatsek, & Rayner, 1985) it is known that stimuli that are highly predictable in a given context are processed faster. In these research areas, high expectation for a stimulus is associated with a shorter duration of the first fixation which poses a proxy variable for encoding processes. In fact, the semantics of expectations and schemata are tightly linked and some researchers consider them to be the same or very similar (e.g., Fiske, 2010, p. 150). Considering this link, it might be argued that only the alcohol cue is a schema-relevant stimulus. To ensure that the differentiation between expected and unexpected rape-myth consistent cue in the current version of the photograph was successful, a pretest was conducted in which participants were asked for their expectations concerning the photograph after reading the rape case.

In Study 1, 60 participants first filled out a questionnaire package containing a RMA scale. In an ostensibly unrelated second study, they were asked to read about a rape case and then viewed the photograph of the plaintiff's living room. After viewing the photograph participants provided verdict, blame and responsibility attributions. Just like in the study presented in Manuscript II, participants viewed a photograph that either contained the rape-myth-consistent cues or contained neutral stimuli instead. For the control condition no relationship between RMA and eye-tracking measures was expected. Within the experimental condition it was hypothesized that the role of expectation would greatly influence the relationship between RMA and the eye-tracking measures. Whereas greater RMA should be related with hypervigilance and ease of processing of the expected schematic stimulus, these effects were assumed to be absent or reversed in case of the unexpected yet rape-myth-consistent stimulus.

Overall, the results supported the above made assumptions. Higher RMA was related with earlier fixation (i.e., hypervigilance) of the alcohol but not the poster cue. Whereas participants displayed shorter first fixation durations (i.e., ease of processing) for the alcohol

cue, they showed prolonged encoding of the poster cue. RMA was not related to the eye-movement data in the control condition. The results support the assumption that RMA as a cognitive schema actively influences people's viewing of schema-relevant information.

One drawback of this first study was the correlational nature of the data in the experimental condition. Because RMA is related to a variety of other intolerant belief systems (as shown in manuscript I), each one of these could equally well be the driving force of the correlations observed. To remedy this weakness and to show that the correlations observed in Study 1 were in fact due to participants' RMA, a second study was conducted. In Study 2, a social norm feedback was used to manipulate participants' level of RMA. Prior studies have shown that giving participants feedback about other people's responses to a RMA questionnaire affects not only their own attitudes but also their self-reported rape proclivity (Bohner, Pina, Viki, & Siebler, 2010; Bohner et al., 2006; Eyssel, Bohner, & Siebler, 2006). Thus, in Study 2 participants received feedback about the alleged answers of their co-students on the same RMA questionnaire at the end of the questionnaire package. After having received either a high or low RMA feedback, participants read the rape case and viewed the photograph containing the rape-myth-consistent cues. It was hypothesized that the experimental manipulation would affect only the viewing patterns of the expected schematic stimulus, with people in the high RMA feedback condition showing earlier (i.e., hypervigilance) and shorter (i.e., ease of processing) fixations than people in the low RMA feedback condition.

As assumed, the feedback manipulation had no effect on how participant's viewed the unexpected stimulus. For the expected stimulus, a high RMA feedback led to earlier fixations of the alcohol cue. However, the high RMA feedback did not result in ease of processing of that cue. Instead, participants in the high feedback condition showed prolonged processing of the alcohol stimulus. Although the latter finding was unsuspected, the overall pattern – an

influence of type of feedback on the expected but not on the unexpected stimulus – is in line with the present theoretic rationale.

In conclusion, both studies provide evidence for schematic effects of RMA on active visual information search. The results highlight the importance of considering situational (i.e., the narrative of the case) as well as individual (i.e., RMA) factors in the genesis of schematic effects.

GENERAL DISCUSSION AND OUTLOOK

In this section, I will first provide a theoretical integration of the present research and then take a rather ample perspective on the individual manuscripts. In doing so, I attempt to avoid a mere repetition of the individual discussions of the manuscripts and hope to outline possible future avenues that are broad in nature.

The present research addressed structural as well as functional aspects of the RMA schema. On a structural level, RMA seems to be embedded in a more global schema of intolerance that involves a variety of devaluing attitudes toward different target groups (see first manuscript). However, the socio-cognitive functioning of such a wider schema of intolerance remains unconsidered and needs to be investigated in future research.

Turning to such functional aspects, it is my opinion that important new insights have been won regarding the RMA schema. For one, the concept of attitude strength has been fruitfully adapted to RMA's conceptualization as a schema, showing that such a measure of "schema strength" poses an important moderator of RMA effects on information processing and behavior (see the second manuscript). Through identifying important and novel moderators, the limits and boundaries for schematic processing can be delineated. The eye-tracking studies (see third manuscript) highlight the role of expectedness as yet another important moderator of schematic effects. Expectedness was defined as resultant from situational (i.e., the narrative of the case) and individual (i.e., participants' RMA) factors. It thus addresses a mixture of assumptions about schemata that are commonly shared (see 1.2). Put more concretely, it highlights the role of schema activation, here via the case narrative, and schema independence, here via comparing expected to unexpected cues that may both be used by high RMA participants to blame the victim.

On a different note, the use of eye-tracking methodology enabled us to look at processes online. The observed effects of RMA on participants' viewing patterns thus demonstrate the active nature of schematic effects on attention and information processing.

In summary, this work tested the hypothesis that the acceptance of rape myths can be conceptualized as a cognitive schema leading to biased processing of relevant information. The present research supports this notion to the fullest. It includes the measurement of schematic processing online and an identification of its boundary conditions as well as a topology of the knowledge structures the RMA schema is stored in. In the following, I will turn to the individual manuscripts with more detail and a focus on possible future studies.

The first study investigated RMA and its links to demographic and attitudinal variables in a representative sample of German residents. As every methodology, also survey studies have advantages and disadvantages. On the one hand, a representative sample is by far superior to student samples in terms of generalizability. Furthermore, when dealing with topics that are influenced by social desirability concerns or respondents' educational background, such as prejudices a representative sample may reduce problems of restriction of range and skewness, thereby increasing effect sizes (i.e., correlation coefficients in the present case). In addition, studying the endorsement of a certain belief in the population at large or its relationship to demographic variables renders a representative sample necessary. On the other hand, survey studies are rather cost-intensive and often only feasible with the aid of a professional research institute. Furthermore, the kind of information surveys can provide is limited. Typically survey studies are one-shot cross-sectional studies. Thus, their data level is correlational in nature. However, social psychologists are typically rather interested in a causal analysis of effects and processes. This critique also applies to the research presented

here. Future studies could either recruit panel surveys (that are even more expensive) or survey experiments to overcome these difficulties.

Panel surveys collect data from the same participants in multiple waves, thereby enabling the researcher to investigate whether a change in one variable leads to changes in another. Building on the findings of Manuscript I, a possible longitudinal study could investigate how RMA develops in the younger age group. This would allow for a causal analysis of the negative relationship that was observed between age and RMA in the younger subsample. One prime candidate to explain a decrease over time in RMA in this young subgroup could be romantic partnership experiences.

Survey experiments are another way of overcoming the problems of correlational data gathered with cross-sectional designs (Gaines, Kuklinski, & Quirk, 2007). A survey experiment on the other hand combines elements of an experiment within the framework of a survey. To gain causal inference researchers manipulate the order or formulation of items. For example, Sniderman and Piazza (1993) demonstrate that merely mentioning affirmative action in a telephone interview increases negative stereotyping of African Americans, thereby showing how priming a particular idea affects subsequent attitude measures. Future studies on RMA could manipulate the framing of a RMA scale that follows the manipulation. For example, by letting people first think about the percentage of false accusations versus the percentage of rapes that are never reported to the police, effects of framing on rape myth acceptance could be studied. By comparing the effects of these entry questions to a control condition in which a RMA scale is presented without either frame, one could get information as to which frame has an effect. If one of the frames does not work (i.e., is not different from the control group) this could indicate that people approach the topics addressed in RMA

scales with this frame as a default in their mind. Within a representative sample framing effects could be related to demographic and attitudinal characteristics of the sample.

The second study explored the role of metacognitive aspects of RMA. The main claim was that schematic processing is only likely under high attitude strength. Put more precisely, the study focused on metacognitive as opposed to operational indices of attitude strength (Bassili, 1996) and found support for the central assumption that high attitude strength is a necessary precondition for the emergence of biased processing. Future research could profit from investigating operational measures of RMA-related attitude strength as well (e.g., extremity of the attitude, reaction time, range used of the scale to assess ambivalence) and relate them to metacognitive indicators. A different route for future research could involve the study of other metacognitive constructs (e.g., metacognitive experiences like ease of retrieval or fluency) in the context of research on rape myth acceptance. For example, via letting participants think about 2 versus 7 reasons for women to falsely accuse men of rape, effects of induced ease of retrieval on a subsequent rape case could be studied.

In another vein, Manuscript II introduced a new methodological approach to the study of schematic effects of RMA. Different from prior studies, participants were presented with new information in a visual format. This way, demand effects as well as conversational norms were reduced and the requirement to infer information autonomously on part of the participant was increased. The latter point is of course directly related to the conceptualization of a schema as actively influencing information processing (see Introduction). Thus for the current study purposes, presenting additional information visually was more appropriate than using a text vignette. Considering that the way information is presented does make a difference for participants' evaluation of a certain case (also see Sled, Durrheim, Kriel, Solomon, & Baxter, 2002), future research should investigate different forms of information transmission.

Experimental designs that address hearsay or other forms of informal conversation could be especially fruitful with respect to how public opinion about incidents of rape is formed. One operationalization of this could involve introducing confederates to a group that receives information about a rape case and is instructed to discuss it. The confederate would be instructed to introduce prespecified rumors and hearsay. Characteristics of the confederate as well as characteristics of the rumors should be varied and analyzed for their power to influence the course of discussion.

In addition, going beyond vignette methodology can be especially fruitful when the chosen format of information transmission enables the collection of novel and interesting data. In the case of presenting visual information, eye-tracking methodology renders a different form of data accessible than typically measured in research employing vignettes. Being able to track participants' viewing patterns of a photograph allows to measure processes ascribed to schematic processing on-line.

Therefore, in the third manuscript visual material was used and participants' processing of relevant visual stimuli was investigated using an eye-tracking device. In two studies it was demonstrated on a process level that RMA actively affects the allocation of attention and the processing of information. Although research employing eye-tracking methodology to study social information processing is still scarce, its use has increased in recent years (see for example: Balcetis, 2009; DeWall, Maner, & Rouby, 2009; Epley, Morewedge, & Keysar, 2004; Horsley, de Castro, & van der Schoot, 2010; Krajewski, Sauerland, & Müssigmann, 2011; Krolak-Schwerdt, & Kneer, 2006; Masuda et al., 2008; Wilkowski, Robinson, Gordon, & Troop-Gordon 2007). However, to my knowledge this is the first study that employed eye-tracking methodology to do what may be broadly defined as attitude research. Future research involving RMA might further profit from the rather indirect

nature of the eye-tracking methodology. For example, while presenting participants with a series of photographs showing a man and a woman chatting in a pub, participants' attention to both the man and the woman could be recorded. By either telling them before or after viewing the photographs that the woman subsequently claimed that she was raped by the man later that night, it could be investigated whether participants high in RMA allocate more attention to a rape victim (Eyssel, Süßenbach, & Bohner, 2011; see also Rempala & Bernieri, 2005) or pay more attention to the behavior of women in general, irrespective of the circumstances.

Broadly speaking, instruments measuring eye-movement, skin conductance, or heart rate, have the potential to enrich the methodological inventory of main stream social psychology and provide very objective data that are close to the processes most researchers are interested in (Blascovich et al., 2011). The challenge for the researcher interested in such measures is the construction of experimental designs in which their use truly yields new insights.

The theoretical and empirical emphasis of this dissertation has been a cognitive one focusing on the processes related to the mental representation of an attitude construct. So far, the role of emotions in relation to rape or rape myths⁵ has received little attention in social psychology. However, it seems intuitively clear that the topic may arouse very strong emotional reactions even among uninvolved observers. Furthermore, people most certainly differ with regard to the emotions the topic of rape predominantly elicits in them, just as different types of rape (e.g., acquaintance rape vs. brutal or sadistic rape) might tend to evoke different emotional reactions. In line with this reasoning, Giner-Sorolla and Russell (2009) argued that differing emotional reaction to incidents of rape might have serious juridical consequences. They focus on the rational as well as irrational ways in which the moral emotions of anger and disgust may influence the decision making processes of people

⁵ Notable exceptions include research by Bohner et al. (1993) on the effect of the salience of rape on women's affect and self-esteem as well as an analysis of gender-specific functions of RMA by Bohner and Lampridis (2004). They show that believing in rape myths can function as an anxiety buffer for women.

involved in rape trials. In their view, especially disgust reactions should have detrimental effects for rape victims, because via “the contagious and inflexible nature of disgust, such attitudes are likely to adhere to both parties in a sexual act for the mere fact of having committed it, regardless of agency or consent” (p. 68). Moreover, anger and disgust differ concerning the action tendencies they activate, with disgust leading to avoidance and expulsion. Therefore, people experiencing disgust in the course of learning about a rape case might react via psychologically distancing themselves from the victim.

Future research should definitely address the role of moral emotions in relation to RMA and judgments pertaining to a rape case. By means of manipulating whether participants are primed with pictorial stimuli that elicit disgust versus anger, effects of emotional reactions to an unrelated subsequent rape case could be studied. This would render the theoretical considerations just outlined testable. Ideally, subsequent theories would integrate cognitive and emotive processes and outline their interactions.

References

- Altemeyer, R. (1981). *Right-wing authoritarianism*. Winnipeg: University of Manitoba Press.
- Altemeyer, B. (1998). The other “authoritarian personality”. *Advances in Experimental Social Psychology*, 30, 47-91.
- Amnesty International UK (2005). Sexual assault research. Summary report. Retrieved October 8, 2010, from http://www.amnesty.org.uk/news_details.asp?NewsID=16618
- Aosved, A. C., & Long, P. J. (2006). Co-occurrence of rape myth acceptance, sexism, racism, homophobia, ageism, classism, and religious intolerance. *Sex Roles*, 55, 481-492.
- Aosved, A. C., Long, P. J., & Voller, E. K. (2009). Measuring sexism, racism, sexual prejudice, ageism, classism, and religious intolerance: The intolerant schema measure. *Journal of Applied Social Psychology*, 39, 2321-2354.
- Balctis, E. (2009). Claiming a moral minority, saccades help create a biased majority: Tracking eye movements to base rates in social predictions. *Journal of Experimental Social Psychology*, 45, 970-973.
- Balota, D.A., Pollatsek, A., & Rayner, K. (1985). The interaction of contextual constraints and parafoveal visual information in reading. *Cognitive Psychology*, 17, 364-390.
- Bartlett, F. C. (1995). *Remembering: A study in experimental and social psychology* (Reprint). Cambridge, UK: Cambridge University Press. [Original version: 1932].
- Bassili, J. N. (1996). Meta-judgmental versus operative indexes of psychological attributes: The case of measures of attitude strength. *Journal of Personality and Social Psychology*, 71, 637-653.

- Beneke, T. (1982). *Men on rape*. New York: St. Martin's Press.
- Blascovich, J., Mendes, W.B., Vanman, E. & Dickerson, S. (2011). *Social psychophysiology for social and personality psychology*. London: Sage.
- Boakye, K. E. (2009). Attitudes toward rape and victims of rape: A test of the feminist theory in Ghana. *Journal of Interpersonal Violence, 24*, 1633-1651.
- Bohner, G. (1998). *Vergewaltigungsmythen* [Rape myths]. Landau, Germany: Verlag Empirische Pädagogik.
- Bohner, G., & Lampridis, E. (2004). Expecting to meet a rape victim affects women's self-esteem: The moderating role of rape myth acceptance. *Group Processes and Intergroup Relations, 7*, 77-87.
- Bohner, G., Pina, A., Viki, G. T., & Siebler, F. (2010). Using social norms to reduce men's rape proclivity: Perceived rape myth acceptance of out-groups may be more influential than that of in-groups. *Psychology, Crime and Law, 16*, 671-693.
- Bohner, G., Reinhard, M.-A., Ruth, S., Sturm, S., Kerschbaum, B., & Effler, D. (1998). Rape myths as neutralizing cognitions: Evidence for a causal impact of anti-victim attitudes on men's self-reported likelihood of raping. *European Journal of Social Psychology, 28*, 257-268.
- Bohner, G., Siebler, F., & Schmelcher, J. (2006). Social norms and the likelihood of raping: Perceived rape myth acceptance of others affects men's rape proclivity. *Personality and Social Psychology Bulletin, 32*, 286-297.

- Bohner, G., Weisbrod, C., Raymond, P., Barzvi, A., & Schwarz, N. (1993). Salience of rape affects self-esteem: The moderating role of gender and rape myth acceptance. *European Journal of Social Psychology, 23*, 561-579.
- Bondurant, B. (2001). University women's acknowledgement of rape: Individual, situational, and social factors. *Violence Against Women, 7*, 294-314.
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*, 513-531.
- Brownmiller, S. (1975). *Against our will*. New York: Simon and Schuster.
- Bruner, J.S. (1957). Going beyond the information given. In J.S. Bruner, E. Brunswik, L. Festinger, F. Heider, K.F. Muenzinger, C.E. Osgood, & D. Rapaport, (Eds.), *Contemporary approaches to cognition* (pp. 41-69). Cambridge, MA: Harvard University Press
- Burt, M. R. (1980). Cultural myths and support of rape. *Journal of Personality and Social Psychology, 38*, 217-230.
- Burt, M. R. (1991). Rape myths and acquaintance rape. In A. Parrot & L. Bechhofer (Hg.), *Acquaintance rape: The hidden crime* (S. 26-40). New York: Wiley.
- Cowan, G., & Quinton, W. (1997). Cognitive style and attitudinal correlates of the perceived causes of rape scale. *Psychology of Women Quarterly, 21*, 227-245.
- DeWall, C. N., Maner, J. K., & Rouby, D. A. (2009). Social exclusion and early-stage interpersonal perception: Selective attention to signs of acceptance. *Journal of Personality and Social Psychology, 96*, 729-741.

- Epley, N., Morewedge, C. K., & Keysar, B. (2004). Perspective taking in children and adults: Equivalent egocentrism but differential correction. *Journal of Experimental Social Psychology, 40*, 760-768.
- Eyssel, F., & Bohner, G. (2011). Schema effects of rape myth acceptance on judgments of guilt and blame in rape cases: The role of perceived entitlement to judge. *Journal of Interpersonal Violence, 26*, 1579-1605.
- Eyssel, F., Bohner, G., & Siebler, F. (2006). Perceived rape myth acceptance of others predicts rape proclivity: Social norm or judgmental anchoring? *Swiss Journal of Psychology, 65*, 93-99.
- Eyssel, F., Süßenbach, P., & Bohner, G. (2011). In the eye of the beholder: Effects of rape myth acceptance on information search strategies. *16th EASP General Meeting, Stockholm*.
- Fazio, R. H., & Zanna, M. P. (1978). Attitudinal qualities affecting the strength of the attitude-behavior relationship. *Journal of Experimental Social Psychology, 14*, 398-408.
- Ferro, C., Cermele, J., & Saltzman, A. (2008). Current perceptions of marital rape: Some good and not-so-good news. *Journal of Interpersonal Violence, 23*, 764-779.
- Fiske, S. T. (2010). *Social beings: Core motives in social psychology* (2nd ed.). Hoboken, N.J.: Wiley.
- Gaines, B. J., Kuklinski, J. H., & Quirk, P. J. (2007). The logic of the survey experiment reexamined. *Political Analysis, 15*, 1-20.

- Garcia-Moreno, C., Jansen, H. A. F. M., Ellsberg, M., Heise, L., & Watts, C. H. (2006). Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence, *Lancet*, *368*, 1260-1269.
- Gerger, H., Kley, H., Bohner, G., & Siebler, F. (2007). The acceptance of modern myths about sexual aggression scale: Development and validation in German and English. *Aggressive Behavior*, *33*, 422-440.
- Giner-Sorolla, R., & Russell, P. S. (2009). Anger, disgust and sexual crimes. In M. Horvath & J. Brown. *Rape: Challenging contemporary thinking* (pp. 46-73). Cullompton, UK: Willan.
- Goodman, L. A., Koss, M. P., & Russo, N. F. (1993). Violence against women: Physical and mental health effects: II. Research findings. *Applied and Preventive Psychology*, *2*, 79-89.
- Grice, H. P. (1975). Logic and conversation. In P. Cole, & J. L. Morgan (Eds.), *Syntax and semantics: Speech acts* (Vol. 3, pp. 41-58). New York: Academic Press.
- Groth, A. N. (1979). *Men who rape: The psychology of the offender*. New York: Plenum Press.
- Heise, L. L. (1998). Violence against women: An integrated ecological framework. *Violence Against Women*, *4*, 262-290.
- Hockett, J. M., Saucier, D. A., Hoffman, B. H., Smith, S. J., & Craig, A. W. (2009). Oppression through acceptance? Predicting rape myth acceptance and attitudes toward victims. *Violence Against Women*, *8*, 877-897.

- Horsley, M. B., de Castro, B. O., & van der Schoot, M. (2010). In the eye of the beholder: Eye-tracking assessment of social information processing in aggressive behavior. *Journal of Abnormal Child Psychology, 38*, 587-599.
- Kalra, M., Wood, E., Desmarais, S., Verberg, N., & Senn, C. Y. (1998). Exploring negative dating experiences and beliefs about rape among younger and older women. *Archives of Sexual Behavior, 27*, 145-153.
- Klein, C. Kennedy, M. A., & Gorzalka, B. B. (2009). Rape myth acceptance in men who completed the prostitution offender program of British Columbia. *International Journal of Offender Therapy and Comparative Criminology, 53*, 305-315.
- Knight, R. A., & Prentky, R. A. (1990). Classifying sexual offenders: The development and corroboration of taxonomy models. In W.L. Marshall, R. D. Laws & H.E. Barbaree (Ed.), *Handbook of sexual assault: Issues, theories, and treatment of offender* (pp. 23-52). New York: Plenum Press.
- Krahé, B., Scheinberger-Olwig, R., & Waizenhöfer, E. (1999). Sexuelle Aggression zwischen Jugendlichen: Eine Prävalenzerhebung mit Ost-West-Vergleich. *Zeitschrift für Sozialpsychologie, 30*, 165-178.
- Krahé, B., Temkin, J., & Bieneck, S. (2007). Schema-driven information processing in judgements about rape. *Applied Cognitive Psychology, 21*, 601-619.
- Krajewski, J., Sauerland, M., & Müssigmann, M. (2011). The effects of priming-induced social approach and avoidance goals on the exploration of goal-relevant stimuli: An eye-tracking experiment. *Social Psychology, 42*, 152-158.

- Krolak-Schwerdt, S., & Kneer, J. (2006). Reading time and eye movement methods to study the processing of social information. *Zeitschrift für Sozialpsychologie, 37*, 141-150.
- Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 1-24). Mahwah, NJ: Erlbaum.
- Ladiges, B., & Stoike, K. (1993). Anstelle eines Vorworts. In G. Gräning (Hrsg.), *Sexuelle Gewalt gegen Frauen – kein Thema?* (S. 5-7). Münster: Waxmann.
- Littleton, H. L., Axsom, D., Radecki Breitkopf, C., & Berenson, A. B. (2006). Rape acknowledgement and post assault behaviors: How acknowledgment status relates to disclosure, coping, worldview, and reactions received from others. *Violence and Victims, 21*, 765-782.
- Lonsway, K. A., & Fitzgerald, L. F. (1994). Rape myths: In review. *Psychology of Women Quarterly, 18*, 133-164.
- Masuda, T., Ellsworth, P. C., Mesquita, B., Leu, J., Tanida, S. & De Veerdonk, E. V. (2008). Placing the face in context: Cultural differences in the perception of facial emotion. *Journal of Personality and Social Psychology, 94*, 365-381.
- Nuthmann, A., Smith, T. J., Engbert, R., & Henderson, J. M. (2010). CRISP: A computational model of fixation durations in scene viewing. *Psychological Review, 117*, 382-405.
- Page, A. D. (2008). Judging women and defining crime: Police officers' attitudes toward women and rape. *Sociological Spectrum 28*, 389-411.
- Payne, D. L., Lonsway, K. A., & Fitzgerald, L., F. (1999). Rape myth acceptance: Exploration of its structure and its measurement using the Illinois Rape Myth Acceptance Scale. *Journal of Research in Personality, 33*, 27-68.

Piaget, J. (1928). *The child's conception of the world*. London: Routledge and Kegan Paul.

Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology*, *67*, 741-763.

Prislin, R. (1996). Attitude stability and attitude strength: One is enough to make it stable. *European Journal of Social Psychology*, *26*, 447-477.

Rempala, D. M., & Bernieri, F. J. (2005). The consideration of rape: The effect of target information disparity on judgments of guilt. *Journal of Applied Social Psychology*, *35*, 536-550.

Riger, S., & Gordon, M. T. (1981). The fear of rape: A study in social control. *Journal of Social Issues*, *37*, 71-89.

Sanday, P. R. (1981). The socio-cultural context of rape: A cross-cultural study. *Journal of Social Issues*, *37*, 5-27.

Shechory, M., & Idisis, Y. (2006). Rape myths and social distance toward sex offenders and victims among therapists and students. *Sex Roles*, *54*, 651-658.

Sherman, J. W., Conrey, F. R., & Groom, C. J. (2004). Encoding flexibility revisited: Evidence for enhanced encoding of stereotype-inconsistent information under cognitive load. *Social Cognition*, *22*, 214-232.

Sierra, J.C., Santos-Iglesias, P., Gutiérrez-Quintanilla, R., Bermúdez, M.P., & Buela-Casal, G. (2010). Factors associated with rape-supportive attitudes: sociodemographic variables, aggressive personality, and sexist attitudes. *The Spanish Journal of Psychology*, *13*, 201-208.

- Sleed, M., Durrheim, K., Kriel, A., Solomon, V., & Baxter, V. (2002). The effectiveness of the vignette methodology: A comparison of written and video vignettes in eliciting responses about date rape. *South African Journal of Psychology*, *32*, 21–28.
- Smith, E. R. (1984). Model of social inference processes. *Psychological Review*, *91*, 392-413.
- Smith, E.R., & Queller S. (2001). Mental representations. In A. Tesser & N. Schwarz, *Blackwell handbook of social psychology: Intraindividual processes* (pp. 111-133). Malden, UK: Blackwell.
- Sniderman, P. M., & Piazza, T. (1993). *The scar of race*. Cambridge, MA: Harvard University Press.
- Temkin, J., & Krahé, B. (2008). *Sexual assault and the justice gap: A question of attitude*. Oxford: Hart.
- Ward, T., Polaschek, D. L. L., & Beech, A. R. (2005). *Theories of sexual offending*. Chichester, UK: Wiley.
- Wegener, D. T., Downing, J., Krosnick, J. A., & Petty, R. E. (1995). Measures and manipulations of strength-related properties of attitudes: Current practice and future directions. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 455-487). Hillsdale, NJ: Erlbaum.
- Weis, K. (1982). *Die Vergewaltigung und ihre Opfer: Eine viktimologische Untersuchung zur gesellschaftlichen Bewertung und individuellen Betroffenheit* [Rape and its victims: A victimological study of public perception and individual concernment]. Stuttgart, Germany: Enke.

- WHO – World Health Organization (2005). *Multi-country study on women's health and domestic violence against women: summary report of initial results on prevalence, health outcomes and women's responses*. Geneva: World Health Organization.
- Wilkowski, B. M., Robinson, M. D., Gordon, R. D., & Troop-Gordon, W. (2007). Tracking the evil eye: Trait anger and selective attention within ambiguously hostile scenes. *Journal of Research in Personality, 41*, 650-666.
- Zick, A., Wolf, C., Küpper, B.; Davidov, E., Schmidt, P., & Heitmeyer, W. (2008). The syndrome of group-focused enmity: The interrelation of prejudices tested with multiple cross-sectional and panel data. *Journal of Social Issues, 64*, 363-383.

Running Head: ACCEPTANCE OF SEXUAL AGGRESSION MYTHS

MANUSCRIPT I:

Acceptance of Sexual Aggression Myths

in a Representative Sample of German Residents

Philipp Süssenbach and Gerd Bohner

University of Bielefeld

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Philipp Süssenbach, Department of Psychology, University of Bielefeld; Gerd Bohner, Department of Psychology, University of Bielefeld.

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Correspondence concerning this article should be addressed to Philipp Süssenbach, Abteilung f. Psychologie, Postfach 100131, 33501 Bielefeld, Germany. E-mail: psuessenbach@uni-bielefeld.de

Abstract

A representative sample of German residents ($N = 397$) was surveyed with the aim of studying their acceptance of contemporary rape myths (RMA) using items from the Acceptance of Modern Myths About Sexual Aggression Scale (AMMSA; Gerger, Kley, Bohner, & Siebler, 2007, *Aggressive Behavior*) in relation to demographic variables (e.g., gender, age), intolerant belief systems (e.g., sexism, islamophobia), the ideologies of right-wing authoritarianism (RWA) and social dominance orientation (SDO), as well as gender identification. Age showed a U-shaped relationship with RMA, whereas gender was unrelated to RMA. For men (women), greater identification with their gender was associated with higher (lower) RMA. Substantial correlations of RMA with intolerant belief systems support the idea of a schema of intolerance. Although RWA and SDO were both related to RMA, only RWA explained unique variance beyond the effects of intolerant belief systems. Results are discussed in comparison to prior studies using mainly student samples.

Key Words:

rape myths; gender; age; prejudice; ideological attitudes

Acceptance of Sexual Aggression Myths

in a Representative Sample of German Residents.

Sexual violence is a global problem with considerable variability across countries that is recognized (along with other forms of violence against women) to pose a major threat to social and economic development (WHO, 2005a; 2005b). Due to its negative consequences on the physiological and psychological well-being of victims (e.g., Dutton et al., 2006; Goodman, Koss, & Russo, 1993) as well as on society as a whole (Beneke, 1981; Riger & Gordon, 1982), understanding the roots of sexually aggressive behavior is an important research goal. In this article we focus on the acceptance of rape myths, that is “beliefs about rape (i.e., about its causes, context, consequences, perpetrators, victims, and their interaction) that serve to deny, downplay or justify sexual violence that men commit against women” (Gerger, Kley, Bohner, & Siebler, 2007, p. 423). As such, rape myths have been conceptualized as prejudiced beliefs (Burt, 1980) or stereotypes (Lonsway & Fitzgerald, 1994) resulting in intolerance toward female victims of sexual violence.

Rape myth acceptance (RMA) has been shown to serve various psychological functions (for a review, see Bohner, Eyssel, Pina, Viki, & Siebler, 2009). Generally, it serves as an interpretative schema for dealing with information about sexual violence, yielding judgments that are biased against victims and in favor of perpetrators (e.g., Eyssel & Bohner, 2010; Süssenbach, Bohner, & Eyssel, 2011). For women, RMA creates an illusion of invulnerability, as it allows women to distance themselves from the negatively stereotyped group of potential victims (e.g., Bohner & Lampridis, 2004; Bohner, Siebler, & Raaijmakers, 1999; Bohner, Weisbrod, Barzvi, Raymond, & Schwarz, 1993). For men, RMA serves to justify and rationalize sexually aggressive tendencies, thereby contributing to the likelihood of

sexually violent behavior both directly (e.g., Bohner et al., 1998; Malamuth, 1986; Ward, Polaschek, & Beech, 2005) and indirectly via creating a pro-violent normative environment (e.g., Bohner, Pina, Viki, & Siebler, 2010; Bohner, Siebler, & Schmelcher, 2006; Sanday, 1981).

Various scales with satisfactory measurement properties have been developed to assess RMA. However, some of the more classic scales like Burt's Rape Myth Acceptance Scale (RMAS; Burt, 1980) and Feild's Attitudes Toward Rape Scale (ATR; Feild, 1978) have been criticized for their use of colloquialisms that are heavily culture-specific as well as for long and complex item formulations that at times include several concepts in one item, thereby rendering the assessed meaning ambiguous (Payne, Lonsway, & Fitzgerald, 1999). The Illinois Rape Myth Acceptance Scale (IRMA; Payne et al., 1999) remedied these shortcomings. However, Gerger and colleagues (2007) pointed out that, especially in student samples, classic RMA measures including the IRMA produce floor effects, thereby compromising statistical tests that require a normal distribution of scores and error terms. They presented the Acceptance of Modern Myths About Sexual Aggression Scale (AMMSA; Gerger et al., 2007), which measures rape-related beliefs using more subtle item content. As intended, the AMMSA shows higher means than classic RMA measures and close to normal distributions of scores. It has been tested and validated with German, English (Eyssel & Bohner, 2008; Gerger et al., 2007), and Spanish versions (Megías, Romero-Sánchez, Durán, Moya, & Bohner, in press).

As is often the case in psychological research, most studies on RMA rely on student samples (e.g., McMahon, 2010; Lee, Kim, & Lim, 2010), whereas only a few use community samples (Feild, 1978; Schuller & Wall, 1998; Yost & Zurbriggen, 2006) and some investigated rape-related attitudes in a sample of special interest to the topic (e.g. police

officers: Page, 2008; therapists: Shechory & Idisis, 2006; sexual offenders: Marshall & Hambley, 1996; rape victims: Peterson & Muehlenhard, 2004; for a comparison of multiple professional groups working with victims of sexual violence see Lee & Cheung, 1991 or Ward, 1995). However, little is known about rape myth acceptance among the general population. Amnesty International reports data from a telephone survey of a random sample of British adults (Amnesty, 2005): Respondents were asked how much responsibility they would assign to a woman who is raped, in a variety of different scenarios (e.g., the woman being drunk or showing flirtatious behavior). Although in general people did not hold the woman responsible, responses varied as a function of the situational information provided, with a scenario where the woman was “not clearly saying no” eliciting the highest attributions of victim responsibility. Although clearly related to rape myths, this study did not use an established measure of RMA; its findings are thus difficult to compare with related studies. Temkin and Krahe (2008) provide information on acceptance of rape myths among the general public in the UK. In their online survey 25.3 per cent of participants ($N = 2176$) scored above the midpoint on the female precipitation belief scale, a subscale of Cowan and Quinton's Perceived Causes of Rape Scale (1997) and 44.4 per cent scored above the midpoint of a 16-item version of the AMMSA (Gerger et al., 2007), which indicates more agreement than disagreement with the statements in that scale. Accordingly, rape myths – especially if measured with more subtle item content as in the AMMSA – show substantial acceptance among members of the general public. In the following, we briefly review the relations of RMA to demographic variables, intolerant belief systems (i.e., prejudices), and ideological attitudes that are suggested in the literature.

Rape Myth Acceptance and Demographic Variables

Perceiver characteristics that have been linked to RMA include sex, age, ethnicity, educational level, and socio-economic status. The majority of studies report higher RMA for male than for female college students (Aosved & Long, 2006; McMahon, 2010; Sierra, Santo-Iglesias, Gutierrez-Quintanilla, Bermudez, & Buena-Casal, 2010) as well as for men and women in non-student populations (see Lonsway & Fitzgerald, 1994). However, a few studies using student (Edmonds, Cahoon, & Shipman, 1991) and non-student samples (Amnesty, 2005; Krahe, 1988) found no or negligible effects of gender. For age, similar inconsistencies exist. Whereas some studies report higher acceptance of rape myths for younger people, especially in age-restricted student samples (Ferro, Cermele, & Saltzman, 2008; Klein, Kennedy, & Gorzalka, 2009, Sierra et al., 2010), other studies report higher RMA with increasing age (Amnesty, 2005; Boakye, 2009; Kalra, Wood, Desmarais, Verberg, & Senn, 1998). We believe that socialization processes as well as generational effects which we will discuss later might account for this U-shaped relationship. Ethnic differences with increased RMA have been found for African American (Giacopassi & Dull, 1986; Johnson, Kuck, & Schander, 1997), Hispanic (Jimenez & Abreu, 2003; Lefley, Scott, Llabre, & Hicks, 1993), and Asian (Devdas & Rubin, 2007; Lee, Pomeroy, Yoo, & Rheinboldt, 2005) compared to Caucasian students. However, other studies found no differences (Carmody & Washington, 2001) or that existing differences vanished when level of education and socioeconomic status were controlled for (Nagel, Matsuo, McIntyre, & Morrison, 2005). Furthermore, the content of rape myths might differ across ethnicities, thereby rendering a comparison of levels of RMA questionable (Lonsway & Fitzgerald, 1994; Varelas & Foley, 1998). However, higher levels of education and higher socio-economic status have been linked unequivocally to lower RMA and more positive attitudes toward rape victims (Amnesty, 2005; Boakye, 2009; Klein et al., 2009, Nagel et al., 2005).

Attitudinal Correlates of Rape Myth Acceptance

The main focus of past research on RMA's relationship to other attitudes has been on constructs that are rather close to it in content. In this line of research adversarial sexual beliefs, acceptance of interpersonal violence, attitudes toward women and sex roles, and modern as well as old-fashioned sexism have been linked to RMA (e.g., Burt, 1980; Lonsway, Cortina, & Magley, 2008; Payne et al., 1999; Sheldon & Parent, 2002; Walker, Rowe, & Quinsey, 1993). Not surprisingly, these studies show strong and meaningful associations between RMA and the focal constructs of interest (see Lonsway & Fitzgerald, 1994), thus demonstrating RMA's convergent construct validity. Another variable that has been linked to RMA is gender identification, but results are inconclusive. Whereas some studies link masculinity as well as having a macho personality (i.e., hypermasculinity) to RMA (Bunting & Reeves, 1983; Hill & Fischer, 2001) and sexually aggressive behavior (Parrot & Zeichner, 2003), other studies, in particular those using the Bem Sex Role Inventory, report no correlation of men's scores on the masculinity subscale and RMA (Quackenbush, 1989; Szymanski, Devlin, Chrisler, & Vyse, 1993). For women, gender identification might be linked to RMA quite differently. As Burn, Aboud, and Moyles (2000) report, stronger support for feminism was found among women with higher gender identification, whereas stronger support of the women's movement was related to lower gender identification among men. A similar pattern might be expected for RMA, where women (but not men) with higher levels of gender identification may be particularly opposed to rape myths (Bohner, 1998; Bohner & Sturm, 1997), suggesting an interaction between gender and gender identification in their connection to the acceptance of rape myths.

Intolerant Belief Systems. More recently, Aosved and Long (2006) reported medium to strong correlations of scores on the Illinois Rape Myth Acceptance scale (Payne et al., 1999)

to a variety of intolerant belief systems¹ including racism, sexism, homophobia, classism, ageism, and religious intolerance in a student sample. Subsequently, this web of interrelated hostile attitudes was interpreted as demonstrating a schema of intolerance (Aosved, Long, & Voller, 2009), which corresponds to another approach that interprets the interrelatedness of prejudices toward a wide range of outgroups as a "syndrome of group-focused enmity" (Zick et al., 2008). These intuitively plausible interrelations are also suggested by several psychological theories. Already Allport (1954) suggested that individuals who express prejudice against one outgroup are likely to express prejudice toward multiple groups due to a rigid, ambiguity-intolerant cognitive style. Similarly, social dominance theory (Sidanius, Pratto, van Laar, & Levin, 2004) allows for this conclusion. Individuals with a preference for group hierarchies should enhance oppressive belief systems like RMA together with prejudices targeted at domineering other groups. However, because conservatism and conformity form an underlying core of most if not all intolerant belief systems, right-wing-authoritarianism as a cause of generalized prejudice (Altemeyer, 1998) might equally well explain connections of various prejudices to RMA. Therefore both SDO and RWA are potential mediators of effects of adherence to intolerant belief systems on RMA. Below we examine these two ideological attitudes more closely.

Rape Myth Acceptance and Ideological Attitudes. Only few studies have looked at the relationship between RMA and ideological attitudes, that is, variables that are typically conceptualized as antecedents of prejudices (e.g., Duckitt, Wagner, du Plessis, & Birum, 2002). In contrast to intolerant belief systems, these ideological attitudes are more abstract in content and do not refer to a specific target group. Among these causal factors of prejudices, social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994) is defined as "a general attitudinal orientation toward intergroup relations, reflecting whether one generally prefers such situations to be equal, versus hierarchical" (ibid., p.742). Correlations across

studies show a medium to high connection between SDO and RMA (e.g., Gerger et al., 2007; Hockett, Saucier, Hoffman, Smith, & Craig, 2009). In accordance with the feminist analysis of rape, these findings support the assumption that rape and rape myths are a form of male dominance aimed at maintaining existing power hierarchies in which men dominate over women. The relation between RMA and SDO might also explain gender differences in rape myth acceptance, because males typically have higher SDO scores than do females. Pratto and colleagues provided an identical interpretation for sex-related differences as a consequence of differences in SDO between men and women on political attitudes (Pratto, Stallworth, & Sidanius, 1997).

Right-wing authoritarianism (Altemeyer, 1981) constitutes another widely studied ideological attitude. As a refinement of Adorno's theory on the authoritarian personality (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950), RWA represents a blend of authoritarian submission, authoritarian aggression, and conventionalism (Altemeyer, 1981). Theoretically, authoritarianism might be linked to rape myths via conventionalism, as women who are violating traditional gender roles, something held dear by authoritarians, pose an acceptable target for retributions, that is authoritarian aggression toward non-conformists. For RWA, medium to high correlations with RMA have been reported (Gerger et al., 2007; Hockett et al., 2009; Walker et al., 1993). However, whether both RWA and SDO contribute unique variance toward predicting RMA above effects of gender and adherence to intolerant beliefs, has not been addressed yet.

Study Aims

In addition to assessing the extent to which the general population accepts rape myths, the present study aims at investigating the relationship of RMA with demographic variables,

intolerant belief systems, and ideological attitudes in a representative sample of German residents. From the evidence reviewed above, the following hypotheses were examined:

(1) Rape myth acceptance is negatively correlated with (a) income and (b) level of education. RMA is (c) either higher for men or equally high for men and women, but not higher for women. Men who identify more strongly with their gender category show (d) higher rape myth acceptance. RMA is (e) overall positively correlated with age, however (f) for younger people (< 30 years), age is negatively correlated with RMA.

(2) RMA is substantially positively correlated with all intolerant belief systems assessed. However, RMA is more closely related to sexism than to other intolerant beliefs.

(3) RMA is positively correlated with SDO and RWA.

Method

Participants

Standardized telephone interviews were conducted by a professional survey institute in 2010. Households were reached using a number generation method thereby including unlisted telephone numbers (Gabler & Häder, 2002). To enhance sample representativeness the last birthday method was used to select interviewees within households. Additionally, to increase the number of younger participants 4.8 per cent of the participants were contacted on cell-phones. 397 adults from the general public (16 years and older) participated in this survey. This sample size allows detecting the expected moderate-sized effects at an alpha-level of .05 with more than 99 per cent probability.

Sample Characteristics

Participants ($N = 397$) were between 16 and 90 years old, with an average age of 54.70 ($SD = 15.89$). 156 of the respondents were male, accounting for 39.3 % of the total sample. The majority of the respondents (256 or 64.5 %) lived in West Germany, the remaining part in East Germany. 30 % ($n = 119$) of the respondents had a college degree. 21.4 % ($n = 85$) had the highest, 30.5 % ($n = 121$) the medium, and 14.1 % the lowest German secondary school-leaving certificate (Abitur, Mittlere Reife, and Hauptschulabschluss, respectively). 11 participants reported having a degree not indexed and three participants did not have any degree. Two participants chose not to answer the question. The majority of participants ($n = 217$) was employed. 72.1 % of the non-working subsample (i.e., 129 of 179 respondents) was in retirement, 10 respondents were unemployed, 13 reported being pupils or students, 15 were homemakers, and 12 indicated doing something else. The majority of households ($n = 207$) had a monthly income between 1500 and 4500 Euros, with 17.1 % ($n = 68$) reporting having less and 8.1 % ($n = 32$) reporting having more. 90 respondents answered that they either did not know or did not want to answer.

Materials

Intolerant Belief Systems. In total eleven intolerant belief systems were studied. Items for these were chosen on the basis of prior surveys (see Zick et al., 2008) and a pretest. Because of time constraints associated with the telephone survey method, most constructs could be assessed with only relatively few items. Participants indicated their agreement on a 4-point response scale (1 = *fully agree*, 2 = *agree somewhat*, 3 = *disagree somewhat*, 4 = *fully disagree*). Additionally, participants could choose not to answer an item or could respond with *don't know*. Missing values on the attitude measures were imputed using the EM-algorithm, a maximum likelihood estimation procedure. Intolerant belief systems included (a) blatant ethnic prejudice, (b) subtle ethnic prejudice (c) xenophobia, (d) islamophobia, (e) anti-

Semitism, (f) homophobia, (g) sexism, and the devaluation of (h) newcomers, (i) homeless, (j) unemployed, as well as (k) disabled people. Between two and three items were used to measure each construct (see the Appendix for all item formulations). However, sexism was measured using a 12-item scale by Schüßler (2011) that addresses both benevolent attitudes toward women who adhere to traditional gender roles (e.g., “Mothers are more caring than fathers”) and hostile attitudes toward successful working women with children (e.g., “I think that career women often pay too little attention to their children”).

Ideological Attitudes. Three items taken from Sidanius and Pratto (1999) measured social dominance orientation (e.g., “Inferior groups should stay in their place”), and four items from Altemeyer (1981) were employed to assess right-wing authoritarianism (e.g., “Crime should be punished more harshly”).

Rape Myth Acceptance. Participants completed a German 9-item short version of the Acceptance of Modern Myths About Sexual Aggression (AMMSA) scale (Gerger et al., 2007). The scale’s items (e.g., “Women often accuse their husbands of marital rape just to retaliate for a failed relationship”; “Women like to play coy. This does not mean that they do not want sex”) were designed to measure contemporary myths regarding sexual violence. Item selection was based on the content categories as well as the item-total-correlations provided in the original 30-item scale.

The RMA measure was followed by two items assessing gender identification (“Being a *man/woman* is not important for me”, “Being a *man/woman* is important for my self-image”), a potential moderator of gender-related effects on other variables in this survey.

Demographics. At the end of the interview participants were asked about their age, the monthly income of their household, their level of education and occupational status. Sex of

respondent was marked by the interviewer at the beginning of the interview; only in cases of uncertainty, sex of respondent was explicitly asked for.

Results

Rape Myth Acceptance

The 9-item AMMSA scale showed satisfactory internal consistency ($\alpha = .79$) and good item-to-total correlations for all items. Considerable variation was found for the acceptance of single myths, with acceptance (i.e. agreeing fully or somewhat) ranging between 19 and 57 %; see Table 1 for details. All items in the survey were recoded, so that they ranged from 1 = fully disagree to 4 = fully agree, with higher means indicating greater agreement with the specified construct. Item difficulty in the present study was highly correlated with the reported item difficulty in the validation study of the AMMSA (Gerger et al., 2007), $r(7) = .77, p < .05$, suggesting stability of item difficulty across samples.

Insert Table 1 about here

Influence of Demographic Factors

Men and women did not differ in their acceptance of rape myths. No gender differences were found for the total RMA score ($M_{Men} = 2.25$ vs. $M_{Women} = 2.26$) or for any single item, all $ps > .25$. Table 2 displays the zero-order correlations of the demographic variables with RMA.

Insert Table 2 about here

Being older, living in East Germany, having a lower level of education, as well as having a lower income were associated with higher acceptance of rape myths. Regression

analyses were conducted with RMA as the dependent variable and demographic variables as independent variables. Age, $\beta = .16$, $t(292) = 2.74$, $p < .01$, level of education, $\beta = -.18$, $t(292) = -2.97$, $p < .01$, and income, $\beta = -.18$, $t(292) = -2.91$, $p < .01$, predicted RMA, jointly accounting for 14.6 % of its variance². Whether respondents lived in Eastern or Western Germany, $\beta = .08$, $t(292) = 1.47$, or were male or female, $\beta = -.04$, $t(292) = -0.63$, did not show a significant relationship with RMA in the regression analysis. Subsequent hierarchical regression analyses revealed that the East-West difference in RMA that had been apparent in the bivariate correlation analysis can be explained mainly by differences in income between Eastern and Western respondents, $r(305) = -.25$, $p < .001$ for the correlation between income and living in Eastern vs. Western Germany.

Although age showed an overall positive correlation with RMA, $r(389) = .20$, $p < .001$, the opposite effect was found for younger participants (≤ 30 years), $r(30) = -.47$, $p < .01$, indicating an overall U-shaped relationship³. Demographic variables were related to RMA as predicted, thus supporting Hypothesis 1.

Relation to Intolerant Beliefs and Ideological Attitudes

Scores for each scale were obtained by averaging over the corresponding items. Internal consistencies of most of the scales were acceptable. Reliabilities of the two-item scales for devaluation of newcomers as well as blatant and subtle prejudice were not satisfactory. Results involving these variables should thus be regarded with caution. In any case, a lack of reliability should not lead to a systematic overestimation of effects. Substantive correlations between RMA and all intolerant belief systems measured were found, with correlation sizes ranging between $r = .18$ for the devaluation of disabled persons to $r = .54$ for xenophobia (see Table 3 for zero-order correlations). A regression analysis with RMA as the dependent variable and the 11 intolerant belief systems as independent variables explained

44.6 % of variance in rape myth acceptance in the present sample. Sexism, homophobia, islamophobia, xenophobia, devaluation of homeless, and devaluation of newcomers were significant predictors of RMA, all $ps < .05$, with homophobia, $\beta = .16$, $t(385) = 3.45$, $p < .001$, and sexism being the strongest predictors, $\beta = .17$, $t(385) = 3.40$, $p < .001$. No other indicator significantly predicted RMA, all $ps > .25$. Using the benevolent and hostile subscale instead of the overall sexism measure revealed that especially benevolent sexism ($\alpha = .87$) strongly predicted RMA, $\beta = .19$, $t(384) = 4.25$, $p < .001$, whereas the hostile sexism measure ($\alpha = .87$) was not a significant predictor of RMA, $\beta = .00$, $t(384) = -0.00$, $p = .99$, probably due to its overlap with other intolerant belief systems in the regression (zero-order correlation between RMA and hostile sexism was $r(395) = .34$). Multicollinearity played no role, all tolerance values were above .35. These findings are in accordance with Hypothesis 2.

A further regression analysis, now with the ideological attitudes RWA and SDO as concurrent predictors, accounted for 30.8 % of RMA's variance, with RWA, $\beta = .44$, $t(394) = 9.68$, $p < .001$, having a stronger impact on RMA than SDO, $\beta = .22$, $t(394) = 4.77$, $p < .001$. A hierarchical regression analysis with intolerant belief systems entered blockwise in Step 1 and ideological attitudes entered blockwise in Step 2 revealed that only RWA explained additional variance in Step 2, $\beta = .17$, $t(383) = 3.48$, $p < .001$, whereas SDO did not, $\beta = .04$, $t(383) = 0.85$, $p > .30$.

Insert Table 3 about here

RMA and Gender Identification

RMA and gender identity did not correlate, $r(388) = .03$, ns. However, when identification with gender was analyzed separately for men and women, significant correlations emerged. Table 4 displays the correlations of gender identity of men and women

with the study variables. Whereas for men stronger identification with their own gender category was associated with increased rape myth acceptance, RWA, homophobia, and more devaluation of unemployed persons and newcomers, women showed an opposite pattern, with stronger gender identification being associated with less rape myth acceptance, islamophobia, xenophobia, and less devaluation of homeless people and newcomers. A hierarchical regression analysis on RMA with all intolerant belief systems plus gender identification and sex of respondent in Step 1 and the interaction term of Gender identification x Sex of respondent in Step 2 yielded a significant result in Step 2, $\beta = .39$, $t(375) = 2.76$, $p < .01$, accounting for an additional 1.3% of variance. This lends support to the hypothesis that gender identification moderates effects of gender on RMA.

Insert Table 4 about here

Discussion

This study aimed at assessing rape myth acceptance among the general population. Although there was considerable variation in agreement to individual items, noticeable levels of agreement with all items was found. However, means of all but two items were more in the disagreement region of the scale. Respondents especially endorsed beliefs in the biological necessity for men to have sex and in women's token resistance. The good item-to total correlations together with the scale's high internal consistency show that the 9-item short version of the AMMSA used here is a reliable measure of modern myths about sexual aggression and may be applied in telephone surveys. We therefore encourage researchers studying attitudes in general populations via interview to use this version of the AMMSA scale.

Our results on the influence of demographic variables are consistent with prior research showing that higher income and higher levels of education are associated with reduced levels of RMA (Amnesty, 2005; Klein et al., 2009). It remains open whether these relations reflect a genuine positive effect of education attainment on RMA or are caused by respondents with high levels of education purporting to hold more socially desirable attitudes. However, an experimental survey study conducted by Heerwig and McCabe (2009) suggests that the effect of social desirability bias on the relationship between education and socially more tolerant attitudes might be small in magnitude. In the present study we found no relation between gender and RMA. Although the majority of studies reports gender effects (e.g., Aosved & Long, 2006; McMahon, 2010), this result is not unprecedented (Amnesty, 2005). In fact, this is the second representative study finding no effect, whereas no representative study found an effect of gender so far.

Although gender had no main effect, gender did interact with gender identification to influence RMA. Whereas for males higher gender identification was associated with higher rape myth acceptance as well as stronger endorsement of some other intolerant beliefs, the opposite pattern was obtained for females. Strong identification with being a woman was associated with a rejection of rape myths as well as other intolerant belief systems. This pattern suggests different meanings of high gender identification for men and women. For men, it may reflect adherence to a traditional masculine role, whereas for women, it may reflect more feminist attitudes. A similar divergence in correlation patterns was reported by Bohner (1998, pp. 181-182) for correlations of a German RMA scale based on Costin (1985) and "membership esteem" in relation to one's gender group (Bohner & Sturm, 1997). Finally, this correlational pattern is also in line with experimental findings showing that low-RMA women interpret sexual violence as a threat to all women, including themselves, whereas

high-RMA women maintain an illusion of invulnerability to this threat (Bohner & Lampridis, 2004; Bohner et al., 1993, 1999).

Furthermore, our results reconcile seemingly contradictorily findings on the relation between age and RMA (e.g., Boakye, 2009; Ferro et al., 2008). In the current study an overall positive correlation between age and RMA as well as a negative correlation among younger participants was obtained. RMA was the only intolerant belief system to show such an overall U-shaped relationship with age. We believe that the negative correlation between age and RMA in the younger subsample may be explained through socialization processes. As reported by Hollander (2001), young women are perceived to be at the highest risk of sexual victimization. Consequently, young people, especially girls, are taught that being alone outside at night is dangerous. In fact, there are many examples of safety measures supposedly enforcing the validity of the stranger rape script in Germany at present. A look at the authors' university may illustrate the point: Measures ranging from well-lit parking lots that are reserved for women to a campus service offering to escort women through deserted university hallways late at night seem to suggest that rape by a stranger is lurking behind every corner. Therefore, we assume that young people partly endorse rape myths because they are seemingly validated by their social environment. Only with time, repeated exposure to what was originally thought to be dangerous situations, as well as learning about rape including the reality and prevalence of intimate partner violence, are rape myths discovered to be what they are, myths. However, this age-related effect might equally well be due to intimate relationship experiences that relate to other rape myths. From realizing the unlikelihood of false complaints to recognizing that male sexuality is not uncontrollable, intimate partnerships offer a lot of potential to debunk rape myths. To reconcile these explanatory attempts with the finding that especially elderly people endorse rape myths, we can only refer to generational

effects. In this light greater acceptance of intolerant belief systems is not uncommon among elderly people and in the present dataset especially pronounced for homophobia.

In line with Aosved and Long (2006), we found strong correlations of RMA with a variety of intolerant belief systems, supporting the notion of a schema of intolerance (Aosved et al., 2009) or a syndrome of inequality beliefs (Zick et al., 2008). As predicted, sexism in the form of adherence to traditional gender roles, together with homophobia, was most closely connected to RMA. With respect to the sexism scale employed, our results suggest that RMA is more closely connected to benevolent attitudes toward women who adhere to traditional gender roles than to hostile attitudes toward women who do not (cf. Abrams, Viki, Masser, & Bohner, 2003). The present study contributes to the notion of an intolerance schema by showing relations of RMA to anti-Semitism, Islamophobia, xenophobia, as well as the devaluation of other stigmatized groups such as homeless, disabled, and unemployed persons for the first time. This finding supports the notion that RMA is part of a generalized hostility (i.e., an intolerance schema) directed at others rather than an isolated attitudinal mind set targeting rape victims.

With regard to ideological attitudes as predictors of RMA, we found substantial positive correlations of RMA with both RWA and SDO, as found in prior studies (e.g., Gerger et al, 2007; Hockett et al., 2009). However, only RWA explained unique variance above intolerant beliefs. This finding stands in contrast to a study by Hockett and colleagues (2009) who found that SDO but not RWA explained additional variance in a hierarchical regression analysis. However, as they entered a measure of conservatism that was highly correlated with RWA earlier into the analysis, it could be argued that RWA was not given a “fair chance” to explain unique variance of rape myth acceptance. Our results suggest that the acceptance of rape myths is more strongly connected to authoritarian ideology than to social

dominance motives, which could point to the conclusion that rape myths and victim blaming are targeting a particular subset of (non-traditional) women instead of women in general – as a social dominance perspective might suggest. Future research could benefit from taking an experimental approach to this question by relating participants' levels of RWA and SDO to judgments in a mock-jury study with varying characteristics of a rape victim (e.g., comparing women who are successful in a traditional job vs. non-traditional job).

Potential limitations of the present study should not go unmentioned. As is often the case in telephone interviews, sample representativeness was not perfect (e.g., Ellis & Krosnick, 1999; Krosnick, 1999). Men were somewhat underrepresented. Respondents' age and level of education were a little higher than those of the population. The relatively small number of respondents reached via cell phones may explain why younger people who often exclusively use cell phones that are not routinely indexed may be underrepresented. Telephone surveys tend to reach people with a landline telephone who are older on average than the population in general, and typically exclude certain subpopulations such as incarcerated and homeless people. Nevertheless, this study represents an important step toward examining rape myth acceptance and its demographic and attitudinal relations in the general population.

References

- Abrams, D., Viki, G. T. N., Masser, B., & Bohner, G. (2003). Perceptions of stranger and acquaintance rape: The role of benevolent and hostile sexism in victim blame and rape proclivity. *Journal of Personality and Social Psychology, 84*, 111-125.
- Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. (1950). *The authoritarian personality*. New York: Harper and Row.
- Altemeyer, R. (1981). *Right-wing authoritarianism*. Winnipeg: University of Manitoba Press.
- Altemeyer, B. (1998). The other “authoritarian personality”. *Advances in Experimental Social Psychology, 30*, 47-91.
- Allport, G. W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley
- Amnesty – Amnesty International UK (2005). Sexual assault research. Summary report. Retrieved October 8, 2010, from http://www.amnesty.org.uk/news_details.asp?NewsID=16618
- Aosved, A. C., & Long, P. J. (2006). Co-occurrence of rape myth acceptance, sexism, racism, homophobia, ageism, classism, and religious intolerance. *Sex Roles, 55*, 481-492.
- Aosved, A. C., Long, P. J., & Voller, E. K. (2009). Measuring sexism, racism, sexual prejudice, ageism, classism, and religious intolerance: The intolerant schema measure. *Journal of Applied Social Psychology, 39*, 2321-2354.
- Beneke, T. (1982). *Men on rape*. New York: St. Martin’s Press.

Boakye, K. E. (2009). Attitudes toward rape and victims of rape: A test of the feminist theory in Ghana. *Journal of Interpersonal Violence, 24*, 1633-1651.

Bohner, G. (1998). *Vergewaltigungsmythen* [Rape myths]. Landau, Germany: Verlag Empirische Pädagogik.

Bohner, G., Eyssel, F., Pina, A., Siebler, F., & Viki, G. T. (2009). Rape myth acceptance: Cognitive, affective, and behavioural effects of beliefs that blame the victim and exonerate the perpetrator. In M. A. H. Horvath & J. M. Brown (Eds.), *Rape: Challenging contemporary thinking* (pp. 17-45). Cullompton, UK: Willan.

Bohner, G., & Lampridis, E. (2004). Expecting to meet a rape victim affects women's self-esteem: The moderating role of rape myth acceptance. *Group Processes and Intergroup Relations, 7*, 77-87.

Bohner, G., Pina, A., Viki, G. T., & Siebler, F. (2010). Using social norms to reduce men's rape proclivity: Perceived rape myth acceptance of out-groups may be more influential than that of in-groups. *Psychology, Crime and Law, 16*, 671-693.

Bohner, G., Reinhard, M.-A., Ruth, S., Sturm, S., Kerschbaum, B., & Effler, D. (1998). Rape myths as neutralizing cognitions: Evidence for a causal impact of anti-victim attitudes on men's self-reported likelihood of raping. *European Journal of Social Psychology, 28*, 257-268.

Bohner, G., Siebler, F., & Raaijmakers, Y. (1999). Salience of rape affects self-esteem: Individual versus collective self-aspects. *Group Processes and Intergroup Relations, 2*, 191-199.

- Bohner, G., Siebler, F., & Schmelcher, J. (2006). Social norms and the likelihood of raping: Perceived rape myth acceptance of others affects men's rape proclivity. *Personality and Social Psychology Bulletin, 32*, 286-297.
- Bohner, G., & Sturm, S. (1997). Evaluative Aspekte sozialer Identität bei Frauen und Männern: Eine Skala des Kollektiven Selbstwerts in bezug auf das Geschlecht (KSWG) [Evaluative aspects of social identity in women and men: A German scale of collective self-esteem in relation to gender]. *Psychologische Beiträge, 39*, 322-335.
- Bohner, G., Weisbrod, C., Raymond, P., Barzvi, A., & Schwarz, N. (1993). Salience of rape affects self-esteem: The moderating role of gender and rape myth acceptance. *European Journal of Social Psychology, 23*, 561-579.
- Bunting, A. B., & Reeves, J. B. (1983). Perceived male sex orientation and beliefs about rape. *Deviant Behavior, 4*, 281-295.
- Bum, S. M., Aboud, R., & Moyles, C. (2000). The relationship between gender social identity and support for feminism. *Sex Roles, 42*, 1081-1089.
- Burt, M. R. (1980). Cultural myths and supports of rape. *Journal of Personality and Social Psychology, 38*, 217-230.
- Carmody, D. C., & Washington, L. M. (2001). Rape myth acceptance among college women: The impact of race and prior victimization. *Journal of Interpersonal Violence, 16*, 424-436.
- Costin, F. (1985). Beliefs about rape and women's social roles. *Archives of Sexual Behavior, 14*, 319-325.

- Cowan, G., & Quinton, W. (1997). Cognitive style and attitudinal correlates of the perceived causes of rape scale. *Psychology of Women Quarterly, 21*, 227-245.
- Devdas, N. R., & Rubin, L. J. (2007). Rape myth acceptance among first- and second-generation South Asian American women. *Sex Roles, 56*, 701-705.
- Duckitt, J., Wagner, C., de Plessis, I., & Birum, I. (2002). The psychological bases of ideology and prejudice: Testing a dual-process model. *Journal of Personality and Social Psychology, 83*, 75-93.
- Dutton, M. A., Green, B. L., Kaltman, S. I., Roesch, D. M., Zeffiro, T. A., & Krause, E. D. (2006). Intimate partner violence, PTSD, and adverse health outcomes. *Journal of Interpersonal Violence, 21*, 955-968.
- Edmonds, E. M., Cahoon, D. D., & Shipman, M. (1991). Predictions of opposite-sex attitudes concerning gender-related social issues. *Bulletin of the Psychonomic Society, 29*, 295-296.
- Ellis, C. A. & Krosnick, J. A. (1999). Comparing telephone and face-to-face surveys in terms of sample representativeness: A meta-analysis of demographic characteristics. *NES Technical Reports Series*. No. nes010871
- Eyssel, F. & Bohner, G. (2008). Modern rape myths: The Acceptance of Modern Myths about Sexual Aggression (AMMSA) Scale. In M. A. Morrison & T. G. Morrison (Eds.), *The psychology of modern prejudice*. Hauppauge, NY: Nova Science Publisher.
- Eyssel, F., & Bohner, G. (2010). Schema effects of rape myth acceptance on judgments of guilt and blame in rape cases: The role of perceived entitlement to judge. *Journal of Interpersonal Violence*. doi: 10.1177/0886260510370593 (published online 25 May 2010).

- Feild, H. S. (1978). Attitudes toward rape: A comparative analysis of police, rapists, crisis counselors, and citizens. *Journal of Personality and Social Psychology, 36*, 166-179.
- Ferro, C., Cermele, J., & Saltzman, A. (2008). Current perceptions of marital rape: Some good and not-so-good news. *Journal of Interpersonal Violence, 23*, 764-779.
- Gabler, S., & Häder, S. (2002). Idiosyncrasies in telephone sampling – The case of Germany. *International Journal of Public Opinion Research, 14*, 339-345.
- Gerger, H., Kley, H., Bohner, G., & Siebler, F. (2007). The acceptance of modern myths about sexual aggression scale: Development and validation in German and English. *Aggressive Behavior, 33*, 422-440.
- Giacopassi, D. J., & Dull, R. T. (1986). Gender and racial differences in the acceptance of rape myths within a college population. *Sex Roles, 15*, 63-75.
- Goodman, L. A., Koss, M. P., & Russo, N. F. (1993). Violence against women: Physical and mental health effects: II. Research findings. *Applied and Preventive Psychology, 2*, 79-89.
- Heerwig, J. A., & McCabe, B. J. (2009). Education and social desirability bias: The case of a black presidential candidate. *Social Science Quarterly, 90*, 674-686.
- Hill, M. S., & Fischer, A. R. (2001). Does entitlement mediate the link between masculinity and rape-related variables. *Journal of Counseling Psychology, 48*, 39-50.
- Hockett, J. M., Saucier, D. A., Hoffman, B. H., Smith, S. J., & Craig, A. W. (2009). Oppression through acceptance? Predicting rape myth acceptance and attitudes toward victims. *Violence Against Women, 8*, 877-897.

- Hollander, J. A. (2001). Vulnerability and dangerousness. The construction of gender through conversation about violence. *Gender & Society, 15*, 83-109.
- Jiminez, J. A., & Abreu, J. M. (2003). Race and sex effects on attitudinal perceptions of acquaintance rape. *Journal of Counseling Psychology, 50*, 252-256.
- Johnson, B. E., Kuck, D. L., & Schander, P. R. (1997). Rape myth acceptance and sociodemographic characteristics: A multidimensional analysis. *Sex Roles, 36*, 693-707
- Kalra, M., Wood, E., Desmarais, S., Verberg, N., & Senn, C. Y. (1998). Exploring negative dating experiences and beliefs about rape among younger and older women. *Archives of Sexual Behavior, 27*, 145-153.
- Klein, C. Kennedy, M. A., & Gorzalka, B. B. (2009). Rape myth acceptance in men who completed the prostitution offender program of British Columbia. *International Journal of Offender Therapy and Comparative Criminology, 53*, 305-315.
- Krahé, B. (1988). Victim and observer characteristics as determinants of responsibility attributions to victims of rape. *Journal of Applied Social Psychology, 18*, 50-58.
- Krosnick, J. A. (1999). Survey research. *Annual Review of Psychology, 50*, 537-567.
- Lee, H. B., & Cheung, F. M. (1991). The attitudes toward rape victims scale: Reliability and validity in a Chinese context. *Sex Roles, 24*, 599-603.
- Lee, J., Kim, J., & Lim, H. (2010). Rape myth acceptance among Korean college students: The roles of gender, attitudes toward women, and sexual double standard. *Journal of Interpersonal Violence, 25*, 1200-1223.

- Lee, J., Pomeroy, E. C., Yoo, S.-K., & Rheinboldt, K. T. (2005). Attitudes toward rape: A comparison between Asian and Caucasian college students. *Violence Against Women, 11*, 177-196.
- Lefley, H. P., Scott, C. S., Llabre, M., & Hicks, D. (1993). Cultural beliefs about rape and victims' responses in three ethnic groups. *American Journal of Orthopsychiatry, 63*, 623-632.
- Lonsway, K. A., Cortina, L. M., & Magley, V. J. (2008). Sexual harassment mythology: Definition, conceptualization, and measurement. *Sex Roles, 58*, 599-615.
- Lonsway, K. A., & Fitzgerald, L. F. (1994). Rape myths: In review. *Psychology of Women Quarterly, 18*, 133-164.
- Malamuth, N. M. (1986). Predictors of naturalistic sexual aggression. *Journal of Personality and Social Psychology, 50*, 953-962.
- Marshall, W. L., & Hambley, L. S. (1996). Intimacy and loneliness, and their relationship to rape myth acceptance and hostility toward women among rapists. *Journal of Interpersonal Violence, 11*, 586-592.
- McMahon, S. (2010). Rape myth beliefs and bystander attitudes among incoming college students. *Journal of American College Health, 59*, 3-11.
- Megías, J. L., Romero-Sánchez, M., Durán, M., Moya, M., & Bohner, G. (in press). Acceptance of modern myths about sexual aggression: Presentation and validation of a Spanish adaptation of the AMMSA scale. *Spanish Journal of Psychology, 14*.

- Nagel, B., Matsuo, H., McIntyre, K. P., & Morrison, N. (2005). Attitudes toward victims of rape: Effects of gender, race, religion, and social class. *Journal of Interpersonal Violence, 20*, 725-737.
- Page, A. D. (2008). Judging women and defining crime: Police officers' attitudes toward women and rape. *Sociological Spectrum 28*, 389-411.
- Parrot, D. J., & Zeichner, A. (2003). Effects of trait anger and negative attitudes toward women on physical assault in dating relationships. *Journal of Family Violence, 18*, 301-307.
- Payne, D. L., Lonsway, K. A., & Fitzgerald, L. F. (1999). Rape myth acceptance: Exploration of its structure and its measurement using the Illinois Rape Myth Acceptance Scale. *Journal of Research in Personality, 33*, 27-68.
- Peterson, Z. D., & Muehlenhard, C. L. (2004). Was it rape? The function of women's rape myth acceptance and definitions of sex in labeling their own experiences. *Sex Roles, 51*, 129-144.
- Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology, 67*, 741-763.
- Pratto, F., Stallworth, L. M., & Sidanius, J. (1997). The gender gap: Differences in political attitudes and social dominance orientation. *British Journal of Social Psychology, 36*, 49-68.

- Quackenbush, R. L. (1989). A comparison of androgynous, masculine sex-typed, and undifferentiated males on dimensions of attitudes toward rape. *Journal of Research in Personality, 23*, 318-342.
- Riger, S., & Gordon, M. T. (1981). The fear of rape: A study in social control. *Journal of Social Issues, 37*(4), 71-89.
- Sanday, P. R. (1981). The socio-cultural context of rape: A cross-cultural study. *Journal of Social Issues, 37*(4), 5-27.
- Schuller, R. A., & Wall, A.-M. (1998). The effects of defendant and complainant intoxication on mock juror's judgments of sexual assault. *Psychology of Women Quarterly, 22*, 555-573.
- Schüßler, A. (2011). *Ambivalent-sexistische Einstellungen gegenüber Müttern: Entwicklung und Validierung einer Skala mit Hilfe kognitiver Interviews* [Ambivalent-sexist attitudes toward mothers: Development and validation of a scale using cognitive interviews]. Manuscript in preparation, University of Gießen, Germany.
- Shechory, M., & Idisis, Y. (2006). Rape myths and social distance toward sex offenders and victims among therapists and students. *Sex Roles, 54*, 651-658.
- Sheldon, J. P., & Parent, S. L. (2002). Clergy's attitudes and attributions of blame toward female rape victims. *Violence Against Women, 8*, 233-256.
- Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. New York: Cambridge University Press.

- Sidanius, J., Pratto, F., Van Laar, C., & Levin, S. (2004). A comprehensive analysis of group-based oppression: Social dominance theory, its agenda and method. *Political Psychology, 25*, 845-880.
- Sierra, J.C., Santos-Iglesias, P., Gutiérrez-Quintanilla, R., Bermúdez, M.P., & Buela-Casal, G. (2010). Factors associated with rape-supportive attitudes: sociodemographic variables, aggressive personality, and sexist attitudes. *The Spanish Journal of Psychology, 13*, 201-208.
- Süssenbach, P., Bohner, G., & Eyssel, F. (2011). *Studying schematic effects of rape myth acceptance on visual information processing: An eye-tracking experiment*. Manuscript under review.
- Szymanski, L. A., Devlin, A. S., Chrisler, J. C., & Vyse, S. A. (1993). Gender role and attitudes toward rape in male and female college students. *Sex Roles, 29*, 37-57.
- Temkin, J., & Krahé, B. (2008). *Sexual assault and the justice gap: A question of attitude*. Oxford: Hart Publishing.
- Varelas, N., & Foley, L. A. (1998). Blacks' and Whites' perceptions of interracial and intraracial date rape. *Journal of Social Psychology, 138*, 392-400.
- Walker, W. D., Rowe, R. C., & Quinsey, V. L. (1993). Authoritarianism and sexual aggression. *Journal of Personality and Social Psychology, 65*, 1036-1045.
- Ward, C. A. (1995). *Attitudes towards rape: Feminist and social psychological perspectives*. London: Sage.
- Ward, T., Polaschek, D. L. L., & Beech, A. R. (2005). *Theories of sexual offending*. Chichester, UK: Wiley.

WHO – World Health Organization (2005a). *Addressing violence against women and achieving the millennium development goals*. Geneva: World Health Organization.

WHO – World Health Organization (2005b). *Multi-country study on women's health and domestic violence against women: Summary report of initial results on prevalence, health outcomes and women's responses*. Geneva: World Health Organization.

Yost, M. R., & Zurbriggen, E. L. (2006). Gender differences in the enactment of sociosexuality: An examination of implicit social motives, sexual fantasies, coercive sexual attitudes, and aggressive sexual behavior. *Journal of Sex Research*, 43, 163-174.

Zick, A., Wolf, C., Küpper, B., Davidov, E., Schmidt, P., & Heitmeyer, W. (2008). The syndrome of group-focused enmity: The interrelation of prejudices tested with multiple cross-sectional and panel data. *Journal of Social Issues*, 64, 363-383.

Appendix

Intolerant Belief Systems and Ideological Attitudes: Item Wordings, Means, and Standard Deviations

	<i>M</i>	<i>SD</i>
Homophobia:		
It is disgusting when homosexuals kiss in public.	1.88	1.07
Marriages between two women or between two men should be permitted. (R)	3.24	1.06
Homosexuality is immoral.	1.52	0.87
Blatant ethnic prejudice:		
German re-settlers should be better off than foreigners because they are of German origin.	1.63	0.88
It is right that Whites are leading in the world.	1.45	0.83
Subtle ethnic prejudice:		
How often have you felt sympathy for the foreigners living here? (R)	2.74	0.81
How often have you felt admiration for the foreigners living here? (R)	2.12	0.93
(very often, fairly often, not too often, never)		
Xenophobia:		
There are too many foreigners living in Germany.	2.46	1.12
If jobs get scarce, the foreigners living in Germany should be sent (back) home.	1.77	0.99
anti-Semitism:		
As a result of their behavior, Jewish people are not entirely without blame for being persecuted.	1.50	0.88
Jewish people have too much influence in Germany.	1.75	0.97
Islamophobia:		
With so many Muslims in Germany, one feels increasingly like a stranger in one's own country.	1.96	1.07
Immigration to Germany should be forbidden for Muslims.	1.70	0.96
Devaluation of disabled people:		
Too much is done for disabled persons in Germany.	1.38	0.63
Disabled persons demand too much.	1.47	0.73
Disabled persons receive too many amenities.	1.35	0.63
Devaluation of homeless people:		

Begging homeless should be chased away from the pedestrian zone.	1.98	1.02
The homeless in the towns are unpleasant.	2.36	1.05
Most homeless are unwilling to work.	1.93	0.88
Devaluation of unemployed people:		
Most permanently unemployed persons are not really interested in finding a job.	2.32	1.01
I consider it outrageous when permanently unemployed persons live a comfortable life at the expense of society.	2.87	1.12
Devaluation of newcomers:		
Those who are new somewhere should be content with less.	2.87	1.03
Those who have always been living here should have more rights than those who came later.	2.03	1.10
Social Dominance Orientation		
The groups at the bottom of society should stay at the bottom.	1.33	0.69
Some groups in the population are worth less than others.	1.42	0.81
Some groups in the population are more useful than others.	1.85	1.02
Right-Wing Authoritarianism		
Crime should be punished more harshly.	3.08	0.99
We should be grateful for leaders who can tell us exactly what we should do.	2.07	0.98
Obedience and respect for authority are among the most important characteristics a person can have.	2.61	1.02
To maintain law and order stronger action should be taken against outsiders and troublemakers.	2.84	1.08

Note. R = item that has to be recoded. Higher means indicate greater agreement to the item (from 1 = fully disagree to 4 = fully agree).

Footnotes

¹ Alternatively, the attitudinal belief systems mentioned here can be referred to as prejudices, oppressive belief systems, or hostile intergroup belief systems. In our view, the use of any of these terms is justified. By calling them "intolerant belief systems", we emphasize the role of intolerance toward the targets of these belief systems.

² Variables were entered blockwise in all regression analyses presented.

³ Whereas homophobia ($r(389) = .31$), sexism ($r(389) = .16$), anti-Semitism ($r(389) = .15$), racism ($r(389) = .15$) and devaluation of newcomers ($r(389) = .13$) also showed overall positive correlations with age, all $ps < .01$, among younger participants no other intolerant belief system demonstrated the opposite effect, all $ps > .30$.

Table 1. Descriptive statistics for single myths about sexual aggression.

Items of the AMMSA scale	fully disagree	disagree somewhat	agree somewhat	fully agree	don't know	Mean	Item-total-correlations
Many women tend to misinterpret a well-meant gesture as a "sexual assault (27) ^a	92 (23.2) ^b	196 (49.4)	55 (13.9)	27 (6.8)	27 (6.8)	2.05 (0.81) ^c	.44
It is a biological necessity for men to release sexual pressure from time to time (6)	43 (10.8)	97 (24.4)	128 (32.2)	97 (24.4)	32 (8.1)	2.75 (0.95)	.41
A lot of women strongly complain about sexual infringements for no real reason, just to appear emancipated (3)	100 (25.2)	157 (39.5)	66 (16.6)	35 (8.8)	39 (9.8)	2.10 (0.90)	.50
Any woman who is careless enough to walk through "dark alleys" at night is partly to be blamed if she is raped (11)	194 (48.9)	78 (19.6)	68 (17.1)	51 (12.8)	6 (1.5)	1.94 (1.09)	.46
When a woman starts a relationship with a man, she must be aware that the man will assert his right to have sex (12)	155 (39.0)	90 (22.7)	81 (20.4)	55 (13.9)	16 (4.0)	2.08 (1.08)	.50
Women often accuse their husbands of marital rape just to retaliate for a failed relationship (22)	99 (24.9)	167 (42.1)	49 (12.3)	29 (7.3)	53 (13.4)	2.03 (0.85)	.57
Interpreting harmless gestures as "sexual harassment" is a popular weapon in the battle of the sexes (5)	79 (19.9)	151 (38.0)	88 (22.2)	44 (11.1)	35 (8.8)	2.25 (0.91)	.53
If a woman invites a man to her home for a cup of coffee after a night out this means that she wants to have sex (9)	68 (17.1)	124 (31.2)	124 (31.2)	53 (13.4)	28 (7.1)	2.44 (0.93)	.42
Women like to play coy. This does not mean that they do not want sex (15)	60 (15.1)	80 (20.2)	135 (34.0)	83 (20.9)	39 (9.8)	2.66 (0.98)	.49

Note. ^aNumbers in parentheses refer to the item number in the original validation study of the AMMSA (Gerger et al., 2007)

^bNumbers in parentheses represent percentages.

^cStandard deviation in parentheses.

Table 2. Zero-order correlations of RMA with demographic variables.

	RMA
Gender ^a	.01
Age	.20**
Location ^b	.16**
Education	-.27**
Income	-.31**

^amale = 0, female = 1.

^bWestern Germany = 0, Eastern Germany = 1.

** $p < .01$, two-tailed.

Table 3. Zero-order intercorrelations of study variables.

		RMA	SDO	RWA	SEXM	HOM	BLA	SUB	XEN	ASEM	ISLA	DIS	DHP	DUP	NEW
Ideological Attitudes															
	SDO	.38**	.61 [†]												
	RWA	.52**	.37**	.74											
Intolerant Beliefs															
Sexism	(SEXM)	.48**	.33**	.49**	.88										
Homophobia	(HOM)	.46**	.41**	.38**	.46**	.83									
Blatant prejudice	(BLA)	.39**	.45**	.40**	.45**	.32**	.54								
Subtle Prejudice	(SUB)	.23**	.22**	.28**	.18**	.18**	.18**	.57							
Xenophobia	(XEN)	.54**	.41**	.54**	.47**	.42**	.50**	.37**	.69						
anti-Semitism	(ASEM)	.34**	.21**	.26**	.33**	.35**	.27**	.18**	.36**	.69					
Islamophobia	(ISLA)	.51**	.41**	.43**	.40**	.38**	.44**	.31**	.70**	.34**	.70				
Devaluation of disabled people	(DIS)	.18**	.24**	.13**	.24**	.28**	.19**	.14**	.17**	.36**	.15**	.82			
D. of homeless people	(DHP)	.43**	.36**	.38**	.27**	.33**	.41**	.28**	.47**	.26**	.42**	.26**	.65		
D. of unemployed people	(DUP)	.40**	.30**	.50**	.37**	.27**	.37**	.26**	.51**	.30**	.37**	.15**	.43**	.69	
D. of newcomers	(NEW)	.46**	.34**	.45**	.47**	.34**	.49**	.21**	.48**	.29**	.47**	.09	.33**	.33**	.55

Note. [†]Italics in the diagonal represent Cronbachs' alphas. *N* = 397.

***p* < .01, two-tailed.

Table 4. Correlation of gender identification separated for gender with study variables.

	Gender Identification (men)	Gender Identification (women)
RMA	.28**	-.17*
SDO	.09	-.08
RWA	.25**	-.10
Sexism	.17*	.03
Homophobia	.21**	-.05
Blatant prejudice	.12	-.09
Subtle Prejudice	.00	-.07
Xenophobia	.14	-.14*
anti-Semitism	.02	-.05
Islamophobia	.07	-.16*
Devaluation of disabled people	.14	-.03
D. of homeless people	.16	-.18**
D. of unemployed people	.19*	-.03
D. of newcomers	.17*	-.16*

*p < .05, two-tailed. **p < .01, two-tailed.

Running Head: METACOGNITIVE ASPECTS OF RAPE MYTH ACCEPTANCE

Metacognitive Aspects of Rape Myths: Subjective Strength of Rape Myth Acceptance
Moderates Its Effects on Information Processing and Behavioral Intentions

Philipp Süssenbach, Friederike Eyssel, and Gerd Bohner

University of Bielefeld

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Philipp Süssenbach, Department of Psychology, University of Bielefeld; Friederike Eyssel, Cluster of Excellence in Cognitive Interaction Technology, University of Bielefeld; Gerd Bohner, Department of Psychology, University of Bielefeld.

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Correspondence concerning this article should be addressed to Philipp Süssenbach, Abteilung f. Psychologie, Postfach 100131, 33501 Bielefeld, Germany. E-mail: psuessenbach@uni-bielefeld.de

Abstract

The authors present a metacognitive approach to influences of rape myth acceptance (RMA) on the processing of rape-related information and rape proclivity. In Study 1, participants ($N = 264$) completed an RMA scale and subsequently reported the subjective strength (e.g., importance, certainty) of their RMA. Then they read about a rape case, viewed a photograph of the alleged crime scene, and rated the defendant's guilt on several items. Depending on condition, the photograph contained either RMA-applicable stimuli (e.g., alcoholic beverages) or neutral stimuli. Higher RMA predicted lower ratings of defendant guilt especially when applicable stimuli were present and RMA was strong. Study 2 ($N = 85$) showed that RMA-related attitude strength also moderated the effect of RMA to self-reported rape proclivity. Results of both studies indicate that the subjective strength of rape-related beliefs may be reliably assessed and serves as an important moderator of effects of RMA.

Key Words:

attitude strength, metacognition, rape myths, rape proclivity, schematic processing,

Metacognitive Aspects of Rape Myths: Subjective Strength of Rape Myth Acceptance Moderates Its Effects on Information Processing and Behavioral Intentions

In studies on sexual violence we have often experienced that participants' reactions vary with regard to the interest they show toward the research they just took part in (e.g., a questionnaire on intimate partner violence). Whereas some participants are highly interested in the topic addressed, tell you about their personal experiences and want to be informed about the study's results, others inquire why anyone would bother to investigate such a peripheral issue. Although this discrepancy might be entirely unrelated to the way participants respond to the presented items (i.e., their total level of agreement or disagreement to the scale), it may be relevant in terms of the strength that participants' attitudes have to influence related thinking and behavior.

Krosnick and Petty (1995) define attitude strength as the degree to which attitudes are durable (i.e., temporarily stable) and impactful (i.e., consequential for thinking and behavior). Accordingly, stronger attitudes are more stable and have greater influence on thinking and behavior, thus leading to higher attitude-behavior links, than weaker attitudes (Fazio & Zanna, 1978; Prislin, 1996). Whereas various indicators can be used to assess attitude strength, little consensus has been reached regarding the dimensionality of these. At the extremes, some researchers view indices of attitude strength (e.g., stability, importance or accessibility) as representing independent constructs (Petty & Krosnick, 1995), whereas others argue that attitude strength is one-dimensional (Priester, Nayakankuppam, Fleming, & Godek, 2004; Verplanken, 1989). On the other hand, Bassili (1996) proposes a two-dimensional solution and distinguishes between 1) operative indices which are derived from the judgmental process that caused the attitude response, and 2), meta-attitudinal indices which are based on participants' impressions of their own attitudes. In the present research, we focus on meta-attitudinal indices of attitude strength such as subjective relevance, perceived accessibility, or

importance and investigate their role in effects of rape-related attitudes on information processing and behavior. Research in diverse areas, such as voting behavior or attitudes toward capital punishment, has shown that meta-attitudinal attitude strength represents a crucial moderator of biased processing effects (e.g., Pomerantz, Chaiken, & Tordesillas, 1995) as well as the attitude-behavior link (e.g., Farc & Sagarin, 2009). In the following, we briefly review past research on rape myth acceptance and outline how the consideration of attitude strength might add to it.

Rape myths are “beliefs about rape (i.e., about its causes, context, consequences, perpetrators, victims, and their interaction) that serve to deny, downplay or justify male sexual aggression against women” (Gerger, Kley, Bohner, & Siebler, 2007, p. 423). Previous research has documented that such stereotypical rape-related attitudes bias information processing both in the laboratory and in non-experimental settings. The endorsement of rape myths plays an important role in the attribution of responsibility and blame in mock-juries (Krahé, 1991; Pollard, 1992), in judging the relevance of rape-related information to oneself (e.g., Bohner & Lampridis, 2004; Bohner, Siebler, & Raaijmakers, 1999; Bohner, Weisbrod, Raymond, Barzvi, & Schwarz, 1993), and in research examining men's self-reported likelihood of raping (e.g., Bohner, Pina, Viki, & Siebler, 2010; Bohner et al., 1998; Bohner, Siebler, & Schmelcher, 2006). In fact, Ward, Polaschek, and Beech (2006) considered this belief system to be the most prominent, best researched, and theoretically most developed individual factor in the etiology of sexual offending. Since the introduction of rape myth acceptance (RMA) into the psychological literature by Burt (1980), research has focused on a variety of issues, including the investigation of correlational links to other constructs of interest (e.g., sexism, see Süßenbach & Bohner, 2011), the analysis of general as well as gender-specific functions of RMA (Bohner, Eyssel, Pina, Siebler, & Viki, 2009), the development of various RMA scales (Burt, 1980; Cowan & Quinton, 1997; Gerger et al.

2007; Payne, Lonsway, & Fitzgerald, 1999), and the development of intervention programs (e.g., Berkowitz, 2003; Foubert & Marriot, 1996). These efforts are warranted because RMA is indeed prevalent among the general public and likewise among relevant practitioners such as members of the police force, medical examiners and criminal justice professionals (Feild, 1978; Süssenbach & Bohner, 2011; Ward, 1995).

RMA as a Cognitive Schema. RMA has been conceptualized in terms of a cognitive schema that may guide and organize an individual's processing of information (Bohner, 1998; Bohner, Eyssel, Pina, Siebler, & Viki, 2009). In line with this reasoning, Eyssel and Bohner (2011) have shown that judgmental bias caused by schema-guided processing increased with the perceived amount of information that was available in a mock-jury task. Additional evidence for viewing RMA as a cognitive schema comes from a study by Krahé, Temkin, and Bieneck (2007). In a mock-jury paradigm, they investigated the effect of RMA and prior victim-perpetrator relationship (i.e., ex-partners, acquaintances, or strangers) on judgments of guilt and blame. Krahé and colleagues report that both RMA and type of prior relationship (which is legally irrelevant in Germany) affected the verdicts of law students. Moreover, participants high in RMA were more sensitive to information regarding the prior victim-perpetrator relationship, and consequently blamed the victim more, the more intimate the relationship between plaintiff and perpetrator had been prior to the alleged assault.

Typically, research on RMA using mock-jury paradigms relies on presenting case-related information in a text format to systematically vary aspects of the case at hand. That is, participants are commonly presented with short vignettes. However, as we have argued elsewhere (see Süssenbach, Bohner, & Eyssel, 2011), the vignette method has important limitations. For one, vignettes are usually rather short, thereby diminishing ecological validity. Due to their brevity, the focal pieces of information cannot but draw the attention of the readers and are subsequently integrated in participants' decision-making. In fact, any

information given in a short vignette might be interpreted as relevant for the task at hand as a result of conversational norms (Grice, 1975). Furthermore, information contained in vignettes often shows direct overlap in content with rape myths: For example, correlations between level of RMA and judgments of blame attributed to an intoxicated rape victim come as no surprise, considering that many RMA measures (e.g., the Rape Myth Acceptance Scale, Burt, 1980; or the Perceived Causes of Rape Scale, Cowan & Quinton, 1997) include items that directly address victim intoxication.

The format in which information is provided has implications on the type of influence ascribed to a given belief system. As pointed out already by Bartlett (1995/1932), schemata should influence the allocation of attention and the search for information. Biased processing of well-structured and easily accessible information as documented in past studies on schematic influences is thus hardly suited to demonstrate the *active* role schemata supposedly play (this critique is, however, by no means restricted to research on RMA as a schema). In order to avoid the problems associated with the text vignette method, we propose to use different materials that are less well-structured but at the same time high in face validity to test the social-cognitive functions of RMA. Complex and realistic photographs (e.g., photographs of the crime scene) might be one way to provide participants with additional case-relevant information. In doing so, we are able to manipulate content features of the photographs. Furthermore, the presentation of visual stimuli can be less blatant than the vignette technique, thereby reducing the aforementioned shortcomings related to this method. In line with this reasoning, research comparing written versus video vignettes in a date rape scenario shows that that this variation in methodology does indeed have an impact (Sleed, Durrheim, Kriel, Solomon, & Baxter, 2002). Participants who read about a victim drinking alcohol blamed the victim more and were less likely to define the situation as rape compared to participants who watched a video depicting the same scenario.

Schematic Effects and Attitude Strength. Visual stimuli are less pre-structured than textual information and consequently require a more active search for information as well as more spontaneous inferences. Given the necessity for active search attached to a methodology involving visual stimuli, we consider it crucial to take the strength of a schema into account. Considering that some of the participants might think about the topics that are typically addressed in rape myth questionnaires regularly, whereas others might do so for the first time when answering the items, it seems plausible to assume that respondents greatly differ concerning the relevance they assign to the beliefs they have just expressed. Because in the latter case these attitudes may have been formed rather on the spot, such beliefs do not constitute a “structured unit of knowledge” (i.e., a cognitive schema; Smith & Queller, 2001, p. 114). Therefore, we assume that schematic processing of information should be less likely given low attitude strength.

To date, attitude strength has not been investigated in relation to RMA. Generally, we propose that schematic effects of RMA highly depend upon the strength of these beliefs. This should be especially noticeable under conditions that minimize demands for consistency or the application of conversational norms and at the same time maximize the effort required to draw inferences based on external information autonomously. We therefore devised a scale for measuring metacognitive aspects of RMA strength. This scale will be introduced in the first study, where we used a large Internet sample to validate the scale and gain first insights into the moderating effects of RMA strength on the effects of RMA on information processing and judgments related to a rape case. In a second study, we turn to the moderating role of attitude strength for the attitude-behavior link; that is including RMA strength as a potential moderator for the RMA-rape proclivity relationship.

Study 1

In this study we established the feasibility of assessing RMA strength (i.e., meta-cognitions about the accessibility, non-ambivalence, importance, etc. of one's RMA beliefs) via self-report items and investigate its relation to RMA as well as social desirability. Innovatively, we also explored the interplay of RMA level and RMA strength in predicting rape-case related information processing and judgments when use of the case-relevant material required autonomous inferential activity on the part of perceivers. Specifically, we used photographs of the professed crime scene and manipulated their content: The photograph included either myth-applicable cues (i.e., information that can be interpreted to confirm a rape myth) in the experimental condition or irrelevant placeholders in the control condition. In the photograph containing myth-applicable cues participants could see an alcoholic beverage. This manipulation was chosen because it directly addresses stereotypical rape scripts and rape-related schemata. It has been shown repeatedly that alcohol consumption of female plaintiffs is used to mitigate rape claims. Furthermore a poster was displayed in the living-room of the complainant (i.e., the professed crime scene) depicting a nude male torso. We assumed that participants with high RMA would make a dispositional inference about the complainant's character from this poster (e.g., high sexual interest) which corresponds to the content categories of rape myths "she asked for it/ she deserved it" proposed by Burt (1991). Based on theoretical considerations and the evidence reviewed above, the following hypotheses were examined:

(1) Different aspects of metacognitive RMA-strength can be integrated into a scale displaying satisfactory reliability and item-to-total correlations.

(2) The level of participants' RMA predicts their judgments of the rape case such that higher RMA goes along with more lenient verdicts, greater victim blaming, and less perpetrator blaming.

(3) The strength of participants' RMA moderates the effects of RMA level on case-related judgments (Hypothesis 2) such that these effects are larger for higher RMA strength, especially when myth-applicable cues are present.

Hypothesis 2 thus predicts a main effect of RMA level on the dependent variables, whereas Hypothesis 3 predicts a three-way interaction of RMA level, RMA strength, and type of photograph.

Method

Participants

264 participants (170 females, 84 males; 10 participants did not indicate their sex) took part in an online experiment that was implemented using EFS Survey (Globalpark, 2007). It was advertised as a short online-study investigating judgmental processes in jurors' decisions and was posted on a social networking site as well as on the web experiment list (Reips & Lenger, 2005).¹ Participants' mean age was 24.20 ($SD = 5.81$) years. The majority of the participants ($n = 206$) were students. The participants were randomly assigned to one of two photograph conditions (see below for detail).

Materials

Rape Myth Acceptance. All participants completed a German 11-item short version of the Acceptance of Modern Myths About Sexual Aggression (AMMSA) scale (Gerger et al., 2007). This scale was designed to measure contemporary myths regarding sexual violence (e.g., "Women like to play coy. This does not mean that they do not want sex"; "Many

women tend to exaggerate the problem of male violence”). The items for the short form were selected on the basis of their item-to-total correlations, as reported in Gerger et al. (2007).² Each item was rated on a 7-point response scale ranging from 1, *completely disagree*, to 7, *completely agree*.

RMA strength. Based on suggestions made by Wegener, Downing, Krosnick, and Petty (1995), RMA-related attitude strength was measured with 8 items that were presented immediately after the 11 AMMSA items. These items were designed to assess metacognitive judgments of various aspects of subjective belief strength: (a) *thought frequency* (“How often do you think about topics mentioned in the last questionnaire block?”, from 1, *very rarely*, to 7, *very often*); (b) *perceived accessibility/speed of response* (“How quickly does your attitude come to mind when you answer questions on these topics?”, from 1, *not fast at all* to 7, *very fast*); (c) *non-ambivalence* (“Would you say that – concerning these topics – you have a clear-cut opinion, or would you say that you meet these topics with mixed feelings?”, from 1, *not clear at all* to 7, *very clear*); (d) *importance* (“How important is this topic to you personally?” from 1, *not important at all* to 7, *very important*); (e) *certainty* (“How certain do you feel about your attitudes toward these topics?”, from 1, *not certain at all* to 7, *very certain*); (f) *feeling of informedness* (“Do you feel – with regard to the topics of the last questionnaire block – rather well informed or rather badly informed?”, from 1, *very badly informed* to 7, *very well informed*); (g) *knowledge* (“How much do you know about these topics?”, from 1, *very little* to 7, *a lot*); (h) *personal relevance* (“The topics of the last questionnaire block directly affect me”, from 1, *completely disagree* to 7, *completely agree*).

Social desirability. The tendency to respond in a socially desirable manner was assessed with 14 items taken from (a) the Impression Management subscale (Musch, Brockhaus, & Bröder, 2002) of the German version of the Balanced Inventory of Desirable Responding (Paulhus, 1998), and (b) the Social Desirability Scale-17 (Stöber, 1999), a

modified version of the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). Items with the highest item-to-total correlations were selected. Each item was rated on a 7-point response scale ranging from 1, *completely disagree*, to 7, *completely agree*.

Rape case. Participants read a short vignette about an alleged rape case and were asked to take the perspective of a lay juror. The following scenario was given: Defendant and plaintiff had met in a club where they engaged in lively conversation. Later the same night, the defendant offered to escort the plaintiff home. Upon arrival, she invited him into her apartment. Both parties confirmed that they pursued their conversation in the plaintiff's living-room and started kissing there. However, their statements diverge with regard to the subsequent events. Whereas the plaintiff stated that she had been raped, the defendant claimed that consensual sexual intercourse had taken place.

Photograph manipulation. After reading the case information, participants viewed additional evidence in form of a color photograph that had ostensibly been taken by a police officer one day after the incident. Specifically, participants were told that they would view the professed crime scene, the plaintiff's living-room. Importantly, conditions differed with regard to two aspects of the photograph (see Figure 1): In the experimental condition, a bottle of wine and two half-empty wine glasses could be seen on the sofa table, whereas in the control condition, a coffeepot and two mugs were displayed in the same spot. Furthermore, on the wall above the sofa, a poster was visible. In the experimental condition, the poster showed the torso of an athletic male, whereas in the control condition it depicted the Eiffel Tower. Participants could control the time they viewed the photograph themselves. The mean viewing time was 8.36 s and did not differ between conditions, $F < 1$.

Insert Figure 1 about here

Dependent variables. After viewing the picture, participants took the perspective of a lay juror in judging the rape case. Responses to six items were marked on a 7-point scale. Participants first provided a verdict by indicating the likelihood of the defendant's guilt ("In your opinion, how probable is the defendant's guilt?" from 1, *not at all probable* to 7, *very probable*) and subsequently recommending a sentence length ("What sentence length do you consider appropriate?", from 1, *acquittal* to 7, *6 years*). Blame attributions for defendant and plaintiff (i.e., victim and perpetrator blame) were assessed separately with four items measuring attributions of responsibility and influence ("How responsible is *he/she* for what has happened?", from 1, *not at all responsible* to 7, *fully responsible*, and "How much influence did *he/she* have on the outcome of the situation?" from 1, *no influence at all* to 7, *very much influence*).

Results

Properties of the RMA Strength Scale (Hypothesis 1)

Reliability and descriptive statistics. Scores for each scale were computed by averaging across the corresponding items, after reverse-scoring items where appropriate. Table 1 presents internal consistencies, overall means and standard deviations of RMA, RMA strength, and Social Desirability. Item and reliability analyses revealed that it was useful to compute an overall index of attitude strength, because the scale showed high internal consistency as well as satisfactory item-to-total correlations of all items (all $r_{it} > .4$). A principal component analyses suggested a one-factor solution accounting for 49 per cent of the variance with factor loading ranging between .53 and .85. The other measures also showed satisfactory levels of internal consistency, in line with or even exceeding previous findings for these scales (see Table 1).

Insert Table 1 about here

Intercorrelations of self-report scales. RMA strength was negatively correlated to RMA, $r(262) = -.30, p < .001$. Neither RMA nor RMA strength were related to social desirability, both $ps > .40$.

Effects of RMA, RMA Strength, and Photograph Condition on Case Judgments (Hypotheses 2 and 3)

Hierarchical regression analyses were performed on participants' verdict, perpetrator blame, victim blame, as well as on a composite measure that included all six items ($\alpha = .72$). High values on this composite measure indicate less perpetrator blame, more lenient verdicts, and more victim blame. RMA and RMA strength were z-standardized prior to calculation of product terms and inclusion into the model. To avoid interpretational difficulties related to multicollinearity, a residual centering approach was applied (Lance, 1988). In a first step, RMA, attitude strength, and type of photograph (coded $-.5 =$ control condition, $.5 =$ experimental condition) were entered as predictors, and in a second step, product terms of RMA x Attitude strength, RMA x Type of photograph, and Attitude strength x Type of photograph were included to test for possible two-way interactions. In a third step, the product term of RMA x Attitude strength x Type of photograph was entered into the analyses. In line with Hypothesis 2, RMA predicted participants' judgments in step 1, $\beta = .44, t(260) = 7.50, p < .001$ for the composite measure, whereas RMA strength and condition did not. None of the two-way interactions in step 2 reached significance, all $ps > .60$. In step 3, supporting Hypothesis 3, the three-way interaction for RMA x Attitude strength x Type of photograph was a significant predictor of the composite measure, $\beta = .17, t(256) = 2.72, p < .01$, accounting for a significant increase in variance, $\Delta R^2 = .02$. Figure 2 illustrates the three-way interaction for the composite measure. Subsequently, this pattern was probed for differences between simple slopes (see Dawson & Richter, 2006). According to our theoretical rationale the most straight-forward test for schematic processing of myth-applicable stimuli would be a

significantly steeper slope for high RMA strength / experimental condition than for high RMA strength / control condition. As hypothesized, this difference was indeed significant, $t(256) = 2.23, p < .05$.

Insert Figure 2 about here

It might be instructive to look at the indices that formed the composite measure separately to see whether the effects observed for the composite measure apply to all constituent indices or just to some. An inspection of the hierarchical regressions involving verdict, perpetrator blame and victim blame revealed that the significance of the composite measure was due to changes on the verdict and perpetrator blame measures, whereas no significant effect was found for victim blame. Table 2 presents the regression results of the three-way interaction in step 3 for all indices. In neither of these analyses did we obtain any significant two-way interaction for step 2.

Insert Table 2 about here

Discussion

The aim of Study 1 was to elucidate the role of attitude strength for the emergence of biased processing. With regard to the validity of the measure employed, our results indicate that different facets of metacognitive attitude strength (of rape myths) might well be combined and add to the explanation of decision making in mock-jury studies. To investigate effects of individual difference variables (i.e., RMA and RMA strength) on active information processing, we provided additional case-related information in the form of photographs. Visual stimuli demand a more active processing of information and are more open to interpretation, thereby reducing potential demand characteristics and the influence of conversational norms (Grice, 1975), which may be associated with the use of classic text vignette methods. Under such conditions, RMA strength plays a crucial role. Importantly, and

in contrast to other studies, we found no two-way interaction between RMA and the additional information (cf. Eyssel & Bohner, 2011; Krahe et al., 2007; Schuller & Wall, 1998), nor did the alcohol cue (and the poster) have a main effect on participants' judgments (cf. Cameron & Strizke, 2003). Similarly to the results of Sleed and colleagues (2002), and different from studies using textual information, participants in our study did not blame the victim more in the condition featuring the alcohol cue (i.e., we did not obtain a main effect of that cue). Nor did participants with increasing RMA use the additional information to exonerate the perpetrator (i.e., no two-way interaction effect).

Instead, viewing visual stimuli containing RMA-applicable cues influenced subsequent judgments only when RMA strength was included in the analysis. Thus our theoretical rationale concerning the impact of RMA and RMA strength in conjunction with additional visual information was supported. High attitude strength appears to be a prerequisite for schematic effects to occur, at least in cases in which information has to be autonomously inferred. Effects were strongest for the perpetrator blame and verdict measure, whereas no effects were found for victim blame index. Hence, the additional information regarding the beverage consumption of plaintiff and defendant (alcohol vs. coffee) and the dispositional inferences concerning the plaintiff that could be derived from the poster depicting a nude male torso (vs. Eiffel Tower) resulted in an exoneration of the perpetrator without increasing victim blaming.

In conclusion, we found evidence in support of the assumption that RMA actively guides information processing, in particular when RMA strength is high. In line with research reported by Eyssel and Bohner (2011), participants seem to turn the visual information presented in the experimental condition into subjectively valid evidence with the direction of this interpretation depending upon participants' level of RMA. However, they only do so if they hold their rape-related beliefs with sufficient subjective strength.

Study 2

Whereas Study 1 focused on the role of attitude strength for the emergence of biased processing, Study 2 addresses the role of attitude strength in the attitude-behavior link. It has been demonstrated that RMA is an important predictor of self-reported rape proclivity (Bohner et al., 1998, 2010; Malamuth, Sockloskie, Koss, & Tanaka, 1991). Because stronger attitudes should be more closely related to actual behavior and because such attitudes are considered to be more stable (Prislin, 1996), measuring RMA strength could prove especially helpful in identifying target groups for intervention purposes. In Study 2, we examine the following hypotheses:

- (1) Higher RMA is related to higher self-reported rape proclivity.
- (2) The strength of participants' RMA moderates the effect of RMA level on self-reported rape proclivity (Hypothesis 1) such that the effect is larger for higher RMA strength.

*Method**Participants*

A sample of 85 students (all male, 4 psychology students) with an average age of 23.08 years ($SD = 4.75$) from the University of Bielefeld participated in this study.

Participants were approached on campus.

Materials

Rape Myth Acceptance and RMA strength. The scales used to assess rape myth acceptance and RMA strength were identical to the ones used in Study 1.

Self-reported rape proclivity. Participants were instructed to carefully read five scenarios and to imagine being in the situation of the male protagonist. The scenarios were

taken from Eyssel, Bohner, Süßenbach and Schreiber (2009) and they assess a general proclivity to sexually aggress. The scenarios are specifically constructed for student samples. In four of the scenarios an acquaintance rape is described, whereas the last depicts a case of sexual assault. Each scenario was followed by three questions with the first item being a filler question (see also Bohner et al., 2006) that asked how sexually aroused the participant would be in the situation (from 1 = *not at all sexually aroused* to 7 = *highly sexually aroused*). Subsequently, participants were asked whether they would have behaved like this (from 1 = *certainly not* to 7 = *certainly yes*) and how much they would have enjoyed “getting their way” (from 1 = *not at all* to 7 = *very much*). The latter two questions were combined across the five scenarios to yield a 10-item index of rape proclivity.

Procedure

Participants were approached on campus and led to a lab where they individually completed the questionnaire package. Participants first responded to the self-report measures using MediaLab (Jarvis, 2005). After completion of the questionnaire, participants were debriefed and received 2 Euros for their participation.

Results

Exclusion of Cases. The data of 4 homosexual participants were excluded because the scenario-based measure of rape proclivity may not provide meaningful behavioral templates for them. Thus, the final data set consisted of 81 participants with heterosexual ($n = 79$) or bisexual ($n = 2$) orientation.

Insert Table 3 about here

Self-report scales and dependent variables. After averaging across the corresponding items, scores were calculated for the self-report scales. Table 3 presents the internal

consistencies, overall means and standard deviations. As in Study 1, RMA and RMA strength were z-standardized. A hierarchical regression analysis with RMA and RMA strength in step 1 and their product term in step 2 was conducted. In line with Hypothesis 1, RMA predicted rape proclivity, $\beta = .34$, $t(78) = 3.14$, $p < .01$, whereas RMA strength did not, $\beta = -.07$, $t(78) = -0.65$, $p > .50$. In keeping with Hypothesis 2, the interaction term between RMA and RMA strength explained a significant increase in variance in rape proclivity, $\Delta R^2 = .05$, $F(1, 77) = 4.17$, $p < .05$. Thus, RMA strength was a significant moderator of the main effect of RMA on rape proclivity, $\beta = .23$, $t(77) = 2.04$, $p < .05$. The standardized simple slope for participants 1 SD below the mean of RMA strength was $.14$, $t(77) = 0.97$, $p > .30$ and the standardized simple slope for participants 1 SD above the mean of RMA strength was $.54$, $t(77) = 3.71$, $p < .001$ (see Figure 3).

Insert Figure 3 about here

Discussion

Study 2 extended the findings from Study 1 by showing that the moderating role of RMA strength extends beyond influences on information processing to RMA's relation to behavioral intentions. As hypothesized, RMA strength was found to moderate the effect of RMA on self-reported rape proclivity. Especially, participants reporting high attitude strength responded to the scenarios in line with their RMA, whereas for participants indicating weak attitude strength this relationship was less pronounced. This might prove relevant for practitioners as it may help to identify people who are especially likely to act upon their beliefs.

General Discussion

The present studies replicated main effects of RMA on judgments in a mock-jury study (e.g., Krahe et al., 2007) as well as on self-reported rape proclivity (e.g., Bohner et al., 1998, 2006) and focused on attitude strength as an important moderator of these relationships.

With regard to information processing, our results indicate that the integration of additional information into the decision making process will not automatically suffer from biased processing. Providing participants with myth-applicable cues in the experimental condition did not lead to an increase of anti-victim responses, nor did it in interaction with RMA. Rather, the observed interaction pattern involving RMA, RMA strength, and type of information suggests that such an assumption would be overly simplistic, at least when information is not readily available in text form or attitudes are deemed unimportant by participants. Our results indicate that schematic processing of myth-applicable cues is dependent upon the strength of one's rape-related attitudes. Thus, to identify individual cognitive schemata our findings speak to the importance of measuring meta-attitudinal attitude strength also in the domain of rape myths.

Concerning behavioral intentions, the observed moderation of the RMA- rape proclivity relationship by RMA strength has immediate implications for applied work. Prevention programs targeting sexual assault might benefit from identifying people with high RMA and high RMA strength, because it is strong attitudes that are stable (i.e., resistant to change) and that drive behavior (Krosnick & Petty, 1995). Such high-high individuals might be prime candidates for a more tailored and extensive treatment dosage, whereas less intensive programs might be sufficient to promote attitude change among individuals with high RMA but low RMA strength.

In the present research, we focused on meta-attitudinal indices of attitude strength and hence addressed only one type of strength according to the two-dimensional conceptualization proposed by Bassili (1996). Future research on RMA could thus profit from taking a closer look at operative indices of attitude strength (e.g, response time, attitude extremity) as well and examine whether these add to the explanation of biased processing and rape proclivity.

References

- Bartlett, F. C. (1995). *Remembering: A study in experimental and social psychology* (Reprint). Cambridge, UK: Cambridge University Press. [Original version: 1932].
- Bassili, J. N. (1996). Meta-judgmental versus operative indexes of psychological attributes: The case of measures of attitude strength. *Journal of Personality and Social Psychology, 71*, 637-653.
- Berkowitz, A. D. (2003). Fostering men's responsibility for preventing sexual assault. In P. A. Schewe (Ed.), *Preventing violence in relationships* (pp. 163-196). Washington, DC: American Psychological Association.
- Bohner, G. (1998). *Vergewaltigungsmythen* [Rape myths]. Landau, Germany: Verlag Empirische Pädagogik.
- Bohner, G., Eyssel, F., Pina, A., Siebler, F., & Viki, G. T. (2009). Rape myth acceptance: Affective, behavioural, and cognitive effects of beliefs that blame the victim and exonerate the perpetrator. In M. Horvath & J. Brown (Eds.), *Rape: Challenging contemporary thinking*. Cullompton (pp.17-45), UK: Willan.
- Bohner, G., Pina, A., Viki, G. T., & Siebler, F. (2010). Using social norms to reduce men's rape proclivity: Perceived rape myth acceptance of out-groups may be more influential than that of in-groups. *Psychology, Crime and Law, 16*, 671-693.
- Bohner, G., Reinhard, M.-A., Rutz, S., Sturm, S., Kerschbaum, B., & Effler, D. (1998). Rape myths as neutralizing cognitions: Evidence for a causal impact of anti-victim attitudes on men's self-reported likelihood of raping. *European Journal of Social Psychology, 28*, 257-268.

- Bohner, G., Siebler, F., & Raaijmakers, Y. (1999). Salience of rape affects self-esteem: Individual versus collective self-aspects. *Group Processes and Intergroup Relations*, 2, 191-199.
- Bohner, G., Siebler, F. & Schmelcher, J. (2006). Social norms and the likelihood of raping: Perceived rape myth acceptance of others affects men's rape proclivity. *Personality and Social Psychology Bulletin*, 32, 286-297.
- Bohner, G., Weisbrod, C., Raymond, P., Barzvi, A., & Schwarz, N. (1993). Salience of rape affects self-esteem: The moderating role of gender and rape myth acceptance. *European Journal of Social Psychology*, 23, 561-579.
- Burt, M. R. (1980). Cultural myths and support of rape. *Journal of Personality and Social Psychology*, 38, 217-230.
- Burt, M. R. (1991). Rape myths and acquaintance rape. In A. Parrot & L. Bechhofer (Hg.), *Acquaintance rape: The hidden crime* (S. 26-40). New York: Wiley.
- Cameron, C. A., & Stritzke, W. G. K. (2003). Alcohol and acquaintance rape in Australia: Testing the presupposition model of attributions about responsibility and blame. *Journal of Applied Social Psychology*, 33, 983-1008.
- Cowan, G., & Quinton, W. (1997). Cognitive style and attitudinal correlates of the perceived causes of rape scale. *Psychology of Women Quarterly*, 21, 227-245.
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24, 349-354.
- Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regressions: Development and application of a slope difference test. *Journal of Applied Psychology*, 91, 917-926.

- Eyssel, F., & Bohner, G. (2011). Schema effects of rape myth acceptance on judgments of guilt and blame in rape cases: The role of perceived entitlement to judge. *Journal of Interpersonal Violence, 26*. doi: 10.1177/0886260510370593 (published online 25 May 2010).
- Eyssel, F., Bohner, G., Süßenbach, P. & Schreiber, P. (2009). Neuentwicklung und Validierung eines szenariobasierten Verfahrens zur Erfassung der Neigung zu sexueller Aggression. *Diagnostica, 55*, 117-127.
- Farc, M. M., & Sagarin, B. J. (2009). Using attitude strength to predict registration and voting behaviour in 2004 U.S. presidential elections. *Basic and Applied Social Psychology, 31*, 160-173.
- Fazio, R. H., & Zanna, M. P. (1978). Attitudinal qualities affecting the strength of the attitude-behavior relationship. *Journal of Experimental Social Psychology, 14*, 398-408.
- Feild, H. S. (1978). Attitudes toward rape: A comparative analysis of police, rapists, crisis counselors, and citizens. *Journal of Personality and Social Psychology, 36*, 166-179.
- Foubert, J. D., & Marriott, K. A. (1997). Effects of a sexual assault peer education program on men's belief in rape myths. *Sex Roles, 36*, 259-268.
- Gerger, H., Kley, H., Bohner, G., & Siebler, F. (2007). Acceptance of modern myths about sexual aggression (AMMSA): Parallel scale development in German and English. *Aggressive Behavior, 33*, 422-440.
- Globalpark (2007). *EFS Survey (Version 5.2)* [computer software]. Hürth, Germany: Globalpark.

- Grice, H. P. (1975). Logic and conversation. In P. Cole, & J. L. Morgan (Eds.), *Syntax and semantics: Speech acts* (Vol. 3, pp. 41-58). New York: Academic Press.
- Jarvis, B. G. (2005). MediaLab (Version 2006) [Computer software]. New York: Empirisoft.
- Krahé, B. (1991). Social psychological issues in the study of rape. *European Review of Social Psychology*, 2, 279-309.
- Krahé, B., Temkin, J., & Bieneck, S. (2007). Schema-driven information processing in judgements about rape. *Applied Cognitive Psychology*, 21, 601-619.
- Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 1-24). Mahwah, NJ: Erlbaum.
- Lance, C. E. (1988). Residual centering, exploratory and confirmatory moderator analysis, and decomposition of effects in path models containing interactions. *Applied Psychological Measurement*, 12, 163-175.
- Lonsway, K. A., & Fitzgerald, L. F. (1994). Rape myths: In review. *Psychology of Women Quarterly*, 18, 133-164.
- Malamuth, N. M., Sockloskie, R. J., Koss, M. P. & Tanaka, J. S. (1991). Characteristics of aggressors against women: Testing a model using a national sample of college students. *Journal of Consulting and Clinical Psychology*, 59, 670-681.
- Musch, J., Brockhaus, R., & Bröder, A. (2002). Ein Inventar zur Erfassung von zwei Faktoren sozialer Erwünschtheit. *Diagnostica*, 48, 121-129.
- Paulhus, D. L. (1998). The Balanced Inventory of Desirable Responding (BIDR-7). Toronto/Buffalo: Multi-Health Systems.

- Payne, D. L., Lonsway, K. A., & Fitzgerald, L. F. (1999). Rape myth acceptance: Exploration of its structure and its measurement using the Illinois Rape Myth Acceptance Scale. *Journal of Research in Personality, 33*, 27-68.
- Petty, R. E., & Krosnick, J. A. (1995.). *Attitude strength: Antecedents and consequences*. Mahwah, NJ: Erlbaum.
- Pollard, P. (1992). Judgments about victims and attackers in depicted rapes: A review. *British Journal of Social Psychology, 31*, 307-326.
- Pomerantz, E., Chaiken, S., & Tordesillas, R. S. (1995). Attitude strength and resistance processes. *Journal of Personality and Social Psychology, 69*, 408-419.
- Priester, J. R., Nayakankuppam, D., Fleming, M. A., & Godek, J. (2004). The A2SC2 model: The influence of attitude strength on consideration and choice. *Journal of Consumer Research, 30*, 574-587.
- Prislin, R. (1996). Attitude stability and attitude strength: One is enough to make it stable. *European Journal of Social Psychology, 26*, 447-477.
- Reips, U. D., & Lengler, R. (2005). The web experiment list: A web service for the recruitment of participants and archiving of internet-based experiments. *Behavior Research Methods, 37*, 287-292.
- Schuller, R. A., & Wall, A.-M. (1998). The effect of defendant and complainant intoxication on mock jurors' judgments of sexual assault. *Psychology of Women Quarterly, 22*, 555-573.
- Sleed, M., Durrheim, K., Kriel, A., Solomon, V., & Baxter, V. (2002). The effectiveness of the vignette methodology: A comparison of written and video vignettes in eliciting responses about date rape. *South African Journal of Psychology, 32*, 21-28.

- Smith, E.R., & Queller S. (2001). Mental representations. In A. Tesser & N. Schwarz, *Blackwell handbook of social psychology: Intraindividual processes* (pp. 111-133). Malden: Blackwell Publishers Ltd.
- Stöber, J. (1999). Die Soziale-Erwünschtheits-Skala-17 (SES-17). Entwicklung und erste Befunde zu Reliabilität und Validität. [The Social-Desirability Scale-17 (SDS-17): Development and first findings on reliability and validity]. *Diagnostica*, 45, 173-177.
- Süssenbach, P., & Bohner, G. (2011). Acceptance of sexual aggression myths in a representative sample of German residents. *Aggressive Behavior*, 37, 374-385.
- Süssenbach, P., Bohner, G. & Eyssel, F. (2011). *Schematic influences of rape myth acceptance on visual information processing: An eye-tracking approach*. Journal of Experimental Social Psychology, under review.
- Verplanken, B. (1989). Involvement and need for cognition as moderators of beliefs-attitude-intention consistency. *British Journal of Social Psychology*, 28, 115–122.
- Ward, C. A. (1995). *Attitudes towards rape: Feminist and social psychological perspectives*. London: Sage.
- Ward, T., Polaschek, D. L. L., & Beech, A. R. (2006). *Theories of sexual offending*. Chichester, UK: Wiley.
- Wegener, D. T., Downing, J., Krosnick, J. A., & Petty, R. E. (1995). Measures and manipulations of strength-related properties of attitudes: Current practice and future directions. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 455-487). Hillsdale, NJ: Erlbaum.

Footnotes

¹ A mock-version of the experiment can be accessed via the Internet
(http://ww3.unipark.de/uc/AE05_Sozialpsychologie/dbea/)

² Specifically, we used items 3, 4, 5, 6, 10, 12, 15, 16, 22, 23, 27 (see, Gerger et al., 2007, pp. 439-440).

Table 1. Descriptive findings for the self-report scales (Study 1).

Measure	<i>N</i> Items	α	<i>M</i>	<i>SD</i>
Rape myth acceptance	11	.89	2.97	1.16
RMA strength	8	.84	4.17	1.02
Social desirability	14	.76	4.51	0.88

Note. Responses were made on a 7-point rating scale, with high ratings indicating strong endorsement of the construct.

Table 2. Hierarchical Regression Analyses: Interaction between RMA, attitude strength, and type of picture as predictors for different dependent variables in step 3.

Dependent Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i> (256)
Composite measure	0.32	0.12	.17	2.72**
Verdict	-0.27	0.16	-.11	-1.75 [†]
Perpetrator blame	-0.46	0.15	-.20	-2.96**
Victim blame	0.04	0.17	.01	.20

* $p < .05$, two-tailed. ** $p < .01$, two-tailed. [†] $p < .05$, one-tailed.

Table 3. Descriptive findings for the self-report scales (Study 2).

Measure	<i>N</i> Items	α	<i>M</i>	<i>SD</i>
Rape myth acceptance	11	.80	3.69	1.05
RMA strength	8	.79	4.05	0.96
Rape proclivity	10	.86	2.15	0.99

Figure Captions

Figure 1. Conditions of type of photograph.

Figure 2. Interaction of RMA, attitude strength, and type of photograph on the dependent variables (composite measure).

Figure 3. Simple slopes of rape myth acceptance predicting rape proclivity for 1 SD below the mean of RMA strength, and 1 SD above the mean of RMA strength.

Figure 1



Figure 2

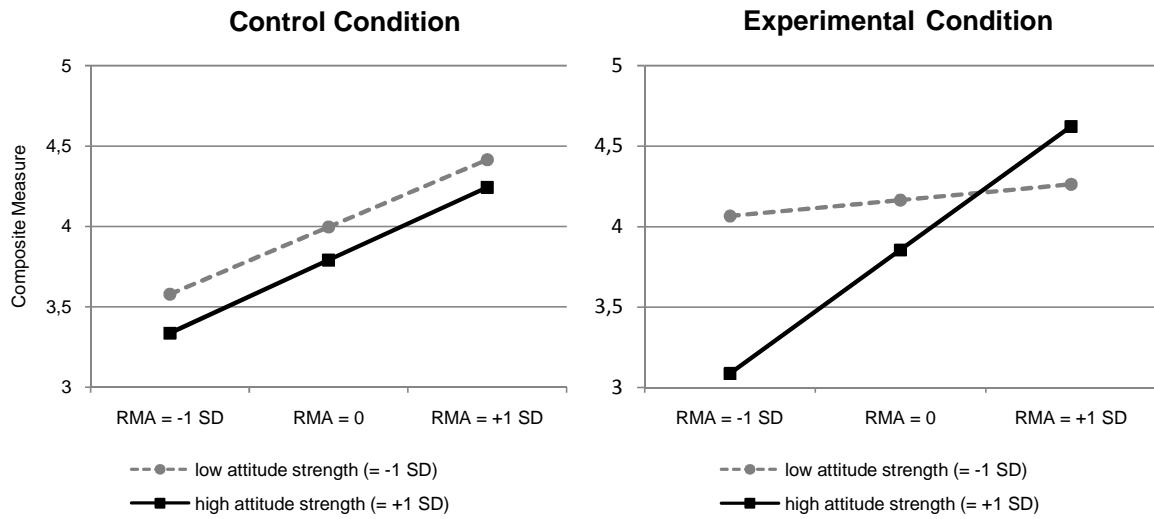
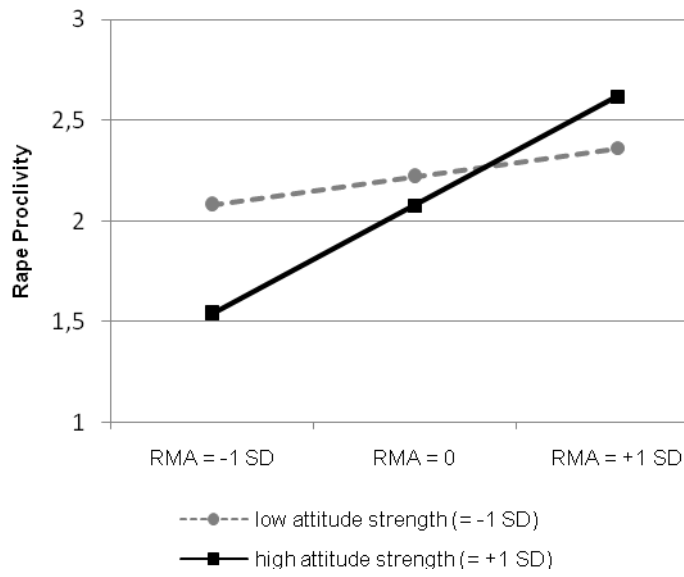


Figure 3



Running Head: SCHEMA-EFFECTS OF RAPE MYTH ACCEPTANCE

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MANUSCRIPT III:

Schematic Influences of Rape Myth Acceptance

on Visual Information Processing: An Eye-tracking Approach

Philipp Süssenbach, Gerd Bohner, and Friederike Eyssel

University of Bielefeld

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Philipp Süssenbach, Department of Psychology, University of Bielefeld; Gerd Bohner,
Department of Psychology, University of Bielefeld; Friederike Eyssel, Cluster of Excellence
in Cognitive Interaction Technology, University of Bielefeld.

The first author was supported by a scholarship of the University of Bielefeld. The
second and third author contributed equally to this article.

Correspondence concerning this article should be addressed to Philipp Süssenbach,
Abteilung f. Psychologie, Postfach 100131, 33501 Bielefeld, Germany. E-mail:
psuessenbach@uni-bielefeld.de

Abstract

Schematic influences of rape myth acceptance (RMA) on visual information processing were studied. After reading a short text on a rape case, students viewed a "police photograph" of the plaintiff's living room, where the rape allegedly happened, while their eye-movements were recorded. The photograph contained two myth-consistent cues, one being expected in the situation (wine bottle and glasses), the other unexpected (poster of a nude male). Results of Study 1 ($N = 60$) showed that participants higher in RMA fixated the expected cue both earlier and less long, which may indicate hypervigilance and greater ease of processing, respectively. Higher RMA also predicted longer initial fixation of the unexpected cue. These processing differences mediated participants' verdicts and blame judgments. In Study 2 ($N = 30$), participants' level of RMA was manipulated experimentally via social norm feedback. This manipulation significantly affected eye-movement patterns for the expected myth-consistent cue. Results support the notion that RMA actively guides visual information processing of relevant stimuli.

Key Words:

rape myths; schematic processing; eye-movements; social norm feedback

Schematic Influences of Rape Myth Acceptance
on Visual Information Processing: An Eye-tracking Approach

Stereotypical rape-related attitudes bias information processing both in the laboratory and in real-life situations. For instance, in studies on the attribution of responsibility and blame in mock-juries (Krahé, 1991), on men's self-reported likelihood of raping (Abrams, Viki, Masser, & Bohner, 2003), and on the recovery process of rape survivors (Burt & Katz, 1988; Littleton, Axsom, Radecki Breitkopf, & Berenson, 2006), these attitudes have been shown to play a key role. Such rape myths can be defined as beliefs “that serve to deny and justify male sexual aggression against women” (Lonsway & Fitzgerald, 1994, p. 134); they address stereotypes about victims and perpetrators as well as the contexts in which an assault would occur (Bohner, 1998; Bondurant, 2001). This functional definition of rape myths is well-suited to capture beliefs that greatly differ in content. Following suggestions by Burt (1991), there are a number of content categories for myths targeting women alone. These range from beliefs that no harm was done (e.g., “A lot of women lead a man on and then they cry rape”) to beliefs that the sexual contact was in fact welcome (e.g., “Many women secretly desire to be raped”).

Since Burt (1980) introduced the construct of rape myth acceptance (RMA) – that is the level of endorsement of these myths – into the psychological literature, research has focused on various issues including the correlational links of RMA to other constructs (for reviews, see Bohner, 1998; Lonsway & Fitzgerald, 1994), general and gender-specific functions of RMA (e.g., Bohner, Siebler, & Schmelcher, 2006; Bohner, Weisbrod, Raymond, Barzvi, & Schwarz, 1993; for a review, see Bohner, Eyssel, Pina, Siebler, & Viki, 2009), as well as measurement issues. This research has resulted in the development of several RMA scales (Burt, 1980; Cowan & Quinton, 1997; Gerger, Kley, Bohner, & Siebler, 2007; Payne,

Lonsway, & Fitzgerald, 1999) and has spawned a variety of intervention programs (e.g., Berkowitz, 2003; Foubert & Marriot, 1996).

Indeed, RMA is prevalent among the general public and likewise among members of the police force, medical examiners, and criminal justice professionals (Burt, 1980; Feild, 1978; Süssenbach & Bohner, 2011; Weis, 1982) and further research on RMA is therefore warranted.

RMA as a Cognitive Schema. Most recently, Eyssel and Bohner (2011) conceptualized RMA in terms of a cognitive schema that “guides and organizes an individual’s interpretation of specific information about rape cases” (p. 1581). To test the social-cognitive function of RMA further, Eyssel and Bohner (2011, Expt. 1) provided participants with varying amounts of irrelevant information pertaining to either plaintiff or defendant in a mock-jury study. Irrespective of whether the information was about plaintiff or defendant, the more information participants received, the stronger were the effects of RMA on blame judgments. Further evidence for schema-guided information processing comes from a study by Krahe, Temkin, and Bieneck (2007): Using a mock-jury paradigm, Krahe and colleagues investigated the role of RMA and victim-perpetrator relationship on judgments of guilt and blame. As predicted, type of prior relationship as well as RMA affected the verdicts of prospective lawyers. Furthermore, participants with higher levels of RMA were more sensitive or vigilant to the manipulation regarding the prior victim-perpetrator relationship. Consequently, participants high in RMA blamed the victim more, the more intimate the relationship between plaintiff and perpetrator had been prior to the alleged assault. In clinical psychology, such heightened vigilance for certain stimuli has a long tradition in cognitive theories of emotional disorders (e.g., Beck’s schema model; Beck, 1976). Subsequently, research in this area has successfully linked cognitive schemata to hypervigilance, an attentional bias in favor of schematic cues (e.g., Mogg, Millar, & Bradley, 2000; Sieswerda, Arntz, Mertens, & Vertommen, 2007). For

example, Mogg and colleagues (2000) reported that individuals with generalized anxiety disorder first look at threatening rather than neutral faces compared to healthy controls. One goal of the present research is to study increased vigilance and its boundary conditions with regard to stereotypical expectations about sexual assault.

In previous research, information about an alleged rape case has commonly been presented in text format to systematically vary aspects of the context. That is, participants are typically presented with short vignettes (e.g., to study effects of prior alcohol consumption, see Cameron & Strizke, 2003). However, using vignettes has certain shortcomings: For instance, ecological validity is often low, given the brevity of the depicted scenarios. As a consequence, the focal pieces of information necessarily catch the attention of the readers and are subsequently integrated in participants' decision-making. Additionally, as a result of conversational norms (Grice, 1975), participants might interpret any information given in the context of a short vignette as relevant to the task at hand. In fact, participants might assume that the researcher is observing general principles of cooperation and therefore only presents them with information that is relevant. Hence, for some studies, a correlation between level of RMA and judgments of blame attributed to an intoxicated victim comes as no surprise, given that some classic RMA measures (Burt, 1980; Cowan & Quinton, 1997) include items related to victim intoxication. Due to content overlap, one may doubt the theoretical significance of these findings. In a similar vein, providing information using textual vignettes might be relevant for the type of influence that can be attributed to the schema construct in more general terms, thus addressing aspects of its fundamental conceptualization. Decades ago, Bartlett (1995/1932) has already emphasized the *active* role of schemata in the allocation of attention and the search for information. However, biased processing of well-structured and easily accessible information, as documented in past studies on schematic influences of RMA (e.g., Krahe et al., 2007), is not well suited for testing such a conceptualization. To

investigate the active role of RMA-related schemata more directly, we therefore propose to use materials high in face validity to test the social-cognitive functions of RMA. To do so, we provided participants with case-relevant information using complex and realistic photographs. This way, we manipulated content features of the photographs. In addition, we argue that the presentation of photographs is less blatant than the vignette technique and also less well-structured, thereby reducing demand effects and increasing the potential for subjective interpretations by participants.

In order to establish the notion that RMA as a cognitive schema actively guides an individual's thoughts, it seems necessary to measure RMA-related process variables rather than only outcome differences. To do so, we applied eye-tracking methodology, a means to gather information about participants' attention to schema-related stimuli. For our current purposes, this methodology provides two types of data: (1) information on how fast a participant looks at a schematic stimulus, and (2) information on how long a participant looks at a schematic stimulus during the first visit. Whereas information of the first type can be used as a measure of vigilance (e.g., Loftus & Mackworth, 1978), information of the second type represents a measure of encoding time (e.g., De Graef, Christiaens, & d'Ydewalle, 1990; Holmqvist et al., 2011) but also of integrating the object into the scene (Henderson, Weeks, & Hollingworth, 1999). High vigilance for, and fast processing of schematic stimuli might thus reflect hypervigilance and ease of processing, respectively, two elements of schematic processing.

The Role of Expectancy. However, not just any information that is encompassed by a rape myth will be processed in such a schematic fashion. As outlined by Smith and Queller (2001), schemata are not chronically active, but rather need to be activated by thought about their topics or an encounter with relevant information. Furthermore, schemata are independent units. With regard to RMA, this could imply that a schema about the typical perpetrator of

rape does not necessarily activate a schema about a typical victim. Therefore, we assume that information pertaining to rape myths will only be processed schematically if the corresponding schema is activated and confirming information is hence expected. The likelihood of whether the schema is ultimately activated depends in turn on participants' RMA level. That is, when reading case information (e.g., about an alleged rape after a fraternity party), people high in RMA are more likely to activate schema-related knowledge structures (e.g., "woman feeling ashamed following drunk but consensual sex") leading to schematic processing (i.e., hypervigilance and ease of processing) of subsequent visual stimuli (e.g., photograph depicting alcoholic beverages at the scene). Schematic processing of such visual stimuli is, in our opinion, rather unlikely when participants are confronted with the visual stimuli prior to reading the case-related information or when the visual stimuli do not fit the narrative of the case, and could therefore not be expected. Whereas unexpected stimuli might affect participants' blame judgments to an equal degree, on a process level these cues should not be associated with schematic biases such as hypervigilance or ease of processing. Consequently, we assume that schematic processing is highly dependent on participants' expectations. Similarly, expectedness influences viewing patterns in reading and scene perception with shorter fixation durations for words that are highly predictable in a given context (Balota, Pollatsek, & Rayner, 1985) as well as for uninformative (i.e., more expected) compared to informative (i.e., less expected) objects in scene perception (Nuthmann, Smith, Engbert, & Henderson, 2010).

In the present study, we used an alcoholic beverage to operationalize a rape-myth-consistent cue that was expectable in the given rape case. This manipulation was chosen because it directly addresses stereotypical rape scripts and rape-related schemata. It has been shown repeatedly that alcohol consumption of female plaintiffs is used to mitigate rape claims. Furthermore, based on a pilot test in which participants read the rape case and then

provided their expectations regarding a photograph like the one used in the main study, we found that participants with higher RMA were more likely to report that they would expect alcoholic beverages in the scene. Therefore, we assumed that information regarding alcohol consumption might be processed rather automatically by participants with high RMA, especially because alcohol consumption might have been anticipated in the context of the specific rape case at hand. To contrast expected from unexpected stimuli, we also included a cue that could not have been anticipated but can be used to subjectively confirm a rape myth. As such, a poster depicting a nude male torso was displayed in the plaintiff's living-room. We assumed that participants with high RMA would infer something about the complainant's character from this poster (e.g., high sexual interest) which corresponds to the content categories of rape myths "she asked for/she deserved it" proposed by Burt (1991). Although we did not make a specific prediction, it seemed likely that some participants, as a result of their agreement with rape myths, would use this information. Thus, expectedness and unexpectedness as employed here are resultant from situational (the vignette) and individual (level of rape myth acceptance) factors.

Study 1

In the first study, we explored the impact of RMA, an individual difference variable, and additional case-relevant information on judgments of a rape case. Specifically, we used photographs of the alleged crime scene and manipulated their content: Depending on condition, the photograph included either two rape myth-consistent cues (i.e., information that can be interpreted to confirm a rape myth) or irrelevant placeholders (control condition). Based on a pilot test, the expectedness of the two rape myth-consistent cues was varied: one cue, consisting of a bottle of wine and two glasses on the sofa table, was highly expected, whereas the other, consisting of a poster depicting a nude male torso, was unexpected.

Expectedness was defined as the extent to which each cue could have been anticipated by a perceiver high in RMA in the context of the corresponding rape case, which participants read just before viewing the photograph.

Whereas we did not predict any correlation between RMA and participants' visual focus on the placeholders in the control condition, specific predictions based on schema theory could be made for the expected stimulus (i.e., the wine bottle and glasses) in the experimental condition. Schemata are thought to influence attention, in that the expected schematic stimulus is more likely to be noticed quickly (Smith & Queller, 2001), as a result of higher vigilance for it. While the expected stimulus should be attended to faster, processing time for this same cue should be shorter because incoming information fits existing knowledge structures.

For the rape-myth-consistent but unexpected cue (i.e., the poster depicting a nude male torso) predictions are less straightforward: With regard to this cue, no hypervigilance is predicted, so the time until the stimulus is noticed should not depend on perceivers' RMA. With regard to processing time, likewise, no clear-cut predictions can be made. If all participants consider the poster relevant, but nevertheless draw different conclusions from it depending on their level of RMA, we would predict no correlation between RMA and processing time for the unexpected stimulus. If, however, the information that the unexpected stimulus conveys is deemed more relevant with increasing RMA, this should result in its thorough encoding. On the contrary, participants lower in RMA might only briefly look at the poster, in order to subsequently decide that it appears not relevant for judging the case and continue searching the photograph for more informative cues. This would lead to a positive correlation between processing time and RMA. To summarize, the following hypotheses were examined in this study:

- (1) Participants' rape myth acceptance affects their judgments of the rape case leading to more victim blame, less perpetrator blame, and more lenient verdicts with higher RMA.
- (2) In the experimental condition, higher RMA leads to earlier fixation of the expected schematic stimulus (the bottle of wine and wine glasses).
- (3) In the experimental condition, higher RMA leads to faster processing of the expected schematic stimulus, that is a shorter initial fixation of this stimulus.
- (4) Earlier (Hypothesis 2) and shorter initial fixation (Hypothesis 3) of the expected schematic stimulus result in more victim blame, less perpetrator blame, and more lenient verdicts.
- (5) For the unexpected schematic stimulus (i.e., the poster depicting a nude male torso), the effects described in Hypotheses 2 to 4 are either absent or reversed.

Method

Participants

A sample of 60 students (all male, no psychology students) with an average age of 24.77 years ($SD = 3.96$) from the University of Bielefeld participated in this study. Participants were approached on campus and randomly assigned to one of two conditions (type of photograph: control condition $n = 20$, experimental condition $n = 40$). To improve the power of the statistical tests within the more relevant experimental condition, two-thirds of participants were assigned to this condition.

Apparatus

Eye movements were recorded monocularly at 240 Hz with an I-View X-High-Speed system (SMI, Berlin) using pupil locations as well as corneal reflections. The experiment was presented on a 365 mm (1280 pixel) wide by 270 mm (1024 pixel) high CRT monitor refreshing at 60 Hz. The computer screen was positioned 700 mm in front of the participant, who sat with head supported by the chin and forehead rest of the iView tracking column.

Integrated software was used for stimulus presentation (SMI Experiment Center) as well as data analysis (BeGaze).

Procedure

Participants believed to take part in two ostensibly unrelated studies. They completed a variety of computerized self-report measures including a RMA scale using MediaLab (Jarvis, 2005). The first study was said to measure a variety of attitudes within the population. After completion, participants were escorted to a different lab to take part in a second study on reading comprehension in a lay-juror task. Initially, they were familiarized with the eye tracker. After calibration of the eye-tracker (using 13-point calibration), participants read the rape case and then viewed the additional evidence (i.e., the photograph of the plaintiff's living-room) for 10 seconds. Presentation time of the picture as well as entry point to the picture was held constant to assure comparability of participants' eye tracking data. The stimulus presentation time was chosen based on a prior study that had used the same material and allowed participants to determine the viewing time themselves. In that study, participants viewed the photograph for about eight seconds on average, with no differences between conditions (Süssenbach, Bohner, & Eyssel, 2010). Therefore, a presentation time of 10 seconds was considered optimal to allow for a thorough inspection of the material. After viewing the picture, participants provided verdict, blame and responsibility attributions using a paper-and-pencil questionnaire. During the second study, a separating wall divided participants from the experimenter. Participants were debriefed and received 2 Euros and candy for their participation.

Materials

Rape Myth Acceptance. Participants completed an 11-item short version¹ of the Acceptance of Modern Myths About Sexual Aggression (AMMSA) scale (Gerger, Kley, Bohner, & Siebler, 2007) in German language. The scale's items (e.g., "Women often accuse

their husbands of marital rape just to retaliate for a failed relationship”; “Women like to play coy. This does not mean that they do not want sex”) were designed to measure contemporary myths regarding sexual violence. Each item was rated on a 7-point response scale ranging from 1, *completely disagree*, to 7, *completely agree*.

Rape case. Participants were asked to take the perspective of a lay juror and were presented with a short vignette pertaining to a rape case. The following scenario was described:

Male defendant and female plaintiff had met in a club and had engaged in lively conversation. Later that night, the defendant offered to escort the plaintiff home where she invited him into her apartment. Both parties agreed that they continued their conversation in the plaintiff’s living-room and then started kissing. However, the statements diverge with regard to the subsequent events. Whereas the defendant claimed that consensual sexual intercourse had taken place, the plaintiff stated that she had been raped.

Manipulation of cues in photograph. After receiving the case information, participants were told that they would view a picture of the crime scene that had supposedly been taken by a police officer one day after the alleged assault. Thus, participants viewed a picture of the plaintiff’s living-room. Importantly, two aspects of the photograph were varied between conditions: In the experimental condition, a bottle of wine and two half-empty glasses were visible on the coffee table, whereas in the control condition, a coffeepot and two mugs were shown (see Figure 1). To contrast processing of expected and unexpected schema-relevant information, an additional aspect was manipulated: In the back of the room, a wall poster was visible. In the experimental condition, this poster depicted the nude torso of an athletic male, whereas in the control condition a poster of the Eiffel Tower was visible. To summarize, the

photograph in the experimental condition included an expected and an unexpected schema-relevant cue, whereas neutral cues served as placeholders in the control condition.

Insert Figure 1 about here

Establishing Cue Expectedness. In order to establish differences in expectedness between the two critical stimuli in the experimental condition, 20 pilot participants were asked to read the rape case and to report what they would expect to see on a photograph taken by a police officer the following day. Participants provided their responses using an open-ended response format. The pretest ended with two items regarding how much participants would expect to see alcoholic beverages on the sofa table and how much they would expect to see a wall poster with erotic content (e.g., attractive partly-nude males). Responses were marked on 7 point scales from *not at all expect* to *very much expect*. These measures were followed by the 11-item short version of the AMMSA that was also administered in the main study.

When answering the open question, pilot participants were more likely to report expecting alcoholic beverages with increasing RMA, $r(18) = .42, p < .05$, one-tailed. None of the participants expected information that would morally undermine the plaintiff or that could be used to infer high sexual interest on her behalf, as might be the case with erotic posters. In response to the rating items, pilot participants reported much higher expectations to see alcoholic beverages ($M = 5.60$) than an erotic wallposter ($M = 2.35$), $t(19) = 8.17, p < .001$. Therefore, we concluded that our operationalization of expected versus unexpected schematic stimuli was successful.

Dependent Variables. Participants were asked to take the perspective of a lay juror and responded to eight items pertaining to the case. Responses were marked on scales ranging from 1 to 7. First, participants provided a verdict by indicating the likelihood of the defendant's guilt ("In your opinion, how probable is the defendant's guilt?", from *not at all*

probable to very probable) and subsequently recommended a sentence length (“What sentence length do you consider appropriate?”, from *acquittal* to *6 years*). Blame attributions were assessed using four items measuring attributions of responsibility for and influence on what happened separately for defendant and plaintiff (“How responsible is *he/she* for what happened?”, from *not at all responsible* to *fully responsible*, and, “How much influence did *he/she* have on the outcome of the situation?” from *no influence at all* to *very much influence*). These items were used to measure perpetrator and victim blame respectively. In addition, responses to two more items were assessed (“He had to act that way”, from *completely disagree* to *completely agree*, and “How severe are the consequences for her?”, from *not severe at all* to *very severe*).

Results

RMA and dependent variables. Individual scores for the self-report scales were obtained by averaging across the corresponding items. Accordingly, indices of victim blame, perpetrator blame, and participants’ verdicts were formed. Additionally, a composite measure reflecting the overall case evaluation using all eight items was computed, with higher means indicating more victim blame, less perpetrator blame and more lenient verdicts. Table 1 presents the internal consistencies, overall means and standard deviations. Regression analyses were conducted. RMA was a significant predictor of all individual indices (absolute betas ranged from $\beta = .28$ for verdict to $\beta = .40$ for perpetrator blame) as well as of the overall case evaluation ($\beta = .47$), $t(57) = 4.00$, $p < .001$, thus supporting Hypothesis 1.

Insert Table 1 about here

Eye-movements. Two areas of interest comprising the poster and the beverage were defined separately for both the experimental and the control photograph. A third area of interest common to both photographs was included. Both photographs showed a teddy bear on the sofa. This stimulus was included into our analysis to strengthen the notion that the

subjective meaning of the stimuli and not some other feature like surprise is responsible for the obtained results. Eye movement responses were assessed individually. Data of 8 participants (3 in the control, 5 in the experimental condition) had to be excluded because of imprecise eye-tracking.² Table 2 presents descriptive information on how participants viewed the areas of interest in both conditions. It shows when participants first fixated the area of interest (“time before fixation”), how long that first fixation lasted (“first fixation duration”), how long the area of interest was fixated in total (“dwell time”), and how often participants fixated the area of interest (“fixation count”). Apparently, low-level visual properties (e.g., luminance, contrast, etc.), in which the expected stimulus and its control (i.e., wine and coffee pot) differed, did not lead to any overall differences in how these stimuli were attended to between conditions. In contrast, although being very similar in color, luminance, and contrast, participants in the experimental condition spent more time looking at the poster (i. e., the nude male torso) than did participants in the control condition (where the poster depicted the Eiffel Tower), $t(1,50) = 2.93, p < .01$.

Processing time was measured using first fixation duration, which reflects the length of time the fovea fixates a cue after first landing on it. In contrast to the total time spent dwelling on a cue, first fixation duration is assumed to reflect encoding operations without being contaminated by later processes unrelated to encoding (De Graef et al., 1990; Henderson, Pollatsek, & Rayner, 1987). The time that passed before the first fixation on a cue was used as an index of vigilance. Table 3 presents the correlations between the eye tracking measures and RMA as well as the dependent measures in the experimental condition.

Insert Table 3 about here

In keeping with Hypothesis 2, participants fixated the expected schematic cue earlier with increasing RMA, leading to a negative correlation between RMA and total time (in ms) before the first fixation of the bottle of wine, $r(24) = -.36, p < .05$, one-tailed. Using ordinal

information (i.e., whether first, second, third, etc. fixation landed on the cue), any impact of individual speed differences concerning fixations can be minimized. Similar to the absolute measure, this index of time before the first fixation was negatively correlated with RMA, $r(24) = -.37, p < .05$, one-tailed, as well as with the overall case evaluation, $r(24) = -.38, p < .05$, one-tailed. Higher RMA was therefore associated with earlier fixations of the bottle of wine. Earlier fixations of the bottle of wine were in turn associated with more victim blame, less perpetrator blame and more lenient verdicts.

As predicted in Hypothesis 3, during the first fixation participants spent less time on the schematic cue with increasing RMA, $r(33) = -.35, p < .05$. Shorter initial fixations can be interpreted as reflecting faster encoding of this cue, and they were associated with more lenient verdicts, $r(33) = .38, p < .05$, and more victim blame, $r(33) = -.34, p < .05$. Although shorter fixations of the alcohol cue appeared to be associated with less perpetrator blame, this correlation was not significant, $r(33) = .14, p = .41$.³

In line with Hypothesis 5, participants with higher RMA did not fixate the poster depicting the nude male torso earlier – the unexpected, yet rape-myth-consistent information. Contrary to results for the expected cue, the encoding time of the poster was *positively* correlated with RMA, $r(33) = .51, p < .01$. Longer first fixation duration of the poster was in turn associated with more lenient verdicts, $r(33) = -.36, p < .05$, and less perpetrator blame attributions, $r(35) = -.39, p < .05$. However, first fixation duration of the poster was unrelated to victim blame, $r(33) = .08, p = .66$.

It seems plausible to assume that participants interpreted the stimuli in the experimental condition in accordance with their RMA. Consequently, participants' judgments were more in line with their RMA in the experimental condition than in the control condition, $r_{Experimental}(33) = .51$ vs. $r_{Control}(15) = .32$. However, this difference is not significant and should be interpreted rather cautiously. A mediation analysis was conducted to test whether

RMA-related differences in encoding as measured via first fixation duration mediate effects of RMA on subsequent judgments in the experimental condition. To integrate the first fixation durations of the two cues in the experimental condition into one measure reflecting RMA-biased processing, these indices were centered, one was multiplied by -1 to reverse scoring, and finally, the indices were aggregated with higher values indicating first fixation duration biases that are positively correlated to RMA. A successful partial mediation might sustain the argument that differences between RMA-judgment correlation coefficients across conditions are systematic rather than random. A bootstrapping analysis based on 5000 bootstraps (Preacher & Hayes, 2004) was used to test whether encoding differences mediate the effect of RMA on the overall case evaluation. The results showed a significant indirect effect of the aggregated eye-tracking measure reflecting RMA-dependent encoding differences $t = 1.78$, $p < .05$, one-tailed, that led to a reduction of the effect of RMA on the dependent variables, from $t = 3.44$, $p < .001$, to $t = 1.97$, $p < .05$ reflecting a corrected $r_{Experimental} = .32$. Hence, these results support the assumption that encoding differences as measured with eye tracking partially mediated the effect of RMA on case-related judgments in the experimental condition. No significant correlations were found for the corresponding cues (i.e., coffee pot, Eiffel Tower) in the control condition (all $ps > .10$), or for the control stimulus (i.e., teddy bear) over both conditions.⁴ Neither did any of the other self-report measures obtained during the first part of the study relate to eye-movements. A 2 x 2 mixed model ANOVA with the first fixation duration of the two areas of interest (i. e., the beverages and poster) as levels of a within-subjects factor, condition (experimental vs. control condition) as a between-subjects factor, and RMA as a covariate, yielded a significant three-way interaction, $F(2, 48) = 7.49$, $p < .01$, $\eta^2 = .24$. This analysis implies that differences in first fixation durations for these two areas of interest are significantly different between conditions as a consequence of RMA.

Discussion

As predicted, RMA had an overall influence on participants' judgments of blame and guilt in a rape case. However, by means of the content manipulation of the photograph, we observed more fine-grained differences in the use of rape myth-consistent cues as a consequence of their expectedness. Whereas the eye movement data of the stimuli in the control condition were unrelated to RMA and the dependent variables, the cues in the experimental condition showed diametrically opposed correlation patterns. This supports the notion that these latter cues were both encoded in light of participants' RMA, but differentially in terms of processes because of their differing expectedness: The bottle of wine was processed more rapidly by participants with higher RMA because for them it represented an expected schematic cue, whereas the poster depicting a nude male torso elicited prolonged encoding with increasing RMA. This could point to the conclusion that participants low in RMA just did not consider the poster relevant for the task at hand, whereas participants high in RMA might have used additional processing time to interpret the poster as additional "evidence" for blaming the plaintiff.

These individual differences in encoding were themselves related to participant's verdict and blame attributions. Whereas encoding time of wine and poster showed equally strong – albeit opposite – correlations with the overall case evaluation and the verdict, longer encoding of the poster was associated with an exoneration of the perpetrator, but it did not lead to more victim blaming. In contrast, shorter encoding of the alcohol cue was associated with more victim blame, but it did not lead to an exoneration of the perpetrator. This latter asymmetry is in accordance with a double standard of women's drinking (Lyons & Willot, 2008). Overall, the findings corroborate the assumption that RMA *can* work like a cognitive schema, leading to heightened vigilance for a rape-myth-consistent cue when that cue is linked to a specific RMA-related expectation for it. As our results suggest, expected

schematic stimuli are encoded faster with increasing RMA, possibly reflecting ease of processing for participants with an applicable schema. By contrast, an unexpected but nonetheless rape-myth-consistent cue such as the poster in the experimental condition, which may be interpreted as "evidence" that only certain types of women are prone to assault, is processed less quickly by the same participants. Apparently participants engaged in a more thorough encoding of the poster with increasing RMA, which translated into attitude-consistent inferences and judgments.

Additionally, a mediation analysis showed that the effect of RMA on case-related judgments in the experimental condition was partially mediated by RMA-related eye-movement differences for both cues. In line with research by Eyssel and Bohner (2011), participants seemingly turned the additional information in the experimental condition into subjectively valid evidence, which might have produced the relative increase of the correlation coefficient between RMA and outcome variables in this condition. That is, both cues were interpreted in a way that was consistent with participants' rape myths. Findings from the mediation analysis support the idea that differences in correlation size between the two photograph conditions, although not significant, can be explained through RMA-dependent differences in viewing patterns of these stimuli, which in turn lead to differences in verdicts and blame attributions.

To strengthen the point that the specific viewing patterns of the presented cues in the experimental condition are in fact caused by the level of RMA, we conducted a second study. In order to manipulate participants' level of RMA experimentally, we used a social norm feedback that had been successfully employed in several studies (Bohner, Pina, Viki, & Siebler, 2010; Bohner, Siebler, & Schmelcher, 2006; Eyssel, Bohner, & Siebler, 2006).

Study 2

The second study used a social norm feedback to temporarily influence participants' endorsement of rape myths. Social norms have been shown to strongly affect participants' level of RMA and, as a consequence, also their self-reported rape proclivity (Bohner et al., 2006, 2010; Eyssel et al., 2006). Therefore, participants received feedback about the alleged responses of other students to the RMA questionnaire they just completed. We hypothesized that this manipulation would temporarily influence participants' acceptance of rape myths. Consequently, the manipulation should affect expectations participants form during reading the rape case and thus also influence their subsequent viewing patterns. Following our rationale outlined in Study 1, we hypothesized that the effects of the manipulation would pertain to the expected schematic stimulus, whereas we made no specific predictions regarding any effect of the experimental manipulation for the unexpected schematic stimulus.

The following hypotheses were examined in this study:

(1) High (vs. low) RMA feedback leads to earlier fixation of the expected schematic stimulus (the bottle of wine and wine glasses).

(2) High (vs. low) RMA feedback leads to faster processing in terms of shorter fixations of the expected schematic stimulus.

Method

Participants

30 students (all male, 1 psychology student) with an average age of 23.60 years ($SD = 3.66$) from the University of Bielefeld took part in Study 2. Again participants were approached on campus and randomly assigned to one of two conditions (level of RMA feedback: low vs. high; $n = 15$ per condition).

Procedure

As in Study 1, participants assumed that they would take part in two ostensibly unrelated studies. After completing the RMA scale and other measures as in Study 1,

participants received feedback about other male students' responses on the same RMA questionnaire. They were then escorted to the eye-tracking lab, where they read the rape case and viewed the photograph. Importantly, all participants saw the photograph featuring stimuli that could be interpreted in a myth-consistent way. Case-related judgments were collected as described in Study 1. Participants were then thoroughly debriefed with an emphasis on the fictitious nature of the RMA feedback.

Material

RMA feedback. Participants were told that they would get to see the responses of male Bielefeld students to one of the self-report measures they had just filled out themselves. To provide an explanation for the feedback, they were informed that past test takers had often expressed a wish to know what other people thought about these topics. All participants then received feedback on the RMA questionnaire. Each of the 11 AMMSA items was presented individually on the screen and above the item wording the following text was displayed: "The mean value of male Bielefeld students is [value]. Depending on condition, "value" was either 1 standard deviation below or 1.5 standard deviations above the mean of the item-wise descriptive statistics of Study 1. The mean of the aggregated feedback value was 1.55 in the low feedback condition and 5.43 in the high feedback condition. All other materials were identical to Study 1.

Results

Scores for the self-report scales were computed as in Study 1. The overall case evaluation did not differ between participants who received the high ($M_{High} = 3.63$) or the low ($M_{Low} = 3.86$) norm feedback, $F(1, 28) = 0.42, p = .51$, but showed a medium-sized relationship to participants' self-reported RMA, $r(28) = .29, p = .12$.

RMA feedback and eye movements. Because of imprecise eye-tracking, data from two participants (one in the high, and one in the low feedback condition) were excluded. In line

with Hypothesis 1, participants who had received the high norm feedback fixated the expected schematic cue earlier ($M_{High} = 1088$ ms) than did participants who had received the low norm feedback ($M_{Low} = 2313$ ms), $F(1, 26) = 2.92, p < .05, \eta^2 = .10$, one-tailed. Contrary to Hypothesis 2, first fixation duration of the schematic stimulus was longer in the high feedback condition ($M_{High} = 439$ ms) than in the low feedback condition ($M_{Low} = 284$ ms), $F(1, 26) = 6.00, p < .05, \eta^2 = .19$. A similar effect was obtained for the overall dwell time (i.e., the total time spent on an area of interest) and the total number of fixations on the schematic stimulus. Participants in the high feedback condition spent more time inspecting the alcohol cue ($M_{High} = 1924$ ms) than did participants in the low feedback condition ($M_{Low} = 1009$ ms), $F(1, 26) = 10.67, p < .01, \eta^2 = .29$, and fixated it more often ($M_{Low} = 2.64$ vs. $M_{High} = 3.64$), $F(1, 26) = 5.00, p < .05, \eta^2 = .16$.

The experimental manipulation had no effect on how participants viewed the unexpected stimulus (i.e., the poster depicting the nude male torso), all $ps > .17$, or the control stimulus (i.e., the teddy bear), all $ps > .43$.

Discussion

The aim of the second study was to demonstrate malleability of eye movement patterns following a manipulation of participants' RMA. Although we found no effect of the social norm feedback on the self-reported case evaluation, we did obtain meaningful results on the more indirect eye tracking measures. Importantly, the results support our basic assumption that the effects of the manipulation are restricted to the stimulus that can be anticipated. Although we employed two stimuli that can be interpreted as myth-consistent, only the expectancy for one of them was related to participants' level of RMA. Consequently, students receiving the information that their co-students endorsed rape myths fixated only the stimulus related to RMA earlier. Therefore, this effect was specific to the expected stimulus and did not affect viewing of other stimuli. Contrary to our prediction, participants in the high

feedback condition showed no increased ease of processing (i.e., decreased first fixation duration) for the alcohol cue. Indeed it took them more time to encode the expected stimulus compared to the participants in the low feedback condition. Furthermore, participants in the high feedback group paid more attention to the alcohol stimulus, which resulted in an increased dwell time of that stimulus. In sum, our experimental manipulation seems to have yielded differing expectations concerning the subsequent rape case. Surprisingly, participants showed hypervigilance but not ease of processing. However, it is important to keep in mind that in the present study the attitude-related expectancies did not come naturally to participants. One might argue that participants were in a verification mode, looking for information that might confirm or disconfirm the normative information they had just received. This conjecture might explain why participants showed hypervigilance but then took more time to encode the information (i.e., first fixation duration) and paid more attention to it (i.e., dwell time).

More importantly, we wish to highlight that the experimental norm feedback regarding RMA influenced only the processing of the stimulus that could be expected with increasing RMA. Thus, the results of Study 2 support the rationale of Study 1 in that the observed effects are a consequence of RMA and that it is necessary to differentiate between expected and unexpected stimuli.

General Discussion

The present research examined schematic effects of RMA on information processing. The studies aimed (1) to show that RMA actively guides information processing when relevant information is available, and (2) to contrast the processing of expected schematic information from that of unexpected schematic information. With regard to these aims, we presented additional case-related information visually by using photographs. Inferring information from visual stimuli represents a more active form of information processing that

enabled us to avoid demand effects or influences of conversational norms (Grice, 1975), which may be associated with the use of only written material, as in the classic vignette method. A further advantage of the use of visual stimuli is their amenability to eye-tracking methodology, which allowed us to capture parts of the encoding process, thereby illustrating when schematic processing is most probable.

Our results show that earlier and faster initial fixation as a consequence of RMA were restricted to the expected schematic stimulus, whereas encoding time for an unexpected yet potentially applicable cue was prolonged. In general, these findings are consistent with research on human gaze control during real-world scene perception where length of gaze duration on stimuli is influenced by scene semantics such that semantically informative objects (i.e., novel and unexpected stimuli) are fixated longer than uninformative (i.e. expected stimuli) objects (Henderson, Weeks, & Hollingworth, 1999; Loftus & Mackworth, 1978; see Henderson, 2003 for a review). Importantly, there is a difference between the notion of expectancy or informativeness between these seminal studies and the current research. Whereas unexpectedness in the current studies results from an interaction of situational (i.e., the narrative of the rape case) and individual factors (i.e., participants' level of RMA), in these other studies it is the consequence of a stark violation of scene semantics (e.g., an octopus in a farm scene, Loftus & Mackworth, 1978; a microscope in a bar room scene, Henderson, Weeks, & Hollingworth, 1999). This difference may explain why participants in the study by Loftus and Mackworth also fixated the unexpected stimulus (i.e., the octopus) earlier, whereas we – based on schema theory – predicted and found that the expected stimulus is fixated earlier. Although the poster depicting a nude male torso represents an informative cue to participants with high RMA and is thus encoded thoroughly, it does not constitute a violation of expectation leading to an earlier fixation (as possibly a nun costume in the present scenario would).

In conclusion, our results indicate that the attitude-consistent integration of additional information by participants high in RMA does not necessarily imply fast and efficient processing, especially if the additional information is unexpected. Rather, our findings emphasize that such an assumption would be overly simplistic, at least when information is not readily available in text form. As the present study demonstrated, this should not be interpreted as trivializing RMA-related effects, whether fast and schematic or not. The obtained medium to high correlations of RMA with the eye-tracking measures reflect pronounced *biased* processing that can take on different forms depending on the expectedness of schema-related stimuli; these results thus speak to the differentiated influence of rape myths on visual attention and encoding of relevant stimuli. With regard to biased processing, Krahé and colleagues (2007) proposed that an accountability instruction may reduce schematic effects of rape-related attitudes in rape charges. In light of the present results, we are more pessimistic with regard to such a recommendation: Our data showed that both shorter and longer encoding – the latter being more likely to be facilitated by accountability – may be related to RMA and hence bias subsequent judgments, depending on the nature of the stimuli (for a related argument, see Eyssel & Böhner, 2011). Apparently, biased processing must not be equated with fast and schematic processing, suggesting that both routes – peripheral as well as more systematic processing – may lead to similar outcomes. Therefore, alternative approaches to enhancing justice in the court are warranted.

Future studies should focus on the conditions under which a schema-related stimulus becomes so highly expected as to be detected faster and encoded more efficiently.⁵ As argued here, these schematic qualities are mainly a consequence of situational predictability and RMA as an individual difference variable. It is likewise conceivable that some cues, such as alcohol, are, via repeated learning, well connected to violence and likewise rape (Subra, Muller, Bègue, Bushman, & Delmas, 2010). Whereas situational expectancy as a crucial

determinant would point to strong context influences on the type of processing involved, schematic processing consistent over time would be expected for certain well-connected cues if type of processing is mainly dependent on associative links. To study such processing differences, it is important to complement the assessment of judgmental outcomes with methodology that enables researchers to look at the underlying perceptual processes on-line. In our view, eye-tracking is a prime candidate for such a methodology that enriches research on both RMA and schematic processing in general.

References

- Abrams, D., Viki, G. T. N., Masser, B., & Bohner, G. (2003). Perceptions of stranger and acquaintance rape: The role of benevolent and hostile sexism in victim blame and rape proclivity. *Journal of Personality and Social Psychology, 84*, 111-125.
- Bartlett, F. C. (1995). *Remembering: A study in experimental and social psychology* (Reprint). Cambridge, UK: Cambridge University Press. [Original version: 1932].
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York: International Universities Press.
- Berkowitz, A. D. (2003). Fostering men's responsibility for preventing sexual assault. In P. A. Schewe (Ed.), *Preventing violence in relationships* (pp. 163-196). Washington, DC: American Psychological Association.
- Bohner, G. (1998). *Vergewaltigungsmythen: Sozialpsychologische Untersuchungen über täterentlastende und opferfeindliche Überzeugungen im Bereich sexueller Gewalt* [Rape myths: Social psychological studies on attitudes that exonerate the assailant and blame the victim of sexual violence]. Landau, Germany: Verlag Empirische Pädagogik.
- Bohner, G., Eyssel, F., Pina, A., Siebler, F., & Viki, G. T. (2009). Rape myth acceptance: Affective, behavioural, and cognitive effects of beliefs that blame the victim and exonerate the perpetrator. In M. Horvath & J. Brown (Eds.), *Rape: Challenging contemporary thinking*. Cullompton (pp.17-45), UK: Willan.
- Bohner, G., Pina, A., Viki, G. T., & Siebler, F. (2010). Using social norms to reduce men's rape proclivity: Perceived rape myth acceptance of out-groups may be more influential than that of in-groups. *Psychology, Crime and Law, 16*, 671-693.

- Bohner, G., Siebler, F., & Schmelcher, J. (2006). Social norms and the likelihood of raping: Perceived rape myth acceptance of others affects men's rape proclivity. *Personality and Social Psychology Bulletin*, *32*, 286-297.
- Bohner, G., Weisbrod, C., Raymond, P., Barzvi, A., & Schwarz, N. (1993). Salience of rape affects self-esteem: The moderating role of gender and rape myth acceptance. *European Journal of Social Psychology*, *23*, 561-579.
- Burt, M. R. (1980). Cultural myths and support of rape. *Journal of Personality and Social Psychology*, *38*, 217-230.
- Burt, M.R., & Katz, B.L. (1988). Coping strategies and recovery from rape. *Annals of the New York Academy of Sciences*, *528*, 345-358.
- Burt, M. R. (1991). Rape myths and acquaintance rape. In A. Parrot & L. Bechhofer (Hg.), *Acquaintance rape: The hidden crime* (S. 26-40). New York: Wiley.
- Cameron, C. A., & Stritzke, W. G. K. (2003). Alcohol and acquaintance rape in Australia: Testing the presupposition model of attributions about responsibility and blame. *Journal of Applied Social Psychology*, *33*, 983-1008.
- Cowan, G., & Quinton, W. (1997). Cognitive style and attitudinal correlates of the perceived causes of rape scale. *Psychology of Women Quarterly*, *21*, 227-245.
- De Graef, P., Christiaens, D., & d'Ydewalle, G. (1990). Perceptual effects of scene context on object identification. *Psychological Research*, *52*, 317-329.
- Eyssel, F., & Bohner, G. (2011). Schema effects of rape myth acceptance on judgments of guilt and blame in rape cases: The role of perceived entitlement to judge. *Journal of Interpersonal Violence*, *26*, 1579-1605.
- Eyssel, F., Bohner, G., & Siebler, F. (2006). Perceived rape myth acceptance of others predicts rape proclivity: Social norm or judgmental anchoring? *Swiss Journal of Psychology*, *65*, 93-99.

- Feild, H. S. (1978). Attitudes toward rape: A comparative analysis of police, rapists, crisis counselors, and citizens. *Journal of Personality and Social Psychology, 36*, 166-179.
- Foubert, J. D., & Marriott, K. A. (1997). Effects of a sexual assault peer education program on men's belief in rape myths. *Sex Roles, 36*, 259-268.
- Gerger, H., Kley, H., Böhner, G., & Siebler, F. (2007). The acceptance of modern myths about sexual aggression scale: Development and validation in German and English. *Aggressive Behavior, 33*, 422-440.
- Grice, H. P. (1975). Logic and conversation. In P. Cole, & J. L. Morgan (Eds.), *Syntax and semantics: Speech acts* (Vol. 3, pp. 41-58). New York: Academic Press.
- Henderson, J. M. (2003). Human gaze control during real-world scene perception. *Trends in Cognitive Science, 7*, 498-504.
- Henderson, J. M., Pollatsek, A., & Rayner, K. (1987). Effects of foveal priming and extrafoveal preview on object identification. *Journal of Experimental Psychology: Human Perception and Performance, 13*, 449-463.
- Henderson, J. M., Weeks, P. A., & Hollingworth, A. (1999). The effects of semantic consistency on eye movements during complex scene viewing. *Journal of Experimental Psychology: Human Perception and Performance, 25*, 210-228.
- Holmqvist, K., Nyström, M., Andersson, R., Dewhurst, R., Jarodzka, H., & van der Weijer, J. (2011). *Eye tracking: A comprehensive guide to methods and measures*. Oxford University Press.
- Jarvis, B. G. (2005). MediaLab (Version 2006) [Computer software]. New York: Empirisoft.
- Krahé, B. (1991). Social psychological issues in the study of rape. *European Review of Social Psychology, 2*, 279-309.
- Krahé, B., Temkin, J., & Bieneck, S. (2007). Schema-driven information processing in judgements about rape. *Applied Cognitive Psychology, 21*, 601-619.

- Littleton, H. L., Axsom, D., Radecki Breitkopf, C., & Berenson, A. B. (2006). Rape acknowledgement and post assault behaviors: How acknowledgment status relates to disclosure, coping, worldview, and reactions received from others. *Violence and Victims, 21*, 765-782.
- Lyons, A. C., & Willot, S. A. (2008). Alcohol consumption, gender identities and women's changing social positions. *Sex Roles, 59*, 694-712.
- Loftus, G. R., & Mackworth, N. H. (1978) Cognitive determinants of fixation location during picture viewing. *Journal of Experimental Psychology: Human Perception and Performance, 4*, 565-572.
- Lonsway, K. A., & Fitzgerald, L. F. (1994). Rape myths: In review. *Psychology of Women Quarterly, 18*, 133-164.
- Mogg, K., Millar, N., & Bradley, B. P. (2000). Biases in eye movements to threatening facial expressions in generalised anxiety disorder and depressive disorder. *Journal of Abnormal Psychology, 19*, 695-704.
- Nuthmann, A., Smith, T. J., Engbert, R., & Henderson, J. M. (2010). CRISP: A computational model of fixation durations in scene viewing. *Psychological Review, 117*, 382-405.
- Payne, D. L., Lonsway, K. A., & Fitzgerald, L., F. (1999). Rape myth acceptance: Exploration of its structure and its measurement using the Illinois Rape Myth Acceptance Scale. *Journal of Research in Personality, 33*, 27-68.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*, 717-731.
- Sieswerda, S., Arntz, A., Mertens, I., & Vertommen, S. (2007). Hypervigilance in patients with borderline personality disorder: Specificity, automaticity, and predictors. *Behaviour Research and Therapy, 45*, 1011-1024.

- Smith, E.R., & Queller S. (2001). Mental representations. In A. Tesser & N. Schwarz, *Blackwell handbook of social psychology: Intraindividual processes* (pp. 111-133). Malden: Blackwell Publishers Ltd.
- Subra, B., Muller, D., Bègue, L., Bushman, B. J., & Delmas, F. (2010). Automatic effects of alcohol and aggressive cues on aggressive thoughts and behaviors. *Personality and Social Psychological Bulletin*, 36, 1052-1057.
- Süssenbach, P., & Bohner, G. (2011). Acceptance of sexual aggression myths in a representative sample of German residents. *Aggressive Behavior*, 37, 374-385.
- Süssenbach, P., Bohner, G., & Eyssel, F. (2010, July). "Well, so she drank....:" *Schematic influences of rape myth acceptance on information seeking and attentional processes*. In J. White (Chair), *Current perspectives on the role of alcohol in sexual aggression: A contextual perspective. Symposium conducted at the meeting of the. XIX ISRA (International Society for Research on Aggression) World Conference*, Storrs, CT, USA.
- Weis, K. (1982). *Die Vergewaltigung und ihre Opfer: Eine viktimologische Untersuchung zur gesellschaftlichen Bewertung und individuellen Betroffenheit* [Rape and its victims: A victimological study of public perception and individual concernment]. Stuttgart, Germany: Enke.

Footnotes

¹ Specifically, we used items 3, 4, 5, 6, 10, 12, 15, 16, 22, 23, 27 (see, Gerger et al., 2007, pp. 439-440, or visit www.zpid.de/index.php?wahl=products&uwahl=frei&uuwahl=testarchiveintro).

² After reading the rape case, but before seeing the photograph, participants were asked to fixate an “x” in the middle of the screen. Based on the deviation from this fixation, inclusion versus exclusion of eye movement data for each participant was decided.

³ Degrees of freedom vary between correlations including time before fixation and correlations including encoding time because correlations calculated for time before fixation were based on data from participants who stably fixated the stimulus (e.g., $N = 26$ for the bottle of wine). However, people understand the gist of a scene very rapidly and subsequently focus on informative stimuli (Henderson, 2003). Since expectancy for the bottle of wine increases with participants’ RMA (and consequently renders the stimulus more uninformative), it is possible that especially participants with high RMA did not directly fixate the expected stimulus, but rather processed it peripherally. In line with this reasoning, participants were less likely to fixate the expected stimulus with increasing RMA, $r_{pb}(33) = .42, p < .05$. Participants’ encoding time was set to zero if they did not fixate the stimulus. Therefore correlations including encoding time use information by all participants ($N = 35$ in the experimental condition).

⁴ With respect to other types of eye tracking data, only the overall dwell time on the stimulus “bottle of wine” was related to participants’ RMA, $r(33) = -.42, p < .05$. No other types of eye tracking data such as the total number of fixations or the overall dwell time for the aforementioned areas of interest significantly related to RMA and judgements, all $ps > .05$.

⁵ Importantly, and in addition, future studies should employ a set of several different stimuli. The use of just one stimulus for the expected and unexpected schematic stimulus constitutes a major limitation to the generalizability of the present findings.

Table 1. Descriptive statistics and Cronbach's alpha for the self-report measures (Study 1).

Measure	<i>N</i> Items	α	<i>M</i>	<i>SD</i>
Rape myth acceptance	11	.83	3.12	0.96
Victim Blame	2	.66	4.26	1.31
Perpetrator Blame	2	.65	5.37	1.15
Verdict	2	.68	2.69	1.45
Overall Case Evaluation	8	.80	3.32	0.96

Table 2. Means and standard deviations of eye-tracking variables for relevant areas of interest (Study 1).

Area of Interest	time before fixation	first fixation duration	dwel time	fixation count
Bottle of wine	1526 (1365)	282 (233)	1114 (1213)	2.20 (1.81)
Coffee pot	2194 (2603)	269 (203)	813 (780)	2.47 (1.84)
Poster (Nude male torso)	3202 (2055)	440 ^b (286)	949 ^a (620)	2.20 ^b (1.41)
Poster (Eiffel-Tower)	4345 (2519)	280 ^b (273)	464 ^a (403)	1.47 ^b (1.23)
Teddy (Experimental)	1610 (1309)	219 (143)	436 (330)	1.63 (1.17)
Teddy (Control)	1744 (1970)	196 (133)	485 (376)	2.06 (1.43)

Note. Values reported for time before fixation, first fixation duration, and dwell time are in milliseconds. Standard deviations are shown in parentheses.

^a Significant difference between conditions, $p < .05$. ^b Marginally significant difference between conditions, $p < .10$. All other comparisons were nonsignificant, $p > .10$.

Table 3. Correlations of eye tracking measures with RMA and dependent variables (Study 1).

Type of cue	RMA	OCE	V	PB	VB
Encoding time (first pass)					
Bottle of wine ^a	-.35*	-.45**	.38*	.14	-.34*
Nude male torso ^a	.51**	.43*	-.36*	-.39*	.08
Teddy ^b	-.04	.04	-.04	.07	-.01
Time before fixation					
Bottle of wine ^c	-.36 [†]	-.33	.25	.27	-.32
Nude male torso ^d	.01	.03	.00	-.16	.11
Teddy ^b	.07	.13	-.21	.02	-.06

Note. OCE = overall case evaluation. V = verdict. PB = perpetrator blame. VB = victim blame.

^a $n = 35$ (total sample in the experimental condition with encoding time set to zero if participants did not fixate the stimulus).

^b For this cue, correlations were calculated across experimental and control condition ($n = 52$).

^c $n = 26$ (including only participants with a stable fixation on the cue).

^d $n = 31$ (including only participants with a stable fixation on the cue).

* $p < .05$, two-tailed. ** $p < .01$, two-tailed. [†] $p < .05$, one-tailed.

Figure Caption

Figure 1. Conditions of type of photograph.

Note. All participants were instructed to look at a black x before the photograph was displayed. For illustration purposes only, we inserted the x into the photograph.



Control Condition



Experimental Condition

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