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Believe it or not:

The effect of athlete's crisis communication on trustworthiness and reputation in case of doping allegations

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Summary

The internet and especially social media have changed the perception of high-performance sports and athletes sustainably and have led to the opportunity for recipients to get actively involved. Especially during crises, digitized media enables an immediate dissemination of the latest information, without journalistic monitoring and without check for correctness. Doping is one of the major crises in high-performance sports and is outwardly rejected by athletes and recipients. However, again and again single high-performance athletes are suspected of doping. A restoration of their trustworthiness and reputation can be regarded as essential for these athletes as their athletic career is also depending on their public standing. Thus, athletes try to regain their standing by making use of crisis communication strategies to influence the public perception. Based on a qualitative and several empirical studies, the present dissertation focuses on the effects of athlete's defense statements against allegations of doping on the evaluation of their trustworthiness and reputation. Besides the examination of two real doping cases (Alberto Contador and Evi Sachenbacher-Stehle), the impact of different crisis communication strategies, the influence of the media channel, the effect of the doping prevalence of a type of sport, and the impact of judgmental user comments were examined. The study on Alberto Contador reveals that his crisis communication via Facebook evokes mainly supportive messages of other social media users. In a longitudinal design on the case of Evi Sachenbacher-Stehle it could be shown, that the athlete was able to increase her trustworthiness after four weeks. Four further studies applied case vignettes of fictitious high-performance athletes. The first experimental study reveals that a justificatory defense statement led to the comparably best evaluation of the athlete's trustworthiness and reputation. In the second study it could be shown that the media channel, which was chosen to disseminate the defense, had no impact on the athlete's evaluation and also the doping prevalence of a type of sport had no impact on the evaluation of the athlete, as the third study indicates. Finally, the fourth study reveals that supportive user comments were able to enhance the effect of an athlete's crisis communication whereas negative comments led to no additional damage in relation to the athlete's trustworthiness and reputation. Taken together, the present dissertation leads to the conclusion that digitized crisis communication is a useful tool for athletes to defend themselves and that the public reaction on doping is more lenient as it would be expectable from the outwardly presented negative attitude towards doping.

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1 Introduction

"Never ignoring media reports on ethics allegations in football. But let the Ethics Committee work!" (Blatter, 2014). That is what Joseph Blatter, the current president of the Fédération Internationale de Football Association (Fifa), responded via his Twitter account to reoccurring media reporting about corruption in awarding the football world cup to Qatar and Russia in order to defend the Fifa and to insist that he would take the allegations seriously. The statement spread quickly through the internet, was critically discussed by other social media users and utilized in news reporting, for example on the webpage of the BBC (2014b). The success of Blatter's statement can be doubted at first sight, because aggravating this situation, the Fifa faces additional pressure by its major sponsors which expressed concerns due to the public debate and which partly threatened not to renew their sponsorship agreements (BBC, 2014b; Murai & De Menezes, 2014). In consequence, a withdrawal of sponsors would lead to severe financial losses, could cause further damage to the already tarnished reputation and lead to a further loss of trust in the Fifa. Nowadays, many sport related issues are discussed online. Thus, the framework for action has expanded and incorporates more relevant actors like sport federations, athletes, sponsors, or recipients, who have the opportunity to comment on issues or spread news or even rumors to a large audience and thus have active influence. Consequently, also crisis communication faces new challenges as the example of Joseph Blatter illustrates, indicating that an inefficient crisis communication might evoke severe consequences.

The internet and especially social media have changed the perception and the handling of sports, but also of crises. And particularly crises in a sports setting gain particular attention, as many people are interested in sports-related topics or single high-performance athletes (Wann, Russel, Melnick, & Pease, 2001). Thus, recipients are no longer passive consumers, but might also engage actively in commenting on issues, or following the private life of athletes in order to receive first-hand information (Smith, 2011; Kassing & Sanderson, 2009) or to have the impression of a social connection (e.g., Joinson, 2008; Special & Li-Barber, 2012).

The application of social media has not only changed the perception of athletes, but also the everyday life of a high amount of people who are active social media users and log-in at least daily (Duggan & Smith, 2013). Thus, parts of the everyday life happen online and are shared with many different people, intentionally or unintentionally by others. As contents are distributed within seconds, internationally available, and won't be forgotten (e.g., Bucher, 2002, Hjorth & Kim, 2011), also dangers of the internet and social media become apparent, like shitstorms or other openly distributed crises. Especially during crises the internet takes a special position (Utz, Schultz, & Glocka, 2013) as it urges the aggrieved parties to react immediately (Coombs, 2007a) and as social media users visit their accounts more frequently (Thelwall & Stuart, 2007). One's self-presentation (Goffman, 1959) can also be damaged if negative contents are spread and might make response statements in the sense of a strategic crisis communication necessary to restore one's reputation and trustworthiness, especially if

public figures are concerned (Champoux, Durgee, & McGlynn, 2012). Thus, due to the internet and social media, crises and crisis communication attain a new dynamic as contents reach huge crowds immediately.

One of the major crises in sports is doping, which gained a whole new dynamic due to the internet. The probably most popular example is the case of the American cyclist Lance Armstrong who evoked several debates on social media, like in the scope of his doping confession in an interview with the American talkshow host Oprah Winfrey (Cary, 2014). Armstrong, the seven times winner of the Tour de France, consistently denied doping for years and defended himself against reoccurring doping allegations. For instance on the 23rd August, 2012, when he posted a statement via Facebook as reaction on a report concerning new evidence for his doping behavior of the United States Anti-Doping Agency USADA which Armstrong named a "pitiful charade" (Armstrong, 2012). Subsequently, this Facebook post evoked again a controversial dispute of supporters and opponents.

What we do know now, this statement was one of the countless denials, Armstrong offered for years during and after his successful active career. After his doping confession in 2013, his achievements finally collapsed like a house of cards. From a successful athlete, a wealthy person and an idol for many people due to his victories against competitors and against his cancer disease (Macur, 2014) to someone who is now called "cycling's greatest fraud", as the title of a documentary of the National Geographic channel reveals (2013), a defeated person, who lost his trustworthiness, his credibility, and his reputation, money and sponsorship agreements (e.g., Macur, 2012; Nike, 2012).

The story of Lance Armstrong is an extraordinary example in its extent and one of the most spectacular doping cases in sports history (United States Anti-Doping Agency, 2012). Hardly any athlete dominated a sport like cycling over years, appeared in public as a benefactor and head of his cancer foundation Livestrong, and always claimed to compete on fair terms. Additionally, Armstrong is a parade example for a modern athlete, who is keen user of several social media like Facebook or Twitter to present himself strategically to the media or other users and to stay closely connected to his recipients (Kassing & Sanderson, 2010). For a long time, Armstrong was one of the athletes with the highest amount of internet users who were interested in his social media profiles and was therefore an athlete with a strong recipient-athlete interaction (Hambrick, Simmons, Greenhalgh, & Greenwell, 2010).

Doping is an inherent part of high-performance sports (Bette, Kühnle, & Thiel, 2012) and nevertheless considered as one of the major crises in sports and for athletes (Meinberg, 2010), accompanied by the publicly shown contempt of spectators (e.g., Engelberg, Moston, & Skinner, 2012; Stamm, Lamprecht, Kamber, Marti, & Mahler, 2008), the termination of broadcasting, or the withdrawal of sponsorship agreements (Solberg, Hanstad, & Thøring, 2010). Generally, if a doping case gets public, the athlete concerned defends him- or herself against the allegations, sometimes by making use of abstruse explanations, like the Canadian sprinter Ben Johnson who claimed that he was intoxicated with the prohibited doping substance stanozolol after winning the gold medal in the 100m final at the Olympic Games in

Seoul 1988 (Brown, 2013), or the Swiss tennis player Martina Hingis who also denied the conscious use of cocaine in 2007 and claimed that somebody must have added the drug to a fruit drink (International Tennis Federation, 2007). On the other side, recipients are important investors, who ensure the maintenance of this sports system by spending time to watch the competitions, by spending money for tickets or merchandising products, or by spending trust in an athlete for example.

Although the implementation of social media changed crisis communication and despite the high economic and societal significance of sports, hardly any research focused on the public perception of athlete's defense statements to regain trustworthiness and to repair their reputation, especially in the current era of the internet with its new dynamics. The sparse existing research on crisis communication is almost entirely descriptive, lacks an empirical background and therefore, it does not allow to draw conclusions. The present research project aims to fill this gap and focuses on the impact of crisis communication via social media in the field of sports, with a special focus on doping. The perception of doping is especially interesting as it links the extremes of people who condemn doping (e.g., Engelberg et al., 2012; Stamm, et al., 2008) and those who refuse to believe that allegation exist, as in case of Lance Armstrong (Macur, 2014). Therefore, this interdisciplinary research project, which combines research from psychology, sports and communication sciences, contributes to the understanding, how the public doping perception is constituted, whether trustworthiness or the reputation can be influenced via crisis communication and which factors influence the perception from a particular multidisciplinary perspective. It leads to the final discussion, whether sport spectators really want a doping-free sport, although it is publicly claimed. The present thesis arose in the context of the research training group "Trust and Communication in a Digitized World" at the University of Münster and was funded by the German Research Foundation (DFG).

The following short description of the single chapters shall guide the reader through the structure of this research project, which can be divided in a theoretical (chapter 2 - 5) and an empirical part (chapter 7 - 11), and ends with an overall discussion (chapter 12).

Chapter two introduces social media as new but already common tool for athletes to present themselves and to interact with their recipients. Starting with a general definition and the dissemination of social media, this chapter focuses on the specificities of the internet as a setting which leads to new forms and opportunities of communication in the digital age, like the possibility for athletes to communicate directly to their recipients, and to publish crisis communication statements without journalistic influences. Additionally, the motives for applying and receiving internet transmitted communication, as well as features like parasocial interaction or social swarming are discussed, which make the internet and social media become a unique environment for athlete-recipient interactions, which differs from face-to-face interactions and traditional journalistic working.

In chapter three, trust and reputation as two target variables for athletes are introduced, which need to be repaired if the athlete faces doping allegations to regain his or her standing

as an esteemed part of the competition. As there is no sport specific trust definition and trust model, the adaption of a theoretical framework from the organizational context, namely the integrative model of organizational trust (Mayer, Davis, & Schoorman, 1995) is critically discussed and adapted to the setting of sports. Additionally, as the internet constitutes a specific surrounding, the possibility of building trust in this setting is focused. Furthermore, this chapter focuses on reputation as a construct, which is related to trust, but not differentiated systematically yet, and which is an important indicator to determine an athlete's standing.

In order to get to know the strategies that athletes might apply as verbal techniques to clear their names or to beg for forgiveness, the fourth chapter is about crisis communication strategies. The two central frameworks in this context, the image repair theory (Benoit, 1995, 1997) and the situational crisis communication theory (Coombs, 1995, 2007b), are introduced and compared, and their application in research in the setting of sports and in a more general setting focusing on social media is illustrated.

Chapter five provides information to understand the complex issue of doping. As doping is a prohibited and strongly sanctioned behavior, athletes who applied performance enhancing substances are mostly not willing to talk openly about their behavior and those athletes whose use was detected only represent the tip of the iceberg. Therefore, this chapter aims to collect information to improve the understanding of doping. Besides the estimation of the doping prevalence and the introduction of various prohibited forms to enhance performance illegally, the psychological point of view including attitudes, motives and behavioral models to explain this behavior are introduced, which appears despite the existence of elaborated prevention and sanction systems. Furthermore, the public handling of doping is discussed critically.

The theoretical frame is topped off with the deduction of the research question in chapter six which guides through the empirical parts of this project. The research question is further subdivided in several smaller questions, which take a closer look at specific components of an athlete's crisis communication and which are assumed to have a particular influence on the public perception, like the strategy, the dissemination channel, the doping prevalence and judgmental user comments on a doping case.

The empirical part of this research project starts with the introduction of a measure to assess trustworthiness in sports in chapter seven. The survey was successfully deduced and adapted from an organizational setting and is one of the basic measures to answer the underlying research question.

In chapter eight, a case study on the public perception of the real doping case Alberto Contador is introduced. The Spanish cyclist faced a positive doping test in 2010 and published his defense statement via Facebook. In a systematic content analysis, all comments of Facebook users and his defense statement were analyzed. The results and the applied method are critically discussed in this chapter.

In a long-term survey design, the doping case of Evi Sachenbacher-Stehle was accompanied. The study on the German biathlete, who was tested positive during the 2014 Winter Olympic Games is presented in chapter nine. As the study was conducted in real-time when the doping allegations got public, it enabled a direct companionship of this doping case and is thus a unique examination, focusing on the public perception of Sachenbacher-Stehle's reputation and trustworthiness before and after her defense.

Chapter 10 includes three experimental designs, which focus on different factors that are assumed to have a special impact on the effect of crisis communication: the strategy which is chosen, the dissemination channel which makes the defense statement public, and the doping prevalence within a type of sport. Applying a comparable design based on different case vignettes of fictitious athletes, these studies provide important insight into the public perception of crisis communication and form the basis for the experimental design in the subsequent chapter.

In the chapter 11, previous findings converge in a research design to examine the impact of judgmental user comments on Facebook in combination with a defense statement. The design comes closest to the natural setting of an athlete's defense statement against doping allegations via social media and enables the deduction of important conclusions for the public view on doping cases.

Finally, the results of the experimental designs are discussed in a joint discussion for all sections in chapter 12. Besides a critical reflection of the findings from the empirical studies, the outcomes are applied to propose improvements of the underlying theoretical concepts. Additionally, the empirical results are taken as a basis for future studies.

2 Social media

Media, and to an increasing extent social media play an important role in athlete's and people's everyday life (e.g., Duggan & Smith, 2013; Hambrick, et al., 2010). They serve as distribution channel for information and the authors of these contents partially aim to affect the public opinion. Social network sites like Facebook or Twitter facilitate the publication of contents as they provide the opportunity to create an own user profile. Especially high-performance athletes are making use of this opportunity and thus offer a platform for verbal exchange.

To understand these media in the athlete-recipient interaction, basic information are necessary. Besides the definition of social media, the following chapter gives an overview of the amount of people, who apply social media, their motivations to use these media services, the credibility of social media and three central user groups are introduced: journalists, athletes and recipients. Finally, the features and risks of social media are outlined and how they might influence an athlete's online behavior and the public perception of it.

2.1 Definition

Social media is defined as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan & Haenlein, 2010, p. 61). The definition includes blogs, Twitter, YouTube or social network sites, such as Facebook. These sites enable persons to create a profile for self-presentation and communication (Boyd & Ellison, 2007; Champoux et al., 2012; Duggan & Smith, 2013). Whereas Facebook enables to publish comprehensive contents (so called "posts"), Twitter is a microblogging site, whose messages (so called "tweets") are limited to 140 characters. Other sites like YouTube or Instagram focus on contents like the sharing or commenting of videos or photos. Consequently, social media is a collective term for digital tools, which enable public exchange (Liu, Austin, & Jin, 2011). As the differentiation between social media and social network sites is inconsistent and overlapping in research (e.g., Joinson, 2008; Kaplan & Haenlein, 2010), social network sites are regarded as one part of social media and are grouped together under this concept.

2.2 Dissemination and application

Certain contents of social media like news concerning celebrities or athletes are widely discussed: in the private environment, but also by broadcasting services which integrate topics in their program. The following pages shed light on how many people apply social media, their reasons for doing so and why media, athletes and recipients need to be differentiated regarding their user properties.

2.2.1 Prevalence

In 2013, 73% of Americans who had access to the internet (so called netizens) used social media, and 42% had a profile on several sites: The application of Facebook dominated

(71%), less widespread were Twitter (18%) or Instagram (17%) according to the statistics of the Amercian PewResearchCenter (Duggan & Smith, 2013). A comparable pattern for the dominance of Facebook could be shown for the United Kingdom (Johnson, 2013) or for Germany (Busemann, 2013) for example. The social network Facebook has grown rapidly in the last years and is integrated in our everyday life (Special & Li-Barber, 2012). Although especially young people (age group 29 and younger) apply social media in general, the amount of Facebook users of the age group 65 and older increased significantly in the United States according to the PewResearchCenter. The US data also revealed that relatively more women utilize Facebook than men. For the other aforementioned social media, no gender differences could be found; neither in the American nor in the German sample (Busemann, 2013; Duggan & Smith 2013).

Comparing Twitter and Facebook, Twitter is regarded as a less formal tool which encourages communication to a greater extent (Becker, Nobre, & Kanabar, 2013). The trend towards new registrations on these sites and especially for Twitter is still increasing (eMarketer, 2012). And also in sports, the application of social media has increased rapidly in the last years (Hambrick et al., 2010). Among celebrities like singers or athletes, Twitter is already a preferred communication channel, but also the application of diverse social media is common (Turner, 2013). Thus, social media and especially Facebook are internationally widespread tools with a growing number of new users, whereas the active application of Twitter is more widespread among public figures.

2.2.2 Motives for application

Social media users are often frequent visitors of their profiles: sixty three percent of the American Facebook users logged in at least daily, whereas 40% logged in several times a day (Duggan & Smith, 2013). The application of social media can be described based on the uses and gratification approach (Katz & Foulkes, 1962), which explains how and why people use (social) media to gain satisfaction, and which can be transferred from traditional media and television to social media (Ruggiero, 2000). The reasons for utilizing social media are manifold, most frequently named in surveys are: staying socially connected, interacting with others, entertainment, updating of one's status and passing time (Joinson, 2008; Special & Li-Barber, 2012; Tosun, 2012), but also bringing oneself up to date, mostly with the own network, and reading the messages of celebrities, politicians, and athletes especially on Twitter (Busemann, 2013; Smith, 2011). Most of the social media users remained passive: They only read contents and did not comment on them or produced new ones (Busemann & Gscheidle, 2012). Thus, sports interested recipients who follow athletes on Twitter or Facebook gain satisfaction only by reading the latest news of their favorite athletes.

Another central issue of having a social media profile is self-presentation. Derived from Goffman (1959), the outward appearance on a social media profile and the public communication of its owner can be understood as tactical behavior to convey an intended image, like being an athlete who engages actively in anti-doping work, in order to influence the recipient's evaluation of the profile holder. This issue might be especially important for

celebrities or athletes and a central aim of their social media application. However, the possibility to share and discuss contents can impact an established reputation, which might make active influence by the profile holder necessary (Champoux et al., 2012; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011).

The targeted application of social media content occurs not only in the ordinary daily routine of persons of public life and organizations: Online behavior during crises also comes to the fore, as social media plays an increasingly important role during that time (Utz et al., 2013). During crises, people visited their social media profiles more frequently, especially in the early stage (Thelwall & Stuart, 2007) and sought for information, emotional support, and solutions in times of uncertainty (Jin, Liu, & Austin, 2014; Liu et al., 2011; Stephens & Malone, 2009). Additionally, profiles were applied as alternate broadcasting channel to disseminate news and links to other websites (Hui, Tyshchuk, Wallace, Magdon-Ismail, & Goldberg, 2012). The internet accelerates the transmission of information and forces the aggrieved parties to reply quickly (Coombs, 2007a): In organizational context it could be shown, that nearly two-thirds of companies who faced a crisis responded within 24 hours after the first appearance of the crisis event in the news media (Perry, Taylor, & Doerfel, 2003). Best practice approaches emphasize the benefit of self-generated web-content to reach an interested audience during these times (e.g., Conway, Ward, Lewis, & Bernhardt, 2007; Taylor & Kent, 2007; Veil, Buehner, & Palenchar, 2011). The same patterns should be transferable to athletes who face a crisis like the allegations of doping or other transgressions.

In summary, the main motives for people to apply social media are maintaining and establishing contacts, informing about topics of interest, amusement or self-presentation. Additionally, social media has become an important economic factor for organizations or public figures like athletes and a central medium in the handling and perception of crises.

2.2.3 News coverage of journalistic sources

The work of journalists has been extensively studied in relation to traditional media like newspapers or television and radio broadcasting in the last decades (e.g., McQuail, 2013; Weischenberg, Malik, & Scholl, 2006; White, 1950). Since then it is known that the publication of contents is influenced by certain processes, which are unavoidable: Journalists decide as gatekeepers which content is newsworthy and is transmitted (e.g., Shoemaker, Eichholz, Kim, & Wrigley, 2001; White, 1950), and as it is impossible to report entirely neutral, they frame the contents by highlighting certain aspects or by interpreting it (Entman, 1993). Another influencing effect of news media is described by the agenda setting theory (McCombs & Reynolds, 2002; McCombs & Shaw, 1972), which highlights the salience of a topic as an essential factor for the perception of news. According to this theory, the recipient's construction of reality is also influenced by how frequent and prominent an issue occurs in the news, like the TV coverage of different types of sport or athletes. Therefore, traditional media have multiple impacts of the perception of the world.

Due to the growing influence of social media in all societal areas, also the journalistic work area has changed, whereby news journalists apply especially Twitter as an additional tool for their work (Lasorsa, Lewis, & Holton, 2012). Despite the wide distribution of social media in journalism, the result of a structured telephone interview by Lariscy, Avery, Sweetser, and Howes (2009) showed that only 32% of journalists assessed social media to be an important or very important tool for their work, but indicated websites as most important online source. Nevertheless, journalists apply social media in manifold ways, which goes beyond the mere transmission of contents and includes the search for suitable information as well (Hutchins, 2011; Lariscy et al., 2009). To shed light on the changes social media has caused, the field of sports journalism is chosen as one example.

In the field of sport, Schultz and Sheffer (2010), and Sheffer and Schultz (2010) demonstrated a discrepancy between journalists reported use of social media, and their actual behavior, evaluated by content analysis: Whereas the self-report revealed that sports journalists applied social media primarily for the transmission of breaking news or promotion of their work, the content analysis showed that the publication of commentaries and opinions dominated. Sheffer and Schultz (2010) explained the results with a lack of familiarity with these new media. However, the finding of an increased expression of opinion could be replicated in sports journalism (Sanderson & Hambrick, 2012), as well as in a general, non-sport setting based on a sample of mainstream journalists (Lasorsa et al., 2012). The publication of personally framed content was criticized especially in respect of the demand for objectivity as a "journalistic norm" (Lasorsa et al., 2012, p. 19). Therefore, the results rather indicate a socially desirable response pattern to demonstrate the commitment to journalistic values. It becomes obvious that contents have changed due to the implication of social mediated sports broadcasting and might be personally framed by the author's preferences (Sanderson & Hambrick, 2012). This could also affect the news coverage of doping allegations and the perception of athletes.

The application of Twitter in sports news is evaluated critically and described as a "janus-faced communications mechanism" (Hutchins, 2011, p. 246), between insider knowledge of athletes and a loss of time by extensive search processes through numerous tweets. Due to the speed of social media, journalists have to manage the balancing act between fast, but correct news publications (Sanderson & Hambrick, 2012). This might be the main challenge for journalists nowadays. Besides the aspiration for winning the race against time and against other journalists, the initial publication of an "own" content is rewarded by the opportunity to put self-chosen emphasis on a topic (Schultz & Sheffer, 2010). Certainly, this is the fact, which interferes with the values of objectivity and accuracy the most.

Accurate reporting without distributing rumors is crucial for the quality assessment of a news channel, also in times of social media. A positive evaluation ensures a good status in serious news reporting. Especially for sport news, the achievement of a good status is rated as particularly important, as this news section continuously has to fight for being taken seriously in comparison to the major issues of society, like politics (Hutchins, 2011; Rowe, 2007).

Therefore, particularly sports journalists have to make an effort to struggle for their right to exist. As there is no way to avoid social media like Twitter in news reporting, journalists have to remain visible on these channels, when breaking news occur (Sanderson & Hambrick, 2012). Athletes have to be aware that the contents they publish on social media are seen and potentially further processed by journalists. This means on the other hand, that athletes are able to influence reporting and their appearance in the media, as social media contents are regarded as more direct and are evaluated as more attractive than "scripted responses" in official interviews (Hutchins, 2011, p. 244).

Although this section focused on sports, the results seem to be generalizable to social mediated journalism in general. It becomes obvious that (sports) journalism has changed due to the increasing impact of social media: The speed of news publication and the amount of potential hoaxes are increased; additionally the volume of subjective statements is enhanced. Athletes might make use of these changes and try to influence their public reputation.

2.2.4 Athlete's use of social media transmitted communication

The times when professional athletes attracted public attention solely transmitted via television or newspapers are over. Many athletes apply social media like Facebook or Twitter as a regularly updated tool (Meân, Kassing, & Sanderson, 2010). An especially popular male example is the Portuguese football player Cristiano Ronaldo (altogether 110 million followers on Facebook and Twitter), whereas "only" 14 million people follow the most popular female athlete, the Russian tennis player Maria Sharapova (Badenhausen, 2014).

Athletes apply social media strategically to present themselves and their doings (e.g., Hambrick & Mahoney, 2011). Whereas some athletes try to appear humorous or demonstrate their competitiveness (Kassing & Sanderson, 2010), other athletes care for their standing as a role model (Kassing & Sanderson, 2009) for example. All these presentations have in common that athletes try to convey an intended presentation of their person and try to influence how they are perceived in public. Athletes apply channels like Twitter for communicating directly to fans, for discussing about their sports or more general non-sports related topics, and for the promotion of products (Hambrick et al., 2010; Pegoraro, 2010). The authors concluded that social media creates a unique and more personal image of the athlete in comparison to traditional media, which focus mainly on the sporting perspective that made the athlete popular. Despite the personal impression of the athlete which is conveyed, many online profiles are edited by specialist agencies to perfect the athlete's presentation (Osang, 2014). It is hereby attempted to manage the profile content as authentic as possible, as this characteristic and the impression of interactivity increase the likelihood of a large amount of followers (Pronschinske, Groza, & Walker, 2012).

A positive evaluation of an athlete's self-presentation is important, as athletes depend on support of sponsors, trainers and fans, but also on media's attention to pursue professionally their career (Bette et al., 2012). To ensure also financial support, athletes apply their profiles as advertising platform to present their sponsors. This fact is especially

beneficial for sponsors, as they don't have to produce more expensive commercials (Osang, 2014) by making use of the possibility that athletes may reach huge crowds and that statements via social media are able influence opinion making (e.g., Brown, Basil, & Bocarnea, 2003; Van Norel, Kommers, Van Hoof, & Verhoeven, 2014).

Furthermore, the application of social media and the opportunity to publish one's own content makes athletes more independent from journalists and their gatekeeping function (Hutchins & Mikosza, 2010). For example, Lance Armstrong published his second retirement at first on Twitter before it was published by the news media (Hambrick et al., 2010). On the other hand, athletes have the opportunity to counteract negative news, which was officially broadcasted, in order to maintain their image in the eyes of public (Kassing & Sanderson, 2010). This becomes especially important during crises, like allegations of doping, when strategic communication is a crucial tool to maintain or restore a positive presentation (Benoit, 1995; Coombs, 2007b) and to circumvent journalistic gatekeepers (Hambrick et al., 2010). Due to the fact that journalistic contents on social media might be subjective and potentially more negative than objective news would be, the opportunity for athletes to publish own and alternate content is all the more important. Thus, athletes are able to use their social media profiles as public relations tools to foster immediate support and to mitigate a potentially negative framing by traditional media (Sanderson, 2010).

2.2.5 Recipient's perception of internet affine athletes

Whereas athlete's interest in media is mainly economically driven, the motives of sport recipients to follow an athlete can be explained from a social-psychological perspective (Schierl, 2009). Recipients emphasize the opportunity to perceive „unfiltered personal content" and the feeling to be closely connected to the athlete (Kassing & Sanderson, 2009, p. 185). Furthermore, recipients prefer connecting with single athletes over teams and especially with successful athletes (Clavio & Kian, 2010; Pronschinske et al., 2012; Sun, 2008). In this case they try to bask in the reflected glory, for example by wearing team jerseys, as a public sign of support and in order to display the connection to this athlete or team (Leary, 1996; Richardson & Cialdini, 1981). On the other hand, Leary (1996) emphasizes that recipients might disassociate from athletes in case of negative incidents, a phenomenon which is called "cut off the reflected failure" (p. 27).

Due to the perceived immediacy and the enhanced access, the application of social media has changed the athlete-fan relationship (Pegoraro, 2010). Therefore, recipients might come to believe that they are engaged in a two-sided interaction, which leads to a closer connection or even identification with the athlete (Kassing & Sanderson, 2009, 2010). This athlete-fan interaction thus differs in many ways from the one-sided relationship experienced in times of traditional media. By using social media, recipients have the opportunity to stay directly connected with an athlete (Kassing & Sanderson, 2009; Poor, 2006) and get to know background information about the athlete's personal life (Pegoraro, 2010). In some cases this goes so far, that some recipients perceive successful athletes as admired role models and are therefore more willing to oversee failures (Brown et al., 2003) or believe in the statements of

an athlete, which counteract negative news (Sanderson, 2010). Especially young adults tend to view athletes as role models (Bush, Martin, & Bush, 2004) and are thus more impressionable. But, derived from Gleich (1997), it is also possible, that recipients feel disappointed if "their" athlete committed misconduct.

The application of social media has also changed the perception of sports in a general sense. Smartphones enable recipients to exchange opinions during competitions with a wide range of people anywhere in the world (Boyle & Whannel, 2010). Therefore, also the communication among fans is facilitated and enlarged to a wider range of people. To sum up, the whole perception of sport has changed to do the increasing application of social media. On the one hand social media enables a close apparently two-sided connection to the athlete, but on the other hand recipients should be aware of the fact that athlete might maintain this relation in order to gain personal profit.

2.3 Resulting features of social media application

The dissemination of social media has changed the interaction of athletes and recipients, the general communication, and has influenced the perception and the availability of contents. The following pages focus on social media phenomena, which changed due to social media like immediacy, the perception of credibility, gatekeeping or parasocial interaction and phenomena which arose from the internet like social swarming. Additionally, chances and risks are named.

2.3.1 Immediacy and availability

The dissemination of the internet and new media has changed the opportunities of information processing fundamentally: On the one hand, the dissemination is accelerated and information is distributed worldwide within seconds and on the other hand, masses of information are stored and international accessible anytime, for anybody and years after its publication (e.g., Bucher, 2002; Hjort & Kim, 2011; Schmidt, 2014). Thus, the internet does not seem to forget (an issue which is also eagerly discussed in internet forums) and might influence the perception of people or organizations, especially if they face a crisis. In contrast to the times of traditional media, when sophisticated search mechanisms were needed to find elder data collections, the internet enables quick and easy search results for anybody who is interested and enables access to data which would not be stored or mentioned by traditional media at all (Lawrence & Giles, 1999; Papacharissi, 2002). Additionally, the accelerated information dissemination leads to a quick need for action (e.g. Sanderson & Hambrick, 2012).

This development of an augmented immediacy and availability due to the internet and social media leads to several consequences at various levels. For example, the increasing number of web-enabled smartphones facilitates an exchange of information independent of a computer access (e.g., Hjorth & Kim, 2011; White & Fu, 2012). Furthermore, the opportunities to store data consciously are also widely applied, as an increasing number of

persons store their data via online services like clouds, which enable device independent storage space (Deivamani, Vikraman, Abirami, & Baskaran, 2015), but might face security lacks (Subashini & Kavitha, 2011). Just like the choice of a cloud service, internet users have to evaluate carefully the quality of information given in order to receive true and reliable information, especially if they refer to user generated content (Agichtein, Castillo, Donato, Gionis, & Mishne, 2008).

2.3.2 Credibility

The internet provides countless information and is shaped by a constant change of contents. One quality criterion for the assessment of contents is their credibility. The importance of credibility has increased in the digital age, as the internet is free of a central control system and contents, whether true or false, can be easily published (Flanagin & Metzger, 2000). People's assessment of credibility is based on their perception and can focus on diverse characteristics of online information, like source credibility, media credibility, or content credibility. Source credibility refers to the message author and implies an evaluation of the author's characteristics, whereas media credibility refers to the media channel as a whole and implies the rating of the channel's believability, independent of the message content (Bucy, 2003; Kiousis, 2001). Finally, content credibility is understood as the evaluation of the message by itself.

As principal message of many studies which focused on the credibility of media and compared traditional offline with online media, one can say that traditional newspaper were perceived as more credible media in comparison to online news or television news (e.g., Flanagin & Metzger, 2000; Kiousis, 2001) and in comparison to social media (e.g., Austin, Liu, & Jin, 2012; Schmierbach & Oeldorf-Hirsch, 2012; Utz et al., 2013). Melican and Dixon (2008) indicated that the assessment of media credibility can be further increased if a traditional medium is combined with an online source. The standing of internet information and social media is less consistent: Whereas some studies have shown that online media gained the comparably lowest credibility ratings (Melican & Dixon, 2008; Morris, Counts, Roseway, Hoff, & Schwarz, 2012) other studies indicated no differences in the credibility perception between internet information and television, magazines or radio (Flanagin & Metzger, 2000). Only Johnson and Kaye (1998) were able to demonstrate that online newspaper could be rated more credible than traditional newspaper.

Similar results could be shown for the perception of content credibility: personal content in form of a website or in form of a tweet on Twitter were rated less credible than online newspaper content, although the contents were based on the same original text (Flanagin & Metzger, 2007; Schmierbach & Oeldorf-Hirsch, 2012). Comparing two version of online news, Sundar (1998) demonstrated that the credibility perception of online news content could be enhanced, if the content included quotes.

To sum up these results, one can conclude that people perceive content differently, dependent on the transmitting media channel. The credibility of social media and its contents

were rated the lowest. But although people seem to be skeptical about the internet and its content, they hardly check facts and verify online contents (Flanagin & Metzger, 2000). Although the result showed many consistencies, it is criticized that the definition and operationalization of credibility and its sub dimensions is handled inconsistently in research (e.g., Flanagin & Metzger, 2000). As the sport context plays a specific role in comparison to other online information, journalists or athletes should be well aware, that the medium might have an influential effect on the credibility perception of contents.

2.3.3 Parasocial interaction

"I know you from the internet." - This statement could be taken as a brief summary of the concept of parasocial interaction which was first described by Horton and Wohl (1956). They defined parasocial interaction as the impression of a face-to-face connection to a media-transmitted actor, which develops more likely if the recipient feels personally addressed. Key characteristics of this one-sided connection, which is terminable at any time, are the perception of intimacy, friendship and familiarity with the actor (Horton & Wohl, 1956; Rubin & McHugh, 1987). Although parasocial interactions are characterized by a missing reciprocity, its attributes are seen as comparable to real social interactions and recipients seem to incorporate these actors in their social network (Giles, 2002; Gleich, 1997).

Research divides three different types of parasocial connections, which base on the depth of the actor's incorporation in a recipient's mindset: parasocial interaction, identification, and relationship. Whereas parasocial interaction describes the weakest connection with an actor, parasocial identification is given when the recipient shares or adopts actor's characteristics and perspectives (Giles, 2002; Rosengren & Windahl, 1972). A parasocial relationship is the strongest connection and is regarded as closely connected to relationships of the real world, due the perception of social support or negative feelings in case of termination (Cohen, 2004). All these forms are supposed to occur in sports, if the actor is an athlete (Hartmann, Stuke, & Daschmann, 2008).

The phenomenon of parasocial interaction has been studied intensively throughout various settings. Thus, positive correlations between media exposure and parasocial interaction could be shown, indicating that the more time a recipient shares with an actor, the stronger the parasocial interaction and vice versa (e.g., Brown & Basil, 1995; Gleich, 1997; Rubin & McHugh, 1987). Other studies demonstrated that parasocial interaction occurred more likely with male actors, independent of the recipient's gender (e.g., Gleich, 1997; Schramm, 2008). However, social attraction (e.g., assessment of the actor's personality as being a good friend) appeared to be more important for the development of a parasocial interaction than physical attraction (Rubin & McHugh, 1987).

With the advent of the internet and social media, the perceived interaction with actors has changed. Statements like "Although the audience cannot communicate directly with the mass media performers […]" (Levy, 1979, p. 69) are no longer generalizable. Due to the message options of social media, the connection to actors does not necessarily remain one-

sided and recipients may behave more actively (Hambrick et al., 2010; Mei, Bansal, & Pang, 2010). This means, that the perceived connection to an actor might shift to a more social interaction. Several studies from the context of sport focused on parasocial interactions with athletes under the conditions of social media. Some of these studies were able to replicate findings from traditional media settings like the positive correlation between time and development of a parasocial interaction (Brown et al., 2003), whereas other studies describe a shift to real interactions on the social media profiles of athletes (e.g., Kassing & Sanderson, 2009; Sanderson, 2010). And also the preference for male interaction partners seems to be transferable, which could be demonstrated in case of Cristiano Ronaldo's popularity in comparison to Maria Sharapova (see chapter 2.2.4).

To some up, the principle of parasocial interaction is an important framework to describe the connection between recipients and actors like athletes. Although social media enable a two-sided and more active interaction, the basic results seem to be transferable to the setting of sports and the setting of social media.

2.3.4 Social swarming

Athlete's social media profiles contain various contents: personal information which supports the building of a connection, but also promotional contents, which are often commented or discussed by other users. The influences of opinions in the internet are summarized under the term social swarming. Deduced from the definition of swarming behavior as a collective behavior of individuals, who cooperate in a group in order to reach a common aim (Kaiser & Kröckel, 2011), the relatively new research topic of social swarming is understood as social influence in an online setting due to an exchange of opinions in an informal group of people, which can lead to a shift of opinion in order to form a common understanding. As a theoretical framework, this concept builds upon assumptions of theory of social comparison (Festinger, 1954).

Due to the large number of people who apply social media and the mass of content which they disseminate, the impact of these contents has grown (Kaiser, Kröckel, & Bodendorf, 2013). According to these authors, the pure dissemination of contents leads to opinions, which then makes orientation necessary. This orientation is achieved by analyzing the opinions of the other network members one feels connected with. Thus, if one opinion is predominant in a discussion, other people are more likely to adopt this opinion (Kaiser & Kröckel, 2011; Kaiser, Piazza, Kröckel, & Bodendorf, 2011). Referring to the evaluation of an organization's trustworthiness, Wiencierz, Pöppel, and Röttger (2015) were able to demonstrate that negative comments on a Facebook campaign led to lower ratings of trustworthiness in comparison to positive or a balanced combination of positive and negative comments. However, an online setting with predominant positive or negative opinions might lead to skepticism and a non-adoption of the opinion (Kaiser & Kröckel, 2011). That means that people analyze their online surrounding attentively to decide whether they maintain or change their opinion.

By analyzing contents of a social gaming network through data mining algorithms, Kaiser and Kröckel (2011) and Kaiser et al. (2013) demonstrated that opinion making was influenced by three factors: a) close neighbors in the network who are supposed to have the most influence, b) opinion leaders, whose central position in the network is based on their knowledge or discussion skills and who have thereby crucial impact on opinion making, and c) the own personality like ones predisposition for social influence. These results are in accordance with Watts and Dodds (2007), who argued based on computer simulations.

This research is mainly targeted to draw conclusions for marketing, but the results are also of special importance for the sports setting, as athletes also try to improve people's opinions on themselves or promoted products. Especially in discussions on doping, when mostly strong opinions appear, the mechanism of social swarming are assumed to have an impact.

2.3.5 Gatekeeping and framing

The new communication options of social media enable instantaneous and independent dissemination of information, directly to one's recipients. By publishing online statements, gatekeepers such as the media and the filters they impose on information can be avoided (Taylor & Kent, 2007; White & Raman, 1999). Derived from the understanding of gatekeeping by Shoemaker et al. (2001), athletes or their management are than able to decide themselves which contents they publish and how detailed the report is. Thus, they have the chance to create alternate content and their desired frame (Coombs, 2007a; Freberg, 2012).

Framing describes the shaping of an already selected content by choosing details and by highlighting certain aspects (Entman, 1993). The underlying, implicit frame of a journalistic content gives a first hint, how the information could be interpreted. However, the recipient's interpretation does not necessarily match with the intended interpretation (McKenzie & Nelson, 2003). In any case it is beneficial for athletes, if they are able to publish and thus control their content, without journalistic further processing, which might lead to a negative frame and might also lead to a negative interpretation.

Many athletes apply their social media profiles to publish contents for their recipients (Meân et al., 2010). Although these contents are theoretically readable for every netizen, it is to assume that athletes reach only a selective group of people like their fans, who actively search the web for information or are alerted if a new content is posted by an athlete, they follow. In case of negative news, athletes are thus able to reply and set an alternate frame. Otherwise recipients have the possibility to comment on athlete's contents, which bears the risk, that critical or negative comments are publicly posted which might impair the desired frame (Champoux et al., 2012). Although athletes have the opportunity to control some part of their public appearance, social media enables also a public basis for critical discussions, which might appear especially in case of doping.

2.3.6 Opportunities and risks

The fact that own contents might be discussed critically, indicates that social media and the internet offer besides amenities also much room for risks. The internet enables not only a public feedback on contents, especially the opportunity to spread gossip or other negative contents, like an allegation of doping, have great potential to influence opinions and impair a reputation (Champoux et al., 2012; Kaiser et al., 2013; Wiencierz et al., 2015). The publication of crises news does not necessarily mean that there was any wrongdoing: The perception of an accused wrongdoing is sufficient to impair one's reputation (Benoit, 1995, 1997). Rumors are apt to spread quickly through the internet. By sharing or commenting on these contents via social media, this news reaches huge crowds as well as the people who were originally no interested party (Champoux et al., 2012). Therefore, crisis managers or in this case athletes themselves have to adapt their communication strategies to the new challenges and increased uncertainties caused by the speed of disseminating information via social media (Freberg, Saling, Vidoloff, & Eosco, 2013). A derived conclusion for the organizational context was that a transfer of crisis communication techniques to social media is necessary and a must do (Coombs, 2008; Jin et al., 2014). But these implications are also extendable to the context of athletes and doping, as athletes for example act as brand ambassadors or as a kind of brand themselves, who are dependent on public interest.

The internet leads to increased anonymity among individuals: People are able to disseminate their thoughts or emotions easier and faster, without being necessarily linked to the message personally (Champoux et al., 2012). This anonymity facilitates also phenomena like identity theft or imitation of athletes or teams for example by faked social media profiles (Pronschinske et al., 2012; Renaud & Gaucher, 2012).

Despite these negative remarks and besides the aforementioned features of social media, like creating of own content, instantaneous two-sided interaction, or (self-) promotion, also other virtues of social media have to be mentioned. Especially due to their two-sided communication options, social media facilitate the building of relationships (Seltzer & Mitrook, 2007), enable simplified ways to get in contact even with large audiences (Schultz, Utz, & Göritz, 2011) or support shy persons in enlarging their social network (Ellison, Steinfield, & Lampe, 2007). Studies indicate that also trust can be built in a digitized context, even if the cooperation partners did not interact directly and personally at any time (Jarvenpaa & Leidner, 1998). Derived from an organizational context, the professional application of social media requires an awareness of these risks and features and leads to the conclusion that a monitoring of contents which are published in relation to a person, especially if the person is as popular as a high-performance athlete, might be useful to maintain a positive reputation (Kietzmann, et al., 2011; Wiencierz, et al., 2015).

3 Trust and reputation

At a first glance, trust and reputation are two distinct constructs which both can be regarded as criteria for relationship quality or as a value for the esteem of a person, like a famous athlete. On closer examination they are closely connected and research sometimes struggles to differentiate them appropriately. Their meaning for a maintenance of relationship becomes obvious with a look at the consequences of the high amount of doping cases during the Tour de France 2008: As trust was lacking and the reputation of the whole sports event suffered, the German public service broadcaster, which broadcasted approximately whole stages live in their program, terminated their live coverage for several years (Solberg et al., 2010). This chapter aims to define both constructs and aims to separate them from each other. Central model concepts are presented, options and difficulties in either measuring trust or reputation are named and approaches in case of damage are introduced.

3.1 Trust as psychological construct

Trust is a basic component of relationships and especially in dependencies, if control is not possible or not desired. Especially in high-performance sports, recipients have to trust in athletes that they compete fairly as they are not able to have any influence. This sub-chapter describes the basic components which constitute trust in general, and how this perspective can be transferred to sports.

3.1.1 Definition of trust

Research on trust is a highly interdisciplinary field of study (Dietz, Gillespie, & Chao, 2010), which focuses primarily on organizational settings (e.g., Herger, 2006; Mayer et al., 1995), but also on interpersonal relationships (e.g., Evans & Revelle, 2008) or sports (e.g., Zhang & Chelladurai, 2013). Although this leads to the problem that each research direction regards this topic through their glasses (McKnight & Chervany, 2001) and a general trust definition is lacking, most research is dominated by a common understanding of trust and its characteristics (e.g., Dirks, 2000; Rousseau, Sitkin, Burt, & Camerer, 1998).

As a result of an interdisciplinary literature review, Rousseau et al. (1998) defined trust as “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" (p. 395). Therefore, trust is generally seen as a psychological and social construct (Kelton, Fleischmann, & Wallace, 2008), based on positive expectations (e.g., Lewicki & Bunker, 1996; Mayer et al., 1995). It is situation-dependent (Rousseau et al., 1998), a basis for future actions (Anderson & Weitz, 1989), accompanied by the acceptance of own vulnerability (e.g., Dunn & Schweitzer, 2005; Lewicki & Bunker, 1996), and it contains the willingness to take a risk (e.g., Johnson-George & Swap, 1982; Mayer & Davis, 1999) as it is unclear whether the own needs will be met (Anderson & Weitz, 1989).

The initial definition of the construct of interpersonal trust as “an expectancy held by an individual or a group that the word, promise, verbal or written statement of another

individual or group can be relied upon" by Rotter (1967, p. 651) was criticized as it regards trust as a personality trait and neglects situation dependent influences (e.g., Johnson-George & Swap, 1982). A newer approach to describe interpersonal trust focuses more generally on the confidence and the willingness to rely on another person (McAllister, 1995) and resembles more to Rousseau's broad definition of trust. Based on an interview and survey study, Zaheer, McEvily, and Perrone (1998) concluded that interpersonal and interorganizational trust were two related but distinct constructs. Therefore, theoretical models from organizational settings might not fit one-on-one to interpersonal relationships.

As there is no sport specific trust definition, the comprehensive definition of Rousseau et al. (1998) is taken as a basis to describe the trust relationship between recipients and athletes. Recipients have positive expectations that the athlete they support or who represents their country shows full commitment, like esteeming the rules of fair play and competing without applying prohibited performance enhancing substances. Furthermore, recipients accept vulnerability by believing in the athlete and hoping for success (Daley & Wolfson, 2010) and by spending time for following the athlete via media, commenting positively on an athlete in public and maybe spending money for merchandising products, tickets or travels to be a live spectator at competitions. As they are not able to monitor the athlete, they take the risk to be cheated and disappointed.

3.1.2 Forms of trust

For years, research focused on the constitution of trust, but until now this is a controversial issue. Prominent examples are the works of McAllister (1995) who focused on interpersonal relationships and Lewicki and Bunker (1996) who focused on work relationships, and their further developments. Based on a survey including a confirmatory factor analysis (CFA), McAllister (1995) divided two distinct, but reciprocally influencing trust forms: Cognition-based trust as result of a reliableness assessment of the trustee and affect-based trust as mutual esteem.

Lewicki and Bunker (1996) proposed three forms of trust in a theoretical paper: calculus-, knowledge-, and identification-based trust. Ten years later, Lewicki (2006) rejected the idea of knowledge-based trust and focused solely on the other two forms. Calculus-based trust, which should develop early in a relationship, without much previous knowledge and which should be the result of a sober view of costs and benefits if the relation is worth the risk of trusting; and identification-based trust, which should appear more likely in close relationships of mutual respect when people share the same values or develop a "common identity" (p. 96).

In the same year Lewicki was co-author in a paper, which rejected the idea of calculus-based trust and resumed knowledge-based trust, defined as being able to predict another's behavior and reliableness (McAllister, Lewicki, & Chaturvedi, 2006). As a result of three surveys in three different contexts, they postulated knowledge-, identification-, and affect-based trust as distinct and reliable forms of trust in an organizational setting. Based on

empirical evidence they excluded calculus-based trust, which appeared to be more distrust than trust related. Lewicki, Tomlinson and Gillespie (2006) mentioned the results of the aforementioned study in their theoretical paper, but incorporated calculus-based trust again, as starting point of each trust relationship. Until now there is a lack of stringency and no additional empirical study of these authors was published to resolve this contradiction and to further investigate the forms of trust and their development.

Karimov, Brengmann, & Hove (2011) highlighted the existence and importance of initial trust in an online setting, when a person has no prior experience with a cyber-merchant. Initial trust is seen as based on both, the propensity to trust and cues as second-order information like one's reputation, which might lead to a considerable amount of trust, although the trustor has no meaningful first-hand information about the trustee (McKnight, Cummings, & Chervany, 1998).

With regard to the context of sport, it can be thus concluded that recipients might build a trust relationship starting with the initial contact to an athlete. According to the disputed concept of calculus-based trust of Lewicki and the results on initial trust by Karimov et al., trust can develop in a very early phase without much background information, even if the contact is indirectly transmitted via media and one-sided. This is the case, if recipients become acquainted with an athlete or follow this athlete on social media and during the competition. But also the development of identification-based trust is reasonable to assume, especially in the further course of an athlete recipient-connection, as sport fans tend to identify with their favorite athletes on a lower or higher level (Schlicht & Strauss, 2003; Wann et al., 2001). Besides a positive correlation between team identification and trustworthiness of others (Wann & Polk, 2007), the perception of identification with a sports team enhanced the recipient's level of social well-being (e.g., Wann & Pierce, 2005; Wann & Weaver, 2009), is thus rewarded and therefore more likely to occur. Taken together, recipients are able to develop trust towards an athlete, even if they did not interact directly with him or her.

3.1.3 Separation from other constructs

Interorganizational and interpersonal trust need to be differentiated from other, partly related constructs. For instance, the development of trust might also focus on a whole system, decoupled from persons which are only seen as representatives for this system (Kohring, 2001). According to Luhmann (1968) this so called system trust is more complex as the variety of information for the evaluation of its trustworthiness is greater, but otherwise it is assumed to develop more easily as the amount of experience is higher and it is assumed to be more resistant against damages, as primarily only smaller subsystems suffer damage. However, as a system is more complex, the monitoring becomes more difficult (Luhmann, 1968). This trust in the functioning of a whole system (Kohring, 2002) was also transferred to sports, where people trust in allegedly fair and doping-free competitions (Meinberg, 2010). It is therefore concluded that repeated doping cases might damage the trust in sports entirely, as

one could assume in case of cycling (see Lentillon-Kaestner, Hagger, & Hardcastle, 2012; Solberg et al., 2010).

Familiarity and trust can be differentiated by imagining a timeline: Whereas familiarity focuses on past experiences which lead to expectations, trust relates to the future (Luhmann, 1968). Luhmann (2000) also distinguishes between confidence and trust: Whereas confidence occurs in routines, where disappointments, whose probability is regarded as low, are attributed externally; trust is found in risky situations, when choices are made and disappointments are attributed internally.

Further concepts that need to be differentiated from trust are: Predictability, cooperation and reliance. Although both prediction and trust aim to decrease uncertainty (Lewis & Weigert, 1985), the difference is that risk and vulnerability are absent in predicable situations, whereas these components are necessary for trust (Mayer et al., 1995). Mayer and colleagues similarly emphasized that trust might come along with cooperation, but that these two constructs have to be distinguished as cooperation does not imply risk and vulnerability and that cooperation might exist without trust. And finally, reliance and trust are regarded as two separate constructs: Whereas Rousseau et al. (1998) highlight reliance as a precondition of trust; Mouzas, Henneberg, and Naudé (2007) consider reliance as a rational choice based on positive experiences and trust as incorporating an emotional element.

Besides trust, research focuses on the nature of distrust, with inconsistent notions how it is constituted (Lewicki & Brinsfield, 2012). Whilst one school of thought considers trust and distrust as two ends on a continuum (e.g., Schoorman, Mayer, & Davis, 2007), other researchers recommend to view trust and distrust as two distinct constructs, which work together simultaneously (e.g., McKnight & Chervany, 2001). They argue that both concepts might show high and low levels and that distrust is accompanied by other emotions than trust. The notion to regard trust and distrust as two constructs is also supported by the results of McAllister and colleagues (2006) that calculus-based trust appears to be more distrust than trust related.

3.1.4 The integrative model of organizational trust and its adaption to sports

According to Mayer, et al. (1995) and their integrative model of organizational trust, trust is preceded by an evaluation of three factors of trustworthiness, namely: ability, benevolence, and integrity. In this paragraph, the original definitions of the factors are introduced, followed by an own interpretation, adapted to the setting of sport. According to this model, ability comprises a rating of the trustee's skills and competencies within a specific scope of activity. Transferred to sports, ability is understood as the talent and giftedness, which enable athletes to dominate their sports. The benevolence factor of the original model refers to the perception that the trustee means well for the trustor, without a pursuit of one's own gain. Adapted to sports, benevolence is meant to be the perception that the athlete cares about the recipient's needs and feelings and shows a personal orientation, like signing autograph cards after a competition or being theoretically accessible for fans. If an athlete

engages in charity work, this would also be covered by this factor. And finally, integrity by Mayer et al. refers to the assessment of the trustee's values and principles, whether they are regarded as appropriate and if the trustee's words and deeds are congruent as well as the communication is perceived credible. Transferred to sports, integrity is the perception of an honest athlete who emphasizes positive values like clean sports without doping and has a strong sense of justice. Although the model focusses on organizational settings, a transfer to interpersonal relationships is suggested (Schoorman et al., 2007), as athletes are generally brands or brand ambassadors but also individuals. The framework by Mayer et al. (1995), which is close to Rousseau's trust definition, seems to be appropriate to describe the athlete-recipient relationship. Figure 1 illustrates the application of this model on this relationship, with the athlete as trustee and the recipient as trustor.

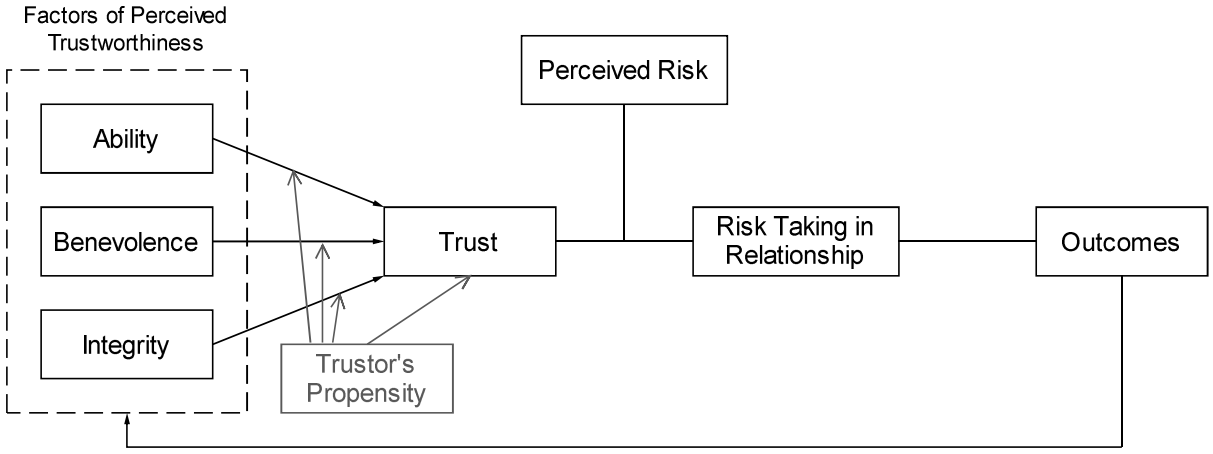


Figure 1: Integrative model of organizational trust (Mayer et al., 1995).

Referring to the original version of the trust model, the factors differ, regarding their development and their impact on trustworthiness: Benevolence takes a special position as it is regarded to be most difficult for trustees to assess in comparison to ability and integrity and as it seems to be the most meaningful factor for the evaluation of trustworthiness (Schoorman et al., 2007). Otherwise, solely a high rating of benevolence is not sufficient for the development of trust (Mayer et al., 1995). At the beginning of a relationship, benevolence and integrity are highly correlative and can be hardly differentiated. A separation becomes possible in the course of the relationship (Schoorman et al., 2007).

Trustworthiness, trust, trusting behavior, and the propensity to trust have to be viewed separately (e.g., Dietz et al., 2010). Whereas a person's trustworthiness is the result of an evaluation process of key factors (like ability, benevolence, and integrity), trust is the general willingness to become vulnerable and to take a risk (e.g., Mayer & Norman, 2004). Trusting behavior describes the act of trust as the trustor counts on the trustee and/or discloses

sensitive information (Gillespie, 2003). This can be summed up as a future-oriented outcome based on prior assessments (Dietz & Den Hartog, 2006). Mayer et al. (1995) highlight that trust is the result of a dynamic, repetitive evaluation process by adding a feedback loop. If the outcome does not meet the expectation (either in a positive or in a negative sense) a reevaluation of the factors of perceived trustworthiness takes place, which has an impact on trust and trusting behavior. The propensity to trust is described as a personal disposition to trust in general, which resembles Rotter's (1967) concept of interpersonal trust (e.g., Colquitt, Scott, & LePine, 2007; Mayer et al., 1995), and which enables the development of trust between previously unknown persons (Dietz et al., 2010). Therefore, the propensity to trust is regarded as especially important in the early phase of a relationship (Schoorman et al., 2007). A meta-analysis highlighted the impact of the propensity to trust and the evaluation of trustworthiness on trusting behavior in general, as both explained incremental variance when trust was controlled (Colquitt et al., 2007).

Additionally, a trust relationship is characterized by two inter-related components: control and risk. As the outcome of trusting behavior is always uncertain to some degree, risk is a fundamental element (e.g., Johnson-George & Swap, 1982; Mayer et al., 1995; Rousseau et al., 1998). The perceived risk is either influenced by trust, or by control (Das & Teng, 2001). In situations, which are based on an entire certainty and a lack of risk, trust would be superfluous (Kelton et al., 2008; Lewis & Weigert, 1985). On the other hand, in fully controlled situations, trust is unnecessary (Rousseau et al., 1998) and a high amount of control might lead to an inability to act (Kohring, 2002). Thus, control is a mechanism to stem risks (e.g., Mayer et al., 1995), but the presence of trust decreases the need for monitoring (e.g., Das & Teng, 2001; Mayer & Norman, 2004). Referring to the context of sports, recipients are in a special position as they face a risk, but are not able to exercise control themselves (Daley & Wolfson, 2010). They have to build on external mechanisms of control like a functioning doping control system.

The relationship between recipients and athletes is special, as the evaluation of an athlete's trustworthiness is based on available information, like second-order information or observations, which are generally transmitted via media. Based on Karimov and colleagues (2011), and Mayer et al., (1995) this information is sufficient for the recipient to develop a trust relationship, even though it is unilateral in this form. The integrative model of trust (Mayer et al., 1995) appears to be a promising framework in its adapted version to investigate the perception of athletes in case of doping. It is assumed that if an athlete is suspected of doping, a reevaluation process starts, which might lead to a modified assessment of the athlete's trustworthiness. Daley and Wolfson (2010) came to the same conclusion that the trust model is suitable for the sports setting and argued that fans are able to evaluate the trustworthiness of sports team as calculus- or knowledge-based trust according to Lewicki and Bunker (1996).

3.1.5 Trust research in sports

Despite the social significance of sports with its high commercialization and an ascribed win at all cost mentality (Kamberidou & Patsadaras, 2007), trust has been little examined in sports until now (Meinberg, 2010). However, research on trust in sports covers a broad range of settings, like the coach-athlete relationship (Zhang & Chelladurai, 2013), trust in teams (Daley & Wolfson, 2010), trust within teams (Dirks, 2000), trust in sport psychological support (Kleinert & Wippich, 2012), or trust in one's own performances (Moore & Stevenson, 1991; 1994).

In a study on athlete's trust in their coaches, Zhang and Chelladurai (2013) demonstrated a successful application of the integrative model of organizational trust (Mayer et al., 1995) to sports, by adding justice as a fourth factor of perceived trustworthiness. The perceived trustworthiness was demonstrated as having an influence on the commitment to the coach or the cooperativeness. As the interpretation of the justice factor is based on the specific settings within sports teams, like the coach's rewards for team members, an extension of the trust model for the athlete-recipient relationship is not considered useful.

Adapting the original trust model to the perception of team sports and highlighting that trust plays a special role in this context, Dayley and Wolfson (2010) demonstrated a decline of the coach's and the team captain's trustworthiness after a defeat. Therefore, trust of fans was evaluated as an unstable construct which can be easily damaged. This result appears to be consistent with the appraisal that the relationship strength between athletes and recipients is weaker, compared to business relationships (Wu, Tsai, & Hung, 2012). Referring to the trust within sports teams, a significant positive relationship between performance and trust could be repeatedly shown (e.g., Dirks, 2000; Mach, Dolan, & Tzafrir, 2010). Therefore, the presence of trust in teams might enhance success.

Meinberg (2010) emphasized the special role of doping in sports as an "assassination attempt on the trust and the credibility of sports" (p. 199, translated from the German). He further concluded that athletes who engaged in doping do not trust in the sport system and do not trust in themselves in being successful by one's own efforts. Additionally, an interview study by Kondric and colleagues (2011) revealed that athletes even don't trust in the information on doping substances they received by their own medicines and physicians and concluded that athletes doubt their medical competence concerning that issue. However, the interviews also illustrated that doping is an important issue for athletes to think of. Although doping is regarded as a destroyer of trust, there is a lack of research concerning the perceived trustworthiness of athletes who applied prohibited substances.

3.2 Measurement of trust

Whereas research achieved broadly a common understanding what trust constitutes, the notion how to measure trust is inconsistent. Additionally, trust is a latent variable and faces therefore the difficulty, that it can't be captured directly (Lewicki & Brinsfield, 2012). Thus, measures were developed which are regarded to be indicative of trust, like the

prisoner's dilemma, the critical incident technique, vignette studies, and self-report questionnaires.

The prisoner's dilemma assesses risk taking behavior and is therefore an indicator for one's willingness to trust (Tedeschi, Hiester, & Gahagan, 1969). It works on the principle that two people, who depend on one another, interact in one situation, in which each person either has the option to be cooperative or to be opportunistic, without knowing the choice of the interaction partner. If both chose the same option, they both win (cooperative option) or both lose money (opportunistic option). Being opportunistic is therefore attractive, as it might lead to a major benefit. If one partner choses to be cooperative and the other one choses to be opportunistic, the opportunistic person wins most, whereas the cooperative person loses money. Thus, one person has to trust, that the interaction partner choses the cooperative option as well and does not enrich him- or herself at the first persons expense (Deutsch, 1958).

Theoretically, the prisoner's dilemma could be transferred to measure risk taking behavior in the relationship between athletes and recipients, if the target variable is the attitude towards doping, as the recipient does not choose whether to apply doping substances or not. However, this analysis would face several difficulties: On the one hand the assessment would be hampered by the fact that doping attitudes have to be differentiated from doping behavior (see chapter 5.4) and on the other hand, in evaluating this relationship in a field setting, there is only one choosing interaction partner available: the recipient. As the low external validity of this method is already criticized (Lewicki & Brinsfield, 2012), the evaluation of trust in an even more fictitious setting would call the assessment completely into question.

Another method to evaluate trusting behavior is the critical incident technique, which is assumed to be of growing importance for trust research (Münscher & Kühlmann, 2012). It is an inductive procedure to analyze the behavior in predefined situations of high importance, in order to optimize behavior to reach a greater aim (Flanagan, 1954). The data are either collected via observations or via interviews, which should lead to the advantage that no information got lost as in case of answering options (Gremler, 2004). As this analytical method is mainly applied in organizational settings (e.g., Korsgaard, Brodt, & Whitener, 2002), it could be used to monitor trials to enhance trust in work groups for example. A transfer to sports is conceivable as it could be applied in team sports.

The application on the athlete-recipient relationship in case of doping is difficult. As this technique needs a large sample size, it would be possible to evaluate people's reactions on doping cases, but it would not be economically justified. Despite the advantage that the critical incident technique can be flexibly adapted to various contents (Flanagan, 1954), the application leads to challenges concerning its reliability and validity (Chell, 1998). Therefore, other, more economical analysis methods should be preferred.

An opportunity to measure the trustworthiness of a person, the recipient is not yet familiar with, are vignette studies. These vignettes are written descriptions of a person or

setting, which might be fictitious and which is the basis for a further evaluation of the target variables (Barrera, Buskens, & Raub, 2012). Mayer and Norman (2004) successfully applied this method to evaluate the perceived trustworthiness in an organizational setting. Their participants read the introduction of diverse persons including manipulated trust indicators and were further asked how they would rate the trustworthiness of this person and whether they would make themselves vulnerable to this person. Although this brief introduction was the participant's first contact with the fictitious persons, Mayer and Norman were able to demonstrate differences in the perception of their trustworthiness.

Apparently, the application of vignette studies seems possible to evaluate a recipient's perception of an athlete's trustworthiness. Barrera and colleagues (2012) highlight three weaknesses of vignette studies which might limit their significance: choices are generally done in a fictitious setting and would have no real consequences, confounding factors which were not considered beforehand could lead to biases and decreased reliability, and the setting could be perceived as artificial which could lead to decreased validity. Despite these limiting conditions, vignette studies appear to be suitable to evaluate athlete's trust in a doping setting, if the vignette is designed with caution for potential confounding factors.

The most common approach to evaluate trust or trustworthiness is by means of questionnaires. But until now many questionnaires do not meet the quality criteria for empirical research (Gillespie, 2012) and lack a necessary differentiation whether they evaluate trust or trustworthiness (Dietz & Den Hartog, 2006). Gillespie (2003) summarized the reasons, why this distinction is important as a trustworthiness rating does not imply a risk (e.g., Mayer et al., 1995), as trust and trustworthiness are related to different constructs (e.g., Dirks & Ferrin, 2002) and as the willingness to be vulnerable is regarded to be a better predictor for trust than trustworthiness (Gillespie, 2003). Referring to organizational settings, most measures focus on trustworthiness (Dietz & Den Hartog, 2006).

In a comprehensive paper, McEvily and Tortoriello (2011) reviewed 129 different measures concerning their quality criteria to evaluate trust. They claimed that a majority of measures lack a sufficient theoretical deduction, information on construct validity, and a missing common ground how to operationalize trust. Additionally, they criticized an insufficient replication of existing questionnaires. But they also highlighted three measures which were developed properly and provide data concerning their replication and validation: the organizational trust inventory (Cummings & Bromiley, 1996), a questionnaire for managerial interpersonal trust (McAllister, 1995), and a further questionnaire to measure organizational trust (Mayer & Davis, 1999).

The organizational trust inventory (Cumming & Bromiley, 1996) intends to measure trust in negotiation situations, generally based on the definition of trust by Rousseau et al. (1998). Although McEvily and Tortoriello (2011) highlight this questionnaire as developed thoroughly, they also call into question that the items on the three scales good-faith effort, honesty in exchange, and limited opportunism are transferable to other organizational

contexts. As a transfer to the athlete-recipient relationship is impossible, this measure is not regarded further.

The questionnaire to evaluate managerial interpersonal trust (McAllister, 1995) is also based on the trust definition of Rousseau et al. (1998), but focuses on cognition- and affect-based trust. Whereas cognition-based trust resembles the factors of perceived trustworthiness by Mayer et al. (1995), affect-based trust focuses on the emotional connection to the trustee and refers to the willingness to be vulnerable. Despite the highlighted quality of the development of this questionnaire (McEviliy & Tortoriello, 2011), Dirks (2000) demonstrated only one single factor by applying an adapted version in team sports. Therefore, it is unclear, which factor is represented by this measure. Additionally, McEvily and Tortoriello (2011) criticized that the wording of some items would be unclear. Besides these weaknesses, an adaption to the athlete-recipient relationship appears not suitable, although it was successfully applied in sports: The relationship within sport teams resembles work relationships and is thus not comparable to distant relationship between recipients and athletes.

The organizational trust instrument (Mayer & Davis, 1999) was developed based on the integrative model of organizational trust (Mayer et al., 1995) and incorporates five subscales referring to trust, namely ability, benevolence, integrity, the propensity to trust and trust in general, and additionally two subscales to measure accuracy and outcome instrumentality. A CFA revealed that the participants of a longitudinal quasi-experiment were not able to differ between trust and the factors of perceived trustworthiness, but that they were able to differ between ability, benevolence and integrity (Mayer & Davis, 1999). McEvily and Tortoriello (2011) highlight the quality of this measure as the factor structure could be replicated with good reliability values of the subscales (Mayer & Gavin, 2005), as the questionnaire differentiates between trustworthiness and propensity to trust, and as the measure should be applicable to various organizational settings. Although the wording of the questionnaire refers to trust in organizations, it is possible to adapt the items to the setting of sports (see chapter 7). One further advantage is the differentiated evaluation of the factors of perceived trustworthiness. However, McEvily and Tortoriello (2011) raise the question whether a transfer from one setting to another is feasible in general.

3.3 Building trust via the internet

Research on online trust automatically raises the question, whether previous findings from offline settings can be generalized. Corritore, Kracher, and Wiedenbeck (2003) argue that findings on offline trust can be transferred to online trust, as conditions in both surroundings are comparable. Comparable results for offline and online settings could be demonstrated for the influence of gender for example. Research in an offline context demonstrated in diverse settings that women tended to trust more than men (e.g., Couch & Jones, 1997; Johnson-George & Swap, 1982). Correspondingly, women showed a greater increase of trustworthiness after perceiving trust-related cues on e-commerce websites than men (Murphy & Tocher, 2011), whereby e-commerce certificates in general (like a written

assurance) were able to increase the perceived trustworthiness of a vendor (Aiken & Boush, 2006).

Online trust is often investigated in the context of transactions via websites (e.g., Beldad, de Jong, & Steehouder, 2010) or trust in online information (Flanagin and Metzger, 2000), indicating that those who are more familiar with the internet are also more likely to trust in the information given. The development of online trust is therefore easier for the younger, net-savvy generation. In the internet, recipients have to trust in the technology and the persons behind it (Beldad et al., 2010). According to Kelleher (2009), the perception of interpersonal conversations and contents which highlight the commitment to maintaining a relationship on organizational blogs correlated positively with trust, commitment, or satisfaction. These results should be transferable to other social media like Facebook or Twitter and should apply to popular persons, like high-performance athletes.

A congruent offline and online image influences the online trust of a recipient positively (Carlson & O'Cass, 2012). But congruency is not always the case, as experiences with a trustee might be conflicting, which makes the decision whether to trust or not more difficult and illustrates the potential impact of external information sources (Dietz & Den Hartog, 2006). Thus, trust is also based on online and offline experiences and knowledge like possible chances or risks, which are displayed in the trust model by Mayer et al. (1995) in the perceived risk factor and the feedback loop (see chapter 3.1.4).

3.4 Trust repair

Whereas it takes time to develop profound trust, it can be destroyed quickly. Thus, one might assume that solely allegations of doping are sufficient to harm an athlete. The following pages illustrate which mechanisms are necessary to regain a trusting relationship and which circumstances facilitate or exacerbate this process.

3.4.1 Definition

If a person's or organization's perceived trustworthiness is initially positive but then turns negative after a crisis situation, this relationship changes and trust repair becomes necessary (Mayer & Norman, 2004). Tomlinson and Mayer (2009) define trust repair as "a partial or complete restoration of the willingness to be vulnerable to the other party following a decline in that willingness. In the context of the Mayer et al. model, then, trust repair is a specific case of the development of trust via changes in the process represented in the feedback loop." (p. 87). Thus, the factors of perceived trustworthiness are reevaluated after a bad outcome of a trusting behavior.

The reasons for a potential damage of trust are manifold. As typical examples, unfulfilled expectations or the exploitation of dependencies are named, but also the pure belief that a breach of trust has happened is assumed to be sufficient to damage trust (Kim, Ferrin, Cooper, & Dirks, 2004). More specifically in the context of sport, doping is a typical example which makes a reevaluation of the athlete's ability, benevolence and integrity

necessary. The effort to rebuild trust is considered to be much higher than in case of building initial trust, as negative experiences are still in the memory of the aggrieved person (Kim, Dirks, Cooper, & Ferrin, 2006). Whereas a high amount of initial trust is seen as a protective factor against prompt breaches (Robinson, 1996), repeated deceptions exacerbate or even thwart the rebuilding of trust (Schweitzer, Hershey & Bradlow, 2006). In addition, outstanding parties may have an impact on the efforts to repair trust, if popular persons, like high-performance athletes or organization, either suffered or caused a breach of trust and the repair efforts are publicly noticed (Gillespie & Dietz, 2009) and potentially commented.

3.4.2 Stages on the way to repair trust

Based on the recommended four-step sequence for interpersonal trust repair by Lewicki and Bunker (1996), Gillespie and Dietz (2009) proposed a four-stage process of organization-level trust repair, which was originally designed to meet the requirements of publicly acting organizations, but which is also assumed to be transferrable to the context of sports. The stages are: 1) an immediate response, which includes fast and honest statements in order to repair the reputation as a second target as well; 2) a diagnosis, which means an analysis of what went wrong to avoid further incidents and what is needed for a successful trust repair; 3) reforming interventions, which should include an apology as absolutely necessary response, what is also highlighted by Lewicki and Bunker (1996) and repairing actions based on the result of the former analysis, and finally 4) an overall evaluation of the whole process and the efficacy of interventions.

Generally, Gillespie and Dietz (2009) distinguish between distrust regulation as avoiding of further harm (stage 1 and 2), and trustworthiness demonstration in order to enhance the perception of ability, benevolence, and integrity (stage 3 and 4) which are both necessary to reach a positive outcome. According to the model, the outcome is influenced by two factors: the degree to which each of the trustworthiness factors is addressed and the congruency of trust-related signals by the organization. The positive effect of congruent trustworthy actions could be demonstrated empirically (Schweitzer et al., 2006).

Although this model is deduced from further replicated and validated theoretical frameworks and refers to various findings on trust repair in interpersonal and interorganizational settings, it lacks an empirical evaluation until now. Therefore, it is still a descriptive approach, whose assumptions need to be proven and need to be evaluated in relation to research on crisis communication regarding reputational damages (e.g., Coombs, 2007b). However, as the model propagates apology as a necessary response, the application is limited. Especially in sports, it appears apparently possible that athletes circumvent apologies and succeed, at least temporary, like in the initial example of Lance Armstrong.

3.4.3 Conditions for trust repair

In relation to the amount of conceptual notions (e.g., Gillespie & Dietz, 2009; Lewicki & Bunker, 1996; Schoorman et al., 2007), only a few empirical studies focus on trust repair

(e.g., Kim et al., 2004; Kim et al., 2006; Robinson, 1996). Theoretical papers assume that the severity of a breach of trust depends on the attribution of responsibilities. Based on Weiner's (1986) attribution theory, Tomlinson and Mayer (2009) propose that people who feel deceived, rate the locus of causality (internal vs. external attribution), the controllability (controllable vs. uncontrollable) and the stability (stable vs. unstable) in order to evaluate, which of the factors of perceived trustworthiness has allegedly caused the breach, whereby also a combination of factors can be affected. The causal attribution has an impact on the potential efficacy of repair and determines which strategies might be helpful to repair trust (Schoorman et al., 2007). To illustrate this approach Lance Armstrong is taken again as an example. According to Macur (2014) one could rate the locus of control as internal (Armstrong decided himself that he wanted to apply doping), the behavior as controllable (as Armstrong had a voice to influence his doping) and that his behavior was stable (as he applied doping substances for years). Generally, if the causes for the breach of trust are attributed entirely on external causes, trust repair is not necessary as the trustee suffers from the situation him- or herself (Tomlinson & Mayer, 2009).

Table 1: Trust related attribution forms and their expected impact on trust repair, according to Tomlinson and Mayer (2009).

	Ability	**Benevolence**	**Integrity**
Locus	internal and external	internal	internal
Controllability	aptitude = uncontrollable skills = controllable	controllable	likely to be regarded as controllable
Stability	aptitude = stable skills = unstable in long term	relatively stable (unstable in early phase of relation, stable in long relation-ships)	most stable factor (especially if integrity is rated as low)
Extent of damage	larger decline when rated controllable	greater damage without history of positive interactions	probably most resistant to repair
Effect	potential additional decline in benevolence and integrity, if trustor does not intend to enhance skills after incident	no specific	no specific
Solution	enhance ability, offer attribution to external causes or claim uncontrollability	offer attribution to external causes, refer to unstable form of ability, convince trustor that incident was not intended	attribute failure to external causes or ability, or to unstable internal causes

One key feature of trust repair is that the trustee offers an attribution and the trustor is able to accept or reject this offer. If the external attribution offer is accepted, the trustee is acquitted and no breach of trust takes place. Table 1 summarizes obvious attributions in case of a breach of trust, the consequences and possible solutions how trust can be repaired.

In case of a breach of trust, trustees might engage in clarifications with the trustor in order to fix the relationship and to regain trust. Contrary to the assumptions of Gillespie and Dietz (2009) in the four-stage model and Lewicki and Bunker (1996), apology is not under all circumstances the best strategy to repair trust. Studies indicate that apology is an efficient repair strategy if the attribution was ability-based, whereas denial was efficient in case of an integrity-based violation of trust (Kim et al., 2004). Comparing two kinds of apologies, Kim et al. (2006) further demonstrated that apologies which based on internal attributions were more efficient in case a competence-based breach, whereas apologies with an external attribution were more efficient in relation to integrity based damages of trust. Therefore, one may conclude that the causal attribution and the applied communication strategy have to match in order to repair trust. Tomlinson and Mayer (2009) propose that successful repair efforts might lead reinforced or even strengthened trust. However, their proposal lacks an empirical basis. This clarifies the general problem, that until now hardly any studies evaluate the effect of communication on trust repair empirically.

The aforementioned processes of trust repair all assume a factual and logical consideration of the negative outcome and the breach of trust. Especially in case of a strong personal involvement one might doubt, that the aggrieved person is able to execute an objective analysis. The reason to stick to former decisions in situations which require commitment, despite an unpleasant result, can be explained by an intensified self-justification. A process, which is called escalation of commitment (Staw, 1981) and helps to circumvent the unpleasant feeling of cognitive dissonance (Festinger, 1957), particularly if a high amount of resources like time or money have been invested so far (Brockner, 1992). Especially in sports, where recipients might perceive a particular connection to an athlete they favor (e.g., Schlicht & Strauss, 2003; Wann et al., 2001); this process might have an influence on the evaluation of doping allegations.

Thus, in the context of sport, one may deduce from Tomlinson and Mayer (2009) that doping causes severe breaches of trust concerning athletes, although it might be possible that recipients try to avoid the impression of a breach (Staw, 1981). As sport has a high societal impact, which also bases on trust, it would be important to know, whether damaged trust can be repaired.

3.5 Reputation - a related construct

An evaluation or reevaluation of someone's trustworthiness can also imply an assessment of the person's reputation, especially in the early phase of a relationship (see McKnights concept of initial trust). This fact seems to be especially important if no history of direct interactions exists and further information is necessary to make an initial personal

assessment, like in sports and in case of athletes. Although the two constructs of trustworthiness and reputation are closely linked, there are decisive differences that need to be considered (Jøsang, Ismail, & Boyd, 2007). The following paragraphs contain a definition of reputation and declare how reputation can be differentiated from trustworthiness and from image. Additionally, the role of reputation in sports is elucidated as well as methods how to measure reputation.

3.5.1 Definition and separation from trust

Many approaches to define reputation derive from organizational contexts and need to be transferred to a personal level in order to understand how the reputation of an athlete is constituted. According to Eisenegger (2005, p. 24/25), reputation is defined as the public standing a person enjoys in the medium- and long-term and which goes beyond the own social contact area (corresponding translation from the German). This definition includes the core elements of reputation which are repeatedly named in research like the time factor, which highlights the importance of information from the past and their influence on future decisions (e.g., Fombrun, 1996; Gotsi & Wilson, 2001), the necessity of a public appearance and public communication, including information on what is generally known or believed about the person and which might be transmitted via the media (e.g., Bromley, 2001; Herger, 2006; Kelton et al., 2008) and that reputation is based on perceptions (Fombrun, 1996). Additionally, it is highlighted that reputation is a sensitive construct like trustworthiness, which can be easily damaged (e.g., Fombrun, 1996, Thiessen & Ingenhoff, 2011).

Whereas some researchers see reputation as a general, one-dimensional construct (e.g., Becker et al., 2013), Eisenegger and Imhof (2008) offer a reputation model, which resembles the trust model by Mayer et al. (1995): They assume three dimensions of reputation: functional, social and expressive reputation. As the functional reputation includes competence and success as indicators, this dimension corresponds with the ability factor of the trust model. Benevolence and integrity can be summed up in the social dimension of reputation with its indicators social responsibility, legitimacy and integrity, which is also directly mentioned by Eisenegger and Imhof (2008). Expressive reputation implies attractiveness, uniqueness, sympathy and authenticity, which is understood as a subjective and probably emotional assessment. This component has no corresponding factor in the trust model.

Ingenhoff and Sommer (2010), and Thiessen and Ingenhoff (2011) also proposed and validated a three dimensional measurement model, consisting of cognitive-functional, cognitive-social and affective-emotional reputation for an organizational setting. The dimensions are closely linked to Eisenegger and Imhof's (2008) understanding of reputation: Cognitive-functional corresponds with functional reputation, cognitive-social with social reputation, and affective-emotional with expressive reputation. Another common ground for both concepts of reputation is that despite their analogy to the model of organizational trust (Mayer et al., 1995), this connection is never mentioned nor obviously integrated. This finding can be regarded as representative for the problem that research on trust and research on reputation exist side by side with overlapping contents, but without mentioning each other.

This leads to the problem that a clear distinction is difficult, as both constructs are seldom differentiated in research, but rather partially integrated in the assessment of the other construct, like trust-items, in the evaluation of reputation. Therefore, a clear separation is necessary.

Practically, trust and reputation can be clearly distinguished. Based on Jøsang and colleagues (2007), who conclude that trust is a subjective sensation which results from former assessments and reputation is the perception of trustworthiness ratings of other persons; Wiencierz et al. (2015) regard trustworthiness as a subjective evaluation concerning a specific setting which might lead to a future-oriented behavior, the trusting action. Further, they understand reputation as a collective general perception of someone's past actions, which might influence the following personal evaluation of trustworthiness. Taken together, trustworthiness is seen as a subjective assessment for a specific behavior which lies in the future and implies a trusting action, whereas reputation is a general, publicly transmitted perception based on former actions. Therefore, reputation might influence the evaluation of trustworthiness. This conclusion is in accordance with the concept of initial trust by McKnight and colleagues (1998), who highlighted reputation as supplement for first-hand information if no personal experiences are available.

3.5.2 Differentiation from image

In scientific studies the term image is often wrongly equated with reputation or inconsistently defined (e.g., Chun, 2005). Reputation and image are related constructs, as both describe the evaluation of the outward appearance of a person, but they differ in their transmission and the publicity of the person. The image is an individual, subjective and direct impression of a person, which is regarded as multidimensional, containing correct and distorted perceptions, which are more dynamic in the beginning but become solidified over time although they are still alterable (Herger, 2006). It is seen as a simplified conception of a person which is subjectively colored by one's expectations and value judgments (Eisenegger, 2005; Schwaiger, 2004). An image results from the evaluation of a person's self-presentation (Fombrun, 1996) and is independent of the public appearance of a person. Therefore, everybody conveys an image.

Reputation on the other hand is the evaluation of information on a public figure, which is openly communicated, transmitted via media and therefore framed or already discussed by the public (Eisenegger, 2005). Reputation is seen as the final good and comprises a series of image evaluations that have been gathered over time, whereas image refers to the recipient's impression of an actor's activities (Benoit & Hanczor, 1994).

In relation to sports, popular athletes have both, a reputation and an image. The reputation of an athlete is based on the information gathered, which are transmitted via media and therefore often commented by outstanding parties. By applying social media, athletes are able to circumvent the transmission process of media and convey a direct self-presentation to the recipient. This direct evaluation is therefore understood as the image. According to Macur

(2014), Lance Armstrong was able to protect a positive image for a long time towards his fans. Many of them believed in Armstrong's denying self-presentation despite upcoming doping allegations and refused to buy critical books which addressed evidence for his doping and had the potential to damage his reputation.

3.5.3 Reputation in sports

A large part of research focuses on organizational settings and incorporates studies which indicate a close connection between reputation and corporate success (e.g., Shapiro, 1983; Walsh & Beatty, 2007). Thus, a good reputation is accompanied by financial gains, an increased customer loyalty, or higher acceptance of prices (Bartikowski & Walsh, 2011; Fombrun, 1996). Similarly as the connection between reputation and trust (McKnight), a good reputation is taken as an indicator for product quality, if no first-hand knowledge is available. Despite this apparently great impact of reputation in economics, only a few studies evaluate the impact of reputation in sport.

The influence of reputation in sports is diverse as it has an impact on the attribution of a person's qualities, but also on the evaluation of performance. Regarding an athlete's perception of coaches, it could be shown that a successful reputation led to a higher rating of the coach's competence (Manley, Greenlees, Thelwell, & Smith, 2010). And also for referees or game officials, reputational influences could be shown: Whereas Findlay and Ste-Marie (2004) demonstrated that the performance of figure skaters with a good reputation was rated better by game officials than a comparable performances of unknown athletes; Jones, Paull, and Erskine (2002) found the same pattern of results for a negative reputation, as the introduction of a football team as aggressive led to a higher amount of sanctions compared to an unknown team in the same game situations. Therefore, the knowledge about an athlete's reputation leads to ascriptions which might even influence the outcomes of competitions.

Furthermore, the perception of recipients has an impact, as the awareness of athlete's or team's engagement in charitable work led to a higher reputation (Walker & Kent, 2009). But the reputation is also impacted by perceptions as a high reputation and a congruent offline and online image led to enhanced trust ratings (Carlson & O'Cass, 2012). Paradoxically, a team's reputation might be even more attractive for fans to visit a competition as a high uncertainty of outcome (Czarnitzki & Stadtmann, 2002), indicating that fans might be a special group of recipients, which might have other notions how sports has to work than generally sports interested recipients.

3.5.4 Measuring reputation

Existing questionnaires for the measurement of reputation derive primarily from organizational contexts and are not suitable for measuring a single person's or athlete's reputation. One of the most advanced examples is the reputation quotient by Fombrun, Gardberg, and Sever (2000), a validated questionnaire (Pratoom, 2010), to assess reputation on several scales like products or services but also emotional appeal (Schwaiger, 2004). Just

as the non-validated reputation measures, like the salesperson's estimation of company reputation among customers (Anderson & Robertson, 1995), which is partly applied in research (Dardis & Haigh, 2009), or the belief measures about a firm (Becker-Olson, Cudmore, & Hill, 2006), the reputation quotient enables no adaption of the items to other non-economical settings. A widespread problem in research seems to be that single items are construed and applied in the course of studies, so that many specifically designed short scales exist (e.g., Schultz et al., 2011), which are not theoretically derived and intend to measure reputation. An additional problem is that many measures cannot be separated from trustworthiness, as they include questions like "X is a firm I can trust" (Becker-Olson et al., 2006). Thus, the problem of a non-differentiation between trustworthiness and reputation extends through the measurement and enables no clear and differentiated assertions.

Wiencierz and colleagues (2015) identified this problem as well and intended to develop a reputation questionnaire for non-profit organizations and a donation setting based on the framework of Eisenegger (2005). Although this questionnaire was designed referring to the organizational trust instrument (Mayer & Davis, 1999), by considering the time and general vs. specific perception differences between trustworthiness and reputation, the authors were not able to identify separable scales for the measurement of reputation. All in all, the measurement of reputation is regarded as one the biggest challenges in strategic communication (Larkin, 2003). Therefore, this research project also aims to identify suitable items to assess the reputation of persons, with due regard to the expressive part of reputation.

3.6 Proposition of a new model of trust and reputation

Derived from empirical findings concerning trustworthiness and reputation in mainly organizational settings, the author proposes a new communication model (figure 2, on the following page), which should be applicable for public figures and might be extended to organizational settings. The model aims to describe the cooperation between reputation and trust in uncritical situations, but includes also the reaction on crises.

Based on the trust model by Mayer et al. (1995), Pöppel supplements central components like reputation and image, which are not included in the original trust model and which are regarded as a necessary complement to enhance the significance of this model. According to the understanding of initial trust by McKnight and colleagues (1998), and the work of Wiencierz et al. (2015), reputation and thus, image are preceding the evaluation of trustworthiness.

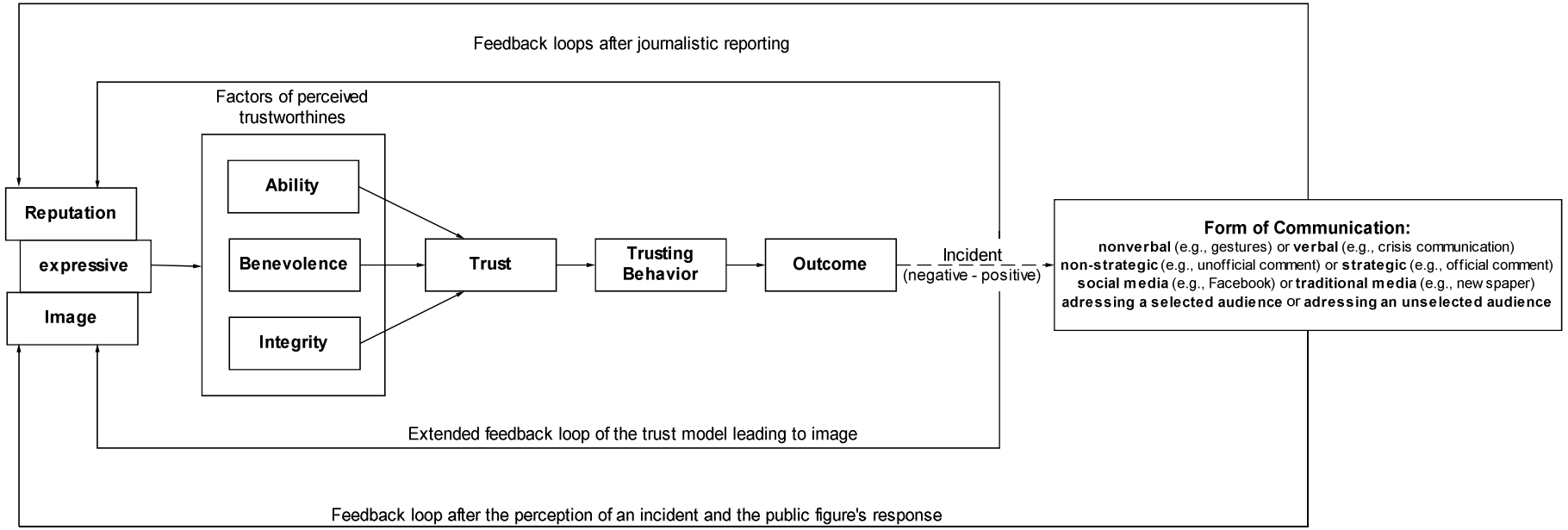


Figure 2: Proposition of a new communication model, based on the integrative model of organizational trust (Mayer et al., 1995).

Taking Eisenegger and Imhof (2008) into account, reputation consists of three components: functional, social, and expressive reputation. This understanding is also in line with the works of Ingenhoff and Sommer (2010), and Thiessen and Ingenhoff (2011). As functional and social reputation are linked to ability, benevolence, and integrity of the integrative model of organizational trust (Mayer et al., 1995), especially the expressive reputation is a new facet which should be considered. Referring to the assessment of the antecedents of trustworthiness, the functional and social reputation are already integrated implicitly, whereas the expressive reputation has no counterpart in the trust model.

Another important factor is Pöppel's integration of image as a related construct, which has been widely neglected by research, although it incorporates a new perspective. Image is regarded as a predominantly subjective perception, whereas reputation is more objective, involves public figures and is dependent on news coverage. Thus, image has to be differentiated from reputation (e.g., Herger, 2006) and is therefore a single component, which is similarly to reputation preceding trustworthiness and is similarly operationalized.

Additionally, Pöppel extends the trust model by Mayer et al. (1995) by integrating the occurrence of an incident whose quality might range from a negative (e.g., allegations of doping) to a positive event (e.g., reporting on an athlete's success in a competition), which is followed by a subsequent reaction in form of communication. The reaction can differ in several ways and figure 2 on the previous page highlights four forms of communication which are assumed to be essential in case of public figures. On a basic level the reaction could be nonverbal as in case of gestures or facial expressions, or verbal like a positive statement or the application of crisis communication. In case of verbal communication, the statements can be either non-strategic or strategic, depending on whether the incident was accompanied by harmful effects which could influence the self-presentation negatively. Furthermore, the transmitting media channel is of growing importance as social media enables a direct contact and the selection of an audience, whereas traditional media addresses a large and unselected audience.

The incident and the subsequent communication are regarded as succeeding a trusting behavior and preceding a reevaluation of trustworthiness, which could also imply a reevaluation of the image or/and the reputation of the actor. Therefore, three feedback loops are integrated, in addition to the single feedback loop from Mayer et al. (1995), who referred solely to a feedback from the outcome to the antecedents of trustworthiness. This loop was also extended so that the image was included as well. Two feedback loops integrate journalistic news coverage, which influences the evaluation of a public figure's reputation in consequence of an incident either without a comment of the public figure or with a public comment on this issue. And finally, one feedback loop refers to the subjective perception in consequence of the communication which refers to a reevaluation of a person's image and trustworthiness, independent of news coverage and thus includes also the communication of ordinary citizens. All feedback processes (the subjective and the journalistic ones) are

assumed to have an influence on the (re)evaluation of a person's reputation or image and trustworthiness.

The proposed model is the first model known to the author, which integrates reputation, image and trustworthiness in one single model and thus remedies the mutual ignorance of reputation/image and trust/trustworthiness research. Additionally, this new model enables the extension, if an incident or a crisis emerges and covers a personal evaluation of the (crisis) communication as well as the effect of journalistic news coverage. Thus, this model is a unique and economic integration of key components to understand the impact of a person's communication in consequence of an incident which might range from a positive event to a crisis.

4 Crisis communication

Crises in sports like corruption, betting frauds, or doping, as well as crises in general may occur or may become public at any time. In many cases, they lead to a tarnished esteem and require counteractions. Due to the increasing digitalization, crisis management has changed and needs to be adapted to new forms of media. One example in sports is the American baseball player Ryan Braun who begged for forgiveness after his doping confession in August 2013 (MLB.com, 2013). Braun initially denied doping, but later on he admitted to using testosterone. Moreover, Braun turned to his Twitter account to assert his innocence (Braun, 2011) - an account that appears to have been created only for this purpose.

This chapter illustrates the key-principles of self-presentation as a fundament of crisis management. It focuses on communication strategies which might be applied in times of crises, discusses common models and theories of crisis communication, and portrays general and sport-specific results of research. Moreover, the changes of crisis communication in the past and present with special emphasis on social media are discussed.

4.1 Definition of key concepts

Doping can be seen as one of the major crises in sports. As most crisis research focuses on organizational settings (e.g., Dardis & Haigh, 2009), the understanding of a sports crisis is based on the much-cited definition by Coombs (2007a), who refers to the term crisis as "the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization's performance and generate negative outcomes" (pp. 2-3). In case of doping, the athlete would be the organization, which damages the expectancies of his or her stakeholders, the recipients. Crises definitions by other authors include the same basic components concerning negative reactions by stakeholders and serious (financial) consequences for organizations (An & Gower, 2009), but might differ in the perception of predictability: Whereas Coombs (2007b) describes a crisis as unpredictable, Heath and Millar (2004) emphasize a crisis as an "untimely but predictable event" (p. 2). This makes it clear, that crises need to be differentiated. Whereas accidents are not predictable, other crises might be foreseeable long before. This threat might lead to a reputational damage and a loss of trust (Coombs & Holladay, 1996). Transferred to doping, a crisis due to the conscious application of performance enhancing substances or methods would be no accident for the athlete, as he or she might be prepared to be discovered.

According to Fink (1986) four stages in a repetitive crises cycle can be divided: the prodromal, the acute and the chronic crisis, and finally the crisis resolution. He describes the prodromal crisis as a prestage, in which first warning signs appear and in which an acute crisis and therefore damage could be prevented. A comparable phase is also described by Coombs and Holladay (2012) who call this potential prestage "paracrisis", which is also regarded as not as severe as a crisis. The following acute crisis constitutes the flourishing phase according to Fink, in which people or organization suffer damages and which corresponds to the general public's understanding of a crisis. In case of doping, the publication of a positive doping test

would be the “point of no return” (Fink, 2002, p. 22) and heralds the start of this acute phase, after potentially first rumors appeared which could not be eliminated. Fink describes the acute crisis as the shortest phase from an objective point of view, which appears to last longer due to its intensity for the suffering party. The appearance of crisis communication and therefore strategic statements which aim to restore damage, represent the subsequent chronic crisis. Concerning the doping example, athletes would try to disseminate their point of view and try to convince outstanding parties during this period. This crisis communication is a special form of persuasion, a process in which people apply targeted messages to achieve own aims by actively influencing the attitudes of others (Benoit & Benoit, 2008). According to Fink, the crisis resolution constitutes the point when everything gets back to normal - if possible, and the crisis fades into the background. Based on this understanding, it remains the question if an athlete, who was involved in a doping scandal, can fully recover again and prevent that his or her name is connected to doping again and again. As Fink’s model is a crisis cycle, the next crisis might already be in the starting gates as the previous is terminated (1986). In addition to this approach Mitroff (1994) added a fifth crisis stage to this cycle: learning. This stage awards the party who suffered a crisis to draw conclusions from the previous to potential future crisis to prevent or reduce damages.

4.2 Crisis communication models

The following pages introduce the two central frameworks of crisis communication, name their origins and present further developments which build upon the specialties of the internet. In case of doping, athletes might not be aware of the underlying concepts, but if they defend themselves against the allegations, their statements can be clearly analyzed as crisis communication and can be explained based upon these models.

First, the image repair theory (IRT) (Benoit, 1995, 1997) and its origins are introduced which go back to the concept of self-presentation and the impression management theory. Despite its descriptive character, this framework is widely applied to various contexts including sports.

Second, the situational crisis communication theory (SCCT) (Coombs, 1995, 2007b) is introduced as a further development of the IRT and as an empirically derived theoretical framework. Although this model is not yet applied in sports often, the applicability is discussed and weight against the IRT.

Finally, the social-mediated crisis communication model (Briones, Kuch, Liu, & Jin, 2011) is presented, which extends the scope of the SCCT by including internet specific features like voice opportunity. Taken together, these frameworks form the cornerstones of current knowledge on trust repair and restoration of reputation.

4.2.1 Image repair theory

The IRT (Benoit, 1995, 1997) results from rhetorical analysis of political communication and refers to theoretical approaches concerning strategic self-presentation,

like the impression management theory (Tedeschi & Lindskold, 1976; Tedeschi & Melburg, 1984). By self-presentation, people try to control or improve the image they leave behind on others in order to please others or to get close to one's own ideal self in public (Baumeister, 1982; Schlenker, 1980). Especially public figures like high-performance athletes, who are widely known and earn parts of their living by financial support of outstanding parties like sponsors, depend on a positive self-presentation in the eyes of public (e.g., Leary, 1996). For instance, athletes who apply prohibited substances or methods might try to disseminate an adverse attitude towards doping in order to turn away doping suspicions as Lance Armstrong did for example (Macur, 2014). In case of crises, like the publication of a positive doping test, a special form of self-presentation is needed, which includes verbal statements and which can be explained by the IRT.

Table 2: Crisis communication strategies of the image repair theory (Benoit, 1995, 1997).

Major strategies	**Variants of strategy**	**Description of key characteristics**
Denial	Simple denial	deny directly that act occurred
	Shifting the blame	another person/organization is to blame for the offense
Evasion of Responsibility	Scapegoating/Provocation	own behavior as a justified response to another's attack
	Defeasibility	actor has no control or does not have sufficient information to prevent the action
	Accident	offensive act occurred accidentally
	Good intentions	noble motives led to offensive act
Reduce Offensiveness	Bolstering	emphasize positive characteristics of oneself to reduce a negative evaluation of the act
	Minimization	diminish extent of the offensive act to inhibit a negative evaluation of the act
	Differentiation	distinguished evaluation of the act as less severe than similar, but more offensive acts
	Transcendence	placing the offensive act in a new and more favorable frame of reference
	Attack the accuser	reducing the credibility of the source of allegations by denigration, actor as victim
	Compensation	indemnify for the victims of the offensive act
Corrective action	-	actor tries to correct the offense by returning to the baseline condition or preventing a recurrence
Mortification	-	accepting the responsibility and asking for forgiveness

The cornerstone of this theory is the description of efforts to repair one's image. It is important to notice that Benoit does not differentiate between reputation and image, and applies image as a universal term. Thus, people apply assertive or defensive strategies to restore their image in the long-term. A sound image in the eyes of public is indispensable for

both individuals and companies (Benoit, 1997). The theory comprises two major assumptions: First, communication is always purposeful and second, maintaining or restoring a positive image is a central aim of communication (Benoit, 1995). A situation or an act makes image repair efforts necessary, if the accused is regarded liable for an act and if the action is assessed unwantedly. The perception of others is the crucial factor here (Benoit, 1995, 1997). When that stage is reached reputational damage and a loss of trust are the consequence. Benoit deduces his theoretical concept of crisis communication from other rhetorical frameworks about self-defense and apologia (e.g., Ware & Linkugel, 1973) and his own rhetorical analysis. The IRT comprises altogether 14 strategies divided in five major categories of image repair, as listed in table 2.

According to the IRT people or organizations apply such strategies when responding to a crisis; mostly by combining several strategies in one defense statement (Benoit, 1995). The strategies differ in how much the actor accepts responsibility (e.g., mortification) and in how the actor handles the allegations. In a later case study on the crisis communication of the American oil company Texaco, Brinson and Benoit (1999) described separation as a new strategy, which should be related to shifting the blame and which should be characterized by the claim of being innocent, by naming those who should be blamed and excluding them from the business, and finally by open actions to prevent future harm. Curiously, Benoit does not mention this additional defense option in his further research, neither in his theoretical papers (Benoit, 2000, 2004), nor in his case studies (e.g., Benoit, 2006a, 2006b, 2011; Benoit & Henson, 2009). Therefore, it is not mentioned in table 2.

All in all, Benoit's IRT has been applied to a variety of contexts, like politics (e.g., Benoit, 2006a; Benoit & Henson, 2009; García, 2011; Xifra, 2012), economics and organizational crises (e.g., Blaney, Benoit, & Brazeal, 2002; Brinson & Benoit, 1999; Caldiero, Taylor & Ungureanu, 2009; Harlow, Brantley, & Harlow, 2011), but also on celebrities (e.g., Bentley, 2012; Compton & Miller, 2011; Kauffman, 2012; Moody, 2011) or sports (e.g., Benoit & Hanczor, 1994; Glantz, 2010; Len-Ríos, 2010, Walsh & McAllister-Spooner, 2011). Therefore, the IRT seems to be adaptable to a variety of different crises situations. One strength of this framework is its parsimonious structure, which makes it easily applicable.

However, the IRT has been heavily criticized due to its weaknesses. Coombs (2007b) complains that Benoit's framework cannot be called a theory as it is only descriptive, deduced from single case studies, and lacks an empirical evaluation as well as predictions which are missing in its application. Additionally, it is warned against drawing extensive conclusions and interpreting the findings as causal relationships (Coombs & Schmidt, 2000). Benoit's descriptive approach further leads to the problem that the statements analyzed, can be subjectively interpreted by the author. Thereby, the model loses selectivity between the specific strategies. Coombs and Schmidt (2000) demand a prescriptive approach to get a further understanding of crisis communication. To remedy these weaknesses, Coombs developed an alternate theory: the SCCT.

4.2.2 Situational crisis communication theory

Approximately at about the same time with Benoit, Coombs published his first ideas of crisis communication (Coombs, 1995), however not yet labeled as a theory, and performed several experiments to understand the interplay between crisis situation and communication (e.g., Coombs, 1998, 1999; Coombs & Holladay, 2001). The first mentioning of the SCCT was published seven years later (Coombs & Holladay, 2002) and included already the cornerstones of matching crisis communication strategies to the perceived and attributed responsibility, divided in different crisis clusters. In comparison to the latest version of the SCCT (Coombs, 2007b) thus far, the earlier ideas differed in the naming of strategies and clusters, but the basic understanding remained.

SCCT (Coombs, 1995, 2007b) is based on attribution theory (Weiner, 1986) and comprises elements of the IRT (Benoit, 1995, 1997). Attribution theory assumes that people look for the causes of an event (Weiner, 1986). Coombs transferred this concept to SCCT and deduces that people comprehend who is to blame for a crisis event. The more responsible a person or an organization is rated, the stronger the negative effects of a crisis (Coombs, 1998). Similar to the IRT, Coombs offers communicational strategies to rehabilitate after a crisis (Coombs, 1995), to regain trust (Coombs, 2006b), and to reduce the perceived level of responsibility (Coombs & Holladay, 1996).

The SCCT claims that the strategic crisis response and the attribution of responsibility in the crisis situation have to match. Therefore, three crisis clusters are offered, which classify the attributed responsibility: the victim cluster, the accidental cluster, and the preventable or intentional cluster (Coombs, 2007b). According to Coombs, the victim cluster comprises situations, in which the perceived level of responsibility is low and the actor is regarded as a victim itself. A transfer to sports and doping is possible: as in former East Germany some athletes were unknowingly doped by their coaches or associations. Or as in the cases of Alberto Contador (Radiotelevisión Española, 2010) or Dimitrij Ovtcharov (2010), who were both accused of having taken clenbuterol, a substance which is used for fatten cattle. Both athletes claimed that they were victims of contaminated meat. In these two examples, Coombs intended matching of crisis cluster and response becomes obvious. The accidental cluster includes situations, in which the perceived level of responsibility is close to zero and the actor seems to have no control over the situation (Coombs, 2007b). It is more difficult to transfer this assumption to doping, because doping is mostly intended by someone: by the athlete or by other involved parties of one's type of sport. Finally, Coombs assumes a preventable cluster, in which the perceived level of responsibility is high and the actor appears to act on purpose. This case can be easily adapted to sports and doping, because it appears to be the regular doping practice in current sports. According to Coombs, the crisis cluster guides the process of evaluation by the recipients, how responsible the organization/athlete is rated. His assumptions concerning the connection between the cluster and the attributed responsibility could be empirically affirmed by a study of Claeys, Hauberghe, & Vincke (2010).

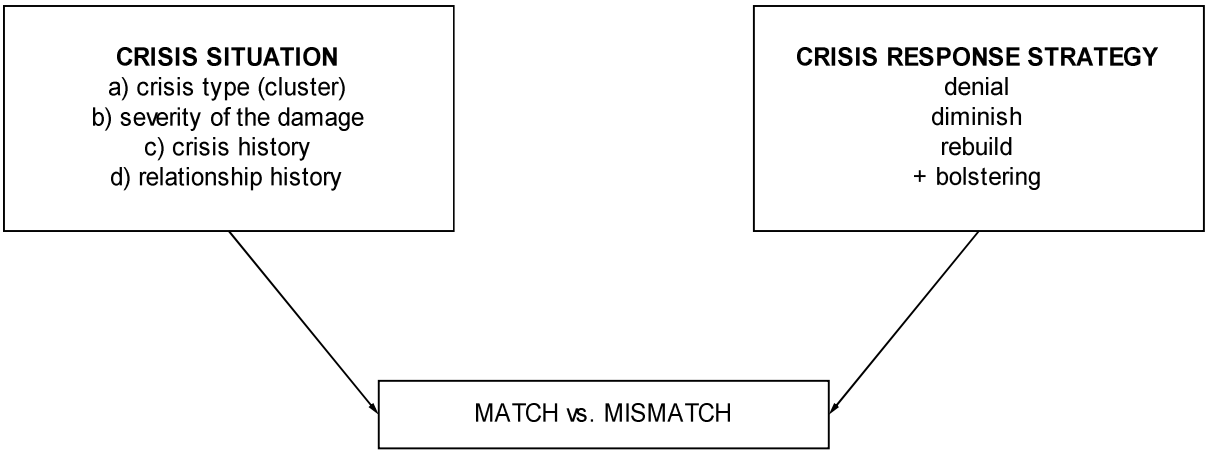


Figure 3: Basic mechanisms of action of the situational crisis communication theory (Coombs, 2006b).

Therefore, the SCCT consists of three basic components according to Coombs (2006b): the crisis situation, crisis communication and the matching of situation and communication (figure 3). Contrary to Benoit (1995, 1997), who disregards situational influences, the crisis situation is regarded as "focal point of the SCCT" (Coombs, 2006b, p. 243) and is further subdivided by Coombs in a) the crisis cluster, b) the severity of the damage (regarded as a correlative relation between severity and amount of damage), c) the crisis history (whether there has been a comparable crisis before), and d) the relationship history (interaction of the involved parties before the crisis). The evaluation of the crisis situation is followed by statements of crisis communication. With some resemblance to Benoit's crisis responses, Coombs identified ten different communication strategies, divided in primary and secondary crisis response strategies, and additionally divided in four categories: denial, diminish, rebuild, and bolstering strategies (Coombs, 2007a, 2007b). Whereas the primary response strategies are regarded as basic response dependent on the perceived crisis responsibility, secondary crisis response strategies are seen as supplements which could be added as surplus strategies (Coombs, 2007b). This set of strategies can be seen as an essence of Coombs own research and the analysis of older frameworks and studies (e.g., Allen & Caillouet, 1994; Benoit, 1995, 1997). What is new, however, is that Coombs focuses on the recipient of the crisis communication strategies and not mainly on the sender.

Based on a content analysis, Liu (2010) later suggested an extension of the SCCT with four additional strategies, one per category: ignore, separation, transcendence, and endorsement. Similarly to Coombs critique concerning Benoit's descriptive research methods, this expansion has to be regarded with caution. They are added in table 3, to give an updated overview about discussions on the SCCT framework.

Table 3: Crisis communication strategies of the situational crisis communication theory (Coombs, 2007a, 2007b), including an application on doping and Liu's (2010) proposition of new strategies (additional strategies marked with an asterisk).

Major strategies	Variants of strategy	Description of key characteristics
Primary crisis response strategies		
Denial strategies	Attacking the accuser	attack the blaming party directly that a crisis exists at all (e.g., claiming research methods of the anti-doping agencies)
	Denial	negate the existence of a crisis (e.g., claim that there can't be a positive test result)
	Scapegoating	blame an outstanding party for the crisis (e.g., the cook for serving contaminated food or the nutritionists)
	Ignore*	pay no attention to the crisis or allegations (e.g. not responding to issue at all)
Diminishing strategies	Excuse	reduce the level of responsibility by negating the intention to harm anyone (e.g., claim that athlete did not intend to dope)
	Justification	reduce the severity of a crisis, e.g. by explaining that there no serious harm (e.g., positive test appeared out of competition or result is due to own physical impairment)
	Separation*	disassociate from the parties involved (e.g., athlete claims that there was no contact with medicine)
Rebuild strategies	Compensation	indemnification of the victims, e.g. by money (e.g., redemption for those who suffered a damage by the doped athlete)
	Apology	assume responsibility and forgiveness (e.g., athlete shows remorse and admits guilt)
	Transcendence*	switch the focus of attention to another (more favorable) concern (e.g., distraction from doping to effort for charities)
Secondary crisis response strategies		
Bolstering strategies	Reminding	activate the memory of recent good works (e.g., former victories for the own country or engagement for charitable purposes)
	Ingratiation	commend outstanding persons the actor is dependent on (e.g., sponsors, fans, media)
	Victimage	remind the outstanding that the actor is a victim as well (e.g., interchanged or tainted urine samples)
	Endorsement*	activation of third-party support for the struggling party (e.g. advocate who affirms need for medical aid)

The SCCT offers a matching, which should have the greatest chances for a successful rehabilitation (Coombs, 2006b, 2007b): If there is no crisis or only rumors, the denial strategies should work best; if there is a crisis of the victim cluster, solely instructions should

be helpful; in case of an accident crisis, diminish strategies should be most efficient and in case of a preventable crisis, rebuild strategies are recommended. Concerning doping, all aforementioned crisis clusters might appear and especially rumors and preventable crisis are expectable to prevail. Additionally to this matching, Coombs recommends more fundamentally that crisis communication should "be quick, be consistent, and be open" (Coombs, 2006a, p. 172).

Table 4: Comparison of Benoit's and Coombs' crisis communication theories.

	IRT (Benoit, 1995, 1997)	**SCCT (Coombs, 1995, 2007b)**
Original target group	politicians (individual level)	organizations (group level)
Model development	rhetorical analysis of political communication	empirical, evidence-based model
Crisis cluster	-	3 cluster victim, accidental, intentional
Strategy overlaps	denial, attack the accuser and compensation	
Strategies with different label, but same definition	shift the blame ≈ minimization ≈ defeasibility + accident + good intentions ≈	scapegoating justification excuse
theory specific strategies	corrective action	ingratiation victimage
Trust	not mentioned	restoration of trust as central aim of image repair efforts (reputation conceptualized as consisting of credibility and trust)
Further development of the theory	Situational Crisis Communication Theory	Social-Mediated Crisis Communication Model

Several studies support Coombs theoretical assumption in various parts of the framework. For example, it could be repeatedly shown that a positive reputation before a crisis leads to a stronger reputation after the crisis has appeared. This effect is called the "halo-effect of prior reputation" (Coombs & Holladay, 2006, p. 123). On the other hand, if an organization faced a negative crisis history, the reputational damage was higher (Coombs, 2004). Furthermore, Coombs and Holladay (2004) assume that a severe crisis perception is characterized by the attribution of a stable cause, low external control and an internal locus of personal control; whereas the perception of a weak crisis should be characterized by the attribution of an unstable cause and an external locus of control. In this context, doping is assumed to be perceived as a severe crisis as the cause tends to be stable, because a one-time application of performance enhancing substances won't be efficient. The external control could be low as athletes nowadays might decide themselves whether they apply doping or not. And the locus of control should be therefore internal (see chapter 3.4.3).

If one compares Benoit's and Coombs' approaches (see table 4), several commonalities concerning the labeling of strategies and/or content become obvious.

Nevertheless, the two approaches differ regarding their quality. Coombs criticizes the amount of case studies and emphasizes the necessity of an empirical and evidence-based theoretical framework. SCCT complies with this benchmark and focuses on organizational crisis communication. Although little research in sports applies the SCCT (e.g., Brown & Billings, 2013; Fortunato, 2008), a transfer to sports and especially the context of doping appears to be feasible. Besides this apparently feasible transfer to sports and doping, the SCCT provides an elaborated and empirically tested framework (e.g., Claeys & Cauberghe, 2012; Coombs & Holladay, 2008; Schultz et al., 2011) and constitutes an advancement to the IRT. Furthermore, the SCCT is evidence based and contains additional assumptions like the importance of the crisis situation and a focus on the recipient, which appears fruitful for further research and is therewith superior to Benoit's IRT. Furthermore, the internet and news media are regarded as occupying a crucial role in the emergence and dissemination of reputational damage (Coombs, 2007b), whereas Benoit does not mention the internet as a special medium at all.

4.2.3 Social-mediated crisis communication model

Whereas the IRT and SCCT have no particular focus on new media, Jin and Liu (2010) extended Coombs' theory to include social media as a basic component: This extension is called the blog-mediated crisis communication model, which was renamed and revised in the social-mediated crisis communication model (Briones et al., 2011; Jin et al., 2014).

The social-mediated crisis communication model can be seen as a modification of SCCT; it shares the same assumptions, the majority of crisis response strategies, and focusses on the organizational context (Liu et al., 2011). But the social-mediated crisis communication model is more comprehensive than SCCT. The model describes how the source of information affects the organization's crisis response in addition to the crisis response strategies. The source of information is regarded as the interaction between the party which suffers a crisis and different groups of recipients. Three types of recipients are divided by the authors: (1) the influential social media creators who disseminate crisis information to outsiders; (2) the social media followers who gather information from influential social media creators without further dissemination of contents; and (3) the social media inactives who receive information by offline word-of-mouth and learn about online contents indirectly. According to the research on social swarming by Kaiser & Kröckel (2011) and Kaiser et al. (2013), especially the first group of influential social media creators might actively influence the effect of crisis communication by producing own contents.

Crisis information can be disseminated by the organization itself or by a third party (Liu et al., 2011). Independently of who is disseminating the crisis communication strategies, efficient crisis communication should be honest, immediate, exact, and thorough and it should explain why the crucial event happened, name potential consequences, and be accommodating to the concerned parties (Reynolds & Seeger, 2005). In a study comparing the different sources of crisis responses, people were more likely to agree to defensive, supportive, or evasive strategies disseminated by traditional media than social media or offline word-of-

mouth (Liu et al., 2011). Furthermore, Liu, Jin, and Austin (2013) were able to demonstrate in an experimental design that the perception of crisis communication via offline word of mouth was perceived more negative than the dissemination of the same content via traditional media or social media. In line with these findings, Utz et al. (2013) showed that the medium plays a substantial role in the perception of crisis communication. Therefore, the special role of social media contents should be explored separately and should be compared to traditional media (see chapter 10.2). Additionally, it can be concluded that athletes who are suspected of doping and defend themselves against these accusations should not rely on the support of those people who get to know the information on this doping case offline and that these athletes should try to reach their relevant publics more directly.

4.3 Empirical findings concerning crisis communication

Despite the criticized high amount of case studies concerning crisis communication (e.g., Coombs & Holladay, 2008; Heath & Millar, 2004; Thiessen & Ingenhoff, 2011), several studies provide an empirical basis and enable further conclusions in this field of research. However, results from case studies cannot be ignored and should be considered with caution. On the following pages, central findings on crisis communication are presented, which become increasingly important, as Thiessen and Ingenhoff (2011) assume that "reputational crises are on the rise" (p. 9).

4.3.1 Application of crisis communication strategies

Research on crisis communication strategies is characterized by many divergences and less consensus. Descriptive review articles, like the one of Kim, Avery, and Lariscy (2009) sum up research and indicate that bolstering, denial, and corrective action were the strategies which were applied most often during crises, but neglect controversial findings due to their method of analysis. A general agreement could be found in research that parties who suffer a crisis tend to combine several strategies (e.g., Fortunato, 2008; Huang, 2006) and tend to adjust their communication in the course of a crisis so that several communication "waves" appear (e.g., Harlow et al., 2011; Kim et al., 2009; Varma, 2011). The adaption of strategies and crisis communication in general happens in consequence of the public reaction (e.g., Cho & Cameron, 2006). Based on these findings, one can conclude that crisis communication is an adaptive process, which is adjusted if the applied strategies appear to be inefficient or insufficient. Integrating the logic of the social-mediated crisis communication model and the research on social swarming, the probability for parties who suffer a crisis to get a quick public feedback concerning this issue must be enhanced due to the increasing use of social media.

The research concerning which strategy is most efficient comes to different results, which is logical as the efficacy must be seen depending on the crisis situation (see chapter 4.2.2). Statements such as rebuilding strategies (e.g., Claeys et al., 2010; Kim et al., 2009), justification (e.g., Huang, 2006) or reducing the offensiveness like by bolstering (e.g., Haigh & Brubaker, 2010; Holtzhausen & Roberts, 2009) are remarkably efficient, tell nothing about

the impact of crisis communication, if the characteristics of the crisis situation are not identified as well. Nevertheless, the assumption that apology would be the most efficient strategy is widespread (e.g., Benoit & Drew, 1997; Claeys et al., 2010; Sheldon & Sallot, 2008; Veil, Sellnow, & Petrun, 2012). However, this notion is also intensely discussed (e.g., Coombs, Frandsen, Holladay, & Johansen, 2010; Coombs & Holladay, 2008) or apology is highlighted as inefficient under certain circumstances (Holtzhausen & Roberts, 2009). Coombs and Holladay (2008) demonstrated in an experimental design that participants who faced the strategies of sympathy, compensation or apology did not differ significantly concerning their reaction in a victim crisis. This was interpreted as an indicator that the accentuation of apology as a special strategy is not justified. These results further indicate that the rhetoric of atonement (Koesten & Rowland, 2004) which focuses solely on apologetic responses falls short in many crisis situations.

The application of crisis communication strategies can also fail. Focusing on apology, Hearit (2006) named three reasons why this strategy might not be accepted: a) rejection because the apology is perceived as insincere, b) the act which caused the crisis is perceived as inexcusable, or c) those who might accept the apology are not accessible (any more). Especially the perceived sincerity is a factor which influences the impact of crisis communication strategies. Several case studies, which were analyzed by content analysis, concluded that an apology failed, because it was perceived as insincere (e.g., Bentley, 2012; Compton & Miller, 2011; Kauffman, 2008). But the same effect could be found for the failure of other crisis communication strategies due to lack of perceived sincerity as well (e.g., Len-Ríos & Benoit, 2004; Liu, 2008). Therefore, the perception of sincerity seems to be a crucial frame, which influences whether the application of a strategy might be successful.

As well as in case of an efficient crisis communication, research is not able to name strategies which are not efficient without paying attention to the crisis situation. However, some studies, like the review of Kim and colleagues (2009) name the strategy of denial as least efficient. Referring to a case study on a publicly criticized athlete, other researchers claim that shift the blame and bolstering are less efficient (Brown, Dickhaus, & Long, 2012). But as already indicated these authors did not mention that they referred to a preventable crisis. However, the impact of a crisis situation is not clear yet: Whereas Bradford and Garrett (1995) were able to demonstrate the communicational strategies were perceived differently depending on situational characteristics; Claeys et al. (2010) did not find any effect of the situation. In this case, strategies which matched to the characteristics of the situation did not lead to better results than mismatched strategies. Independent of situational characteristics, research has repeatedly shown that contradictory strategies were perceived as non-efficient (e.g., Browning, 2011; Glantz, 2010; Liu, 2007; Sanderson, 2008), whereas consistent strategies were superior (Huang, 2008). Examples for contradiction were the combination of denial and evade responsibility as denial is regarded as an absolute strategy (Glantz, 2010), or mortification and bolstering combined with denial and corrective action (Browning, 2011) as it appears illogical that the crisis party apologizes for a deed, while denying the existence of the crisis at all.

The application of social media and the possibility for recipients to reply directly on these statements have changed the constitution of crisis communication. Schultz et al. (2011) focused besides crisis communication also on the impact of the medium which was applied for the dissemination of strategies. They demonstrated that the reactions on crisis communication were more negative, if the strategies were disseminated by blogs or newspaper articles as if the strategies were transmitted by Twitter. This result is interesting as information which is disseminated via social media was perceived as less credible than newspaper contents (Flanagin & Metzger, 2007; Schmierbach & Oeldorf-Hirsch, 2012; see chapter 2.3.2). Therefore, it seems, as if crisis communication via social media might lead to other reactions than communication via traditional media.

4.3.2 Influencing factors on crisis communication

As already indicated, certain factors might influence the effect of crisis communication, for example the prior reputation, the timing of publishing a defense, the medium which is applied, or culture. Whereas it was repeatedly shown in experimental designs, that reputation had an influence on the impact of crisis communication (Lyon & Cameron, 2004) or that a positive reputation prior to the crisis was beneficial (Coombs, 2004; Coombs & Holladay, 2006), also contradictory results were found in literature. In an experiment, Sheldon and Sallot (2008) demonstrated that a politician's performance history had no impact on the evaluation of reputation. Furthermore, it was also claimed that due to the focus on a positive prior reputation, research has neglected to study the effect of a negative reputation on the impact of crisis communication (Anagondahalli, 2013). Thus, one can conclude that current data concerning the impact of prior reputation are inconclusive and that this factor should be monitored.

Furthermore, the timing of a defense statement is assumed to have an impact on crisis communication. Besides Coombs' (2006a) recommendation of a quick reply, it is also possible to publish admitting statement and disclose first, before the crisis news got public. This phenomenon is called stealing thunder (e.g., Arpan & Pompper, 2003). Whereas these authors claimed that the application of stealing thunder was partly beneficial as it led to an enhanced evaluation of credibility, but did not influence the assessment of crises severity; Claeys and Cauberghe (2012) showed that stealing thunder and the application of a crisis communication strategy after the crisis was known publicly had the same impact on the perception of credibility and did not differ significantly. Deduced from these contradictory results, one can conclude that accelerating crisis management by stealing thunder is not extraordinary beneficial. On the contrary, stealing thunder evoked an increased interest of journalists for the crisis (Arpan & Pompper, 2003). Concerning doping, the phenomenon of stealing thunder appears to be unlikely, as athletes generally try to camouflage doping and only defend or confess if serious allegations got public.

Further research focused on the distribution medium as influencing factor on the evaluation of crisis communication. And also in this area, contradictory results can be found, ranging from no impact of the medium in an experimental comparison of print and video

(Coombs & Holladay, 2008), to the finding that the medium had more impact than the message itself (Schultz et al., 2011). In an experimental design, the authors demonstrated that participants of the Twitter condition showed more positive behaviors than participants who received a comparable blog post or newspaper article.

Finally, culture is frequently named as a potential influencing factor on the impact of crisis communication, even within continents. Although García's (2011) comparison of the crisis communication between the former American president Bill Clinton and the former Italian president Silvio Berlusconi lacks necessary criteria for empirical research as she compared the public evaluation of two settings which are not comparable, because both persons did not apply the same strategies for example, this study can be seen as weak hint that crisis communication might be perceived differently across different nations. Cultural aspects, besides influences of media and politics, were also highlighted by Lyu (2012) comparing the crisis communication on tainted milk powders of Taiwan and China. Both studies lack the quality criteria of empirical research severely, but might be a first hint that a comparison of the same crisis communication in different nations might lead to differences.

4.4 Changes in crisis communication through social media

Especially in organizational settings, the change from traditional crisis communication options like press conferences to social media took place hesitantly. Fearing negative consequences and a loss of control for example, organizational managers relied rather on well-known and established distribution channels. The following pages shed light on this change from both sides: the party who suffers a crisis and the recipient.

4.4.1 Delayed implementation of online crisis communication

Deduced from Mei and colleagues (2010), not long ago in times of crises, the official news coverage of professional journalists via television, radio or newspaper was followed by a press conference or a press release of the impacted party, according to whether the crisis was perceived as severe or not. Even in year 2003, Perry et al. came to the conclusion that many organizations (which apparently dominate research in this context) relied substantially on traditional options for disseminating their crisis communication strategies although internet options were theoretically available. Bucher (2002) names six reasons, how the internet has changed crisis communication: 1) the internet increased interconnection and changed therefore dissemination and perception of crisis news, 2) citizen journalism is a supplement to professional journalism, 3) the internet accelerated distribution of crisis news and the amount of comments by approximately everyone who wants to comment on the issue, 4) the internet prevents one-sided reporting style concerning crisis news, is 5) a huge information storage of previous crisis, and 6) builds communities.

And even nowadays studies highlight that organizations hesitate to incorporate social media in their communicational strategies in times of crises (Fjeld & Molesworth, 2006; Ki & Nekmat, 2014), whereas other studies highlight an emerging application of social media in

crisis communication (e.g., Kim & Liu, 2012) or recommend a combination of traditional and social media to deal with a crisis (Austin et al., 2012). Otherwise, it could be shown that crisis communication solely via social media can be successful (Van Norel et al., 2014).

Several reasons can be named, why organizations might hesitate to apply social media during crises. Mei and colleagues (2010) describe social media as a "double-edged sword" (p. 143) with the two sides of having the potential to monitor the flow of information and the danger to support the development of crises. This danger stems from diverse possibilities how crises can be triggered in social media, as contents for example of citizen journalism might be disseminated without boundaries of time and space, or rumors and criticism might spread easily (Fjeld & Molesworth, 2006; González-Herrero & Smith, 2008). Additionally, we face a thin line between monitoring and censorship which is perceived as averse by recipients (Champoux et al., 2012). But also advantages like interacting with recipients, the chance to address their needs and therefore the opportunity to relationship building are evident (Fjeld & Molesworth, 2006).

4.4.2 Relevance of social media during crises

Whereas especially larger organizations feel almost obliged to be visible online during crises, even if this channel is only applied as a supplement (Veil et al., 2011), recipients still attach great importance to traditional media, especially due to credibility reasons and to verify third party sources (Austin et al., 2012). Additionally, the authors found a differentiated behavior of recipients dependent on the source they retrieved the crisis information from, with an enhanced search for online videos, when the information came from social media. Therefore, recipients verify and deepen their knowledge by searching for additional news sources, which can also be social media channels (see chapter 2.2.2). Furthermore, it needs to be mentioned, regarding the issue of verification of contents that we either face a contraction or a change over time as Flanagin and Metzger concluded in 2000 that internet users hardly verified information (see chapter 2.3.2).

The application of social media during crises enables those who suffer a crisis, but also those who receive crisis information, to actively influence the crisis (e.g., Champoux, et al., 2012). Especially recipients, who were not able to respond publicly on crisis communication in times of traditional media, are meanwhile able to publish their point of view or involve in open criticism which might intensify the extent of a crisis (Chi & Hung, 2011). Furthermore, the internet enables recipients to access information on recent crises, as the internet does not forget, and therefore supports a potentially more negative framing (González-Herrero & Smith, 2010). In order to prevent additional damage which is caused by critical recipients, crises parties are recommended to monitor public exchange and potentially counteract (e.g., Hearit, 1999; Wiencierz et al., 2015), but not to censor their internet presence (Champoux et al., 2012). Otherwise, crises parties might also benefit from the online exchange of recipients (Meân et al., 2010). Independent of whether the crisis communication was successful or not, the debate via social media can give an advice on the public opinion (Veil, Petrun, & Roberts, 2012).

4.5 Crisis communication via social media and the internet

Research indicates that online crisis communication could be special due to the possibilities of an interactive communication process. To get a first hint, relevant literature was analyzed systematically, which focused exactly on crisis communication via social media. Based on the keywords ‘crisis communication’, ‘social media’, alternative expressions for these terms, and an additional forward and backward search, the results of 38 articles are summarized on the following pages.

Research concerning online crisis communication was dominated by two theories: SCCT (Coombs, 1995, 2007b = Protecting) and IRT (Benoit, 1995, 1997); both theories were applied in 12 papers, $\chi^2(8, N = 38) = 46.79$, $p < .001$. Thus, both theories were transferred from an offline context to an online one in equal measure, which indicates that their application in a social media context is reasonable. A similar pattern could be found, focusing solely on those papers that referred to sports. It has to be mentioned that, as a general rule, no decision criteria and no assessment of advantages or disadvantages of one theory over another was mentioned. All of the papers in the final set shared the same element: Each paper incorporated a certain crisis scenario in the chosen theoretical framework without questioning whether the scenario actually fit. The amount of papers (21.1%, $n = 8$) that do not reference a theoretical framework or adequately name a theory is noteworthy as well, as an underlying framework is generally regarded as a “central piece” of research (Ennis, 1999).

As IRT is older than SCCT, one could assume that most papers referring to IRT were published until 2007, which is the year in which SCCT became popular; and that nowadays SCCT is the framework of choice. To prove this assumption, the frequencies of both theories were analyzed in chronological sequence. The twelve papers referring to IRT were published between 2008 and 2012, whereas those twelve papers referring to SCCT were published between 2006 and 2013. Based on frequency, there were no time trends expectable at first glance. Due to the small sample size ($n = 24$) a Likelihood Chi-Square test (L_χ^2) was conducted, which indicated that the author (Benoit, Coombs) and the year (papers published before 2007, papers published in 2007 and afterwards) were independent, $L_\chi^2(1, N = 24) = 1.43$, $p = .23$. Thus both theories were used with equal frequency over the time period analyzed, and there was no significant preference for Coombs’ theory after the year 2007.

Focusing on social media and websites, one could expect that most media applied in the final sample was media that was conceptualized for a direct or maybe immediate communication between the floundering party and the recipient interested in this party. The analysis showed that websites and unspecified or diverse forms of new media (both 31.6%, $n = 12$) prevail, $\chi^2(6, N = 38) = 25.37$, $p < .001$. In case of unspecified or diverse forms of new media the papers only indicated that the information runs over the internet without clarifying which media was evaluated directly, or that a combination of Twitter (in 7 papers), Facebook (4), websites or online-newspapers (4), blogs (4), or YouTube (2) was explored. Across all types of content the papers that focused solely on Twitter, blogs, or Facebook were outnumbered. Although the number of papers focusing on social media is small, best practice

approaches (e.g., Taylor & Kent, 2007; Veil et al., 2011) from an organizational context emphasized the importance of social media for a successful reputation repair. To sum up, organizations, athletes, and individuals chose diverse communication channels via the internet to reach their recipients in order to repair their reputation in case of a crisis.

As Coombs' and Benoit's frameworks are derived from an organizational or political context, one could expect that most papers referred to these sectors. A clustering of contents partly supported this assumption. Trade and commerce contents were strongly represented (28.9%, $n = 11$), followed by disaster contents (21.1%, $n = 8$), sports (15.8%, $n = 6$), and food safety (13.2%, $n = 5$). Only 10.5% ($n = 4$) referred to politicians or celebrities, $\chi^2(8, N = 38) = 25.00$, $p = .002$. More than half of the papers analyzed moved away from the original contexts of the theories; and the theories were adapted to deal with other contents, such as the Loveparade catastrophe in Duisburg, Germany (Schwarz, 2012), or racially charged crises (Liu, 2010b) for example. The papers that transferred the underlying theories to a context other than the original organizational or political one mostly did not mention this transfer or the original context at all. One can observe a universal application of theories, independent of the content of research. Of all the papers that referred to sports, doping as a sport-specific crisis was only mentioned in one paper (Meân et al., 2010). The other papers embedded a problem in a sports context that could have appeared in another context as well, like a defense against allegations of rape (Fortunato, 2008; Len-Ríos, 2010). However, sports occupied a special position in so far as it is the only setting in which fans (as non-involved party) actively adopted crisis communication to defend their favorite team (Brown & Billings, 2013). In summary, the evaluation of crisis communication efforts mostly focused on organizations in crises and commercial dealings. In comparison, the sports context appeared to be a unique setting.

Because many papers focused on real crises, the method of choice seemed to be a descriptive case study, which outperformed experimental designs ($\chi^2(1, N = 38) = 15.16$, $p < .001$.), especially in the sports context, where all papers were case studies. Consequently, a majority of papers were analyzed by content analysis ($\chi^2(5, N = 38) = 71.90$, $p < .001$), using partly unstructured methods. More than half of these content analyses (60.0%, $n = 15$) contained no coding scheme and were unable to provide details about the rating or the intercoder reliability, which is a quality criterion for this kind of analysis (Krippendorff, 2013). These content analyses solely displayed the assessment of the author and were completely descriptive. Therefore, the conclusiveness of these papers is limited and results should be interpreted with caution.

Irrespective of the theoretical foundation, combinations of diverse strategies were often utilized - on average there were five strategies (precisely $M = 5.18$, $SD = 3.99$) per paper. In five papers, apology was applied as a single strategy, whereby the relevance of this crisis communication mechanism was highlighted (Coombs & Holladay, 2012a). An effective reputation repair was assumed in two of these cases (Coombs & Holladay, 2012a; Veil,

Sellnow, et al., 2012). However, based on the data and the partly weaker methods applied, it cannot be deduced whether the application of a single apology is successful or not.

Crisis communication could be seen as an adaptive process: In most cases (68.4%, n = 26) strategies were verbalized at different times. It is of interest to know which strategies were applied most often in times of crises. Therefore, the frequencies of strategy utilization in the final sample were analyzed. Although Benoit's and Coombs' theories share some commonalities, a joint evaluation is not reasonable, because several strategies are incompatible. Concerning the papers that referred to IRT, corrective action was the strategy most often applied (in 83.3% of the Benoit-papers, n = 10), followed by denial (75.0%, n = 9), and mortification or bolstering (58.3% each, n = 7), ($\chi^2(13, N = 74) = 24.00$, $p = .031$). Benoit's strategies concerning concession, like corrective action or mortification and more offensive defense strategies like denial or those strategies, summarized in the reducing offensiveness category, were about equally distributed. An analog frequency analysis of crisis communication strategies, as described in SCCT, revealed that apology was utilized most often (in 75.0% of the Coombs-papers, n = 9), followed by compensation and justification (58.3% each, n = 7), and a wide range of diverse strategies like attacking the accuser, denial, scapegoating, ingratiation, or excuse (50.0% each, n = 6). It was therefore obvious that those papers utilizing Coombs' theoretical framework applied a greater variety of strategies and had no single dominating strategy ($\chi^2(12, N = 63) = 15.21$, $p = .230$). Additionally, one could see a slight trend towards more defensive strategies. This pattern was also seen in the papers that were missing a sufficient theoretical framework: In half of them, apology was chosen as defense strategy (Hearit, 1999; Park, Kim, Cha, & Jeong, 2011; Veil, Petrun, et al., 2012; Veil, Sellnow, et al., 2012).

If one focuses solely on the sports papers in the final set, one can see that the defense pattern was a mixture of offensive and defensive crisis communication strategies. The sports papers were comparable to the average concerning statistical parameters (M = 5.20, SD = 3.19), but in each sports paper (except the doping case), mortification and corrective action were applied. Additionally, more offensive strategies were combined, like denial or attacking the accuser. As there are no papers in which apology was applied as a single strategy, one could assume that athletes and sports teams were more assertive concerning their crisis communication efforts. All in all, one could infer that in case of a crisis more defensive strategies were preferred and that several strategies were applied in clusters. Strategies also came in waves, indicating that crisis communication was an adaptive process as long as the crisis was a current issue.

The most interesting question for the accused crisis party is if their communicational strategies were efficient, thus leading to a strengthened reputation and trust. Hence, the papers in the final set were analyzed with respect to an efficacy check of crisis communication strategies. This efficacy check was either a rating of the author or the results of an opinion poll, which was reported in 60.5% (n = 23) of the final sample. In the cases in which the efficacy was checked, one could see a trend towards a successful reputation repair, at least

partly (73.9%, n = 17). In the other cases that were checked for efficacy, the crisis communication failed. Focusing on the sports context, only half of the sports papers checked for efficacy. Papers in which the efficacy was not checked only described the process of strategic communication, named the strategies that were applied, but did not evaluate the success of defense strategies. Without an efficacy check, the implications of these papers are limited. An objective measure, like a poll, could serve as a gold standard to evaluate the crisis communication efforts, because subjective influences can be eliminated. To sum up, social media can be used as efficient tools for transmitting successful defense strategies. However, the efficacy of crisis communication efforts could not be evaluated definitively since only a few papers applied a valuation standard. Thus, conclusions drawn from this review should be taken with caution. As the sample size for social mediated crisis communication in sports was very small, an additional review was performed without social media as a selection criterion in the following subchapter.

4.6 Crisis communication in sports

Crises in sports are embedded in a special setting. Just as organizations, high-performance athletes depend on their stakeholders (like recipients, sponsors, managers, etc.), in order to perform and train under professional conditions. The uniqueness of the indirect relationship between athletes and recipients is highlighted in chapter 2.3.3. And unlike organizations or politicians who in general have access to public relation managers who are prepared for potential crises situations (e.g., Conway et al., 2007; Gonzáles-Herrero & Smith, 2008, 2010), one might assume that athletes are generally not trained for responses on crises like allegations of doping and that they primarily have access to a general management which is not specialized for this issue (e.g., Macur, 2014). Therefore, crises in sports might differ in its management by athletes and the perception of the crisis by recipients.

Crises for athletes can be manifold and doping is only one, but serious example. Some research on crises in sports refers to an athlete's condition concerning his or her performance. Bar-Eli and colleagues conducted various studies concerning athlete's psychological crises in competitions. Based on the assumption that the participation in a competition is accompanied by stress, a potentially negative effect on the performance could occur which leads to a crisis (Bar-Eli & Tenenbaum, 1989). They were able to show that a negative feedback by teammates (Bar-Eli, Tenenbaum, & Levy-Kolker, 1992b), or by spectators (Bar-Eli, Tenenbaum, & Levy-Kolker, 1992a), negative coach-responses (Bar-Eli, Tenenbaum, & Levy-Kolker, 1993) and referee's responses against an athlete (Bar-Eli, Levy-Kolker, Pie, & Tenenbaum, 1995) were associated with crises. Other crises for example could be allegations of violence (e.g., Benoit & Hanczor, 1994; Len-Ríos, 2010) or rumors of infidelity as in case of David Beckham, which might lead to a tarnished reputation, but also to financial losses, like a potential termination of sponsorships (Rines, 2004). Therefore, Brown and colleagues (2012) deduced that athletes require an increased knowledge how they can protect or defend their reputation, as sports is intensively covered by media and due to the fast dissemination of contents via social media.

To get a better understanding of crisis communication in sports, current literature was reviewed, based on the keywords ‘crisis communication’ OR ‘image repair’ OR ‘image restoration’ AND ‘sport’ OR ‘doping’ in the scientific database SCOPUS (updated search in November 2014). Altogether 14 studies were analyzed (six found by direct search, four by backward search, three by forward search, and one paper by analyzing the International Journal of Sport Communication, which is a target journal in this setting). Two of these papers each described two different cases of crisis communication. These cases were analyzed separately concerning the application of strategies. A summary of the results is presented in table 5, on the following pages.

A majority (71.4%, n = 10) of the papers which referred to crisis communication and the repair of a tarnished reputation referred to the IRT (Benoit, 1995, 1997) ($\chi^2(4, N = 14) = 23.14, p < .001$). Although almost all papers were published after the introduction of Coombs’ SCCT in 2007, this theory was nearly completely ignored in the context of crisis communication in sports. On average, the athletes applied M = 4.00 strategies (SD = 2.07), with a range from one up to nine strategies. Dominating crisis communication strategies were mortification (according to Benoit’s understanding, 68.8%, n = 11), denial, bolstering (both: 50.0%, n = 8), attack the accuser and corrective action (both: 43.3%, n = 7), which is consequently a mixture of offensive and defensive strategies. At least from its quantity, mortification played a special role in the setting of sports. Concerning its efficacy, less than half of the trials to repair a reputation via mortification succeeded (45.5%, n = 5). Therefore, no special role concerning the quality of this strategy for sports can be assumed. The variety of crises is manifold, ranging from termination of contracts, violence against opponents, other persons or animals.

Only three studies (21.4%) focused on doping (Glantz, 2010; Sanderson, 2008; Walsh & McAllister-Spooner, 2011), if the consumption of marijuana is added to this category (as a substance, which is listed as prohibited substance during competitions in the prohibited lists of the World Anti-Doping Code). This is surprising as doping cases of high-performance athletes generally receive worldwide attention, whereas the probability that smaller transgressions (like debates on contracts) become popular might be lower. Based on these three doping papers, only in case of Michael Phelps’ consumption of marijuana and his quick application of mortification, corrective action, bolstering and defeasibility, a successful application of crisis communication was adjudged (Walsh & McAllister-Spooner, 2011). Thus, the authors concluded that a quick and honest response would be the most efficient way to deal with this crisis which cannot be denied.

Table 5: Summary of crisis communication studies with a particular sports focus.

Study	Theory	Object of study	Key results	Comment
Benoit & Hanczor (1994)	IRT	Tonya Harding	Defense (bolstering, denial, attack the accuser, defeasibility) of US ice figure skater T. Harding against accusations of being involved in an attack on N. Kerrigan was rated (poll) as inefficient, as considerable evidence against Harding's assertions got public.	4 strategies applied, case study, content analysis[1].
Brazeal (2008)	IRT	Terrell Owens	Efforts of US American football player T. Owens to repair his tarnished reputation due to publicly criticizing the coach and teammates in order to prevent an upcoming end of contract by mortification, bolstering, good intentions and attack the accuser were rated as inefficient, as Owens was fired and as these strategies were perceived as inappropriate.	4 strategies applied, case study, content analysis[1].
Brown & Billings (2013)	SCCT	Football team of the American University of Miami	Fans efficiently engaged in crisis communication (ingratiation, reminder, attack the accuser, divert attention (new), denial, justification, scapegoat, excuse, apology) via Twitter to defend their football team, which faced allegations of impermissibly support.	9 strategies applied, case study, content analysis.
Brown, Dickhaus, & Long (2012)	IRT	LeBron James	Comparison of three crisis communication strategies (mortification, shift the blame, bolstering) in an experimental design, which was based on American basketball player L. James and his statement of changing teams. Mortification as most efficient strategy.	3 strategies compared, experiment.
Bruce & Tini (2008)	IRT	Australian rugby team Bulldogs	Inconsistent crisis communication (denial, attack the accuser, provocation/scapegoating, corrective action, mortification) of an Australasian rugby team against allegations in a salary cap scandal failed in influencing media coverage. Diversion as a new crisis communication strategy (separate athlete's from the general team name's reputation).	6 strategies applied, case study, content analysis[1].
Fortunato (2008)	IRT + SCCT	Duke university lacrosse team	After players of the American Duke university lacrosse team were alleged of rape and sexual assault, the university tried to restore their reputation (mortification, corrective action, bolstering). No information about efficacy is given.	3 strategies applied, case study, content analysis[1].
Glantz (2010)	IRT	Floyd Landis	The American cyclist F. Landis applied non-matching strategies (denial, defeasibility, differentiation, bolstering, attack the accuser) to defend himself against doping allegations. His efforts failed (poll).	5 strategies applied, case study, content analysis[1].
Holdener & Kauffman (2014)	IRT	Michael Vick	American football player M. Vick harmed his reputation by engagement in dog-fighting. His crisis communication (apology, corrective action) was perceived as superficial. Nevertheless Vick seems to have repaired his reputation years after the allegations.	2 strategies applied, case study, content analysis[1].

Study	Theory	Object of study	Key results	Comment
Jerome (2008)	Rhetoric of atone-ment	Tony Steward	The apologetic campaign of American NASCAR driver Tony Steward, who attacked a photographer, was rated as successful.	1 strategy applied, case study, content analysis[1].
Kennedy (2010)	none	Kobe Bryant & Barry Bonds	The reputable American basketball player K. Bryant successfully defended himself against accusations of sexual assault by denying, bolstering and apologizing; although the strategies he applied were contradictory. American baseball player B. Bonds who had a lower prior reputation denied that he applied knowingly doping substances. His defense was not successful.	3 strategies applied (Bryant), 1 strategy applied (Bonds), case study, content analysis[1].
Len-Ríos (2010)	IRT	Duke university lacrosse team	Defense of a sports team accused of rape by denial and mortification. Defense of university's reputation by bolstering, corrective action, separation (new), transcendence and attack accuser. Strategy shift over time: mortification in early phase, attack accuser in late phase. Crisis communication likely effective in public. Same case as above (see Fortunato), but different evaluation of IR-strategies.	7 strategies applied, Case study, content analysis.
Pfahl & Bates (2008)	IRT	Formula One	After accidents due to Michelin tire defects at the United States grand Prix 2005, the Federation Internationale De L'Automobile FIA (transcendence, attack the accuser, corrective action, mortification), and the tire manufacturer Michelin (transcendence, shifting the blame, corrective action, mortification) each applied four strategies to restore their reputations.	4 strategies applied (each), case study, content analysis[1].
Sanderson (2008)	IRT	Roger Clemens	American baseball player R. Clemens unsuccessfully tried to restore his reputation (denial, attack accuser, victimage, minimization), after he was repeatedly accused of doping. According to the author, his defense lacks an appropriate matching of strategies	4 strategies applied, case study, content analysis[1].
Walsh & McAllister-Spooner (2011)	IRT	Michael Phelps	The American swimmer M. Phelps successfully restored his reputation (media coverage) after he was detected of smoking marihuana by applying mortification, bolstering, defeasibility and corrective action.	4 strategies applied, case study, content analysis[1].

[1] = only descriptive, ratings display the evaluation of the author.
Note: Textual analysis and content analysis are not differentiated. They are summed up as content analysis.

Concerning crisis communication once again, the decisive question is, whether the attempts to restore one's reputation were successful or not. The doping cases in this sample exemplify the problem research faces in evaluating the application of strategies due to the weak methods applied in case studies. Frequently, the success of crisis communication is rated by the author(s) (e.g., Sanderson, 2008) and only seldom by analyzing news coverage afterwards (e.g., Walsh & McAllister-Spooner, 2011) or by referring to poll data (e.g., Glantz, 2010). And in case of Michael Phelps, the reason for the acceptance of his crisis communication could also be explained by the fact that marijuana is more accepted in society than doping, which is not mentioned at all in the paper. However, deduced from empirical data it seems that fans are more permissive to condone transgressions (e.g., Brown, et al., 2012; Van Reeth & Lagae, 2013/14). Therefore, it can be concluded that the evaluation of efficacy of crisis communication must be done dependent on the group of recipients (Drumheller, 2011).

Concerning the hole sample, the validity of the papers is restricted, as most of them were case studies (92.9%, $n = 13$), which were examined by content analysis ($\chi^2(1, N = 14) = 10.29$, $p = .001$). Furthermore, in a majority of the papers (78.6%, $n = 11$), the results reflect solely the interpretation and the evaluation of the author, which is an additional severe limitation of the quality of these papers ($\chi^2(1, N = 14) = 4.57$, $p = .033$). These papers are solely descriptive, without any coding scheme and without comparison with other interpretations of the contents.

Although scholars repeatedly emphasized sports as a special setting for research on crisis communication and its effects (Walsh & McAllister-Spooner, 2011), only little empirical research is done until now. Besides the verbal defense patterns, also nonverbal analysis of behavior during crisis communication were conducted, indicating differences in the behavior patterns depending on whether the athlete tries to defend him- or herself before doping practices were confirmed or tries to recover losses after committing the application of doping by the example of Lance Armstrong (Zurloni et al., 2015). One might assume that the contrast between glorification and disappointment or avoidance might be particularly high into the setting of sports, due to fandom, parasocial interaction or personal investments. It becomes obvious that an application of IRT (Benoit, 1995, 1997) or SCCT (Coombs, 1995, 2007b) to the context of sport in general and to doping is possible and reasonable. Only two papers included website contents (Fortunato, 2008; Len-Ríos, 2010) and solely one study incorporates Twitter as a channel for crisis communication (Brown & Billings, 2013). This means that research on crisis communication in sport was generally based on data which were transmitted and framed by other news media and that social media are broadly neglected until now.

5 Doping

Sport has a long history of various attempts to cheat in order to enhance the own competitiveness (Petróczi & Strauss, 2015). One of these attempts and one of the most extensive crises in sports is doping as it calls the awarded principles of a whole system like fairness or respect into question. Despite reinforced attempts to control and limit doping, it has become a solid parameter of sport and especially high-performance sports (Augustin, 2007; Bette et al., 2012). Popular doping cases of top athletes like Lance Armstrong illustrate the extent of consequences for athletes, for a whole type of sport, but also for outstanding parties.

The following pages shed light on the field of doping from different perspectives. It provides the official definition of doping by the World Anti-Doping Agency (WADA), as well as its dissemination and forms of performance enhancement. As doping is prohibited in competitive sports, this chapter outlines the efforts to stem the problem, as well as athletes' reasons for applying doping anyhow and ends with the perspective of outstanding parties, like recipients and media.

5.1 Definition

The question "what is doping?" would have led to several different answers in the last century. Thus, research on the history of doping in sports emphasizes the necessity to take the historical context as a basis to understand this "socially constructed phenomenon" correctly and without biases from the current point of view (Reinold & Meier, 2012, p. 75). Retrospectively, the 1950s are regarded as starting point for the application of novel substances to enhance performance, whereas the fight against doping started not until the 1960s, for example by the implementation of more or less efficient doping tests (Krüger, Becker, & Nielsen, 2015).

Consequently, the definition of doping has changed several times as it was difficult to state clearly what a prohibited manipulation of physical performance is. Based on the definition of the German Sports Federation (Deutscher Sportbund) of 1952 (quoted from Haug, 2007, p.44), which described doping as an intake of medication with the intention to enhance performance during competitions, Haug (2007), Asmuth (2010), and Reinhold and Meier (2012) elucidate the point of critique, that this description was too vague: It did not allow a clear specification of medications as prohibited and neglects other treatments for performance enhancement completely. A further problem was that this definition focused solely on competitions and enabled thus "legal" doping during phases of training. Therefore, an athlete could easily try to talk his or her way out of it.

To solve this problem the WADA (2015) provides a more detailed "enumerative definition" (Bette & Schimank, 2006, p. 186) as part of the World Anti-Doping Code, which is based on specific substances and methods:

> Doping is defined as the occurrence of one or more of the anti-doping rule violations set forth in Article 2.1 through Article 2.10 of the Code.
>
> 2.1 Presence of a *Prohibited Substance* or its *Metabolites* or *Markers* in an *Athlete's Sample*
>
> 2.2 *Use* or *Attempted Use* by an *Athlete* of a *Prohibited Substance* or a *Prohibited Method*
>
> 2.3 Evading, Refusing or Failing to Submit to *Sample* Collection
>
> 2.4 Whereabouts Failures
>
> 2.5 *Tampering* or *Attempted Tampering* with any part of *Doping Control*
>
> 2.6 *Possession* of a *Prohibited Substance* or a *Prohibited Method*
>
> 2.7 *Trafficking* or *Attempted Trafficking* in any *Prohibited Substance* or *Prohibited Method*
>
> 2.8 *Administration* or *Attempted Administration* to any *Athlete In-Competition* of any *Prohibited Substance* or *Prohibited Method,* or *Administration* or *Attempted Administration* to any *Athlete Out-of-Competition* of any *Prohibited Substance* or any *Prohibited Method* that is prohibited *Out-of-Competition*
>
> 2.9 Complicity
>
> 2.10 Prohibited Association
>
> (World Anti-Doping Agency, 2015, p. 18-24)

In comparison to older definitions, the doping definition provided by the WADA is more precise as it refers to concrete prohibited behaviors, and concerns an extended scope as it includes the possession of doping substances, the involvement of coaches up to third parties, the violation of whereabouts information and equalizes doping attempts and doping offences as well as voluntary or involuntary doping actions (Feiden & Blasius, 2008; Haug, 2007). Although one might claim that this description is too elaborated to call it a definition, which pursues the basic principle of an economic summary of one topic, it becomes obvious that doping is too complex and involves too many components that it is impossible to provide a short but precise definition.

The Anti-Doping Code is completed by a prohibited list, which names banned substances and methods (World Anti-Doping Agency, 2014c). As the prohibited list is updated and published annually, one might assume that it is a highly up-to-date document, but it is much more an indicator for the WADA's race against time and against research, in order to prohibit previously unregarded substances and methods. Therefore, the WADA constantly stays behind one step and only reacts on current developments (Mazanov & McDermott, 2009). A current example for this lagging behind is the adaption of the 2014 List of Prohibited Substances in the aftermath of the Winter Olympic Games in Sochi, after it became known that Russian athletes inhaled xenon to increase the amount of red blood cells (Reedie,

2014; Steinacker, 2014; World Anti-Doping Agency, 2014e). The revised version became valid on September 1st, 2014 and includes the noble gases xenon and argon (World Anti-Doping Agency, 2014d). Nevertheless, the WADA (2011) rates their anti-doping regulations as powerful tools to fight doping, but several athletes try to take advantage of the imperfection and present themselves as clean, non-doped athletes in public.

At least in the context of research, Petróczi (2013a) opposes the trials of the WADA to define doping with increasing precision and offers a broader definition of doping, "as knowingly and purposefully using prohibited performance enhancing method(s), and/or substance(s)" (p. 3). This definition is the result of her remark that there is still no clearly defined and stable borderline, which clarifies what is legal and what is illegal. Instead, this borderline is steady (Petróczi & Strauss, 2015): Substances which were legal today can be prohibited as doping tomorrow and therefore, athletes who were not condemned today will be condemned tomorrow for exactly the same behavior. Thus, the definition of the WADA might be more precise, but still leads to major problems and consequences concerning its implementation. What Petróczi (2013a) outlines is one of the biggest paradoxes we face: Legal performance enhancement is accepted, as long as the substance is not (yet) prohibited.

5.2 Dissemination and forms

In public and in order to get the permission to compete, high-performance athletes need to commit themselves to the principles of sports (World Anti-Doping Agency, 2015). This commitment gets most obvious in public, when athletes swear the Olympic oath during the opening ceremony of the Olympic Games. But yet a considerable amount of athletes opposes these principles secretly and applies multiple methods to enhance performance as in case of the Russian athletes during the games of Sochi. This leads to the questions of how many athletes engage in prohibited behavior and which methods are applied.

5.2.1 Prevalence

The determination of the actual prevalence faces difficulties as doped athletes try to prevent themselves from detection in order to maintain their reputation of being clean. To estimate the dissemination of doping as accurately as possible, research has developed direct measures like laboratory examinations of urine, blood and hair and self-reports of athletes. These methods are supplemented by more indirect measures like the randomized response technique or completely indirect measures like surveys which focus on third persons.

The detection of doping cases via laboratory examinations plays the most important role, as these tests are the basis for further steps of sanctioning. In 2013 altogether 269878 samples of urine and blood were examined under the authority of the WADA. In 1.3% of these sample (n = 3529) prohibited substances (so-called adverse analytical findings) were attested. The laboratories detected mainly anabolic agents (63.0%, n = 3320), followed by stimulants (10.0%, n = 530) and diuretics and other masking agents (7.5%, n = 393) (World Anti-Doping Agency, 2014a). In comparison to Augustin's (2007) and Bette and colleagues'

(2012) assessment that doping is omnipresent in high-performance sports, this value is amazingly small. And also over the last five years the attested prevalence ranges "merely" from 1.1% (2010) to 1.3% in 2013 (World Anti-Doping Agency, 2014a). The amount of positive samples varies significantly between the dates when a sample is taken: Van Eenoo and Delbeke (2003) report a significantly higher prevalence for in-competition tests (twelve hours preceding a competition) as for out-of-competition tests (all other controls), which is explained by a lower amount of substances that needs to be tested in non-competitive periods. Therefore, the prevalence of laboratory examinations might be even higher, if the same testing procedure would be performed for in- and out-of-competition tests. Otherwise a more positive trend is conceivable as the amount of positive tests in Sweden decreased from 2.0% to 0.5% in the period from 2003 to 2008 (Sjöqvist, Garle, & Rane, 2008). Further clarification of the doping prevalence is expected by the wider implementation of biological passports, which are applied to gather athlete's blood and urine data in order to exhibit long term comparisons and which are expected to be an innovative anti-doping strategy (Vernec, 2014).

An analysis of 203 blood samples of 146 participants at the 2001 Nordic World Ski Championships in cross-country skiing revealed that the amount of doped athletes must be significantly higher (Stray-Gundersen, Videman, Penttilä, & Lereim, 2003): 36.0% of the athletes tested, who finished in the top 50, exhibited a highly abnormal or abnormal blood profile. The better the competition results, the higher the amount of striking blood values. The authors concluded that official testing procedures for blood doping were ineffective and that this type of doping would be widespread in endurance sport and efficient in enhancing performance. Further support for the assumption that blood doping is particularly prevalent in endurance sport was given by Sottas et al. (2011), who analyzed blood samples of elite track and field athletes. Within this population, they were able to detect an average prevalence of blood doping of 14.0%, ranging from 1.0% to 48.0% and with large differences between countries, indicating that there were differences in relation to the countries' doping culture.

A clear trend towards a relatively stronger use of doping in endurance sports can't be found in the official data provided by the WADA (2014b), although the WADA also seems to pursue this assumption as well and conducts most tests in this area. Considering the Olympic disciplines, the highest prevalence rates within a discipline could be found for weightlifting (3.4%, n = 287), equestrian (2.3%, n = 13), judo (1.5%, n = 65), boxing (1.4%, n = 50), cycling (1.2%, n = 275), and athletics (1.2%, n = 291). Furthermore, bodybuilding (10.4%, n = 178) and American Football (6.0%, n = 721) as non-Olympic disciplines reached relatively high prevalence rates. Interestingly, cycling which is regarded as one of the types of sports with many doping problems (Lentillon-Kaestner et al., 2012) reached only a small prevalence rate. Therefore, two conclusions could be drawn: either endurance sports are not as burdened as expected, or the official testing procedures are still ineffective. Furthermore, especially cgs sports, in which the athlete's performance can be measured in centimeter, grams, or seconds, are regarded to have a comparably higher utility of doping as games or combat sports, where the individual performance is covered by the interaction with the team or opponent (Pitsch,

2013). This assumption might lead to additional biases, as the control system migh put a greater focus on individual athletes in consequence.

But today's laboratory testing brings along another problem as well, its questionable reliability (Mazanov & Connor, 2010; Pitsch, 2013). Referring to the doping case of the American cyclist Floyd Landis, Berry (2008) pointed out that although assuming a specificity of 99%, the probability to reach a false positive result within 126 tests would be 72%. That means, the more often an athlete is tested, the higher the probability of a positive test independent of whether the athlete has doped or not. In case of a false positive test result, the option of a hearing by the WADA becomes even more important for an athlete and strategies of crisis communication become necessary (see chapter 5.3.1).

Further, but not officially implemented, possibilities to detect the abuse of doping substances are hair analyses (Deshmukh, Barker, Petróczi, & Naughton, 2012; Petróczi et al., 2010). Via hair analysis, Petróczi et al. (2011) were able to define a prevalence of 12.2% (n = 10). Although there were clear indications for doping, all of these athletes disputed. As the WADA pays more attention to laboratory values, they attempt to test hair officially, in addition to the common test procedures (BBC, 2013). After this implementation one might expect an increase of positive samples.

In general, laboratory data entail the advantage of providing a clear basis for further analysis, but the whole procedures entail also the major disadvantage, that always new methods or substances are created, for which no validated tests exist so far (Feiden & Blasius, 2008). Therefore, research provides alternative analytical methods to estimate the prevalence rate in order to achieve a more precise assessment.

One popular way to estimate the prevalence is self-reported data of doping abuse either via interviews or via questionnaires. The prevalence rate via this method varies from 2.6% (Papadopoulos, Skalkidis, Parkkari, & Petridou, & Group, 2006) to 14.6% (Uvacsek et al., 2011). Although this is an inexpensive, fast and uncomplicated way to estimate the prevalence, these data are influenced by social desirability factors (e.g., Gucciardi, Jalleh, & Donovan, 2010; Petróczi & Nepusz, 2011). Therefore, the method of self-report is only able to show the lower limit of prevalence.

An indirect measure to circumvent the problem of social desirability is the randomized response technique. This technique is a combined self-report, with one part of the sample answering as honestly as possible (including the problem of social desirability in this setting) and the other part of the sample gets a question with a known probability in the population, which he or she answers instead. Based on the knowledge of the probability in the population, this probability value can be subtracted out and the prevalence of doping can be estimated more precisely. This technique guarantees a higher amount of anonymity as there will be positive answers based on those participants of the algorithm subsample. Hence, it should be easier for those of the "normal" setting to admit doping.

According to the randomized response technique, the prevalence rate of athletes, who confessed doping, ranged from 6.8% (Striegel, Ulrich, & Simon, 2010) to 13.0% (Dietz et al., 2013). Other surveys estimated an upper limit of 34.9% (Pitsch & Emrich, 2012). In a former study, Pitsch, Emrich, and Klein (2007) reported even higher interval limits and a range between 25.8% and 48.1% of doped athletes, but they criticized their own methodological procedure due to a lack of sampling control. Therefore, the results of the replication study (Pitsch & Emrich, 2012) are set as upper limit, which is named in literature so far. It can be concluded that also this method involves problems and leads only to an estimation of the prevalence rate. But this prevalence is more precise as those based solely on "pure" self-reports. Currently, extended versions of the randomized response technique are developed which should strengthen the perception of anonymity and should be therefore more exact (Nepusz, Petróczi, Naughton, Epton, & Norman, 2013).

Despite the ambiguity of doping prevalence, some conspicuities could be demonstrated throughout various studies. It has been repeatedly shown that athletes who apply doping substances overestimate the prevalence rate within their type of sport (e.g., Petróczi, Mazanov, Nepusz, Backhouse, & Naughton, 2008; Uvacsek et al., 2011). This phenomenon is called the "false consensus effect", and is regarded as the result of an athlete's own involvement in doping combined with his or her socially projected prevalence estimations (Petróczi, 2015). Thus, athletes consider their own behavior as a proxy to estimate the doping prevalence, which leads to overestimations if the athlete applies doping him- or herself and to underestimations if the athlete competes clean. Additionally, it could be shown that the own country is perceived as less doping polluted, compared to international sports (Alaranta et al., 2006), but altogether athletes perceived doping as prevailing (Lazuras, Barkoukis, Rodafinos, & Tzorbatzoudis, 2010). Even adolescent athletes apply doping substances and this trend is rising with increasing age (Laure & Binsinger, 2007). Furthermore, various studies could demonstrate that male athletes apply more likely doping substances than female athletes (e.g., Alaranta et al., 2006; Kondric et al., 2011; Striegel et al., 2006). Uvacsek et al. (2011) were also able to demonstrate that males admitted doping more often than females, but this effect was not significant. Therefore, the gender effect can't be demonstrated clearly.

Taken together research and science invest a lot of material and immaterial resources to detect doping cases as sport is held in high esteem internationally. Alternative measures show, that the prevalence of doping is difficult to ascertain and it is much higher as official data by the WADA suggest. But all measures exhibited weaknesses. It can be assumed that the higher the amount of doping cases, the more difficult it should be for athletes to regain trust and to rebuild their reputation and the more people lose interest and trust in sports. This is a basic requirement so that this system functions. The prevalence can therefore be seen a measure for the sport's right to exist.

5.2.2 Forms and methods

Clinical evidence for a performance enhancing effect is only given for a few methods and substances, and long-term effects are often unknown (Feiden & Blasius, 2008). Nevertheless, athletes try a variety of possibilities to gain a competitive benefit. Table 6 on the following page gives an overview of all prohibited doping substances by the WADA (according to the Prohibited List 2015), and their effects and side effects.

Additionally to prohibited substances, the WADA forbids several methods, which lead to a benefit in performance (World Anti-Doping Agency, 2014c). The prohibited methods comprise a) the manipulation of blood and blood components, which means that no blood products are allowed to enter the athlete's body (including autologous blood); b) chemical or physical manipulation, which comprises any attempt to tamper samples; and c) gene doping, which forbids manipulation of the athlete's gen activity.

Altogether the doping behavior has changed over time: from medication, to blood doping, to gene doping. Merely in fitness- and recreational sport older anabolic steroids are applied, mostly without medical supervision. Doping in high-performance sports focuses meanwhile on peptide hormones, medical products which are not yet authorized or latest scientific findings due to the amount of doping controls (Feiden & Blasius, 2008; Striegel & Simon, 2007).

A further problem in high-performance sports are contaminated supplements, which cause positive doping test results due to non-declared ingredients, like prohormones. Geyer and Schänzer (2002) reported traces of anabolic androgenic steroids in 14.8% (n = 94) of supplements, which did not appear on the packaging (Geyer et al., 2008). A current example for a self-proclaimed victim of contaminated supplements is the German biathlete Evi Sachenbacher-Stehle, who was tested positive during the 2014 Winter Olympic Games in Sochi (International Olympic Committee, 2014). The case is presented in more detail in chapter 9.

Taken together, doping is a manifold phenomenon, which is always in change, may happen (eventually) inadvertently and may have very dangerous side effects, which might cause even deadly complications. Nevertheless, a variety of methods is applied and sometimes also combined by athletes to reach the performance limit. Especially convicted athletes do not only pay the price with their physical and psychic health, but also with official sanctions which might be the end of their career as high-performance athlete.

Table 6: Commonly applied substances in high-performance sports and their effects and side effects (based on: Feiden & Blasius, 2008; Nationale Anti-Doping Agentur Austria, 2014; World Anti-Doping Agency, 2014c).

Drug Class	Substance Group	Substance, which was applied most often in 2013 (% within drug class)	Effects (selection)	Side Effects (selection)	Further Information
Anabolic Agents	Anabolic Androgenic Steroids (AAS) a) exogenous AAS b) endogenous AAS	a) stanozolol (10.6% within AAS, *n* = 329), testosterones b) dehydrochlormethyltestosterone (7.0%, *n* = 217) epitestosterone	muscle growth, reduction of body fat percentage, increase of erythrocytes and hemoglobin	damages of the cardiovascular system, liver damages, edemas	most common doping violation: transgression of the permitted testosterone/ epitestosterone ratio (59.6%)
	Other Anabolic Agents	clenbuterol (90.6% within other anabolic agents, *n* = 183)	enhance muscle growth	tremor, cardiovascular effects (e.g., dysrhythmia)	may enter body via contaminated meat
Peptide Hormones, Growth Factors, Related Substances, and Mimetics	Erythropoietin-Receptor agonists	erythropoietin (EPO) (27.7%, *n* = 56)	increase of erythrocytes	deterioration in flow characteristics of the blood (heart attack, stroke)	hematocrit is sometimes controlled before the competition
	Hypoxia-inducible factor stabilizers	(added to the prohibited list in 2014: e g., argon, xenon)	increase of erythrocytes, inhibition of pain	damage of olfactory nerves	novel substance class, prosecuted since 2014
	Chorionic Gonadotrophin and Luteinizing Hormone	chorionic gonadotrophin (61.4%, *n* = 124)	stimulates testosterone production	disturbs hormone circulation (e.g., gynecomastia)	prohibited only in males,
	Corticotrophins	adrenocorticotropes hormone (*n* = 0)	regulates production of cortisol and cortisone, can have stimulating effect	reduction of bodily reserves (fat, sugar), inflammations, infections	applied after long physical exertion
	Growth Hormone	human growth hormone (*n* = 0)	anabolic effects, increases glucose level	growth disorders, diabetes	performance enhancement not scientifically proven
Beta-2 Agonists		terbutaline (74,6%, *n* = 103)	enhance muscle growth (expected), improved breathing	damages of the heart, tremor	performance enhancement not scientifically proven, can be declared as asthma treatment
Hormone and Metabolic Modulators	Aromatase inhibitors	anastrozole (6.5%, *n* = 6)	reduction of side effects of anabolic agents, inhibition of estrogen	fatigue, agitation, depressive state	inhibition of estrogen should enhance testosterone level
	Selective estrogen receptor modulators	tamoxifen (43.0%, *n* = 40)	reduction of side effects of anabolic agents, inhibition of estrogen	gastrointestinal disorders, hypersensitivity reactions	see above
	Other anti-estrogenic substances	clomiphene (25.8%, *n* = 24)	should stimulate production of testosterone	flushing, increased danger of thromboembolic incidents	see above
	Agents modifying myostatin function	myostatin inhibitors (*n* = 0)	enhance muscle growth, stimulation of anabolic processes		inhibition of myostatin causes muscle growth indirectly
	Metabolic modulators	a) insulin (2,2 %, *n* = 2) b) Peroxisome Proliferator Activated Receptor δ agonists (11.8%, *n* = 11)	enhances glycogen production in the liver	hypoglycemic coma	performance enhancement not scientifically proven
Diuretics and Masking Agents	Diuretics	furosemide (36.9%, *n* = 145)	makes urine less concentrated	disorder of the electrolyte balance (nada.at)	aggravates detection, accelerates weight losses
Stimulants (in competition)		methylhexaneamine (31.9%, *n* = 169)	enhances energy metabolism and delay tiredness	damages of the cardiovascular system, stress symptoms	several deaths attributable to stimulants abuse
Narcotics (in competition)		morphine (58.1%, *n* = 25)	inhibition of pain	large potential for addiction,	applied in sports, which cause pain (combat sport)
Cannabinoids (in competition)		carboxy-THC (93.1%, *n* = 175)	calming effect, potentially disinhibiting	psychotic problems	may have debilitating effects in some sports
Glucocorticosteroids (in competition)		budesonide (40.9%, *n* = 135)	anti-inflammatory, analgesic	disorders of hormone balance	enhance performance in endurance competitions

5.3 Defeating doping

The prevention of doping is mainly based on deterrence, like threats of harsh punishment which could end an athletic career, but also educational programs are provided by the WADA. If prevention failed, the Court of Arbitration for Sport is the highest authority in this area, which judges over doping issues and ensures thereby at first glance that athletes take the doping rules of the WADA seriously. The following pages introduce the international penalty scale of the WADA, but also juristic regulations at federal state level. Additionally, educational prevention programs of the WADA are introduced.

5.3.1 Penalty system of the WADA

The establishment of the WADA on November 10th, 1999 and the coming into effect of the first World Anti-Doping Code, which became valid on January 1st, 2004, were two fundamental steps to prevent and sanction doping officially and with a unified standard. The WADA operates as a central switch point in a network of smaller national anti-doping agencies, like the National Anti-Doping Agency Germany (NADA), the U.S. Anti-Doping Agency (USADA) or the Canadian Center for Ethics in Sport (CCES) for example. They all aim to implement and improve the existing standards (World Anti-Doping Agency, 2011). The national anti-doping agencies are independent institutions, which have committed themselves to acknowledge the rules by the WADA (World Anti-Doping Agency, 2014f).

Besides preventing and detecting doping, the WADA provides a catalogue of sanctions ranging from a reprimand to a life ban. A positive sample from an in-competition test leads automatically to a cancelation of the results of that competition. In case of a first violation, the sanctions range from a warning (if the athlete is regarded as innocent) to a two-year ban. In case of a second or third violation, the sanctions range from a warning to a life ban. Also a missed test or an offence against the whereabouts rules, the possession of substances, the passing on of substances or instigation of other athletes are regarded as violations. However, there are aggravating and mitigating circumstances, which influence the level of sanction. If an athlete successfully argues that the substance was applied without any purpose to enhance performance, the sanctions are handled more flexible und might be reduced (Article 10.4 and 10.6 of the World Anti-Doping Code 2015). In each doping case, the athlete gets a chance for a personal hearing to explain the circumstances of the positive test result (World Anti-Doping Agency, 2003, 2015).

The possibility for athletes to reduce sanctions by arguing, that they didn't intend to enhance their performance fosters the occurrence of crisis communication, by which athletes try to prevent sanctions. Examples are the Spanish cyclist Alberto Contador (see chapter 8) and the German table tennis player Dimitrij Ovtcharov who were both tested positive for clenbuterol and who both argued the positive tests resulted due to contaminated meat (Ovtcharov, 2010; Radiotelevisión Española, 2010), or the Jamaican 400m-runner Dominique Blake, who was tested positive for the stimulants methylhexaneamine and argued that she did not intend to enhance her performance (Court of Arbitration for Sport, 2014). Whereas the

WADA accepted Ovtcharov's explanations and acquitted him (Hood, 2010), Contador was found guilty and banned for two years (Court of Arbitration for Sport, 2012). In case of Blake, mitigating circumstances were recognized although this was her second doping violation and the ban was reduced from six years to four years and six months (Court of Arbitration for Sport, 2014).

A test result is regarded as not further pursuable, if the athlete is able to justify that the conspicuities in the sample resulted from physiological or pathological conditions of the body (Feiden & Blasius, 2008). Famous examples for this physiologically based crisis communication are the German ice speed skater Claudia Pechstein or the American cyclist Tyler Hamilton. Whereas Pechstein claimed, that she did not manipulate her blood and that the abnormalities were normal fluctuations of her blood values (Pechstein, 2009), Hamilton argued that the exogenous components found in his blood originated from his vanished twin, who died in the utero before his birth (Kolata, 2005). Both justifications were not recognized officially (American Arbitration Association, 2005; Court of Arbitration for Sport, 2009). While Hamilton admitted systematic doping later on and described a manifold doping culture in competitive cycling, especially among high-performance cyclists and named techniques to prevent positive test results (Hamilton & Coyle, 2013), Pechstein continued to fight for her side of the story. In early 2015, a German civil court rejected the ruling of the Court of Arbitration for Sport and reopened her case (Grohmann, 2015).

In summary, the WADA provides more or less hard degrees of punishment, but the degree of official violations by the WADA is influenceable. Athletes seem to make every effort to mitigate their potential sanction, as severe sanctions might be the end of their sports career. Although arbitrations of the Court of Arbitration for Sport are actually not reviewable, some athletes still declare their innocence and try to change the judicial system.

5.3.2 The execution of anti-doping laws

The implementation of laws at federal state level is already executed in Italy or France (Mustroph, 2013). In Germany, such a law could be passed in 2015, but this undertaking already evokes a public discussion between the different actors like politics, German Olympic Sport Federation, researchers in the field of doping, or athletes (Aumüller & Fischer, 2014). Fearing outside interference, the discussion is based on overlaps in the responsibilities of the individual actors.

They all agree, however, on the societal impact of sports, the danger which doping causes for the integrity of sports and the disappointed trust of recipients or other investors. It becomes obvious that especially the trusting relationship plays an important role for a further preservation of the whole sport system. Whereas it is argued in the German draft law by the Federal Ministry of Health (Bundesministerium für Gesundheit, 2014) that the organized sports in Germany is not able to handle the doping problem on its own and based on their sport specific authorities and that a governmental regulation is needed, the German Olympic Sports Confederation (Deutscher Olympischer Sportbund, 2014) defends the existing

regulations and emphasizes that coherent lawsuits within the sports system would be more efficient, ensure faster processes and guarantee an equal treatment of all actors. However, there are some high-performance athletes who support the law publicly (Reinsch, 2014).

If this act enters into full force in Germany, the breaching of sanctions in case of doping violations will be harsher on the one hand and the amount of persons which are covered by this law is increased (Bundesministerium für Gesundheit, 2014): Athletes who were found guilty to apply or possess doping substances would be threatened with up to three years imprisonment, but also the athlete's support staff (physicians, physiotherapists, nutritionists, etc.) would be included. With the implementation of a doping specific law, politics and justice would intervene in the sports system which was characterized as a system that handled issues among themselves so far and thereby owned a certain kind of autonomy. A new dimension would be opened, based on control and deterrence by sanctioning which contradicts the proclaimed trust relationship of sports. German sports would be partly incapacitated and it remains the question whether this is desirable. In general, the best way is to prevent doping before it happens.

5.3.3 Prevention programs

The prevention of doping is taken serious by sport federations, national anti-doping agencies or the WADA. Focusing on the WADA as central switch point of the anti-doping network, their former approaches focused on educating which substance and which method is prohibited (World Anti-Doping Agency, 2014g) and were altogether criticized for being not sufficient (Smith & Steward, 2008). As Petróczi (2013a) concludes "anti-doping efforts appealing to morality and fair play might miss the target entirely if the doping behavior is a goal-oriented, purposeful use of prohibited enhancing substances to expand human athletic performance" (p.7). Therefore, other contents should be focused.

A new approach of the WADA is the eLearning tool ALPHA (Athlete Learning Program about Health & Anti-Doping), which was launched in 2014 (World Anti-Doping Agency, 2014g). ALPHA focuses on athlete's attitudes and intentions which are regarded as determining factors for doping behavior, but choses a more positive outlook in giving advices how to resist doping for example or shows alternatives how to remain clean. Additionally, the WADA emphasizes that the program addresses also adolescent athletes with an adapted version in order to provide a prevention tool in the early stages of an athletic career. The efficacy of this approach is not analyzed systematically yet. However, one can conclude, that there are manifold efforts to prevent doping.

5.4 Psychological perspective

One of the most important questions in understanding athlete's application of performance enhancing substances is why they do so. Parts of research focused on different explanatory approaches including socialization or the willingness to commit moralistic disengagement. Further research focused on motives and attitudes, indicating that in many

cases the application of doping substances is a deliberate step, which is influenced by an athlete's motives and attitudes towards doping (Petróczi & Aidman, 2008). In research attitudes are of high importance in models, which strive to explain doping behavior and can be measured either explicitly or implicitly. These aspects are regarded on the following pages.

5.4.1 Moral disengagement vs. socialization

The emphasis of doping as an act which endangers the integrity of sport (Houlihan, 2003) leads to the criticized notion that doping is mainly a form of moral disengagement (Mazaonov & Connor, 2010; Reinold & Meier, 2012). Thus, Mazanov and Connor claim that this understanding is too narrowly considered by disregarding other important factors. Focusing on high-performance sports, an athlete's choice to apply doping substances is generally embedded in his or her social network, like support staff, but also family and friends who have special influence in the early stages of the career (Mazanov & Huybers, 2010; Mazanov & McDermott, 2009). Deduced from these authors, doping is no individual decision and a young athlete might grow up in a surrounding, in which it is normal and supported by physicians or parents to apply (permitted) substances which support regeneration. This could be the first step of a familiarization with future doping use, which is not far away from the aforementioned behavior. To expect that athletes depart from this behavior, when they achieved to compete in high-performance sports would be paradox.

Additionally, institutional factors like the team, the athlete competes with, media, or event organizer influence the athlete's behavior relating to doping (Macur, 2014, Mazanov & McDermott, 2009) or even make the decision for athletes as interview data revealed concerning the medical support team (Hauw & Mohamed, 2015). Therefore, a trend is observable that increasingly factors which lie outside the athlete are assumed to influence doping behavior (e.g., Erickson, McKenna, & Backhouse, 2015). This trend becomes also obvious in the new prevention program of the WADA which branches off from a moral focus.

5.4.2 Motives

Although athlete's motives for doping are manifold, there is a consensus in science, which motives foster the application of prohibited substances and methods. Most obvious motive is, that athletes who apply doping try to improve their performance in order to compete more successful (e.g., Backhouse, McKenna, Robinson, & Atkin, 2007), although in general the athletes concerned were often more likely to present the attitude to the outside that they dope to adjust their capability to compete at the level of their competitors (Petróczi & Strauss, 2015). Connected to this improvement motive, it is stated that athletes try to gain economic benefits like cash prizes or being more attractive for potential sponsors. Further motives for doping which are most often named encompass the reduction of psychological and social stress, relief of pain, instruction of the coach or the reduction of weight (Backhouse et al., 2007; Ehrnborg & Rosén, 2009; Özdemir et al., 2005; Scarpino et al., 1990). Bette et al. (2012) assume additionally a thirst for glory and all in all depraved moral qualities.

But also the motives for participating in competitive sports influence an athlete's decision to apply doping. Whereas fun and identity motives dominate at a younger age, they are replaced by a striving for sportive success with increasing age (Bette & Schimank, 2006). It is assumed that athletes, who decide to participate in high-performance sports, realize at some point in their career, that this way does not cover a lifelong financial and social assurance. Athletes are therefore dependent on sporting success, which ensures grants or a belonging to the senior squad and which leads to financial support at least during their active career. Aggravating this situation, one athlete is in rivalry with other high-performance athletes, in a tight power density. Thus, doping is assumed to become more likely (Augustin, 2007; Bette & Schimank, 2006). Whereas Augustin, and Bette and Schimank put more emphasis on external motives that lead to doping, Feiden and Blasius (2008) emphasize internal motives even in this systemic context. In their opinion athletes, who were supported by external sources, feel an obligation towards their "investors" to be successful.

A more recent understanding turns away from the strict differentiation of internal or external factors and describes doping as functional behavior during the career of an athlete to deal with injuries or as a pragmatic way to enhance performance (Mazanov, Huybers, & Connor, 2011; Petróczi, 2013a). In line with the WADA prevention program ALPHA this understanding turns away from describing doping as a moral transgression to a more rational behavior. But bearing in mind this understanding, Dietz et al. (2013) would still argue that athlete's behavior is also influenced by a general propensity to doping.

It can be concluded that the probability to feel a pressure to generate maximum performance is highest in high-performance sports and that a poor shape might threaten an athlete's existence. But besides this point of no return perspective which accentuates systemic reasons for doping, also more egoistic motives should be emphasized, like fame, the feeling to compete among the best of the world or gaining a good reputation, devotion of sports interested recipients or the status of a role model within a country as successful athlete. The described motives for doping behavior vary considerably and therefore aggravate the finding of efficient prevention actions. But despite this differentiation, all aforementioned motives might lead to doping behavior.

5.4.3 Attitudes

Whereas motives are regarded as causes for a certain behavior, which might change due to current requirements and which are influenceable via incentives; attitudes are seen as evaluative causes for a behavior, which are stable (Häcker & Stapf, 2004). Petróczi (2013a) criticized that most research concerning doping attitudes lacked a clear definition of the term attitude. Therefore, she defines doping attitudes as "an individual's predisposition toward the use of banned performance enhancing substances and methods" (Petróczi, 2007).

Positive attitudes towards prohibited substances or methods are seen as one important predictor for later doping behavior (Petróczi & Aidman, 2009). However, these attitudes seem to be influenced by unstated conventions, which athletes face in competitions, as stated by

track and field athletes, who indicated doping as a characteristic parameter in competitive sport (Pappa & Kennedy, 2012). Athletes therefore seem to have a paradoxical relation towards their own body: on the one hand they need a fully functional body to be successful; on the other hand they stress their health with physical performance and potentially with prohibited substances or methods, sometimes enforced by coaches or peers (Bette & Schimank, 2006; McArdle, 1999).

Despite the reported common practice of doping, many athletes indicated rather negative attitudes towards this behavior (e.g., Brand, Melzer, & Hagemann, 2011; Peretti-Watel et al., 2004; Stamm et al., 2014). An important impact factor seems to be the control system, whose efficacy is doubted (McArdle, 1999). Additionally, more severe controls are claimed (Scarpino et al., 1990). As a consequence, the criticism of the control system might foster distrust among athletes and might lead to the justification that doping is acceptable or necessary. In accordance with the higher doping prevalence in males, especially male athletes expressed a more positive view on doping behavior (e.g., Bloodworth, Petróczi, Bailey, Pearce, & McNamee, 2012; Dodge & Jaccard, 2007; Lucidi et al., 2008).

An instrument to evaluate explicit attitudes towards doping via self-report is the Performance Enhancement Attitude Scale (PEAS) (Petróczi & Aidman, 2009). The original version of the PEAS comprises 17 items which build together one factor of doping attitudes. The questionnaire encompasses items like “The risks related to doping are exaggerated.” or “Doping is an unavoidable part of the competitive sport.”, which are answered on a 6-point Likert scale. In a validation study on twelve different samples of athletes, coaches and persons who are in close contact with doping, Petróczi and Aidman (2009) reached internal consistencies ranging from α = .71 and .91 and classified the PEAS as a reliable and valid measure for doping attitudes. Although the PEAS has been validated primarily for athletes, it appears feasible to apply the scale also to measure the doping attitudes of a general public. As the wording of the items does not require an active involvement in sports to evaluate the statements, also the doping attitudes of a sports interested sample should be measurable. Further developments of the scale strive to increase its parsimony by reducing its length to eight items (Vargo et al., 2015). To further develop the German PEAS, a translated short version is also applied in the scope of this framework.

As explicit attitudes might be influenced by social desirability in this sensitive area and might be not reported openly, research tries to measure doping attitudes via implicit measures like the implicit association test (Greenwald, McGhee, & Schwartz, 1998). Applying this approach to doping it could be shown that athletes who competed in sports with a high doping prevalence showed more positive implicit attitudes than athletes who competed in sports with a low doping prevalence (Lotz & Hagemann, 2007). Otherwise, this approach showed weaknesses and was critically discussed as Lotz and Hagemann were not able to explain differences between these two groups in a control task. Further critique focused on the lack of reliability, as it is possible to fake answers (e.g., Fiedler & Bluemke, 2005; Fiedler, Messner, & Bluemke, 2006), and on the lack of predictive power in the context of doping

(Petróczi, 2013b). With regard to these two points of critique, Petróczi emphasizes that implicit measures would never be superior to explicit measures in order to predict self-reported behavior and draws attention to the intended use of implicit association tests by stating that they were not intended to function as lie detectors.

Therefore, it becomes obvious that attitudes towards doping are as difficult to evaluate as the doping prevalence. Also in this field of research, attitudes are regarded as an important predictor for behavior, but mostly negative attitudes towards doping are offered which do not explain the amount of doping cases. Despite the assumed impact of social desirability, male athletes seem to have more positive attitudes towards doping than females.

5.4.4 Behavior models

As well as the determination of doping prevalence, attitudes and motives, the identification of a behavioral model which explains doping behavior is a big challenge for research. However, several researchers met the challenge and tried to develop models like the model for sport and drug control (Donovan, Egger, Kapernick, & Mendoza, 2002), the drugs in sport deterrence model (Strelan & Boeckmann, 2003, 2006), or applied the theory of planned behavior (Ajzen, 1991) to doping, including several extensions of this model. The frameworks were partly fundamentally criticized by Mazanov and Huybers (2010). To gain an overview, these models and the associated critique are presented.

Donovan et al.'s model for sport and drug control (2002) resulted from a literature review. They assume that doping attitudes are predicted by six components, which are termed: 1) personality factors, like self-esteem or optimism as optimists tend to attribute personal failure to external conditions, 2) threat appraisals, like the probability to receive a positive test result, the severity of sanctions or potential injuries to health, 3) benefit appraisals, like the perceived positive consequences for ones performance in case of doping, based on the assumptions of the health belief model (Rosenstock, 1974), 4) reference group influences, like norms, important others hold in favor or against a doping behavior, based on the assumption of the theory of reasoned action (Fishbein, 1980), 5) personal morality, like athletes might perceive doping either as immoral or as morally correct and the values sports encompasses as fairness or respect, and 6) legitimacy, like effective authorities. The resulting attitude leads to a behavior, whether athlete comply with the World Anti-Doping Code or not. Mazanov and Huybers (2010) criticized this inductive model due to a missing clarity what is meant by compliance and a lack of empirical data. At least the second point of critique could be remedied as Gucciardi, Jalleh, and Donovan (2011) found empirical support for this model based on a sample of Australian athletes.

Strelan and Boeckmann's drugs in sport deterrence model (2003, 2006), is a cost-benefit model, which is an adaption of the deterrence theory (e.g., Paternoster, 1987). The deterrence theory describes the development of criminal behavior and is taken as a basis to explain doping behavior and to provide a starting point for the prevention of doping. Based on this theory, doping behavior is a conscious and rational choice, which aims to maximize an

athlete's benefits, summarized as "material, social and internalized rewards" (Strelan & Boeckmann, 2003, p. 180). The detection of doping and its direct consequences like sanctions, a loss of prestige or financial damage are regarded as cost-factors as well as health concerns. Personal moral beliefs and health concerns are the most important factors to influence doping behavior: The more severe these costs were evaluated, the less likely doping should appear. On the other hand drug testing and sanctions were perceived as less deterring (Strelan & Boeckmann, 2006). Doping is therefore seen as a conscious cost-benefit calculation. Except the study of Strelan and Boeckmann in 2006, the model has not been applied in doping research empirically and was therefore criticized (Mazanov & Huybers, 2010).

Several researchers who aimed to explain doping behavior or also anti-doping behavior (Chan et al., 2015) refer to the theory of planned behavior (Ajzen, 1991) or its predecessor, the theory of reasoned action (Fishbein, 1980). Apparently, the theory of planned behavior (Ajzen, 1991) can be easily transferred to doping, and has been applied in this context by various research projects (e.g., Lazuras et al., 2010; Lucidi, Grano, Leone, Lombardo, & Pesce, 2004; Lucidi et al., 2008). Thus, the intention to apply doping is influenced by three factors: attitudes towards doping, the subjective norm, or the perceived behavioral control. An athlete's attitude towards doping encompasses a positive or negative evaluation of the application of prohibited substances and methods, but could also comprise a strong belief that doping is justifiable in a certain type of sport. The social norm component comprises an athlete's perception what significant others would think about doping or how they would behave. Like in case of Greece athletes, who perceived doping as highly prevalent in their country (Lazuras et al., 2010). This component encompasses coaches, peers or medical staff, but also opponents an athlete competes against: If an athlete perceives doping as an endorsed behavior, there is a greater probability that this athlete applies doping as well (Bloodworth et al., 2012). Finally, the perceived behavioral control encompasses the doping control system, like the perceived probability to be detected, but also an athlete's perception whether there are enough resources to cope with pressure from outside. The athletes view on doping depends on the structure within the type of sport he or she participates in, or the athlete's micro-social environment: If doping is tolerated and common in the type of sport, athletes are more likely to have a positive attitude towards doping (Smith et al., 2010).

As the theory of planned behavior has been successfully applied in the context of doping, several researchers proposed further extensions of this theory to improve its matching. Figure 4 on the following page illustrates Ajzen's original model from 1991 and summarizes its extensions proposed by four different research projects. Lucidi et al. (2004) supplemented two predictors which should influence an athlete's intention to apply doping: past use of performance enhancing substances and moral disengagement as an indicator for antisocial tendencies. Based on 952 Italian students, a satisfactory model fit for this model together with the aforementioned extensions could be demonstrated by these researchers. However, they demonstrated attitudes as strongest predictor for doping, followed by the subjective norm and the perceived behavioral control.

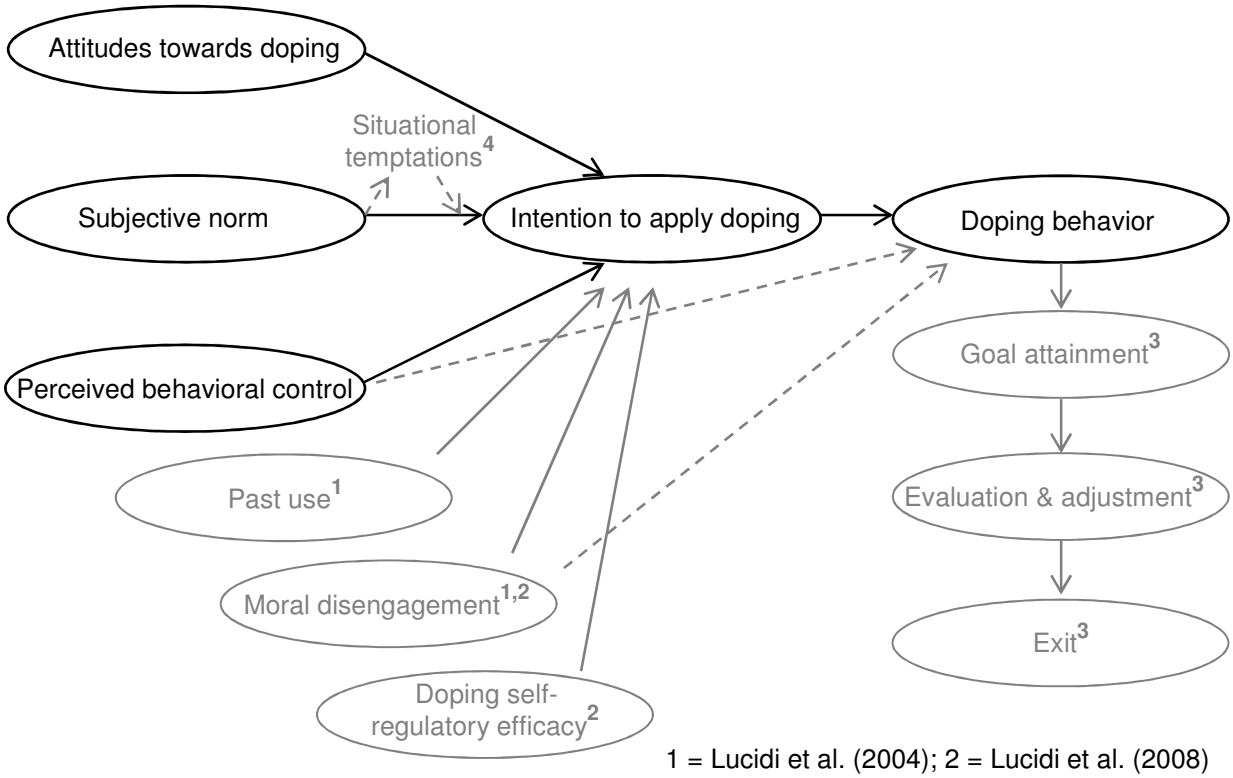


Figure 4: Transfer of the theory of planned behavior (Ajzen, 1991) to the context of doping (black) and further proposed extensions of the theory (grey).

In a later study, Lucidi et al. (2008) added self-regulatory efficacy as a further extension, but did not consider the past use as part of their model. Self-regulatory efficacy was regarded as an environmental predictor, which comprised an athlete's resources to cope with the amount of pressure from outside. In a sample of 1232 Italian students, they were able to demonstrate that participants were less likely to apply doping the stronger their self-regulatory abilities were measured. However, they were not able to show any effect of the perceived behavioral control.

One of the newest extensions of the theory of planned behavior has been conducted by Lazuras et al. (2010). They added situational temptations as a mediating factor from social norms to the intention. Situational temptations are described as alternating endeavor, which might foster a rather unlikely behavior under certain circumstances, like extreme pressure from outside. By adding situational temptation as a further component, Lazuras et al. were able to increase the predicted variance of the theory of planned behavior by 13.1%, what they evaluated as a promising approach to explain doping behavior.

The applicability of the theory of planned behavior to doping was also supported by a meta-analysis of 63 studies (Ntoumanis, Barkoukis, & Backhouse, 2014). According to this overall analysis, especially the athlete's attitude towards doping, the perceived social norms and the application of supplements were strongly connected with the intention to apply doping and doping behavior.

Petróczi and Aidman (2008) proposed a life-cycle model of performance enhancement, which focuses on an athlete's development in the course of his or her career, as young athletes care more about their performance and less about their health. Additionally, all athletes face changing expectancies towards their performance and might be therefore more or less motivated to apply doping. The life-cycle model proposes a precondition under which attitudes develop. Petróczi and Aidman see doping as habitual behavior which starts with legal methods like physiotherapy or nutritional supplements. Additionally, it is seen as strategic, functional behavior influenced by stable personality traits, systemic factors as motivational influence by important others as coaches or peers and situational factors like pressure to compete successfully, the availability of doping substances or the experiences of past use. Like in the models of Donovan et al. (2002), and Strelan and Boeckmann (2003, 2006), health concerns and the sanctioning system are regarded as inhibiting factors, additionally general norms and social pressure are named as potentially inhibiting. All these influencing factors lead to an attitude as in the theory of planned behavior. Combined with the subjective norm a doping behavior might result at one stage of the career. The doping behavior is followed by a general evaluation, if the goal was reached or if an adaption of the goal becomes necessary. However, a restriction of this model is that it hasn't been tested empirically until now (Mazanov & Huybers, 2010).

Meanwhile, a conceptual change could be observed, based on Backhouse, Whitaker, and Petróczi (2013) who were able to conclude from survey data of competitive athletes that the application of supplements was accompanied by an increased willingness to take doping substances, which is in line with the basic assumptions of the gateway theory (Kandel, 2002). Petróczi (2013a) further developed the functional use theory on mental representations of doping, which is based on two inter-related models. The first model is the incremental-functional model of doping behavior, which is based on the life-cycle model (Petróczi & Aidman, 2008) and regards this behavior as learned, progressive, goal-driven, and persistent. The second model is the athlete's doping mindset which incorporates doping-related attitudes and therefore functional but also moral aspects the athlete considers. Those two models work together. As in case of a majority of doping models, this framework lacks an empirical testing so far. Despite this weakness, new approaches for the structuring of prevention measures could be derived from Petróczi, which can be found in the ALPHA prevention program of the WADA (see chapter 5.3.3).

To sum up, several models tried to explain doping behavior. Whereas some inductive models lack an empirical testing to verify assumptions, other models build on empirical data and tested model components. Especially the work of Lucidi and colleagues, and Lazuras and

colleagues indicate that the theory of planned behavior is a suitable baseline model to explain doping behavior, which is also supported by a recent meta-analysis (Ntoumanis et al., 2014). The model offers the advantage that it describes an athlete's choice in favor or against doping as a process, which is embedded in the system of high-performance sports. This assumption is also pursued by Petróczi and Aidman (2008), and Petróczi (2013b). Explanatory models which focus solely on the athlete's personality as determinant are too short-sighted as they neglect essential factors of influence. One of these essential factors is the relationship between athletes, recipients, media, sponsors or other financial sources. Despite these differences, all models have in common that doping behavior is not understood yet. Their value can be indirectly evaluated, if successful prevention measures were derived. Whether the change from a moral to a functional focus in the understanding of doping is successful will become apparent in the near future.

5.5 Sociological perspective

The public perception of sports has also an impact on doping. This includes recipients, economics, but also media for example. Thus, the societal view on doping is presented on the following pages.

5.5.1 Societal perspective on doping

Today's high-performance sports faces the dilemma that sport spectators demand success and peak performance on the one hand, and lose interest in a sports and its athletes in case of doping (Petróczi & Strauss, 2015; Solberg et al., 2010). The same applies to politics, economics and sport federations, which support athletes financially in case of success and shorten their support in case of poor performance. Further support for the current dilemma could be shown by Buechel, Emrich, and Pohlkamp (2014), who integrated spectators, sports organizers and athletes in a game-theoretical model and raised the question, whether an efficient doping control system is officially desired, if recipients withdraw support in case of doping, and thus lead to financial losses for athletes and organizers. According to their considerations, this could lead to a decreased willingness to test athletes in order to maintain an equlibrium of economic success for sports organizers and athletes. Thus, it becomes obvious that peak performance and consequently doping is also driven by economic motives (Feiden & Blasius, 2008).

Research on the public attitude towards doping seems to be of growing importance in the last years. Studies from Australia (e.g., Engelberg et al., 2012; Moston, Skinner, & Engelberg, 2012; Partridge, Lucke, & Hall, 2012), Switzeland (e.g., Nocelli, Kamber, François, Gmel, & Marti, 1998; Stamm et al., 2008; Stamm et al., 2014), and Norway (Breivik, Hanstad, & Lolland, 2009; Solberg et al., 2010) convey the impression that the general public opposes doping and claims severe sancions (e.g., Engelberg et al., 2012; Stamm et al., 2008). Despite these negative public attitudes towards doping, the participants of the study of Moston et al. (2012) estimated that one quarter of "their" domestic athletes applied doping. It remains the question, how recipients or sport fans respond, if one of "their"

domestic athletes faces doping allegations, besides this general evaluation. Based on these findings one might conclude harsh reactions.

But also a more tolerant attitude towards doping could be observed (Vangrunderbeek & Tolleneer, 2010), especially within the group of fans of a type of sports (Van Reeth & Lagae, 2013/14), which goes so far that a legalization of doping is discussed or supported by some authors (Savulescu, Foddy, & Clayton, 2004). Until now, those who tolerate doping are in the minority. To a greater degree, an athlete who is suspected of doping, can threaten the reputation of his or her sponsors brands and products (Solberg et al., 2010). If doping becomes known, mostly a single athlete stands in the spotlight of public interest. According to Bette et al. (2012) this is due to the fact that media try to personalize stories, although mostly whole teams are involved (Hamilton & Coyle, 2013; Pappa & Kennedy, 2012). In most cases the network behind the athlete remains invisible. According to Bette and Schimank (2006), a keeping away of sport federations and surrounding actors from the doping context is desired by them, so that it is more difficult for outstanding parties to realize a joint guilt and so that actors beside the athlete might keep an inviolate reputation.

A special insight into the societal influences on doping provides the study "Doping in Germany from 1950 until today" headed by the German Federal Institute of Sport Sciences (Bundesinstitut für Sportwissenschaft) and the German Olympic Sports Confederation (Deutscher Olympischer Sportbund) which describes the conjuncture of two doping systems: the socialist oriented German Democratic Republic which forced their athletes to apply doping substances and West Germany which pursued the Anglo-American idea of free sports but also invested in doping research and supported doping under the involvement of the West German government (Krüger & Becker, 2014; Krüger et al., 2015). Despite the established myth that especially sports in former German Democratic Republic was doping polluted, the researchers were able to demonstrate that also in Western Germany networked doping was conducted, including athletes, coaches, sport officials, physicians, and the government. The most recent example that networked doping is still a problem revealed a documentary of the German television channel ARD on doping in Russia (Gibson, 2014).

Sports and especially competitive high-performance sports play a special societal role, for example as an important economic sector (SportsEconAustria, 2012), which is only attractive if the outcome of competitions remains uncertain (Solberg et al., 2010). Consequently, outstanding parties like spectators, the economy, etc. are crucial determining factors, which might influence the doping behavior of athletes essentially and which sanction doping in high-performance sports harshly: immaterially via deprivation of attentiveness and materially via withdrawal of sponsors, etc. (Bette, 2011; Bette et al., 2012). Furthermore, a proved doping offence can lead to an immediate breach of contracts as many teams and sponsors protect themselves and their clean reputation by inserting of such clauses (Waldbröl, 2007), sometimes in combination with claims of compensation by affected parties, as in case of the American cyclist Lance Armstrong (Macur, 2013; Nike, 2012).

Altogether, a high-performance sport with a high doping prevalence faces a potential loss of credibility (Emrich, Frenger, & Pitsch, 2013). Independent of the reaction of the general sport-interested public, sport fans tend to forgive "their" athletes and might feel personally accused if their athlete or team is attacked (Solberg et al., 2010). Therefore, it should be probable that athletes are able to maintain a positive evaluation by their supporters.

5.5.2 Media coverage as public reaction on doping

Media and sports are closely connected, including positive aspects for both sides of this symbiosis: Whereas media coverage enables financing of events or publicity for sports, sports enables media to reach a high number of people with low production costs (except the broadcasting rights) (Schierl, 2008). Doping may disturb this balance sustainably, especially as the publication of doping cases is a recurring topic in media coverage. According to current research on the selection of news, doping has a high news value (although one might argue that it has become a common problem): Doping is a negative and controversial issue which violates standards, the occurrence of positive samples happens often unexpectedly and doping involves mostly public figures or known athletes. Additionally, the news value can be assumed as particular high, if domestic athletes are involved which leads to a sense of closeness (Maier, Ruhrmann, & Stengel, 2009; Maier, Stengel, & Marschall, 2010).

On the other hand media foster doping and pile the pressure, by highlighting athletes in case of success and withdraw attention as soon as athletes show constantly weak performances (Schierl, 2008; Solberg et al., 2010). The more popular an athlete is, the more attention is given. This means for an athlete who is suspected of doping that his or her potential doping violation becomes known instantaneously and that he or she gets the chance to disseminate a defense statement via traditional news channels to a wide public, which fosters the occurrence of crisis communication.

Paradoxically, media pile the pressure on athletes and enhance the probability that athletes take performance enhancing substances on the one hand, whereas media risk their profit, if spectators turn away from a certain kind of sport, due to a high doping prevalence on the other hand. Additionally, the presentation of a kind of sports with a high doping prevalence leads to an enhanced probability that spectators regard this sport with general suspicion. Sekulić (2011) draws the conclusion that media coverage might be the bigger problem for an athlete in comparison to sanctions. As media coverage is always influenced by framing of journalists, who try to report as neutral as possible, but highlight certain aspects of a story (Entman, 1993) and gatekeeping processes, athletes depend partially on these media and their well-meaning reports. Social media enables athletes to bypass the gatekeeping of traditional media and enables that they are able to publish their own news.

6 Research Question

Social media have changed the perception of high-performance sports sustainably (Kassing & Sanderson, 2009; Sanderson & Hambrick, 2012). Athletes, who were formerly "distant persons" who were observed at competitions either by watching television or by visiting their arena, are now able to have access to the recipient's social (media) life. Due to a potential emotional connection, the possibility to bask in the reflected glory (Leary, 1996), and the sense of a parasocial interaction (Horton & Wohl, 1956), it is assumed that the perception of an athlete's Facebook or Twitter appearance differs from other professional social media appearances like of organizations, in which recipients might be interested in. Therefore, the occurrence of a crisis should affect this relation particularly and is assumed to cause other reactions as if organizational crises are observed. Due to the enhanced closeness to the athlete, crises like allegations of doping should affect a recipient much more than in times of traditional media.

Doping is one of the central crises in high-performance sports (Meinberg, 2010) and a widespread problem (e.g., Lazuras et al., 2010). Especially because of the high economic and societal meaning including the involvement and the investment of politics, media, sponsors or recipients; doping has a high impact on the public perception of sports and most notably high-performance sports. The appearance of doping cases damages an athlete's trustworthiness and reputation (e.g., Glantz, 2010), but also the esteem of a whole type of sport (e.g., Solberg et al., 2010) and might lead to negative consequences for all parties involved. Therefore, athletes try to defend themselves against the allegations, as sport news or scientific case studies like on Michael Phelps (Walsh & McAllister-Spooner, 2011) or Floyd Landis (Glantz, 2010) indicate. The application of crisis communication should help to regain a good standing in sports. But it is yet not tested empirically whether this communication has an impact on the public perception of an athlete at all.

Until now, general research on crisis communication is characterized by case studies mostly in organizational settings. More specifically focusing on sport psychology, this research field neglects crisis communication broadly, although crises like severe accidents, corruption, or betting frauds, besides doping appear regularly in the news media and evoke public discussions and the necessity of crisis communication, as the initial example of Joseph Blatter and the Fifa indicates. Due to this lack of systematic and empirical research on the nature and the impact of crisis communication in sports, the conclusions which could be drawn from the few case studies are strongly restricted. Additionally, due to the focus on the athlete, the public perception remained in the background, although this perception should be the decisive quality criterion whether crisis communication was successful or not.

In order to understand the impact of an athlete's crisis communication, it is thus unavoidable to include social media as a common communication tool which characterizes athlete's communication with the outside world nowadays (e.g., Kassing & Sanderson, 2010) and which has also changed the journalistic handling of sports (e.g., Hutchins, 2011). The results of a literature review concerning crisis communication in a digitized context indicated

that sports might be a special setting relating to the impact of crisis communication (see chapter 4.5), but this deduction requires further research.

Based on Coombs' SCCT (1995, 2007b), reputation and trustworthiness are the two target variables, an affected person like an athlete who faces doping allegations, intends to influence by crisis communication. Both play an important role to estimate the public standing of an athlete, but haven't been analyzed systematically for the relation of athletes and recipients so far. Whereas research on trust in sports focused on the coach-athlete dyad (Zhang & Chelladurai, 2013), trust within teams (Dirks, 2000), or sport psychological support (Kleinert & Wippich, 2012), there is no research known to the author which systematically focused on the assessment of an athlete's reputation or trustworthiness. This is surprising as these two variables can be regarded as cornerstones besides the athletic skills for an athlete to get resources to build a professional career and to get outside support.

Due to the high economic and societal meaning of high-performance sports, it is important to understand modes of operation in sports if an athlete faces doping allegations. Until now research focused on an abstract understanding of doping in high-performance sports which was not coupled to athletes cases, but surveyed the public attitudes towards doping in a general way. The results were not conclusive and ranged from complete rejection (e.g., Stamm et al., 2014) to a more liberal stance (e.g., Vangrunderbeek & Tolleneer, 2010). This measurement of attitudes is therefore abstract as it is decoupled from athletes; and doping always involves an athlete, who might influence the public attitude (see Lance Armstrong). For our perception of high-performance sports, it would be essential to know, whether the public makes it easy for an athlete to talk him- or herself out of the allegations, and how easy it might be for athletes to influence people's perception. Based on the current sanction system, the WADA intends to reintegrate athletes who were accused of applying prohibited substances or methods, as the WADA does not impose a lifetime ban after the first doping violation. It is still unknown whether this reintegration is intended from a public point of view or if the athlete's standing might be immutably damaged.

The integrative model of organizational trust (Mayer et al., 1995) appears to be a suitable framework for a recipient's evaluation of an athlete's trustworthiness. As implied in chapter 3.6, this model should be taken as a basis to evaluate the impact of athlete's defense statements, including the extension of crisis communication in the feedback loop and reputation, respectively image, as an additional construct. As high-performance athletes are public figures who are observed via media coverage, this research project focuses on the term reputation.

Based on the aforementioned aspects, this project is guided by the following general research question:

Are athletes able to influence the public perception via digitized crisis communication if they face doping allegations?

The following figure should guide through the research project and illustrates the focused variables which are assumed to have a special influence on the perception of crisis communication deduced from the reported research findings.

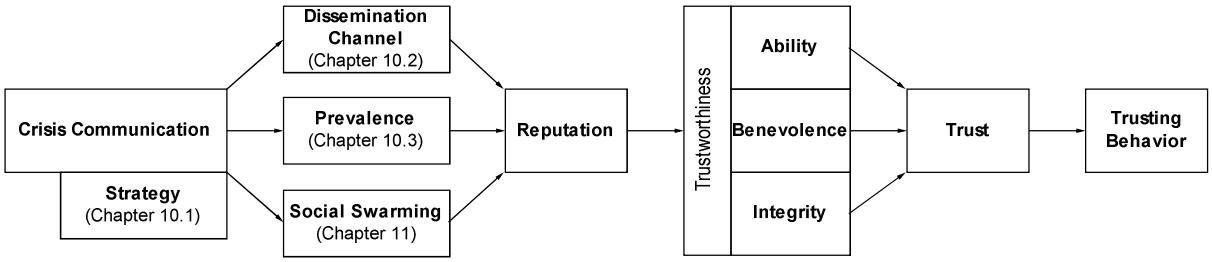


Figure 5: Guiding research model based on a simplified version of the integrative model of organizational trust (Mayer et al., 1995), starting from a present crisis.

Most notably, the choice of a crisis communication strategy has an impact on the public perception. Thus, different strategies should lead to differences in the evaluation of an athlete's trustworthiness and reputation. As doping or doping allegations mostly indicate a preventable crisis according to Coombs (2006b, 2007b), apology should be the most beneficial strategy in the context of doping. Therefore, the first major hypothesis can be formulated:

Strategy hypothesis: The choice of apology as a crisis communication strategy against emerging doping allegations leads to the comparably best evaluation of an athlete. (Chapter 10.1)

The dissemination channel of crisis communication should also have an impact on the evaluation of an athlete's crisis communication. Existing research findings do not lead to a clear conclusion which could be drawn. Whereas research on the credibility of contents indicated that messages via social media were perceived as less credible (e.g., Austin et al., 2012; Schmierbach & Oeldorf-Hirsch, 2012; Utz et al., 2013), other findings indicated that crisis communication via social media led to a more positive evaluation than comparable newspaper contents (Schultz et al., 2011). As athletes develop a particular connection to their recipients (Horton & Wohl, 1956), the perception of enhanced closeness, which is transmitted via social media should outweigh forms of traditional media. Therefore, the second major hypothesis is formulated:

Dissemination channel hypothesis: Crisis communication against emerging doping allegations via social media channels is superior to crisis communication via traditional media. (Chapter 10.2)

Athletes seem to have a distorted picture of how many of their opponents apply doping substances and tend to overestimate the doping prevalence within their type of sport according

to the false consensus effect (e.g., Petróczi et al., 2008; Uvacsek et al., 2011). Furthermore, the theory of planned behavior (Ajzen, 1991) could be demonstrated empirically as a useful basic framework to predict the development of doping behavior based on the attitudes towards doping, the subjective norm, and the perceived behavioral control (e.g., Lazuras et al., 2010; Lucidi et al., 2004; Lucidi et al., 2008). Derived from these findings one might assume that an athlete who competes in a type of sport with a high doping prevalence is more willing to apply doping substances, a) due to a degraded perceived behavioral control as the doping control system appears to be inefficient if doped athletes are able to compete undetected; b) due to a degraded subjective norm as doping seems to be a common behavior in this type of sport; and c) due to a potentially adapted more positive attitude towards the own application of doping substances (Smith et al., 2010). Research in this field focused completely on athletes, although it is to assume that also recipients perceive sports differently according to the doping prevalence in this type of sport, as results in relation to cycling reveal (Solberg et al., 2010). Therefore, athletes competing in a type of sport which is perceived to be clean should have an advantage over athletes who compete in sports with a higher doping prevalence, when they face doping allegations. Thus, the third basic hypothesis is formulated:

Prevalence hypothesis: Crisis communication against emerging doping allegations of athletes who compete in sports with a comparably lower doping prevalence lead to a better evaluation of the athlete in comparison to athletes who compete in a type of sport with a higher doping prevalence. (Chapter 10.3)

Finally, the social media surrounding including other users who offer their opinions publicly is assumed to have an influence on the perception of athletes. Whereas it could be shown that negative comments lead to a lower rating of an organization's trustworthiness in comparison to positive comments or a balanced mixture of positive and negative comments (Wiencierz et al., 2015), the existence of solely positive or negative comments seems to evoke skepticism (Kaiser & Kröckel, 2011). According to these results, the fourth basic hypothesis is formulated:

Social swarming hypothesis: The existence of judgmental user comments referring to an athlete's crisis communication against doping allegations has an influence on the perception of the athlete. (Chapter 11)

The aforementioned basic hypothesis and subsequently derived smaller hypotheses are tested empirically in the following chapters based on vignette studies on fictitious athletes. To test the hypotheses in relation to the two target variables trustworthiness and reputation, a questionnaire to assess trustworthiness in sports was successfully derived from the organizational trust inventory (Mayer & Davis, 1999) and validated by Dreiskämper, Pöppel, & Strauss (in prep.). The results of this validation study are presented in chapter 7. Additionally, a measure to assess a person's reputation was developed in the scope of this research project.

But before starting with the case vignettes of fictitious athletes, the public perception of two known athletes who defended themselves against doping allegations via social media,

were analyzed to prove the fitting of the theoretical transfer of the SCCT (Coombs, 1995, 2007b) and the adapted version of the integrative model of organizational trust (Mayer et al., 1995), and to get a first indication whether crisis communication in the context of doping might be successful. In order to gain further insight in athlete's defenses against doping allegations, two completely different methodological approaches were chosen: a content analysis to evaluate the crisis communication of the Spanish cyclist Alberto Contador (chapter 8) and a longitudinal survey study to evaluate the perception of the crisis communication of the German biathlete Evi Sachenbacher-Stehle (chapter 9).

7 A trustworthiness measure in sports

Until now, research on trust in sports lacks a sport specific questionnaire. The organizational trust inventory (Mayer & Davis, 1999) provides good links for an adaption to this setting, concerning its items and factor structure. Therefore, Dreiskämper et al. (in prep.) aimed to transfer this questionnaire to sports, as well as to validate it for this setting. Based on the principle that the items should be applicable to various settings (Mayer & Davis, 1999), Dreiskämper and colleagues intended to provide a questionnaire which fits to the evaluation of an athlete's trustworthiness, but also to assess the trustworthiness of sport federations.

Table 7: Questionnaire to assess trustworthiness in sports by Dreiskämper et al. (in prep.), in the applied German version and an English translation.

	German version	English translation
	Fähigkeit	**Ability**
A1	[X] ist ein/e sehr gute/r [Disziplin].	[X] is a very good [discipline].
A2	[X] ist bekannt dafür als [Disziplin] erfolgreich zu sein.	[X] is known for being successful in [discipline].
A3	[X] hat ein großes Wissen über die Abläufe in seiner/ihrer Sportart.	[X] has a great knowledge about the processes in his/her type of sport.
A4	Ich bin sehr zuversichtlich in Bezug auf [X]'s Fähigkeiten als [Disziplin].	I am very confident in terms of [X]'s skills in [discipline].
A5	[X] verfügt über spezielle Fähigkeiten, die seine/ihre Leistung im [Disziplin] steigern können.	[X] has special skills, which can increase his/her performance in [discipline].
A6	[X] ist ein/e sehr gut ausgebildete/r [Disziplin].	[X] is a highly trained [discipline].
	Wohlwollen	**Benevolence**
B1	[X] ist die Zufriedenheit seiner/ihrer Fans sehr wichtig.	The satisfaction of his/her fans is important to [X].
B2	[X] achtet sehr darauf, was seinen Fans wichtig ist.	[X] takes great care for what is important for his/her fans.
B3	Die Bedürfnisse und Wünsche seiner/ihrer Fans haben für [X] einen hohen Stellenwert.	The needs and requirements of his/her fans have a great importance for [X].
B4	[X] nimmt zusätzliche Mühen auf sich, um mir als Fan etwas zurückzugeben.	[X] takes extra effort to give something back to me as fan.
	Integrität	**Integrity**
I1	[X] hat einen starken Sinn für Gerechtigkeit und Fairness im [Disziplin].	[X] has a strong sense of justice and fairness in [discipline].
I2	Ich brauche mich nie fragen, ob [X] sein/ihr Wort hält.	I don't have to ask myself whether [X] keeps his/her word.
I3	[X] ist sehr darauf bedacht sich fair zu verhalten.	[X] is endeavoring to behave fairly.
I4	Ich mag die Werte, für die [X] einsteht.	I like the values [X] stands for.
I5	Vernünftige Prinzipien scheinen das Verhalten von [X] zu lenken.	Sound principles seem to guide the behavior of [X].

[X] = name of the athlete; [discipline] = type of sport the athlete competes in
Sequence of questions: A1, B1, I1, A2, B2, I2, A3, B3, I3, A4, B4, I4, A5, I5, A6

As research was conducted in Germany, the authors performed a forward-backward translation of the original wording of the organizational trust inventory to German language by assistance of a native English speaker in a first step. Due to a weak internal consistency of the subscale to measure trust (Mayer & Davis, 1999) and due to the missing personal bond

between high-performance athletes or sport federations and the trustor, which would have been necessary to answer the trust subscale, these items were eliminated. Additionally, two negatively formulated items were excluded by the authors, based on Mayer and Davis' validity investigations. Therefore, the final questionnaire resulted in 15 items (six items to measure ability, four items to measure benevolence, and five items to measure integrity) which should build together an overall factor of perceived trustworthiness (see table 7). All items were evaluated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

For validating the questionnaire, data from eight studies on trust in athletes or federations were included. One of these studies was also the basis of this dissertation project to answer the general research question and will be presented in chapter 10.1. The validation study by Dreiskämper and colleagues included the data of 744 participants (53.2% female, 46.8% male) with a mean age of 23.53 years (SD = 6.04). On a descriptive level, the assumed subscales (ability: M = 3.68, SD = 0.72; benevolence: M = 3.26, SD = 0.79; integrity: M = 3.38, SD = 0.79) and the assumed overall measure of trustworthiness (M = 3.44, SD = 0.63) were evaluated on a medium level.

The authors performed a CFA by applying the statistic program Mplus, which revealed a satisfying model fit for the proposed model ($Cmin$ = 476.14, df = 87, $p < .001$, CFI = .97 TLI = .96, $RMSEA$ = .078) and thus, for a solution with the three factors ability, benevolence and integrity. The associated factor loadings for this solution ranged from $\lambda = .66$ to .86 for ability, $\lambda = .76$ to .81 for benevolence, and $\lambda = .65$ to .81 for integrity. An analysis of the internal consistencies (Cronbach's α) revealed satisfying reliabilities, namely $\alpha = .87$ for ability, $\alpha = .83$ for benevolence, $\alpha = .82$ for integrity, and $\alpha = .91$ for the assumed overall factor of perceived trustworthiness.

Despite the satisfying model fit, the authors highlight the high inter-correlation between benevolence and integrity ($r = .84$, $p < .001$) as limiting factor, which is however in accordance with Mayer et al. (1995) and Schoorman et al. (2007), who assume based on empirical data that benevolence and integrity develop in the course of a relationship and are therefore difficult to distinguish at an early stage. The presence of initial relationship stages is also assumed by Dreiskämper et al. in their samples. Although this questionnaire provides face validity, further data are necessary to check for validity. Due to a lack of valid measures for trustworthiness in sports, no statement can be made concerning the convergent validity. However, Dreiskämper and colleagues present a small correlation between the credibility of a media channel and the trustworthiness of an athlete ($r = .09$, $p = .300$), which were assumed to be distinguishable constructs. This provides a first indication for discriminant validity of this measure.

8 Case study Alberto Contador

In 2010 the world-famous Spanish cyclist Alberto Contador won the Tour de France for the third time and lost his title shortly afterwards due to a positive doping test, which was taken during the tour. A laboratory detected slight traces of clenbuterol in his urine, a substance which is listed as a banned substance on the prohibited list annually published by the World Anti-Doping Agency (2014c). Clenbuterol is a drug used in the treatment of asthma, and it is also known to enhance muscle growth.

Contador is a keen user of social media and updates his profiles on Facebook, Twitter and YouTube regularly. To defend himself against the accusations, Contador published a link to his official defense statement on his Facebook profile. According to Coombs (2006b) these statements are published with the intention to restore one's reputation and to regain trust. It's thus interesting whether recipients obviously changed their attitude towards Contador due to the positive doping test or whether they stuck to their previous decision to support him, according to the escalation of commitment (Staw, 1981). This study aims to evaluate Contador's crisis communication statement and its effect on Facebook users.

8.1 Specific research question

In this natural experiment the SCCT (Coombs, 1995, 2007b) was applied to the context of doping and to describe Alberto Contador's crisis communication efforts shortly after his positive doping test went public. On the other hand, the output of his efforts was analyzed by evaluating the recipient's reactions. The evaluation included a transfer of the integrative model of organizational trust (Mayer et al., 1995) to the athlete-recipient relationship to determine whether recipients still trusted in Contador. Therefore, this study aims to answer the following research questions: How did Contador try to repair his reputation and to regain trust? And: How did the recipients on Facebook react to his message?

8.2 Experimental design and sample

In a first step, Contador's defense statement was evaluated, which was published on September 30th, 2010 at 9 p.m. on Facebook, to identify his crisis communication strategies referring to the SCCT (Coombs, 1995, 2007b). In a second step, a qualitative content analysis was conducted, including all subsequent 1240 user reactions on Facebook to Contador's statement, published between September 30th and November 9th, 2010. The reactions that were written in Spanish were translated into German by an advanced student of Spanish language.

Based on the information, which was offered as recipient's place of residence or birthplace, it was able conclude that more than one third of commenting Facebook users (37.8%, n = 469) either lived in or came from Spain, Contador's homeland. People from other countries were underrepresented: 3.4% (n = 42) came from France, 2.4% (n = 30) from the United States and in 40.7% (n = 507) of all cases, the user's origin could not be concluded. The majority of users who reacted to the defense were male (81.6%, n = 1012). Within three

hours (until midnight) 44.4% (n = 551) of the users had written a comment referring to Contador's defense, further 49.1% (n = 612) reacted the following day.

8.3 Construction of the coding instrument

The content analysis was guided by a detailed coding instrument and comprised a) a general evaluation of user reactions (whether they were supportive, refusing, critical, neutral, insecure or incomprehensible) and b) a coding whether trust in Contador was mentioned in the reactions or not. The cases in which trust was mentioned were analyzed according to c) whether the user still trusted in Contador, and d) which factors of trustworthiness (ability, benevolence or integrity) the reaction could be assigned to. To determine whether the instrument was clearly formulated, one researcher and one coder performed a master coding of the whole sample in a pretest. This researcher-coder reliability is an indicator for the validity of the content analysis (Rössler, 2010). The evaluation of user reactions consisted of four ratings. The researcher-coder reliability for the general appraisal of contents comprised a percentage agreement rate of 98.5% after one revision of the coding instrument. Additionally, Krippendorff's α statistic ($_c\alpha$) was applied (Hayes & Krippendorff, 2007; Krippendorff, 2013), which gained a value of $_c\alpha$ = .93, indicating a roughly perfect agreement and a satisfying validity of the coding instrument concerning the general appraisal. The researcher-coder reliability for the evaluation of factors of trustworthiness led to a good agreement and a satisfying validity of the coding instrument (percentage agreement rate of 96.5%, $_c\alpha$ = .82). The coding of whether trust in Contador was mentioned and whether the users still trusted in Contador was realized by applying dummy coded variables, which led to a perfect agreement. Therefore, the coding instrument was considered to be well suited for the content analysis. Subsequently, two independent raters coded the sample after a training session. One coder rated the whole sample and to check for intercoder reliability, a random sample of 25.0% (n = 310) of the data was double coded.

8.4 Results

The evaluation focused on both, the interpretation of Contador's crisis communication, and on the reaction of the commenting social media users on Facebook. In the following, both analyses are presented.

8.4.1 Evaluation of Contador's defense statement

The link on Contador's Facebook profile lead to the webpage of a Spanish public service broadcaster, which cited the central assertions of his first defense statement during a press conference verbatim (Radiotelevisión Española, 2010). According to the SCCT Contador applied four different crisis communication strategies in his statement: victimage, scapegoating, justification, and reminder. Contador portrayed himself as a victim of a food impurity ("I am the victim, it has been a food contamination" [translated from Spanish]). He made a scapegoat of the organizer of another tour as well as the cook ("López Cerrón, organizer of the Tour of Castilla and Lyon, went on the tour and the cook asked him if he

could buy good meat. He bought the meat in a Spanish store, and on the evening of the 20th that meat was cooked" [translated from Spanish]). Contador's justification was composed of three assertions: he declared that the substance wouldn't be suitable for a performance enhancement in the small amount found ("It is a substance that does not serve to increase the performance in that amount" [translated from Spanish]); he indicated that his case wouldn't be comparable to other cases of clenbuterol abuse ("It is an incomparable case to other cases of clenbuterol." [translated from Spanish]); and he emphasized that his biological passport didn't show any abnormalities ("The controls demonstrate that my parameters are normal and my biological passport plays in my favor." [translated from Spanish]). Finally, Contador "reminded" the public that it would be impossible to recover cycling as a whole, as consequence of these new accusations ("It is sad that a sport like this becomes involved in a scandal of this kind, because like this the sport will never get better." [translated from Spanish]). In summary Contador named external factors to explain the positive doping test.

8.4.2 The public's reaction to Contador's defense via Facebook

The second step of the analysis considered, how Facebook users, commented on Contador's statement. The content analysis for the general appraisal of user reactions (intercoder reliability, percentage agreement rate: 97.8%, $_c\alpha$ = .87, roughly perfect agreement) indicated that the user reactions were significantly positive ($\chi^2(5, n = 1240) = 4388.30$, $p < .001$): Most of the reactions were supportive (86.8%, n = 1076), whereas only 3.0% (n = 37) were rejecting and 2.6% (n = 32) were critical or neutral. The supportive category featured statements such as "You are the best!!!". Other examples were "we know you've drugged you" (refusing), "Oscar Sevilla, Iban Mayo, Valverde, Mosquera, Contador, who's next?" (critical) or "Still a fan, but nothing in sports especially cycling surprises me anymore." (neutral reaction). Although many reactions were relatively short (M = 17.31 words, SD = 21.20), there was a wide range of reactions that were more detailed.

Trust was mentioned in 140 user reactions (11.3%), which were considered for further codings. Most of these users still trusted in Contador (98.6%, n = 138). It was further analyzed to which factor of perceived trustworthiness the users referred to. The content analysis for these factors (intercoder reliability, percentage agreement rate: 84.6%; $_c\alpha$ = .55; moderate agreement) indicated that 12.9 % (n = 18) of the users trusted in Contador's ability, as they stated for example, "I trust you… doesn't matter what they say, you're still the best and all of us stand beside you […].". Another 10.7% (n = 15) trusted in Contador's integrity by indicating for example, "Cheer up, Alberto! I trust in your innocence, you are an honest athlete." [translated from Spanish]. The majority of trust references (76.4%, n = 107) couldn't be assigned to any factor of perceived trustworthiness ($\chi^2(2, n = 140) = 117.10$, $p < .001$). Reactions falling in the non-assignable category were short and nonspecific, like "I trust you!" or "You have my complete trust and admiration". None of the reactions could be assigned to the benevolence factor. Therefore, most of the users who mentioned trust seemed to trust in Contador in general, whereas almost one-fourth trusted either in Contador's ability or integrity.

8.5 Discussion

Alberto Contador tried to restore his reputation and to regain trustworthiness by combining four different crisis communication strategies: victimage, scapegoating, justification, and reminder. Although most of the user reactions on Facebook were positive it would be inappropriate to call Contador's crisis communication a success, because Facebook shows only a small excerpt of the public opinion. Irrespective of this limitation, Contador's crisis communication can be explained by applying the SCCT (Coombs, 1995, 2007b). He chose four different strategies and an external, uncontrollable attribution to protect his reputation and to regain trust, which is evident in his statement of blame, where he portrays himself as the victim (among others). As Tomlinson and Mayer (2009) assume, this strategy makes trust repair easier and in this case, Contador tries to influence the process of opinion making and attributing of responsibility thereby.

Alike the logic of the SCCT, Schoorman et al. (2007) propose that an efficient trust repair depends on the factor of perceived trustworthiness which is damaged and the application of a compatible response strategy. Contador chose an external ability attribution, which makes trust repair more likely than applying a benevolence or integrity attribution (Gillespie & Dietz, 2009). As nearly all comments of recipients which referred to trust were positive, one might conclude that Alberto Contador has at least a high level of initial trust within this sample of Facebook users according to Robinson (1996) or Karimov et al. (2011).

Although Zhang and Chelladurai (2013) indicated that a transfer of factors of perceived of trustworthiness to sports is generally possible in a coach-athlete dyad and by adding a fourth justice factor, it was difficult to implement the three original factors of perceived trustworthiness to this recipient-athlete interaction, as only a minority of trust comments could be assigned to these factors. Furthermore, the intercoder reliability for this rating is worthy of discussion: Although the researcher-coder reliability indicated a valid coding instrument, the intercoder reliability was substantially lower, meaning that the results have to be interpreted cautiously.

As the validation study of the questionnaire to assess trustworthiness in sports indicated, the integrative model of organizational trust can be transferred to a sports setting and an athlete-recipient dyad. Therefore, it appears as if the user comments in this natural Facebook setting were too short and too general to draw far-reaching conclusions. As SCCT and the integrative model of organizational trust work well together, the attempt to transfer these models to a doping crisis should be repeated in empirical designs. According to Schoorman et al. (2007), benevolence develops in the course of a relationship. In the beginning of a relationship, benevolence and integrity are seen as indistinguishable factors, which might be the case here. As this relationship cannot be seen as a close contact and as the validation study also indicated a high correlation between integrity and benevolence, it might be not surprising that benevolence was not recognizable here.

The existing data underline the features of social media as a fast public relations instrument, which enables direct and instantaneous two-sided communication. In this case

Contador received many encouraging comments by Facebook users, which might provide further support for his crisis communication. As also shown by Brown and Billings' study (2013), this sample seems to comprise mainly fans who try to protect Contador's reputation by publishing mostly positive comments. The sample is therefore biased. The results could be also explained by the concept of escalation of commitment (Staw, 1981): Although people were generally against doping (Solberg et al., 2010) their former commitment to support Contador is so strong that they were unwilling to change their attitude to circumvent the aversive feeling of cognitive dissonance. Social media seems to provide a unique setting for crisis communication, which should be investigated experimentally. As well as celebrities, athletes might be a special group of people, whose fans behave differently than stakeholders do, when their organizations face reputational threats. Besides, according to Kaiser et al. (2013) we might assume that these comments are not independent of each other, because Contador's fans might be seen as an in-group, which is active in publishing positive comments, thus encouraging other fans to react positively as well. We assume that critics remain quite or utilize other media, such as online newspapers, to express their opinion.

One of the limitations of this case study is the missing generalizability of the results. We face the problem that Facebook data is a selective sample, which might not represent the public opinion (Schwarz, 2012). Otherwise this case study is an exploratory study with a naturally occurring sample for studying the effects of crisis communication according to Coombs and Holladay (2012). And in this case each Facebook user had the chance to comment on Contador's defense. Otherwise, it would be possible for Contador to censor contents by deleting negative user comments referring to his statement.

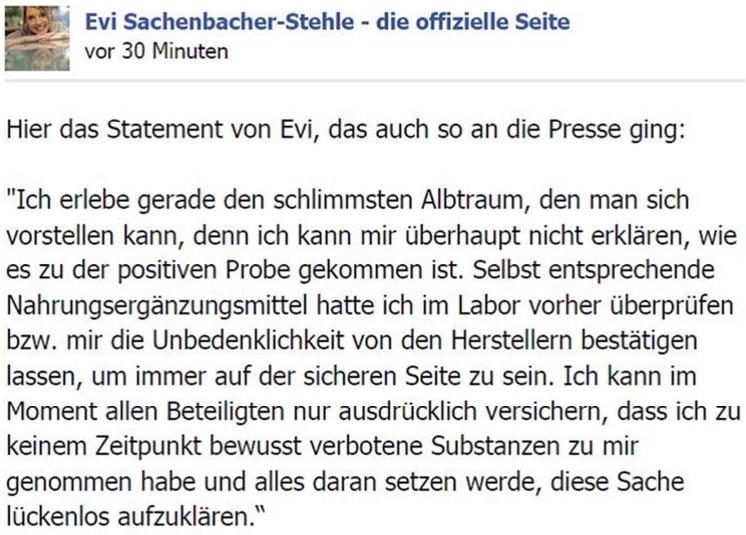
The examination of real doping cases leads to the difficulty that presets towards an athlete exist which might have an influence on the evaluation of the athlete's crisis communication and that the examination has to be conducted retrospectively, as a direct examination is not predictable and plannable. Although the occurrence of a new doping case is not desirable, it would be otherwise favorable in order to understand crisis communication in sports more profound.

9 Evi Sachenbacher-Stehle

In February 2014, a positive doping test of the German biathlete Evi Sachenbacher-Stehle got public. She was tested positive for methylhexanamine (see chapter 5.2.2) during the Winter Olympic Games in Sochi, after finishing 4th in the mass start competition (BBC, 2014a). Shortly afterwards, a defense statement was published on her webpage and on her official Facebook account, which was conducted as a fanpage and obviously supervised by a third party. Unlike the mostly supportive reactions on Contador's defense statement on Facebook, the reactions on Sachenbacher-Stehle's Facebook profile appeared more controversial, ranging from supportive messages to insults and abusive language. It can be assumed that in response to these messages it was decided to take the profile offline. But, in relation to the two doping cases of Alberto Contador and Evi Sachenbacher-Stehle, it becomes clear that doping allegations towards an athlete of the own country affect the public discussion of those recipients who are interested in this sport and in sports in general. This pilot study aims to survey the public perception of the Sachenbacher-Stehle doping case before and after the publication of her crisis communication, independent of the user comments on Facebook.

9.1 Specific research question

The doping case of Evi Sachenbacher-Stehle is therefore especially meaningful, as her case enabled a direct measurement of the public perception before and after her defense statement. Additionally, it was the second time that Sachenbacher-Stehle was connected to doping. Already in 2006, she received a safety-ban, after an enhanced hemoglobin value was detected. The following research question was implemented to evaluate the impact of Sachenbacher-Stehle's crisis communication: Was Evi Sachenbacher-Stehle able to regain trustworthiness and her reputation after she defended herself against the positive doping test?



Here is the statement of Evi, which was also given to the press like that:

"I just experience the worst nightmare you can imagine, because I cannot explain how it came to the positive sample. Even appropriate nutritional supplements I had previously checked in the laboratory or can confirm the safety of the manufacturers to be on the safe side. I can assure explicitly at the moment to all concerned, that I have not taken any prohibited substances consciously at any time and will I do everything possible to clear up this matter completely."

Figure 6: Screenshot of the official defense statement of Evi Sachenbacher-Stehle on Facebook (including a verbatim translation).

At the time of constructing the study solely the positive test result and the name of the impacted athlete was known. But based on the experience of former doping cases, it was conceivable that a defense statement would be published. Therefore, a realistic direct evaluation of the public perception of Sachenbacher-Stehle's crisis communication could be conducted. Based on the SCCT (Coombs, 1995, 2007b), Sachenbacher-Stehle's crisis communication can be regarded as a combination of two strategies: victimage (by claiming that she would be the victim of contaminated supplements) and scapegoating (by claiming that others are responsible for the positive test result, like the manufacturer of the supplements or the laboratory).

9.2 Method

To evaluate the efficacy of Evi Sachenbacher-Stehle's defense, a longitudinal design was conducted with two points of measurement, implemented by making use of the online survey software Unipark (Questback). The first point of measurement (t_1) was started on February 21st, 2014, the date on which Sachenbacher-Stehle's positive test got public. The questionnaire remained available online for three days. As the defense statement was also published on February 21st, participants had to state whether they had heard already from a defense or not. The second point of measurement (t_2) was four weeks later. To ensure a correct assignment of data from t_1 and t_2, participants had to generate an own code of five letters and numbers which was derived from their personal information and therefore easily deducible and only known to the participants.

The questionnaire started with a short introduction of the Sachenbacher-Stehle doping case to ensure, that all participants had the same knowledge base. The information page was followed by the questionnaire to assess trustworthiness in sports by Dreiskämper et al. (in prep.) which was adapted to the case of Sachenbacher-Stehle, and four statements which were seen as indicators for reputation. As no scale to assess a person's reputation existed so far, the items were derived from the theoretical model representations which were presented in chapter 3 ("Evi Sachenbacher-Stehle's renown is ruined."; "I have a positive impression of Evi Sachenbacher-Stehle."; "Evi Sachenbacher-Stehle tries to cheat her fans"; "I believe Evi Sachenbacher-Stehle to be reliable." [translated from the German]). These statements were evaluated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) just like the questionnaire to assess trustworthiness in sports. Reliability tests resulted in the following set of Cronbach's α values for the questionnaire to assess trustworthiness in sports: α = .88 for ability, α = .88 for benevolence, α = .90 for integrity, and α = .93 for the overall evaluation of trustworthiness. The four items which were supposed to measure her reputation reached a Cronbach's α value of α = .77. The assessment of trustworthiness and reputation was followed by an evaluation of the knowledge concerning Evi Sachenbacher-Stehle, the interest in biathlon, in winter sports, and in sports in general, each measured on a single item basis (5-point Likert scale, 1 = not at all to 5 = very much). The questionnaire ended with demographic details on gender, age and occupation, and the creation of the personal code, for enabling a matching of datasets in this longitudinal design.

At t_2, participants evaluated an almost identical questionnaire. The only difference was, that instead of general information on Evi Sachenbacher-Stehle, her crisis communication was presented at the beginning of the questionnaire as a Facebook screenshot without any user comments (see figure 6). Just like the first time, the screenshot should ensure that all participants had the same knowledge base. It was abstained from the presentation of user comments to ensure an unbiased measurement of the pure effect of the crisis communication on Sachenbacher-Stehle's trustworthiness and reputation. Reliability tests indicated appropriate Cronbach's α values for all scales applied (α = .92 for ability; α = .79 for benevolence; α = .88 for integrity; α = .91 for the overall measure of trustworthiness; α = .88 for the four reputation items).

The sample at t_1 contained altogether 71 participants: 77.5% (n = 55) indicated that Sachenbacher-Stehle was known to them and 56.3% (n = 40) indicated additionally that they had not heard of a defense statement yet. As the study focused on the efficacy of Sachenbacher-Stehle's crisis communication, the data of the first measurement were matched to the 17 participants of t_2 to identify complete datasets. Six cases of the second measurement had to be excluded from further analysis as they comprised entirely new codes and no associated code at t_1 could be identified. In consequence, altogether eleven datasets consisting of t_1 and t_2 could be matched as belonging together. These data built the basis for the longitudinal analysis and enabled the calculation of a clear pre- and post-comparison concerning the defense. The resulting longitudinal sample had a mean age of 32.18 years (SD = 11.83) and comprised a majority of female participants (63.6%, n = 7) and primarily students (63.6%, n = 7).

9.3 Results

Calculations were performed based on the statistic program IBM SPSS, version 22. To evaluate whether Sachenbacher-Stehle's defense was successful, a dependent t-test (one-tailed) for repeated measures was conducted, which included the eleven data pairs, which could be matched based on t_1 and t_2. The application of a t-test includes the increased probability of a type one error in case of multiple tests within one sample. Therefore, the alpha error was adjusted based on Bonferroni in relation to the number of comparisons performed (Rice, 1989). As five single tests were conducted for evaluating the differences in the trustworthiness in general, ability, benevolence, integrity, and reputation, the adjusted alpha level for testing on a 5% level was α = .01.

Evi Sachenbacher-Stehle's defense statement seemed partly successful and accepted by the recipients according to the evaluation of her trustworthiness, but not in relation to her reputation (see table 8 on the following page). Whereas the comparison of the evaluation of Sachenbacher-Stehle's overall trustworthiness prior (M = 3.24, SD = 0.64) and after (M = 3.53, SD = 0.52) the defense indicated an efficient crisis communication statement ($t(10)$ = -3.37, p = .004, d = 0.45) with a medium effect size according to Cohen (1988), no significant increases on the level of the subscales ability, benevolence and integrity could be found. Although the recipients evaluated the subscale concerning Sachenbacher-Stehle's integrity

considerably better after the defense statement, the values exceeded the significance level of α = .01 scarcely. Interestingly, the effect size indicated a medium effect which exceeded the effect of the significant difference concerning the overall trustworthiness. It was obvious that recipients evaluated the three antecedents of trustworthiness highly differentiated: Whereas the participants evaluated the integrity subscale with the comparably lowest values, no matter whether prior or after the defense statement, the ability reached the comparably highest values.

Table 8: Evaluation of Evi Sachenbacher-Stehle's trustworthiness and reputation prior and after the defense statement (means, standard deviations and t-test results of the longitudinal data, n = 11).

	t_1 *M* (*SD*)	t_2 *M* (*SD*)	result of dependent t-test
Trustworthiness	3.24 (0.64)	3.53 (0.52)	$t(10) = -3.37$, $p = .004$*, $d = 0.45$
Ability	3.87 (0.52)	3.97 (0.64)	$t(10) = -1.03$, $p = .165$, $d = 0.17$
Benevolence	3.11 (0.97)	3.48 (0.55)	$t(10) = -1.41$, $p = .094$, $d = 0.43$
Integrity	2.58 (0.89)	3.02 (0.80)	$t(10) = -2.74$, $p = .011$, $d = 0.51$
Reputation	3.14 (0.68)	2.91 (0.83)	$t(10) = 1.47$, $p = .087$, $d = 0.29$

* significant difference between t_1 and t_2, according to the adjusted significance level of α = .01

The evaluation of Sachenbacher-Stehle's reputation led to no significant increase after the defense. On the contrary, the raw data for the reputation scale indicated a slight decrease according to the longitudinal data, which was not significant.

Due to the small sample size an additional analysis was conducted based on the critical values of the t-distribution, to prove the aforementioned results for conformity. The critical value for a one-tailed t-test, a significance level of α = .01, and df = 10 (degrees of freedom: $df = n - 1$, based on n = 11) is 2.76 (Field, 2009). According to this approach, the t-test is significant, if the test statistic is equal to or greater than the critical value, whereby the absolute t-value is regarded. Based on the results which are displayed in table 8, only the t-value for the evaluation of the athlete's overall trustworthiness is greater than the critical value, which supports the computer based analysis.

An additional answer to the research question could be given by focusing solely on the first point of measurement. Two different groups of people could be identified in this sample: those participants who had already heard a defense statement (n = 13) and those who had not heard a defense yet (n = 40). Despite the large differences in the sizes of these two groups, one might assume that both groups could differ in the evaluation of Sachenbacher-Stehle's trustworthiness and reputation, similarly to the results of the longitudinal analysis. However, none of the independent t-tests for each of the five variables indicated a significant difference (one-tailed p-values ranging from p = .165 to p = .455). Therefore, the crisis communication had no significant impact on the evaluation of her trustworthiness and reputation as the doping case had just became known to the public.

A Pearson product-moment correlation coefficient (r) was calculated on order to specify the relationship between trustworthiness and reputation. The two constructs were highly correlative (t_1: $r = .71$, $p < .001$; t_2: $r = .79$, $p < .001$), indicating that participants who evaluated the scale to assess Sachenbacher-Stehle's trustworthiness more positive also tended to attribute a higher reputation. Focusing solely on t_1, the participants who knew Evi Sachenbacher-Stehle ($n = 55$) indicated that they had on average a relatively good knowledge concerning the athlete ($M = 3.51$, $SD = 0.98$), were very interested in sports in general ($M = 4.65$, $SD = 0.65$) and a bit less interested in winter sports ($M = 3.87$, $SD = 0.82$), and biathlon ($M = 3.82$, $SD = 1.02$). Therefore, the sample had a high affinity to sports. Similar results could be shown for the subsample of participants who participated in both points of measurement ($n = 11$).

9.4 Discussion

Focusing on the longitudinal data, the present study indicates that Evi Sachenbacher-Stehle could repair parts of her trustworthiness, whereby each antecedent needs to be regarded in differentiated terms. The athlete's ability was evaluated comparably best, whereas the integrity component reached the comparably lowest values to both points of measurement. According to Schoorman et al. (2007) and their assumptions concerning the development of trust (see chapter 3.1.4), a possible explanation could be that the participants were able to evaluate Sachenbacher-Stehle's ability due to the knowledge of former successes, but had problems in evaluating the benevolence and integrity scale, as they did not have a profound knowledge of her person and had maybe no sense of a connection to her. But it is also conceivable, that a doping case could have a special impact on the perceived integrity of a person, leading to low values as the participants doubt the athlete's sincerity. The perceived ability seems to be less affected and therefore not doubted severely by the public perception in comparison to the perceived integrity. Although the evaluation of the athlete's integrity does not indicate a significant increase after the defense, the effect size reached a medium level. Due to the small sample size, this measure gains in importance to interpret the results and indicates that the evaluation of Sachenbacher-Stehle's integrity reached the comparably strongest improvement. As there are no evaluative data in relation to Sachenbacher-Stehle's trustworthiness before the doping news got public, the aforementioned conclusion has to be regarded with great caution. According to Petróczi's (2013a) understanding of doping as a more functional behavior and her warning to overemphasize moralistic components (see chapter 5.4.3), the public perception seems to refer more to moralistic aspects in judging athletes who were suspected of doping.

Interestingly, there was no difference at t_1 concerning the two subsamples of participants who had already heard a defense statement and those who had not. The two subsamples differed considerably concerning their size, but nevertheless there is not even a weak indication for a difference. Therefore, it seems natural that other outside factors could be assumed to have an influence on the perception of an athlete's trustworthiness and reputation in case of doping, besides the crisis communication. These factors could be the

elapsed time which might have led to the impression that the doping case was less severe after four weeks had passed or the media coverage. This coverage might have influenced the perception of the athlete additionally by perceiving alternate explanations or judgmental comments.

The crisis communication had no positive impact on the evaluation of the athlete's reputation. Quite the contrary, Sachenbacher-Stehle's reputation was rated lower after the defense statement, even if not significantly. One can only speculate about the reasons, especially as the relevance of the results is limited due to the small sample size and the missing level of significance. Whereas the assessment of trustworthiness refers more to a personal connection, the interpretation of the reputation items might have integrated the controversial media coverage concerning this doping case and might be thus lower. But this is only speculative, especially as the decrease did not reach a significant level.

This pilot study can be regarded as good starting point for the development of a measure to assess a person's reputation, although further improvements are necessary as the reliability at the first point of measurement reached an upgradeable value of Cronbach's α = .77. In the development of a new measure, further steps are necessary to generate a reliable and valid scale. Therefore, different item compositions were tested in the subsequent studies in order to improve the reliability as a first step towards a reputation questionnaire. Just like the theoretical assumption, it appears as if this reputation realization and trustworthiness were two highly correlative, but differentiable constructs.

An obvious limitation of this study is its small sample size, which becomes apparently obvious in the longitudinal analysis, where only data from eleven participants could enter into the calculation. Certainly, this reduces the meaningfulness of this pilot study and leads to a lack of statistical power, so that only large differences reach a significant level. Otherwise, the data base can be regarded as especially meaningful, as no incentives were given and only those people participated, who were interested in sports and motivated to express their views. Nevertheless, this study offers the considerable advantage that it is the first study known to the author, which evaluated the crisis communication of a doping case in real-time and by applying a longitudinal design. As this study is considered as a pilot study for the subsequent experimental designs in order to check the applicability of the questionnaire to assess trustworthiness in sports (Dreiskämper et al., 2013) and to identify items for a reputation measurement, it can be regarded as an important first insight in the empirical evaluation of these two constructs in case of doping.

10 Influencing factors on the perception of doping defense statements

Several factors are assumed to have an influence on the perception of crisis communication, if an athlete publishes a defense statement against doping allegations via social media. Deduced from findings of crisis communication in an online or offline context and from research on doping, three components were regarded as fundamental for the efficacy of defense statements and are covered in this chapter: the crisis communication strategy which is chosen to rehabilitate (see chapter 10.1), the dissemination channel which is applied to make the crisis communication public (see chapter 10.2), and the doping prevalence within a type of sport which constitutes an underlying valuation basis (see chapter 10.3). As current literature was primarily descriptive, these empirical studies aim to gain a deeper understanding of the processes of crisis communication in sports and should help to specify whether doping and sports are a special surrounding for crisis communication as assumed in chapter 4.6. The three experimental designs applied within this chapter face certain commonalities: They are all based on vignettes in which a fictitious athlete is taken as a basis to measure trustworthiness, reputation or other variables of interest.

Although the publication of new doping cases is a recurrent issue, the examination of mechanisms of action concerning an athlete's crisis communication faces difficulties. Basic requirement to gain a deeper understanding is an athlete who is suspected of doping. The direct companionship of a real doping case with a baseline evaluation of trustworthiness and reputation before any doping allegations appeared, would be the optimum, but is non-predictable. As athletes who face doping allegations defend themselves generally shortly after this news were made public, one faces the additional problem that it is difficult to implement a survey study before and after the crisis communication, and with a sufficient sample size. The study on Evi Sachenbacher-Stehle (see chapter 9) was a "lucky chance", but difficulties concerning the sample size got obvious. Additionally, strong presets as in case of Lance Armstrong for example, might influence the pure effect of the crisis communication. Thus, it is not deducible whether a good or a poor evaluation of the athlete results from the positive or negative attitude towards the athlete which existed before, or from the crisis communication. To circumvent these difficulties, case vignettes of domestic athletes were carefully developed, with the intention to make them appear as realistic as possible and without raising doubts that the setting appears unnatural. To meet ethical standards, the participants received an extensive clarification after finishing the study they took part in.

Besides the aim to gain a deeper understanding of crisis communication via social media in the context of doping, these studies aim to optimize or deduce reliable scales to measure the variables of interest, if no appropriate scale existed so far. This is especially true for a scale to assess the perceived reputation of an athlete. Just like in the study on Evi Sachenbacher-Stehle, items were deduced from the theoretical understanding of reputation and composited in different combinations with the aim to identify a highly reliable measure to assess a person's reputation. Therefore, the applied items vary and lead to more or less reliable measures, whose preliminary scale variant is evaluated in an exploratory factor

analysis (see chapter 10.4). It is anticipated that the resulting measure is evaluated in a CFA with a new sample to confirm the reputation survey and to prove whether the assumption of two differentiated scales for trustworthiness and reputation is vindicated in chapter 11.

Further modifications to an already existing scale concern Petróczi's short version of the doping attitude scale PEAS (Vargo et al., 2015) and are also conducted and discussed in this chapter. Deduced from the original version of the PEAS which consists of 17 items, Petróczi works on a new shortened version of eight items. Therefore, the German long version of the PEAS, which resulted from a forward-backward translation by assistance of a native English speaker, was shortened and adapted analogously to Petróczi's short version, so that a German eight item measure to assess a person's doping attitudes resulted. This short measure leads to some problems concerning its reliability, if the doping attitude of a general population or sports interested participants was assessed. This could be observed in chapter 10.2, but also in a study of Dreiskämper (2014), where the original wording was applied. The other two subchapters (chapter 10.1. and 10.3) each apply an adapted version, in which the newly negative coded first item was applied as positive item and interpreted as a positive item, just like in the former 17 item version. The adapted short version of the PEAS was tested via CFA. Results of this process are presented and discussed in chapter 10.4 as well.

Thus, results from this chapter present important knowledge in itself, but the results are additionally taken as a basis for the development of the social swarming study in chapter 11. The studies are presented in more detail on the following pages.

10.1 Impact of different crisis communication strategies

The publication of a new doping case in high-performance sports, which includes famous athletes, is generally followed by a variety of defense statements, which claim many different reasons for the positive test results. Only seldom, an athlete admits directly that he or she applied prohibited substances to enhance the own performance. One example is the Italian walker Alex Schwazer who was tested positive for EPO before the Summer Olympic Games 2012 in London. He apologized directly for this misbehavior and emphasized that he had made a big mistake (Franceschini, 2013; Funaro, 2012). Although Schwazer admitted doping, his confession is also a defense relating to the SCCT (Coombs, 1995, 2007b) in order to restore his reputation and to regain trust. And especially apologetic crisis communication strategies were widely discussed whether they are particularly successful. Consequently, this leads to one of the central questions concerning the efficacy of crisis communication strategies.

10.1.1 Study-specific background

Several theoretical frameworks and studies claim to know which the most efficient crisis communication strategies are. This knowledge is sometimes more, sometimes less profound. Whereas Coombs (2006b, 2007b) postulates on an empirical basis that crisis situation and strategy have to match to defend oneself efficiently and that denial should be

applied in rumor situations, instructions in a victim crisis, diminish strategies in an accident crisis, and rebuild strategies in a preventable crisis, other researchers name specific strategies. Especially apology is highlighted as an exceptional strategy. Some models (e.g., Gillespie & Dietz, 2009) or studies emphasize the efficacy of this strategy (e.g., Benoit & Drew, 1997; Claeys et al., 2010), but this appraisal is controversial (e.g., Coombs et al., 2010; Coombs & Holladay, 2008). Moreover, the sports review (see chapter 4.6) revealed that reputation could be repaired via apology in less than half of the cases, although a majority fitted into Coombs' understanding of a preventable crisis and thus apology should be one of the preferred responses. Other researcher emphasize justification as particular efficient strategy (Huang, 2006) or indicate that bolstering, denial, and corrective action/compensation were the strategies which are used most often as a result of a review, but that denial appeared to be as least efficient (Kim et al., 2009). In the context of social media and sports, it appears as if more offensive strategies, like denial or attacking the accuser were applied in comparison to other settings like organizational crises or disasters (see chapter 4.5). But if the setting of sports stands out from other settings due to own rules, it is still unknown which crisis communication strategies work best. For athletes and their managers it could be essential to know, whether findings from organizational settings could be simply transferred to sports, because a mistake in the defense statement could finally end a professional sports career.

As many studies on crisis communication are case studies, especially in the setting of sports, there is a lack of empirical and experimental research to understand the mechanisms of action and to draw conclusions, whether the communication efforts were efficient. For high-performance athletes, the application of Facebook or Twitter and the publication of regular updates have become a common behavior (Meân et al., 2010) and therefore social media have become a natural setting. Especially during crises like doping, these media have become a central dissemination channel for many athletes as the cases of Lance Armstrong, Alberto Contador or Evi Sachenbacher-Stehle indicate. But as already noted, social media have another advantage besides the possibility to circumvent journalistic gatekeeping and framing: These media, and especially Twitter encourage communication (Becker et al., 2013), which should strengthen and simplify the perception of parasocial interaction (Horton & Wohl, 1956) and might lead to special mechanisms of action as a consequence. Thus, based on the concept of initial trust (McKnight et al., 1998), recipients should be able to evaluate the perception of an athlete in a differentiated way.

10.1.2 Specific research question and hypotheses

Although it is unclear which is the most efficient crisis communication strategy, current literature reveals that different defense statements evoke different reactions in one situation. For the context of doping, it is yet unknown, how an athlete's crisis communication is perceived in public and whether it is useful for athletes to defend themselves at all. Therefore, the following research question is deduced:

Which crisis communication strategy works best relating to the restoration of trustworthiness and reputation if an athlete defends him- or herself against doping accusations?

It is assumed, that doping should be generally perceived as a preventable crisis (Coombs, 2006b, 2007b), if no indications for an accident or a victim crisis are given. According to the SCCT (Coombs, 1995, 2007b), rebuilding strategies like compensation or apology should work best (see Table 4). Other common communication strategies in case of doping are denial, attacking the accuser (e.g., Glantz, 2010, Sanderson, 2008), or justification as in case of Claudia Pechstein (Pechstein, 2009) or Taylor Hamilton (Kolata, 2005), who named natural body processes which caused the conspicuous test results. Although crisis communication strategies are generally combined, it is necessary to examine them on an individual basis to deduce exactly which strategy is more or less efficient. This would not be possible, if combinations of strategies were chosen. Despite the controversial findings, but weak indications concerning the efficacy of apology and in accordance with Coombs (2006b, 2007b), the following hypothesis is deduced:

1) Apology is the comparably most efficient strategy to restore one's reputation, if an athlete defends him- or herself against allegations of doping.

Until now, there is no research known to the author, which focuses on the restoration of trustworthiness via crisis communication, although trust is specifically named by Coombs (2006b) as a component that is intended to be repaired. As reputation and trustworthiness are correlative, according to the study on Evi Sachenbacher-Stehle, the second hypothesis is deduced:

2) Apology is the comparably most efficient strategy to regain trustworthiness, if an athlete defends him- or herself against allegations of doping.

10.1.3 Method

This online study was conducted by making use of the software Unipark (Questback) and applied a 5 x 1 between-subject design to examine the impact of four different crisis communication strategies, namely denial, attacking the accuser, justification and apology, and one control group without a defense statement, on the evaluation of trustworthiness and reputation. The participants were assigned to the conditions via adaptive randomization to ensure that comparably more participants took part in the experimental conditions than in the control condition, which was regarded as a supplement to receive a baseline measurement. Therefore, it was more likely for the participants to be assigned to the experimental conditions than to the control group.

The experiment started with the introduction of a fictitious athlete (Michael Becker), who was suspected of testosterone doping. As the study was conducted in winter, bob sleigh as a winter sport currently presented in the media was chosen in which doping appears helpful for enhancing the springiness, but which was not known for a high amount of doping cases

like cross-country skiing. For conducting the case vignette, a short vita and successes were constructed and it was ensured that no overlaps with real persons or competitions were given. For example, a third place at the German championships in 2010 was presented, knowingly that this competition was cancelled that year, because of the Winter Olympic Games in Vancouver and the need to transport the bob equipment to that time. Additionally, a photo of the athlete within a competition wearing an integral helmet was presented to make the athlete appear more realistic and simultaneously ensuring that the actual athlete from that photo was unrecognizable and thus, protected from false doping allegations. The introduction of the athlete was followed by a fictitious news release by the German National Anti-Doping Agency (NADA), in which an increased level of testosterone was named as cause for the positive doping test. The news release was a short text, which included only the most important information concerning the test results and a potential sanctioning. Afterwards, a short definition of Twitter was presented followed by the four crisis communication conditions and the control condition with a neutral statement. A manipulation check came next, in which the participants had to indicate whether they understood the content of the defense correctly, to ensure that the strategy was perceived as it was intended. Participants entered then in a survey section, consisting of various questionnaires, including the perceived trustworthiness and reputation concerning this athlete. The survey section ended with the assessment of demographic data, which included besides age, gender, and employment also several questions to evaluate the sports activities of the participants. Finally, the participants read a clarification page, in which they received information that the athlete, the news and the whole story were fictitious.

Figure 7: Defense statement presented as Twitter tweet to examine the impact of different crisis communication strategies (here exemplary the justification condition in German language, as applied in the experiment).

To prove whether the manipulation was understood correctly, a manipulation check was conducted, in which the participants had to indicate to which kind of crisis communication they were assigned to. The manipulation check was successful, indicating that participants were able to understand and remember the manipulation correctly ($\chi^2(1, N = 148) = 132.43$, $p < .001$). Only four participants (2.7%) failed the manipulation check so that all participants were considered for further evaluations.

The manipulation was a Twitter tweet, applying the original Twitter design and contained therefore a maximum of 140 characters, in which the defense was presented (see figure 7). Table 9 illustrates the defense statements for each condition as English versions that were translated from the German to English language.

Table 9: Overview of the different crisis communication strategies, the athlete applied to defend himself against the doping allegations (each participant was assigned to one of these strategies).

Strategy	**Content of the strategy**
Attacking the accuser	"The NADA has reversed my samples and starts a hounding now. It's outrageous how they deal with an honest athlete."
Justification	"I cannot help it, that my testosterone level is increased has always been the case. The medical expert opinion certifies clearly a birth abnormality."
Denial	"I have never doped in my entire career and I also did not have any contact to prohibited substances. The result cannot be true."
Apology	"I have made a mistake. I have used doping and I am sorry that I disappointed all. I apologize and ask you for forgiveness."
Control (neutral statement)	"A normal training day: sprint training on the tartan track and lifting weights - I am happy when it gets back into the ice track."

The dependent variables trustworthiness and reputation were assessed on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), whose average values were calculated and compared. The athlete's trustworthiness was measured by making use of the questionnaire to assess trustworthiness in sports (Dreiskämper et al., in prep.) which was adapted to the bob athlete Michael Becker. A calculation of reliabilities via Cronbach's α reached satisfying values for this questionnaire (α = .86 for ability, α = .83 for benevolence, α = .87 for integrity, and α = .90 for the overall evaluation of trustworthiness). Additionally, the perceived reputation of the athlete was assessed via an adaption of the reputation measure that was applied in the study on Evi Sachenbacher-Stehle. The scale was supplemented by a fifth item ("Michael Becker has a high regard" [translated from the German]) and revealed a Cronbach's α value of α = .70.

As control variables, the participant's propensity to trust and their doping attitudes were assessed. To measure the attitudes towards doping, the short version of the PEAS (Vargo et al., 2015) was applied, including the adaption starting with a positively worded first item, which gained a satisfying reliability (Cronbach's α = .73). The average doping attitude, assessed as a sum score which might range from eight (indicating a low doping attitude) to 48 (indicating a doping attitude), indicated that the participants rather refused doping (M = 15.62, SD = 5.89) and that a comparable doping attitude was measured in all conditions ($F(4, 143)$ = 0.87, p = .487). To assess the participants' propensity to trust, a subscale based on Costa and McCrae's NEO Personality Inventory Revised (Ostendorf & Angleitner, 2004) was applied

(Cronbach's α = .78). Again, participants in the five conditions did not differ concerning their propensity to trust ($F(4, 143) = 0.81$, $p = .521$). Thus, potential differences concerning the dependent variables should be ascribable to the manipulation of the crisis communication statements.

The sample comprised altogether 148 persons (52.7% male, 47.3% female). Their mean age was 26.68 (SD = 8.22) ranging from 17 to 63 years. A majority of the participants were students (73.0%, n = 108), followed by employees (26.4%, n = 39).

10.1.4 Results

For testing the hypotheses, univariate one-way analyses of variance (ANOVAs) were calculated by applying the statistic program IBM SPSS, version 22, with the crisis communication statement as independent variable and trustworthiness or reputation as dependent variables. As preliminary remark: The Levene's test indicated homogeneity of variances in all ANOVAs, wherefore Hochberg's GT2 post-hoc procedure was used, which is able to deal with the given unequal sample sizes (Field, 2009). Descriptive statistics are presented in table 10.

Table 10: Means and standard deviations (indicated in brackets) of trustworthiness and reputation by crisis communication strategy.

	Attacking the accuser (n = 33)	**Justification** (n = 27)	**Denial** (n = 32)	**Apology** (n = 34)	**Control** (n = 22)
Trustworthiness	3.11 (0.53)	3.56 (0.56)	3.30 (0.63)	2.82 (0.60)	3.17 (0.46)
Ability	3.63 (0.56)	3.88 (0.66)	3.65 (0.68)	3.46 (0.83)	3.70 (0.57)
Benevolence	3.07 (0.75)	3.76 (0.67)	3.37 (0.85)	3.03 (0.77)	3.10 (0.66)
Integrity	2.51 (0.67)	3.01 (0.71)	2.84 (0.75)	1.88 (0.64)	2.59 (0.52)
Reputation	3.02 (0.51)	3.52 (0.52)	3.38 (0.68)	3.07 (0.69)	3.72 (0.47)

Referring to the evaluation of the athlete's reputation, a significant influence of the crisis communication strategy could be shown ($F(4, 143) = 6.99$, $p < .001$, $\eta_p^2 = .16$) with a large effect size according to Cohen (1988). In this case, the control condition with the neutral statement without any defending intention reached the comparably best evaluation (M = 3.72, SD = 0.47), which was significantly better than the evaluation following the attacking the accuser statement (M = 3.02, SD = 0.51, $p < .001$, d = 1.44) and the apology (M = 3.07, SD = 0.69, p = .001, d = 1.08). Also, the justification (M = 3.52, SD = 0.52) led to a significantly better evaluation of the athlete's reputation than attacking the accuser, which led to the lowest evaluation (p = .013, d = 0.99). The apology statement led to the second lowest evaluation concerning the reputation, which was significantly lower than the assessment following the justification (p = .037, d = 0.74) besides the aforementioned significant lower evaluation in comparison to the neutral statement of the control condition. As all of these comparisons showed either a medium or a large effect size, the first hypothesis was clearly rejected:

Apology was not beneficial to restore the athlete's reputation; the the strategy led to lower scores than most of the other crisis communication strategies.

Concerning the analysis in relation to trustworthiness and its antecedents, the results also indicated a significant influence of the strategy applied on trustworthiness as overall measure ($F(4, 143) = 7.06$, $p < .001$, $\eta_p^2 = .17$) with a large effect size based on Cohen (1988). If the athlete applied a justification defense ($M = 3.56$, $SD = 0.56$), he was perceived as more trustworthy on the overall measure in comparison to the application of apology ($M = 2.82$, $SD = 0.60$, $p < .001$, $d = 1.29$) or attacking the accuser ($M = 3.11$, $SD = 0.53$, $p = .025$, $d = 0.84$). Furthermore, the application of a denial ($M = 3.30$, $SD = 0.63$) led to a significantly higher evaluation of the overall trustworthiness than the apology ($p = .006$, $d = 0.79$).

Analyzing the perception of trustworthiness on a more differentiated level concerning its antecedents, the following results appeared. The five conditions did not differ in relation to the evaluation of the athlete's ability ($F(4, 143) = 1.46$, $p = .216$). However noteworthy is, that the ability antecedent was evaluated considerably better than the athlete's integrity or benevolence. Significant differences with medium or large effect size could be found in relation to the evaluation of the athlete's benevolence ($F(4, 143) = 4.71$, $p = .001$, $\eta_p^2 = .12$). Comparably to the overall evaluation of trustworthiness, justification ($M = 3.76$, $SD = 0.67$) appeared to be the strongest strategy concerning the evaluation of benevolence, especially in contrast to apology ($M = 3.03$, $SD = 0.77$, $p = .002$, $d = 1.02$), attacking the accuser ($M = 3.07$, $SD = 0.75$, $p = .005$, $d = 0.98$), and the control condition ($M = 3.10$, $SD = 0.66$, $p = .028$, $d = 1.01$). However, the choice of the crisis communication statement had a significant and the comparably largest effect on the evaluation of the athlete's integrity ($F(4, 143) = 13.41$, $p < .001$, $\eta_p^2 = .27$), which was furthermore evaluated with the comparably lowest ratings. Especially the athlete's apology ($M = 1.88$, $SD = 0.64$) led to the poorest evaluation of integrity in comparison to all other conditions: to justification ($M = 3.01$, $SD = 0.71$, $p < .001$, $d = 1.71$), denial ($M = 2.84$, $SD = 0.75$, $p < .001$, $d = 1.40$), the control condition ($M = 2.59$, $SD = 0.52$, $p = .001$, $d = 1.21$), and attacking the accuser ($M = 2.51$, $SD = 0.67$, $p = .002$, $d = 0.98$) Therefore, the second hypothesis was also clearly rejected: Apology was not beneficial to restore the athlete's trustworthiness. Quite the contrary, it led to the lowest ratings of the athlete's trustworthiness concerning the overall measure and all antecedents.

Further evaluations of the data revealed again a meaningful (Pearson product-moment) correlation between the scales to evaluate the trustworthiness and the reputation of the athlete ($r = .61$, $p < .001$). This result is in line with the study on Evi Sachenbacher-Stehle. The antecedents of trustworthiness correlated moderately, ranging from $r = .40$ ($p < .001$) for the relation between ability and integrity, and $r = .65$ ($p < .001$) for the relation between benevolence and integrity.

10.1.5 Discussion

Justification seems to be the most efficient strategy for athletes to regain trustworthiness and to restore their reputation. Contrary to prior research which either

highlighted the efficacy of an apology in case of crises (e.g., Benoit & Drew, 1997; Claeys et al., 2010), or indicated that apology was in line with other crisis communication strategies without a special probability of success (e.g., Coombs & Holladay, 2008), the application of apology appears to be the worst choice for an athlete in case of a defense against doping allegations. Summing up the results of this study, justification was the comparably most successful strategy concerning an athlete's trustworthiness including all antecedents and led to the second best evaluation of an athlete's reputation. In case of the evaluation of the athlete's reputation even the neutral control condition which does not refer to doping at all was more efficient than a justification, although this difference was not significant. According to Liu (2010), who named several strategies as a supplement to the SCCT (Coombs, 1995, 2007b); this neutral statement could also be classified as ignoring (see chapter 4.2.2). Generally, it seems that even ignoring was more beneficial than apologizing although solely the single comparisons concerning reputation and integrity reached a significant level.

The results indicate that recipients seem to prefer alternate explanations for positive doping tests, as apology is the only strategy in which the athlete confessed doping. All other strategies enable the attribution of an alternate explanation for the positive doping test. Thus, is appears as if recipients clutch at straws, escalate their commitment according to Staw (1981), and accept various alternate attributions so that they don't have to deal with a new doping case within the own country, although their attitudes towards doping were rather negative. If the athlete has really applied doping, apology would be the only honest statement; therefore it seems almost paradoxical that especially the integrity evaluation following the apology is the worst of all. A potential explanation could be that the athlete begs for forgiveness, but does not pledge reform or indicates that it was a unique mistake. So his apology might not have been rated as sincere, which leads to a lack of acceptance according to Hearit (2006). Otherwise, one might assume that it makes a difference whether an apology is applied in an organizational or a sports setting. Whereas an apology in an organizational setting is commonly the reaction to an unintended negligent or an accident, an apology in a doping setting is special insofar as it is the response to an apparantly intended wrongdoing which is therefore less accepted.The results also contradict the findings of Kim et al. (2009) who claimed that denial would be the weakest crisis communication strategy. In this study, denial was one of the more beneficial strategies.

Although Dreiskämper et al. (in prep.) highlighted the high inter-correlations as a limiting factor of the questionnaire to assess trustworthiness in sports, this study shows on the one hand only moderate correlations of the antecedents (ranging from $r = .40$ to $r = .65$) and on the other hand that the participants made a differentiated evaluation of the antecedents. Especially the evaluation of an athlete's ability does not seem to be considerably impacted by the doping allegation as it leads to relatively high values. In contrast, especially the evaluation of the athlete's integrity appears to be impacted. Thus, recipients do not seem to doubt the skills, but appear to judge on a moral level. This result is also in line with the study on Evi Sachenbacher-Stehle.

According to Karimov et al. (2011) the trustworthiness of a previously unknown person falls into the category of initial trust. In accordance with Mayer and Norman (2004), this study is a further confirmation that it is possible to evaluate a person's trustworthiness in a differentiated way based on a case vignette. In contrast to the assumption by Schoorman and colleagues (2007) that it is difficult to assess benevolence in the early phase of a relationship and that this antecedent is highly correlative with integrity, a more differentiated assessment can be observed in this study. However, it could be possible that integrity was more difficult to evaluate for the participants as they had not much information about the athlete and thus rated on a lower level. But on the other hand, then the evaluation of benevolence should indicate a comparable pattern which was not the case.

Although this study shows a clear tendency, which crisis communication strategy seems to be efficient in a similar doping case, it also shows a constraint concerning Coombs' assumption of the matching of crisis clusters and strategies (2006b, 2007b). In this study, the news release included only the most important information to understand that the athlete faced a second positive doping test. Thus, the classification of all crisis clusters (victim, accident, and preventable) was possible based on the information given. Only the knowledge of the potential reasons or the apology enabled the participants to conduct an attribution which is necessary to classify the crisis cluster. Therefore, further background information on the reasons for the crisis is necessary for recipients to gain a deeper understanding. In reality, an interpretation of the crisis is mostly already given by the news media or experts who comment on the issue if the crisis party did not offer a defense statement yet. In the present case, it is mostly unclear whether the athlete has doped consciously or unconsciously (which is also frequent in real doping cases). Only in the apology condition, a conscious doping application was clear. But contrary to Coombs assumptions, the matching of this preventable crisis with the rebuilding crisis communication strategy apology was not successful. The other strategies did not match to the crisis cluster according to Coombs. The justification statement indicates most likely that the athlete is a victim of his biological foundations. Although the victim cluster should work best with an instruction, this mismatch was obviously successful. The denial statement concerning a mistake in the NADA laboratory could indicate both, the victim or the accident cluster. According to Coombs, if an accident cluster is assumed, justification should work best, but not denial. Although denial was not outstanding concerning its efficacy in restoring trustworthiness or reputation here, the evaluations indicate an average score concerning both dependent variables. Thus, defense statements offer an important attribution which can be accepted by the recipients or not. It gets obvious that in case of no background information, the attribution can be solely based on the content of the crisis communication. Then the parties which suffer a crisis might decide themselves which attribution they offer and which strategy they add, as they are the only ones who know the real circumstances of the crisis.

In accordance with Wiencierz et al. (2015) the results of this study indicate that trustworthiness and reputation are two constructs that need to be differentiated. As the scale to assess reputation is still weak based on its reliability (Cronbach's α = .70) further work on a

scale development needs to be done to gain a more powerful measure of reputation and to specify the model of trustworthiness and reputation.

The major strength of this study is its face validity, as the handling of doping allegations by making use of social media is a more and more common behavior of high-performance athletes. The application of Twitter enables a broad elimination of journalistic framing. To support this impression, the news release was as short as possible and contained no interpretations of the causes of the positive test. Furthermore, this study is one of the first experimental designs to understand the mechanisms of action concerning crisis communication in sports and is thus superior to the high amount of existing case studies and content analyses. Although crisis communication strategies are commonly used in combination of several strategies, their impact could only be shown if they are examined individually. Additionally, the application of case vignettes is a promising and an efficient approach to gain a differentiated measurement of trustworthiness and reputation in sports, without a bias by presets for example.

One weakness is the lack of a reliable and valid measure to evaluate a person's reputation. This study is a promising approach, but faces only a moderate reliability for this combination of five items. Further research is necessary to identify a scale, which is able to measure reputation according to the understanding applied in this research project and which can be differentiated from trustworthiness. Another weakness is the lack of a measurement of trustworthiness and reputation before the doping allegations got public and after the defense statement. This would have enhanced the validity of the results. However, it is questionable whether a pre-post measurement would have led to interpretable results within this economic design as both measurements would have been conducted in a very short time.

Finally, this study provides implications for the practical handling of doping cases, especially for sport managers and athletes. The results indicate, that athletes should not confess doping as long as possible. Although it is unknown, what happens if an athlete needs to change his or her strategy from a defense to a confession and an apology, it got obvious that the direct expression of an apology was not beneficial for his public appearance. This leads to the general question, whether sports recipients really want doping free sports or if the really clutch at straws to live in the impression that the athlete is pretended clean.

10.2 Impact of the dissemination channel

Athlete's defense statements against doping allegation are transmitted via different dissemination channels. Channels, athletes are able to control themselves, like social media or channels which are controlled by other parties, like journalists, news releases of sponsors, etc. The examples of Floyd Landis who defends himself in a press conference or media interviews (Glantz, 2010), or Alberto Contador and Evi Sachenbacher-Stehle who applied Facebook for disseminating their crisis communication can be seen as typical examples how athlete's defenses against doping allegations are made public.

In general, the internet has changed the perception of crises: Due to the increased speed of news dissemination, the permanent availability of information (also in the aftermath of a crisis), or the unaudited and simplified distribution of rumors, crises might have more far-reaching impacts nowadays (González-Herrero & Smith, 2008). But this also applies to the crisis communication of athletes, who are now able to reach their recipients faster and are able to control the contents they convey themselves. Thus, the dissemination channel is assumed to be of particular importance and might have an influence on the evaluation of an athlete's defense against doping allegations, which should be examined in the context of this study.

10.2.1 Study-specific background

Current literature on crisis communication emphasizes the importance and the necessity to incorporate online media. Referring to an organizational setting, Taylor and Perry (2005) draw a conclusion which appeared to be paradoxical at first sight: Although there was no difference in the choice of crisis communication strategies in an offline or online setting, they concluded and predicted for the near future, that the decision not to respond online to a crisis would be equated with the public perception that the issue is ignored. This assertion induces that the internet and therefore also the application of social media should have a special and rather beneficial impact on the perception of crisis communication, but available studies indicate controversial results.

Two research foci can be named concerning the dissemination of contents via social media: research referring to the credibility and research referring to further dealings and evaluations. First, the credibility of social media (e.g., Austin et al., 2012; Schmierbach & Oeldorf-Hirsch, 2012; Utz et al., 2013) and its contents (Flanagin & Metzger, 2007; Morris et al., 2012; Schmierbach & Oeldorf-Hirsch, 2012) are regarded as predominantly inferior to traditional media like newspapers. Thus, newspapers or even online-newspapers are rated as more credible. And in case of online newspapers, it could be shown that the perception of credibility could be enhanced if direct quotes were integrated in the text (Sundar, 1998). One of the assumed reasons for this result is the lack of a central control system of social media (Flanagin & Metzger, 2007), which is available in case of traditional offline and online media, mostly through journalists or experts who act as independent validators. Despite the superiority of traditional media, best practice approaches highlight the benefit of self-generated web contents especially during crises (e.g., Conway et al., 2007; Taylor & Kent, 2007; Veil et al., 2011).

Second, the impact of social mediated information on key variables like reputation, compliance, or further reactions in the sense of word of mouth revealed a differentiated picture, especially in the context of crisis communication. According to Utz et al. (2013), the medium has considerable impact on the perception of crisis communication. Although their participants showed a preference for traditional offline newspapers; Schultz et al. (2011) were able to demonstrate that reactions on Twitter tweets were less negative concerning the evaluation of one's reputation. The same pattern as in case of Twitter could be shown for Facebook (Utz et al., 2013). According to these studies, crisis communication via social

media was more successful than via traditional offline newspapers. In contrast, Liu and colleagues (2011) showed that defensive, supportive, or evasive strategies via traditional media were evaluated more positive than via social media. Thus, existing data reveal no coherent picture and the deduction of conclusions are made difficult by the low number of crisis communication studies which focus on the impact of the medium. What is evident, however, is that the application of social media led to a lot of changes and that an increased number of persons are familiar with these media.

Thus, it is concluded that the implementation of social media is regarded of growing importance during crisis (Utz et al., 2013). It was shown that statements via these media are able to influence opinion making in general (e.g., Brown et al., 2003; Van Norel et al., 2014) and independent of journalistic framing. Although social media are attributed to be of particular importance during crises, it is still unknown whether contents transmitted via social media influence the perceived trustworthiness of a person. As previous results indicate that the perception of athletes who are suspected of doping might be special, the results from organizational settings referring to the evaluation of reputation or the perception of credibility need to be proven for a sport context.

10.2.2 Specific research question and hypotheses

The application of social media is widespread in sports and has become an important tool for athletes to present themselves strategically (e.g., Hambrick & Mahoney, 2011) and to strive for a positive evaluation in the eyes of public. This positive evaluation of an athlete's self-presentation is regarded as an important factor which ensures the foundation to pursue professional the career (Bette et al., 2012) and which is in danger in case of doping allegations. Although research on the public perception of athlete's crisis communication against doping allegations is still in its initial stages, athletes try to rehabilitate by applying social media as a dissemination tool for their defenses. Besides the uncontrollability of journalistic sources, social media reveal another big advantage for athletes and their presentation: They are able to induce the perception of a parasocial interaction in the eyes of public. Deduced from these findings, the following research question is formulated:

Which medium is most beneficial for an athlete to apply, if the athlete tries to defend him- or herself against doping allegations?

The application of social media and thus the potentially enhanced perception of parasocial interaction should increase the recipient's sense of a direct connection to the athlete. The majority of the low amount of existing studies indicate that the application of social media in times of crises was more beneficial in restoring the reputation than other media (Schultz et al., 2011; Utz et al., 2013), like newspapers. However, there is no research known to the author, which focuses on the impact of social mediated crisis communication on the perception of trustworthiness. As trustworthiness and reputation are two correlative constructs, the following two hypotheses are deduced:

1) The application of social media, and especially Twitter, leads to the best evaluation of an athlete's reputation, if this athlete defends him- or herself against allegations of doping.

2) The application of social media, and especially Twitter, leads to the best evaluation of an athlete's trustworthiness, if this athlete defends him- or herself against allegations of doping.

Although the application of social media for crisis communication is expected to be superior in restoring an athlete's reputation and trustworthiness, and although recipients might develop the impression of a parasocial interaction with the athlete, recipients seem to distinguish in their perception of credibility of different dissemination channels. Existing research claims an advantage for newspaper sources, if the evaluation of these contents is compared to social media (e.g., Flanagin & Metzger, 2007; Schmierbach & Oeldorf-Hirsch, 2012). Especially traditional offline newspapers as a medium were perceived as most credible in comparison to social media or television news, but also in comparison to online newspapers (e.g., Flanagin & Metzger, 2000; Kiousis, 2001; Schmierbach & Oeldorf-Hirsch, 2012; Utz et al., 2013). Thus, the following hypothesis is deduced:

3) The perception of newspaper content, and especially offline newspaper content, concerning an athlete's crisis communication against doping allegations, leads to a) a better evaluation of content credibility and to b) a better evaluation of media credibility in comparison to social media.

10.2.3 Method

To examine the research question and the hypotheses, this online study applied a 5 x 1 between-subject design and made use of the software Unipark (Questback). The conditions differed in the application of the dissemination channel for the crisis communication, namely an offline newspaper, an online newspaper, Facebook, Twitter, and a control group without exposure to a medium and thus also without crisis communication. The participants were assigned to the conditions by adaptive randomization to ensure that more persons took part in the experimental conditions than in the control group which was regarded as a baseline measure.

As the experiment was conducted in December 2013, two month before the Winter Olympic Games, a winter sport was chosen as a setting. The study started with a brief introduction of the Olympic sports ski cross. In this type of sport, four ski racers simultaneously ski down a course which consists of leaps and curves. Ski cross was chosen as a relative unknown discipline and it was assumed that participants would not wonder, if they haven't heard of a fictitious current German high-performance athlete before. The introduction of the fictitious German athlete Malte Winkler came next. A picture of an unknown real athlete, whose identity was not certifiable, wearing a race suit, a helmet and ski glasses, was presented to make the introduction more tangible and appear more natural. Participants were told that this athlete was a young hopeful German athlete, who was

qualified to compete at the 2014 Winter Olympics in Sochi, but currently (at the time of the survey) faced a positive doping test. His sample was tested positive for clenbuterol (a substance which was also detected in the real cases of the German table tennis player Dimitrij Ovtcharov and the Spanish cyclist Alberto Contador) and in case of a confirmation of the first sample; the athlete wouldn't be allowed to compete in Sochi at the Winter Olympic Games. Then, the participants of the experimental conditions read the manipulated crisis communication via one dissemination channel and had to state afterwards which dissemination channel they had seen beforehand as a manipulation check. Following this section all participants made an assessment of the perceived trustworthiness of the athlete and worked on some items concerning the athlete's reputation and the perceived credibility. Then the participants answered some questions concerning their propensity to trust and concerning their own doping attitudes. Finally, the participants gave some demographic information and were extensively debriefed that the athlete and the whole setting were fictitious.

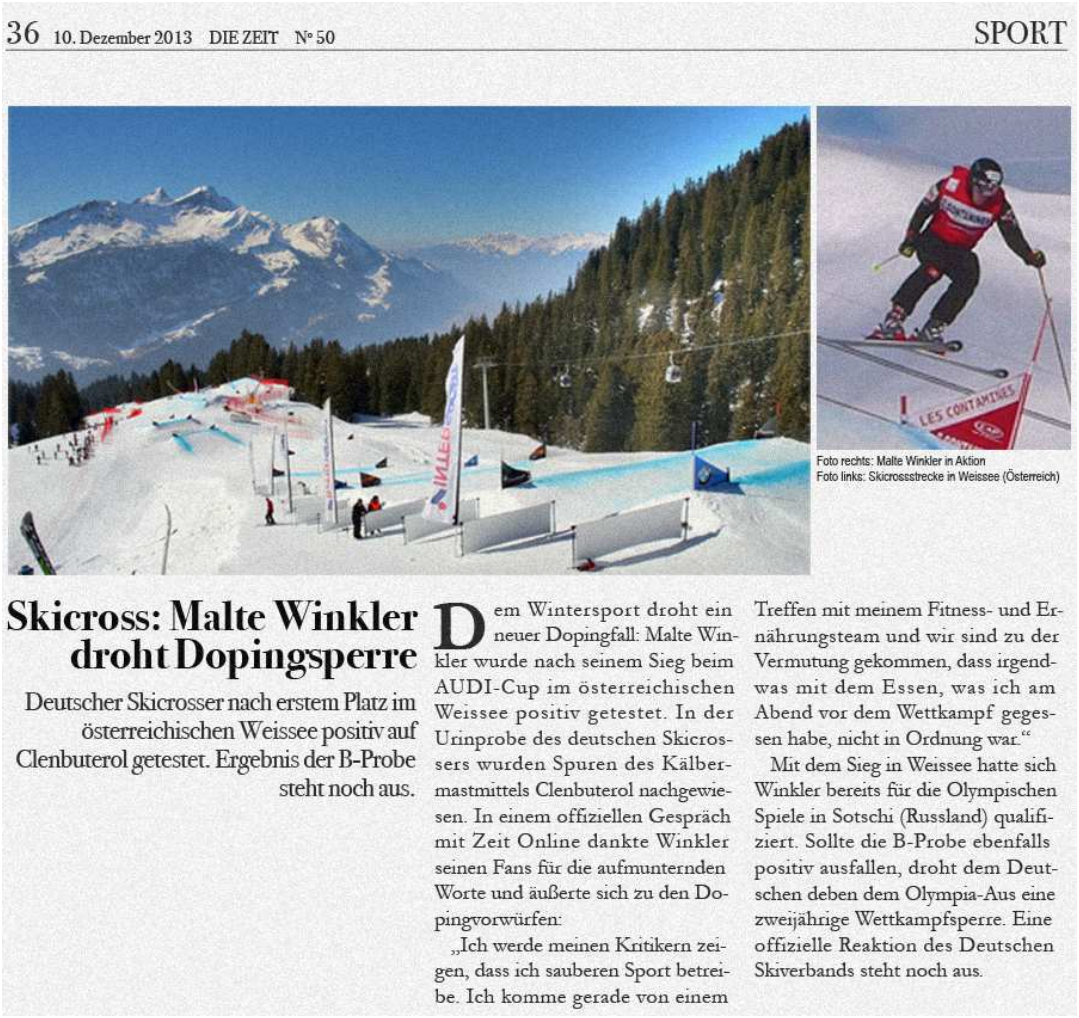


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Foto rechts: Malte Winkler in Aktion
Foto links: Skicrossstrecke in Weissee (Österreich)

Skicross: Malte Winkler droht Dopingsperre

Deutscher Skicrosser nach erstem Platz im österreichischen Weissee positiv auf Clenbuterol getestet. Ergebnis der B-Probe steht noch aus.

Dem Wintersport droht ein neuer Dopingfall: Malte Winkler wurde nach seinem Sieg beim AUDI-Cup im österreichischen Weissee positiv getestet. In der Urinprobe des deutschen Skicrossers wurden Spuren des Kälbermastmittels Clenbuterol nachgewiesen. In einem offiziellen Gespräch mit Zeit Online dankte Winkler seinen Fans für die aufmunternden Worte und äußerte sich zu den Dopingvorwürfen:

„Ich werde meinen Kritikern zeigen, dass ich sauberen Sport betreibe. Ich komme gerade von einem Treffen mit meinem Fitness- und Ernährungsteam und wir sind zu der Vermutung gekommen, dass irgendwas mit dem Essen, was ich am Abend vor dem Wettkampf gegessen habe, nicht in Ordnung war."

Mit dem Sieg in Weissee hatte sich Winkler bereits für die Olympischen Spiele in Sotschi (Russland) qualifiziert. Sollte die B-Probe ebenfalls positiv ausfallen, droht dem Deutschen deben dem Olympia-Aus eine zweijährige Wettkampfsperre. Eine offizielle Reaktion des Deutschen Skiverbands steht noch aus.

Figure 8: Defense statement embedded in a traditional newspaper article to examine the impact of the dissemination channel.

As independent variable, the participants read the athlete's defense statement either disseminated via on offline newspaper (see figure 8), via an online newspaper, via Twitter or via Facebook. As offline newspaper, the trans-regional and established German weekly newspaper Die Zeit was chosen and as online newspaper the associated and regularly updated internet version Zeit Online. Each manipulation was introduced by a short information text about the dissemination channel given, which included some basic facts and characteristics of this medium. The statement of crisis communication was approximately identical in all experimental conditions and consisted of a combination of excuse and victimage according to Coombs (2007b): "Thanks to my fans for your encouraging words. I will show my critics that I practice clean sport! I just got back from a meeting with my fitness and nutrition support team and we have come to the presumption that something was wrong with the food that I have eaten in the evening before the race." In contrast to the previous study, two strategies were combined which were deduced from Alberto Contador's and Dimitrij Ovtcharov's defenses. The Facebook post and the Twitter tweet consisted basically of these words, but applied the typical more informal language use in social media by shortened terms. Both newspaper articles quoted the aforementioned defense statement verbatim, but without publishing that the athlete thanked his fans. To make the newspaper articles more realistic without conveying additional information which might have an influence, the articles repeated solely details from the aforementioned introduction of the athlete and the doping allegations. Participants of the control group did not see any statement or article. They started directly with the questionnaire section after reading the introduction of the athlete and the doping allegations.

All dependent measures were assessed on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The trustworthiness of the athlete was measured via the questionnaire to assess trustworthiness in sports (Dreiskämper et al., in prep.), which gained a Cronbach's α value of $\alpha = .83$ for the overall trustworthiness scale ($\alpha = .72$ for ability; $\alpha = .73$ for benevolence; and $\alpha = .76$ for integrity). To measure the athlete's reputation a short scale of three items was applied which consisted of two adapted items from the previous studies (see chapter 9 and 10.1) and a new item ("Malte Winkler tries to cheat his fans"; Malte Winkler is a victim of an accident or a mistake."; "Malte Winkler's renown is ruined."). This measure showed a reliability of $\alpha = .61$. The assessment of both, the content and the media credibility was conducted on a single item basis: a one item measure to assess the perceived credibility of the defense statement, and thus the content ("The statement of Malte Winkler appears credible to me.") and two items which were supposed to measure the perceived credibility of the medium ("I am skeptical towards statements that are published in X [name of the source: either Die Zeit, Zeit Online, Facebook, or Twitter]."; "What is published in X [name of the source: either Die Zeit, Zeit Online, Facebook, or Twitter] is mostly true."), which were highly correlative ($r = .65$, $p < .001$).

As in the previous study, the doping attitudes of the participants and the participant's propensity to trust were regarded as two elements which might influence the dependent measures and were thus controlled. To assess the doping attitudes the original short version of

the PEAS (Vargo et al., 2015) starting with a negatively worded first item was applied, which gained a reliability of $\alpha = .60$ and indicated that the doping attitudes of the sample were rather refusing ($M = 15.57$, $SD = 4.31$). The propensity to trust was assessed based on Costa and McCrae's NEO Personality Inventory Revised (Ostendorf & Angleitner, 2004) and reached a reliability of $\alpha = .79$. The two univariate ANOVAs indicated that the conditions showed neither differences concerning the attitudes towards doping ($F(4, 101) = 0.19$, $p = .943$), nor concerning the participant's propensity to trust ($F(4, 101) = 1.18$, $p = .323$). Thus, potential differences between the conditions should be induced by the manipulation and the effect of the different dissemination channels.

Altogether 155 persons participated. The sample size was reduced due to the results of the manipulation check. To check whether the manipulation was perceived correctly, the participants had to indicate, which kind of source they had seen as dissemination channel for the defense statement. The answers were coded whether the identification was correct or not and revealed obviously that the manipulation was successful ($\chi^2(1, N = 155) = 20.96$, $p < .001$). A closer look at the underlying frequencies revealed that a remarkable number (31.6%, $n = 49$) of participants was not able to remember the manipulated source of the defense statement correctly. The condition which was most affected was the offline newspaper. Of altogether 33 participants within this condition, only 12 (36.4 %) were able to indicate that they had seen the offline version of a newspaper, whereas also 36.4% ($n = 12$) stated that the article was from an online newspaper, and 27.3% ($n = 9$) stated that they had read a Facebook post. As the medium was the central focus of this study, it was decided to incorporate only those participants who remembered the manipulation correctly.

Therefore, the data of 106 participants (57.5% female, 42.5% male) with a mean age of 24.45 years ($SD = 4.40$) were analyzed to answer the research question and to test the hypotheses. The final sample consisted predominantly of students (79.2%, $n = 84$) and employees (17.9%, $n = 19$).

10.2.4 Results

To test the underlying hypotheses, univariate ANOVAs were performed by making use of the statistic program IBM SPSS, version 22. The Levene's test indicated homogeneity of variances for all ANOVAs. Consequently, due to the unequal samples sizes, Hochberg's GT2 post-hoc procedure was chosen to specify differences between the conditions in case of a significant F-test. The underlying descriptive data concerning the first and the second hypothesis are represented in table 11 on the following page.

No differences between the dissemination channels were found concerning the evaluation of the athlete's reputation, ($F(4, 101) = 0.78$, $p = .541$). Thus, the first hypothesis needed to be rejected: The dissemination channel did not affect the reputation rating of the athlete who defends himself against allegations of doping. On the contrary to the hypothesis, Twitter led to the comparably lowest rating of the athlete's reputation, besides the control condition.

Table 11: Means and standard deviations (indicated in brackets) of trustworthiness and reputation by dissemination channel.

	Twitter (n = 22)	**Facebook** (n = 35)	**Offline newspaper** (n = 12)	**Online newspaper** (n = 26)	**Control** (n = 11)
Trustworthiness	3.61 (0.44)	3.53 (0.50)	3.40 (0.37)	3.61 (0.43)	3.62 (0.46)
Ability	3.95 (0.48)	3.81 (0.51)	3.88 (0.52)	3.97 (0.42)	3.86 (0.44)
Benevolence	3.67 (0.74)	3.41 (0.70)	3.19 (0.80)	3.48 (0.64)	3.68 (0.71)
Integrity	3.16 (0.59)	3.29 (0.67)	3.00 (0.59)	3.28 (0.60)	3.27 (0.63)
Reputation	3.00 (0.67)	3.17 (0.67)	3.19 (0.81)	3.24 (0.62)	2.91 (0.50)

The same result was shown for the analysis of the athlete's trustworthiness: Also in this case the rating of trustworthiness was independent of the dissemination channel. Thus, the channel had no impact, neither on the overall measure ($F(4, 101) = 0.61$, $p = .660$), nor on the antecedents ability ($F(4, 101) = 0.54$, $p = .706$), benevolence ($F(4, 101) = 1.22$, $p = .309$), and integrity ($F(4, 101) = 0.61$, $p = .659$). Also the second hypothesis needed to be clearly rejected: The perceived trustworthiness of the athlete reached comparable values for all dissemination channels. Therefore, the application of Twitter was not particularly beneficial. As in the study on Evi Sachenbacher-Stehle and the study on the impact of different crisis communication strategies, the athlete's ability was evaluated best of all antecedents of trustworthiness ($M = 3.89$, $SD = 0.47$), whereas the athlete's integrity was rated the lowest ($M = 3.22$, $SD = 0.62$).

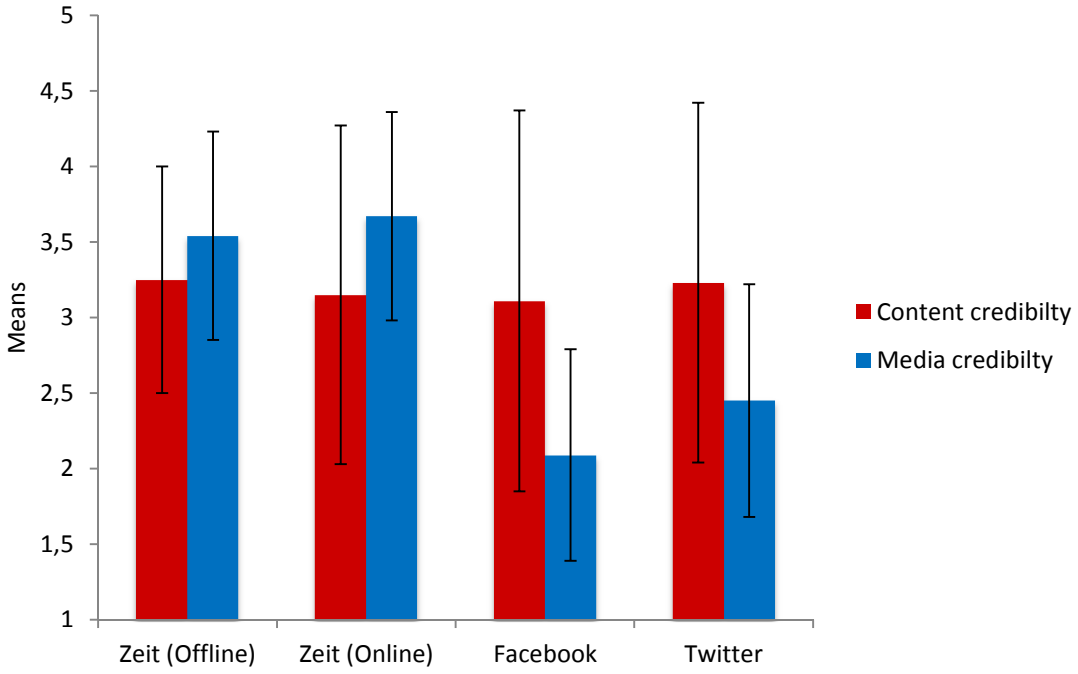

Figure 9: Evaluation of content and media credibility of the four dissemination channels (standard deviations displayed as error bars).

The credibility analysis comprised two independent calculations: one analysis concerning the content credibility and one analysis concerning the media credibility. In relation to the content credibility, the univariate ANOVA revealed that the participants evaluated the content independent of the dissemination channel ($F(3, 91) = 0.07$, $p = .978$). In contrast to these results, a significant difference could be shown for the evaluated credibility of the medium ($F(3, 91) = 30.66$, $p < .001$, $\eta_p^2 = .50$) with a large effect size according to Cohen (1988). Both social media were perceived as less credible than newspaper sources, whereas no differences could be found within the media types. Thus, the offline newspaper ($M = 3.54$, $SD = 0.69$) was rated as more credible than Twitter ($M = 2.45$, $SD = 0.77$, $p < .001$, $d = 1.51$) and Facebook ($M = 2.09$, $SD = 0.70$, $p < .001$, $d = 2.12$). The same pattern of results could be shown for the online newspaper ($M = 3.67$, $SD = 0.69$), which was also rated as more credible than Twitter ($p < .001$, $d = 1.71$) and Facebook ($p < .001$, $d = 2.31$).

Additionally, these results reveal that content credibility and media credibility need to be distinguished, which becomes obvious with a view to the results and which is also indicated by a product-moment correlation, as no significant relation between these two constructs could be found ($r = .10$, $p = .347$). Thus, the third hypothesis was partly confirmed. The first part (a) of the hypothesis needed to be rejected, as the offline newspaper was not significantly superior concerning the evaluation of content credibility. The second part (b) of the hypothesis could be partly confirmed. Although the perception of an offline newspaper did not lead to the comparably best evaluation of media credibility, both newspaper (offline and online) were superior to social media sources concerning their media credibility.

Further calculations supported the idea of regarding trustworthiness and reputation as two independent constructs, suggested by a low correlation ($r = .26$, $p = .007$). This result is in line with the assumptions concerning the research model (see chapter 3.6). However, the low reliability of the reputation scale has to be kept in mind concerning this finding.

10.2.5 Discussion

The dissemination channel has no impact on the perceived reputation or trustworthiness of an athlete, who defends himself against allegations of doping. Thus, none of the channels was especially beneficial. Neither the assumption of Schultz et al. (2011) that the medium had more influence on the evaluation of one's reputation than the message in case of a crisis, nor a benefit of self-generated web content (Conway et al., 2007; Taylor & Kent, 2007; Veil et al., 2011) could be shown in the data. And also in general, the crisis communication by itself had no impact, if the comparison to the control group is regarded. Thus, neither the defense statement, nor the dissemination channel had any influence on the evaluation of the athlete concerning reputation and trustworthiness. Potential reasons for this result could be that the strategies which were chosen did not have any impact on the perception. Although the strategy was deduced from defense statements of real doping cases, it is related to the lesser successful attacking the accuser statement in chapter 10.1, in which the NADA was blamed for the positive test. As the study does not include a pre- and post-comparison, one can only speculate on this issue.

Another factor which might have influenced the results is the fact, that the impression of a parasocial interaction via social media is limited by the fact, that the study is based on a fictitious athlete, although the case vignette seemed to function as it enabled a differentiated evaluation of trustworthiness. In case of a real athlete who applies social media regularly and has a social support network of fans and interested recipients, the results might differ. But also in reality, only a few people follow a specific athlete in relation to the general public and therefore only a small amount of people might have the impression of a parasocial interaction to an athlete. Thus, this study is an important hint, how the general public perceives doping cases via different dissemination channels. Until now, one can conclude that the dissemination channel is no important factor for athletes to present their defense statement.

Although the crisis communication did not evoke any differences concerning the athlete's trustworthiness and reputation, and also evoked no differences concerning the perceived credibility of the statement, it becomes obvious that the participants made clear differences in the evaluation of the dissemination channel. Agreeing with Flanagin and Metzger (2007), the present study showed clearly that newspaper sources are regarded as more credible than social media sources. But this study was not able to replicate the differentiation between offline and online newspapers, which suggested that offline media were perceived as more credible than online newspapers (e.g., Schmierbach & Oeldorf-Hirsch, 2012). In this study the online newspaper was evaluated as most credible source, but this evaluation did not differ significantly from the perception of the offline newspaper. The results concerning the media credibility might be influenced and maybe biased by the fact that a German newspaper with a high renown and an independent online version was chosen. The high renown of the offline newspaper might make it easier for the online version to profit from the standing of the offline version, which could explain the high ratings. The not existing differentiation concerning the content credibility is surprising in so far, as Sundar (1998) was able to show that the perception of credibility could be enhanced, if direct quotes were integrated in the text. As this was the case in both newspaper articles, the result supports the impression that the crisis communication statement might have been less convincing.

As obvious in the assessment of the credibility via a single- and a two-item measure, this study faces a few limitations which give important hints for improvements in further studies. The items to assess the athlete's reputation showed a questionable reliability. Although the results of the present study are in line with previous studies which applied more reliable scales to assess the perceived reputation, these findings are an important hint, which items showed weaknesses and should be excluded from further reputation assessments. The low correlation between the two scales to assess trustworthiness and reputation indicates both, that these two constructs need to be distinguished and that the comparable lower correlation was caused by the weak reliability of the reputation items. However, the results concerning reputation and credibility should be interpreted with caution.

Furthermore, the established control group controlled actually for two variables: the dissemination channel and the statement. This leads to the limitation that no clear assignment

to the assumed underlying reason is possible. Thus, it is not clear deducible, whether missing differences between the experimental conditions and the control group were caused by the missing media channel or the missing defense statement. An exclusive control condition for the media channel would have been difficult to implement, as it would have made the whole experimental design even more fictitious if only a text was presented to the participants. The stimulus material was thus regarded as an indispensable factor to make this fictitious setting appear more realistic to the participant. Despite this limitation, the interpretation of the results concerning the experimental conditions clearly indicated that the media channel had no impact on the evaluation.

Regardless of these limitations, this study provides important support for the requirement that different kinds of credibility need to be distinguished. It gets obvious, that participants clearly differentiated between the credibility of a medium and content. Concerning the media credibility, traditional media are still superior to social media,

Although the study led to important insights, the high rate of failures is striking. Especially in the offline newspaper condition, but also in the online newspaper condition, a considerable number of participants were not able to remember or recognize the medium correctly, although they read a short information about the medium applied in their condition and although all conditions were designed via the image-editing software Photoshop to make them appear as realistic as possible. Maybe the offline newspaper article presented in an online experiment was confusing for some participants, despite the information text they read beforehand. Also in the Twitter condition, a considerable amount of participants (27.0%, n = 10) indicated that they saw a Facebook post. A potential reason might be that many German users are not that familiar with Twitter than Americans for example, for whom Twitter is a more common channel. The probability that they chose the social media channel they know might be enhanced in this case. The approach chosen to deal with participants who failed the manipulation check was conservative as only those participants were included in further analysis who remembered the medium correctly. It was thus ensured to minimize error influences. If social media and newspapers were taken as two groups, a majority of participants were clear about whether they saw a newspaper or social media channel (81.9%, n = 118). All in all, one can conclude that the dissemination channel in itself has no impact on the effect of an athlete's crisis communication against allegations of doping.

10.3 Impact of the doping prevalence of a type of sport

Due to news on doping cases or discussions, recipients get an impression which type of sport is more doping polluted than others. As known from cycling, a high doping prevalence might urge athletes to apply doping substances as well (United States Anti-Doping Agency, 2012), but it is yet unknown which influence the doping level has on the public perception of athletes. Therefore, this study focusses on the potential impact of the doping prevalence of a type of sport on the efficacy of an athlete crisis communication.

10.3.1 Study-specific background

The prevalence of doping can only be estimated as there is a lack of valid measures and as a self-reported confession of doping is due to social desirability seldom and appears mostly in the context, when an athlete was tested positive and the evidence is too obvious to argue other reasons (Gucciardi et al., 2010; Petróczi & Naughton, 2011; Petróczi & Nepusz, 2011). Current statistics vary from about 1.3% doping cases based on laboratory findings of the WADA (World Anti-Doping Agency, 2014a) to 34.9% (Pitsch & Emrich, 2012) as upper limit expected via randomized-response technique. More precise information can be specified concerning gender effects, indicating that male athletes are more likely to dope than females (e.g., Alaranta et al., 2006; Backhouse et al., 2007; Laure, Lecerf, Friser, & Binsinger, 2004). Altogether one can assume that within the level of high-performance athletes, athletes regard themselves as an in-group with potentially own standards and a need to belong for athletes who strive to establish themselves in this group (Baumeister & Leary, 1995). Statements of Lance Armstrong (Macur, 2014) or Tyler Hamilton (Hamilton & Coyle, 2013) indicate that this perception is central at least in the context of professional cycling. According to the false consensus effect, athletes who apply doping substances themselves tend to overestimate the doping prevalence within their sports (e.g., Petróczi et al., 2008; Uvasczek et al., 2011). But also in general, athletes perceive doping as a widespread problem (Lazuras et al., 2010). From a sports recipient's point of view, it is still unknown, if sports or athletes are perceived differently depending on the doping prevalence of the respective type of sport and if the prevalence is a factor which has an impact on an athlete's crisis communication. Thus, it is unknown whether it is easier to rehabilitate for athletes who participate in sports with a low doping prevalence than for those who compete in an area with a high prevalence.

The motives for athletes to dope lie inside and outside the athlete, varying from improving performance, coping with injuries and pain, or handling of social pressure to achieve financial gain (Ehrnborg & Rosén, 2009; Scarpino et al., 1990). The theory of planned behavior (Ajzen, 1991) can function as an explanatory model for doping use from an inner-athlete perspective to explain an athlete's motives (Lucidi et al., 2008), like a strong belief that the use of doping is justifiable (as an indicator for the attitude towards the behavior), that significant others would endorse doping (as an indicator for the subjective norm), and the impression that there are not enough resources to cope with pressure from outside (as an indicator for the perceived behavioral control). The athletes view on doping depends on the structure within the type of sport he or she participates in, which is called the athlete's micro-social environment: If doping is tolerated and common in the type of sport, athletes are more likely to develop a positive attitude towards doping themselves (Smith et al., 2010). Therefore, doping is no single choice of an independent athlete, it is imbedded in the social structure and the peer group of competitors of the type of sport the athlete participates in (Bette et al., 2012; Strulik, 2012).

One can assume that recipients are aware of the different levels of doping prevalences and that some types of sports are more doping polluted than others. One typical winter sport

with a comparably high doping prevalence is cross-country skiing (Stray-Gundersen et al., 2003), whereas other sports like luge face a lower doping prevalence (WADA, 2014b). However, it is still unknown how this system component influences the perception of athletes, especially if they face doping allegations.

10.3.2 Specific research question and hypotheses

According to the theory of planned behavior (Ajzen, 1991), athletes of different types of sports differ concerning their perception of how doping polluted their type of sport is and additionally they even tend to overestimate "their" doping prevalence (e.g., Uvasczek et al., 2011). Thus, one might assume that also recipients perceive types of sports differently dependent on the doping prevalence and that this perception of different amounts of positive samples could influence the evaluation of an athlete. Therefore, the following research question is deduced:

Which influence does the doping prevalence of a type of sport have on the perception of an athlete's crisis communication, in the defense against doping allegations?

As there is no research known to the author, which focused on the public perception of the doping prevalence, the following hypotheses are derived from Coombs (2006b) general understanding that a crisis history with previous comparable crisis has a negative impact on the perception:

1) The level of the doping prevalence has an impact on the effect of an athlete's crisis communication concerning the perception of the athlete's reputation: A high doping prevalence has a negative effect on the evaluation of an athlete's reputation, whereas the evaluation of the athlete's reputation is comparably better if the doping prevalence is low.

2) The level of the doping prevalence has an impact on the effect of an athlete's crisis communication concerning the perception of the athlete's trustworthiness: A high doping prevalence has a negative effect on the evaluation of an athlete's trustworthiness, whereas the evaluation of the athlete's trustworthiness is comparably better if the doping prevalence is low.

Referring to the doping adaption of the theory of planned behavior (Ajzen, 1991), athletes have a profound knowledge about the processes and how many of their competitors apply doping substances. If athletes in sports with a high doping prevalence are more motivated to apply doping substances themselves (e.g., Uvacsek, et al., 2011) also the public ascription of an athlete's motivation in the eyes of the public should differ. Thus, the third hypothesis is:

3) The level of the doping prevalence has an impact on the ascribed doping motivation of the athlete: In a type of sport with a high doping prevalence, the ascribed doping motivation is the highest, whereas in a type of sport with a low doping prevalence, the ascribed doping motivation is the lowest.

10.3.3 Method

In a 3 x 1 between-subject online experiment, the impact of a low, medium, and high doping prevalence on the perception of an athlete were examined. As in the previous online studies, data were collected by applying the software Unipark (Questback). The participants were distributed randomly to the three conditions, namely cross-country skiing, bobsleigh, and luge.

The questionnaire started with a guess: The participants had to estimate how high the doping prevalence in the type of sport in their condition was in relation to the types of sports in the other conditions, by indicating whether it was high, medium or low. According to data of the WADA (2014b) and Stray-Gundersen et al. (2003), cross-country skiing was chosen as a sport with a comparably high doping prevalence, bobsleigh with a medium, and luge with a comparably low doping prevalence. After guessing, the participants received a solving which was labeled as a memo of the NADA. This memo contained the real doping prevalence of each condition to ensure that all participants had the same knowledge base and were certain about the doping prevalence in their condition. Afterwards, the participants received a case vignette of a fictitious female German athlete (Anna Fritzenberg). The cover story was identical and differed solely in the type of sport the athlete competes in. Again, a short profile with some key facts as successes, the athlete's preference for social media to stay in contact with fans, and for the first time a photograph of a recognizable female person were presented to make the athlete appear as realistic as possible. The picture contained a morphed person and showed an average attractive woman, based on calculations of attractiveness ratings of real women (origin of the picture: Braun, Gründl, Marberger, & Scherber, 2001). As the previous study indicated that newspapers were perceived as more credible in comparison to social media, a newspaper article was presented which contained information on the doping allegations concerning the athlete and a potential two year ban. After this section, a Facebook post followed which comprised a justification of the athlete, indicating that the alleged enhanced hematocrit was due a birth abnormality (figure 10, on the following page). Justification was chosen as a defense, as it appeared to be the most successful crisis communication strategy in these doping settings. After the crisis communication, a questionnaire section followed including the dependent measures to assess the perceived trustworthiness, reputation, and motivation of the athlete. Additionally, the propensity to trust and the doping attitudes were assessed as control variables. The questionnaire ended with a request for demographic data and an extensive clarification.

As independent variables the three winter sports cross-country skiing (comparably high doping prevalence), bobsleigh (comparably medium doping prevalence) and luge (comparably low doping prevalence) were selected. Despite the great differences concerning the prevalence rate, the application of doping to gain a competitive advantage makes sense in all of these sports.

Figure 10: Defense statement presented as Facebook post to examine the impact of the doping prevalence of a type of sport on the perception of the athlete.

Like in the previous studies, the dependent variables to assess trustworthiness, reputation, and motivation were measured on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The questionnaire to assess trustworthiness in sports (Dreiskämper et al., in prep.) received a Cronbach's α = .88 for the overall measure of trustworthiness and satisfying reliabilities for the subscales (ability: α = .78, benevolence: α = .80, integrity: α = .82). The scale to measure the perceived reputation consisted of eight items and showed a reliability of α = .91 (the concrete items are presented in chapter 10.4). To assess the perceived motivation of the athlete to apply doping substances, two scales were constructed for this study, due to a lack of existing measures in this field of research. The first measurement was a single item. The participants were asked to assume what the athlete could have led to apply doping. Three options were offered on a nominal scale: The athlete has a positive attitude towards doping substances (as indicator for the attitude towards doping), the athlete perceives pressure to dope because her competitors dope as well (as indicator for the subjective norm), and that the athlete has the perception that she cannot be detected due to the small amount of doping tests (as indicator for the perceived behavioral control). The selection of multiple options was possible here. The second measure to assess the perceived motivation of the athlete to apply doping was derived from the theory of planned behavior (Ajzen, 1991) and its implementations in the context of doping (Lazuras et al., 2010; Lucidi et al., 2004; Lucidi et al., 2008). The items were presented on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), whereby the means were analyzed and compared. The overall measure consisted of 12 items: Three items to assess the attitude towards doping (exemplified item: "Anna Fritzenberg's competitors have a predominantly positive attitude towards doping substances to enhance the performance." [translated from the German]), four items to measure the subjective norm (exemplified item: "The pressure to enhance the own performance with doping substances seems to me particularly high in Anna Fritzenberg's discipline." [translated

from the German]), and five items to evaluate the perceived behavioral control (exemplified item: "In Anna Fritzenberg's discipline, many competitors appear to have the impression that they are not able to withstand the pressure from outside without doping." [translated from the German]). Before the reliabilities of the scales were specified and the third hypothesis was tested, the assumptions concerning this scale were analyzed in a principal component analysis (PCA) in the result section.

As in the previous studies in this chapter, the data were controlled for the participant's propensity to trust based on Costa and McCrae's NEO Personality Inventory Revised (Ostendorf & Angleitner, 2004) (Cronbach's α = .75) and for the attitudes towards doping based on the adapted short version of the PEAS (Vargo et al., 2015) including the alteration with a positive wording for the first item (Cronbach's α = .74). The calculation of two independent ANOVAs revealed that the participants in the three conditions did neither differ concerning their propensity to trust ($F(2, 92) = 0.77$, $p = .468$) nor concerning their doping attitudes ($F(2, 92) = 2.35$, $p = .101$). Also in the present study, the participants showed a rather negative attitude towards the application of doping ($M = 15.02$, $SD = 5.81$). As the control variables showed no significant differences between the conditions, potential differences in the subsequent statistical analysis should be based on the different prevalence rates.

Altogether 95 participants (50.5% male, 49.5% female) with a mean age of 24.25 years ($SD = 6.44$) took part and were randomly distributed to the conditions cross-country skiing, bobsleigh, or luge. The majority of participants were students (82.1%, $n = 78$), followed by employees (10.5%, $n = 10$).

10.3.4 Results

As in the previous subchapters, the hypotheses were tested via univariate ANOVAs by applying the statistic program IBM SPSS, version 22. And also in the present study, the Levene's test indicated homogeneity of variances in all ANOVAs. In case of a significant F-test, Hochberg's GT2 post-hoc procedure was chosen to specify differences due to the unequal sample sizes in the conditions (cross-country skiing: $n = 35$; bobsleigh: $n = 27$; luge: $n = 33$). Forty participants responded correctly to the initial question to estimate the doping prevalence in their condition in relation to the other two types of sport. They were thus regarded as a specific group in addition to the analysis concerning the whole sample.

The calculations concerning the reputation revealed that the doping prevalence had no impact on the participants rating of the athlete's reputation, neither for the whole sample ($F(2, 92) = 0.70$, $p = 497$), nor for the subsample of those participants who chose the right estimation option for the prevalence in their condition ($F(2, 37) = 0.62$, $p = .541$). Thus, the first hypothesis had to be rejected: The doping prevalence had no impact on the evaluation of the athlete's reputation.

Referring to the perceived trustworthiness, no differences could be found between the three prevalence conditions, neither for the overall trustworthiness ($F(2, 92) = 1.19$, $p = .310$),

nor for the ability subscale ($F(2, 92) = 0.31$, $p = .736$), nor for the benevolence subscale ($F(2, 92) = 1.61$, $p = .205$), and nor for the integrity subscale ($F(2, 92) = 0.88$, $p = .420$). If solely those participants were integrated in the calculations, who chose the right estimation option for the prevalence in their condition ($n = 40$), the same analyses indicated significant differences (figure 11).

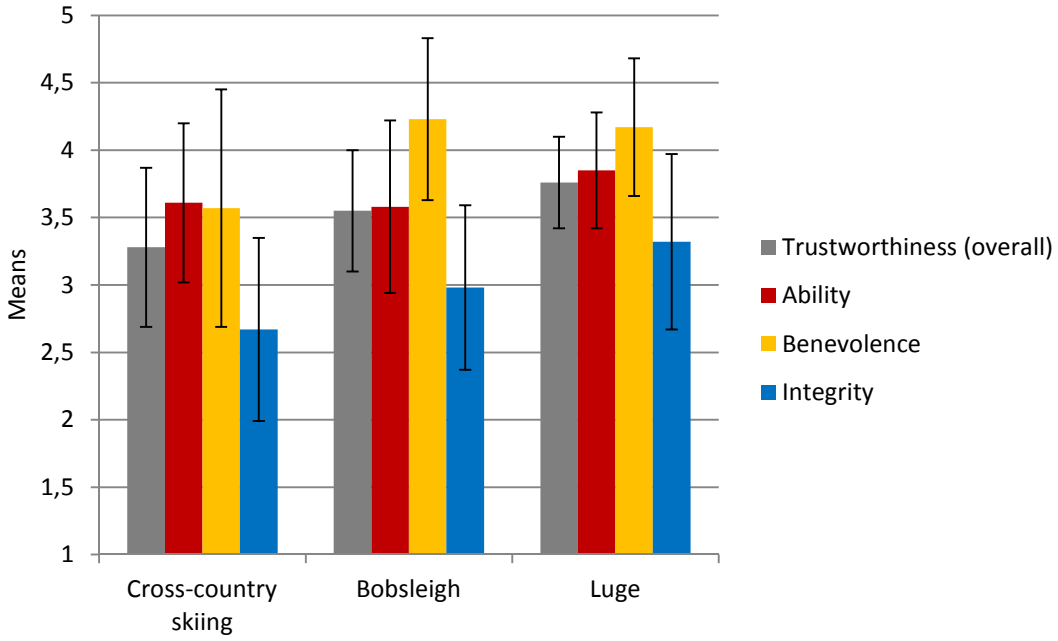

Figure 11: Evaluation of the athlete's trustworthiness depending on the doping prevalence for the subsample of those participants who inititally chose the correct option to estimate the prevalence in their condition ($n = 40$, standard deviations displayed as error bars).

A significant difference could be shown for the overall perception of the athlete's trustworthiness ($F(2, 37) = 3.24$, $p = .050$, $\eta_p^2 = .15$) with a large effect size based on Cohen (1988). In accordance with the second hypothesis, participants of the luge condition rated the athlete as more trustworthy ($M = 3.76$, $SD = 0.34$) than participants of the cross-country skiing condition ($M = 3.28$, $SD = 0.59$, $p = .047$ $d = 1.01$). The trustworthiness rating for the bobsleigh athlete lay in between ($M = 3.55$, $SD = 0.45$) and differed neither significantly from the luge, nor from the cross-country skiing condition.

Having a closer look at the antecedents of trustworthiness for the subsample, it got obvious that the participants did not differ in relation to the ability evaluation of the athlete ($F(2, 37) = 0.84$, $p = .438$), but did evaluate the athlete's benevolence ($F(2, 37) = 3.88$, $p = .029$, $\eta_p^2 = .17$) and the athlete's integrity differently ($F(2, 37) = 3.34$, $p = .046$, $\eta_p^2 = .15$). Both effect sizes exceeded Cohen's (1988) convention for a large effect. Concerning the

benevolence evaluation, the bobber was evaluated as most benevolent (M = 4.23, SD = 0.60) and differed from the lowest evaluation of the cross-country skiing athlete (M = 3.57, SD = 0.88, p = .048, d = 0.90). In contrast to that, concerning the integrity evaluation, the luge athlete gained the best rating (M = 3.32, SD = 0.65) and differed significantly from the evaluation of the cross-country skier (M = 2.67, SD = 0.68, p = .041, d = 1.01). Thus, the second hypothesis needs to be rejected for the whole sample: The doping prevalence had no significant impact on the evaluation of an athlete's trustworthiness in general. If solely those participants were considered in the calculations who initially chose the correct option to estimate the doping prevalence in their condition, the second hypotheses could be partly confirmed. Consistent with the hypothesis, the expected picture with the best evaluation in the condition with the lowest doping prevalence and the worst evaluation in the condition with the comparably highest doping prevalence could be shown for the overall trustworthiness evaluation and the integrity subscale. In case of benevolence, the condition with the medium doping prevalence was superior. No differences could be shown for the evaluation of the athlete's ability which is consistent with previous studies.

To analyze the ascribed doping motivation, two measures were applied. The single item measure, which evaluated the doping motivation in a nominally scaled manner, indicated that a majority of the participants (66.3%, n = 63) chose one single factor to speculate about the underlying reasons for doping. Mostly the subjective norm (49.5%, n = 47) or a combination of subjective norm and the perceived behavioral control (26.3%, n = 25) were chosen. Only a few participants (4.2%, n = 4) indicated that solely the athlete's positive attitude towards doping substances was to quote as a reason. A univariate ANOVA on the amount of reasons named dependent on the condition revealed no significant differences between the conditions (F(2, 92) = 0.92, p = .402). Thus, the amount of assumed reasons for applying doping named in the cross-country skiing condition did not exceed the amount of reasons named in the luge condition.

To further evaluate the doping motivation, the second measure concerning the perceived overall motivation and the three initially assumed subscales to assess the attitude, the subjective norm, and the perceived behavioral control were analyzed. First of all, to examine the hypothesized model of motivation, item intercorrelations were calculated based on Pearson product-moment correlation, which ranged from r = .01 to r = .69. As one item did not correlate considerably with all other items of the measure, it was excluded from further calculations. For further specifity, a PCA on the remaining eleven motivation items with promax rotation was conducted (KMO = .88, Bartlett's test of sphericity: χ^2(55) = 467.51, p < .001). Promax was chosen as rotation procedure as the theory of planned behavior assumes an overall factor of intention leading to a behavior. Considering Kaiser's criterion (eigenvalue > 1) and the scree plot, the analysis indicated a two factor solution, which explained 58.3% of total variance. The analysis contradicted the former assumption of three separable subdimensions of perceived doping motivation, but led two an interpretable solution of an attitude factor and a combined subjective norm/perceived behavioral control factor which reflects external influences by third parties or the sports system. The factor loadings for

this solution varied from λ = .35 to .68 and both factors were highly correlative (Pearson product-moment correlation: r = .65, p < .001). According to this PCA solution, a reliability of Cronbach's α = .88 for the overall motivation resulted. The two subdimensions gained the following reliability values: α = .65 for the attitude towards doping and α = .87 for the combined scale consisting of subjective norm and perceived behavioral control.

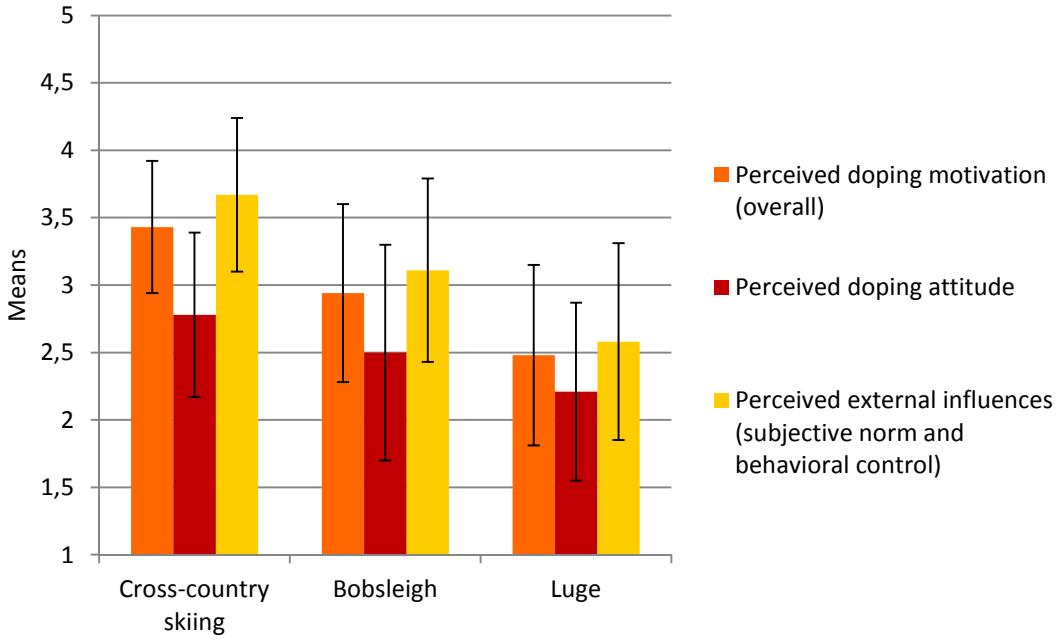

Figure 12: Ascribed doping motivation to the athlete, depending on the prevalence rate (standard deviations displayed as error bars).

As figure 12 indicates, the perceived overall motivation showed clearly (F(2, 92) = 20.67, p < .001, η_p^2 = .31) and with a large effect size according to Cohen (1988) that participants perceived the cross-country skier (M = 3.43, SD = 0.49) as more motivated to apply doping than the luge athlete (M = 2.48, SD = 0.67, p < .001 , d = 1.62), and the bobber (M = 2.94, SD = 0.66, p = .007, d = 0.87). But also the bobber was perceived as more motivated to dope in general than the luge athlete (p = .012, d = 0.69). Concerning the perceived attitude of the athlete to apply doping substances, the participants also differed dependent on the condition (F(2, 92) = 5.83, p = .004, η_p^2 = .11). The cross-country skier gained a higher level of ascribed attitude (M = 2.78, SD = 0.61) than the luge athlete (M = 2.21, SD = 0.66, p = .003, d = 0.91). Concerning the perceived external influences (subjective norm + perceived behavioral control), the participants differentiated also dependent on the condition (F(2, 92) = 23.24, p < .001, η_p^2 = .34), again with a large effect size (Cohen, 1988). The combined subdimension of subjective norm and perceived behavioral control was rated highest for the cross-country skier (M = 3.67, SD = 0.57) and significantly higher in

comparison to the luge athlete (M = 2.58, SD = 0.73, $p < .001$, d = 1.70) and the bobber (M = 3.11, SD = 0.68, p = .004, d = 0.92). But also the bobber and the luge athlete differed in the perception concerning perceived external influences significantly (p = .007, d = 0.76). Generally, the same pattern of results could be shown for the subsample of participants who guessed the prevalence correctly. Thus, the third hypothesis needed to be rejected for the nominal measure: The number of reasons assumed did not differ between the three prevalence conditions. Otherwise, the third hypothesis could be confirmed for the newly developed measure: The ascribed doping motivation was the highest in the condition with the comparably highest prevalence. And on the other side, the assumed doping motivation was rated the lowest in the type of sport with the comparably lowest prevalence. It should be mentioned that the perception of external influences was superior to the ascription of a positive doping attitude of the athlete.

Further calculations focused on the one hand on the relation between trustworthiness and reputation, and on the other hand on the subsample of those participants who chose the right option to estimate the doping prevalence. Based on the overall sample (n = 95), trustworthiness and reputation were highly correlative (Pearson product-moment correlation: r = .67, $p < .001$). In line with the other studies, the result revealed that both scales need to be analyzed separately. Focusing on the smaller subsample and in order to gain an indicator for what makes this group so special in comparison to those participants whose initial estimation of prevalence was wrong, several univariate ANOVAs on these two groups as independent variables were calculated. As dependent measure all scales and items like demographic data and interest in sports were included, but none of these analyses showed any significant differences between these two groups.

10.3.5 Discussion

Whereas athletes consider their peer group of other athletes in evaluating the application of doping substances and thus might be influenced by the doping prevalence in their type of sport, the doping prevalence has no influence on the general public evaluation of an athlete's trustworthiness and reputation in the context of doping. Although athletes tend to overestimate the doping prevalence of their type of sport (Uvacsek et al., 2011) and athletes of sports with a high doping prevalence tend to justify their behavior internally by emphasizing how common doping use is (e.g., Macur, 2014), recipients in general to not differentiate whether the athlete competes in a type of sport with a high or with a low doping prevalence.

One exception is the subsample of those participants who initially chose the correct option to estimate the doping prevalence in their condition before starting with the manipulated parts of the study. This subsample did not differ in evaluating the athlete's reputation dependent on the prevalence condition, but differed concerning the evaluation of trustworthiness. Mostly in accordance with the second hypothesis, the cross-country skier was perceived the least trustworthy, benevolent and lacked of integrity. Only the ability rating showed no differences between the conditions, indicating that the recipients did not doubt the skills of an athlete in case of doping. This result is in line with the ability evaluations of the

other vignette studies and the Evi Sachenbacher-Stehle case. However, it remains the question what makes this subsample so special? Further calculations comparing the groups of participants who guessed correctly und those who did not guess correctly revealed that these two groups differed in none of the variables evaluated significantly. One might assume that those who guessed correctly represent a group of people who are especially interested in sports, but also concerning this variable, no differences could be found. Therefore, one can only speculate about the reasons for this difference. One potential explanation could be that those participants who guessed correctly felt rewarded by the clarification that their guess was right. Thus, the NADA memo might be more present in their minds and could act as a prime which influenced at least the ratings of trustworthiness which was evaluated prior to the reputation. Otherwise, it could be possible that the differences were incidental findings. However, the results need to be interpreted with caution.

Like the other two studies in this chapter, the present study indicates that trustworthiness and reputation are highly correlative, but two constructs that need to be differentiated. The applied set of items which are assumed to measure reputation gained the best reliability of all previous studies. Therefore, it is a good basis to test the model assumptions in a CFA. The results of this analysis are presented in the subsequent chapter 10.4.

Especially the ascribed doping motivation is influenced by the doping prevalence of the type of sport. Although no difference could be found for the number of reasons assumed via the first item to assess the doping motivation, the participants differentiated clearly in the strength of the ascribed doping motivation via the newly developed measure: The athlete in the type of sport with a high doping prevalence was also evaluated to have a stronger motivation to apply doping substances and to have more pressure from external factors, than the athlete who competes in a sport with a lower prevalence. Therefore, it is to assume that people differ in how they evaluate an athlete concerning key characteristic which matter in the recipient-athlete relation like trustworthiness and reputation, and those variables which concern solely the athlete like assumed factors which influence his or her decision making.

Although the doping prevalence is a factor that influences the handling of high-performance sports, like the termination of live broadcasting in Germany as consequence of the high amount of doping cases during the Tour de France (Solberg et al., 2010), there is no research known to the author that focused on the perception of athletes who compete in doping polluted sports. According to the existing research on doping, it is unknown, if the doping prevalence influences the perception of sports and athletes. Based on these data, the assumed bad light that a high amount of doping cases sheds on a sport and which might lead to a loss of interest of recipients or a termination of sponsorship agreements and has therefore far-reaching consequences cannot be found in relation to the recipient's evaluation of an athlete's trustworthiness and reputation.

The present study contains also some weaknesses that need to be mentioned. One limitation is the scale to assess the ascribed doping motivation as it is a non-validated

instrument with partly weak factor loadings. Although the items were deduced from the theory of planned behavior (Ajzen, 1991), a theoretical framework which was applied successfully in the context of doping (Ntoumanis et al., 2014), the assumed factor structure cannot be found in the data. Although a two factor solution resulted, instead of the intended three factor structure, this solution leads to an interpretable framework. Only the assessment of the ascribed doping attitude of the athlete showed weaknesses concerning the reliability, but altogether, these items could be a promising basis to deduce an instrument to explore the doping motivation from an external point of view. But as these items were an initial approach to ascribe the doping motivation without validation, the results need to be interpreted with caution.

A strength of this study is the incorporation of knowledge from the previous two studies, to enhance the quality of the experimental design. This gets obvious in the consideration of previous results and in the scales to measure the athlete's reputation and to measure doping attitudes from a public point of view. Furthermore, it could be shown again, that the utilization of a case vignette to measure trustworthiness and reputation succeeded as it led to a differentiated evaluation. The utilization of a recognizable picture of a woman ensures that the potential perception of a parasocial interaction was enhanced in relation to the previous two studies, in which the athlete's face was not recognizable, and that no real person was wrongfully alleged of doping. As the morphed picture from this woman is derived from a study on attractiveness, it was ensured that most participants would react positively on this picture which should further increase relationship building.

10.4 Specification of applied measures

The previous studies indicated that especially two scales need further improvement and development: The items to measure a person's reputation and the short version of the PEAS (Vargo et al., 2015) to measure doping attitudes from a general public's point of view are thus further processed to enhance their significance. As the approach to develop a reputation instrument is more exploratory, although the items are theoretically deduced, a PCA is calculated to understand the underlying structure and to improve the scale for further steps. Concerning the short version of the PEAS, the current data are more advanced and it is intended to measure a general factor of attitudes towards doping. Although the original version of the scale was validated for athletes, whereas the present studies focus on another target group, namely the general public and the attitudes of people who are interested in sports, it is assumed that a comparable underlying structure should exist. Therefore, existing data are analyzed via CFA to prove whether these assumptions agree with the experimental data.

10.4.1 Development of a scale to assess a person's reputation

As the definitions of trustworthiness and reputation are closely connected, this research project aims to measure a construct which is distinguishable from trustworthiness. Thus, it is intended to identify a short scale which measures reputation with a closer look at

the expressive part of reputation, as this part is not included in the understanding of trustworthiness. Previous approaches within this research project to assess the reputation of an athlete indicated that the strongest measure was applied in chapter 10.3 and gained a high reliability of Cronbach's $\alpha = .91$. Thus, this approach consisting of eight items was chosen for further analyses (see table 12).

Table 12: Preliminary items (translated from the German) and intercorrelations to measure an athlete's reputation.

	1	2	3	4	5	6	7	8
X has a positive outward appearance. (1)	1							
X is likeable. (2)	.742	1						
X has a good standing. (3)	.538	.543	1					
X is authentic. (4)	.541	.503	.559	1				
X conveys a good impression. (5)	.698	.724	.593	.586	1			
X tries to cheat on others.(-) (6) [exluded]	.449	.419	.265	.461	.402	1		
X is credible. (7)	.579	.564	.491	.648	.696	.632	1	
X has a high regard. (8)	.533	.464	.600	.519	.540	.409	.555	1

All correlations: $p < .001$, (-) = item reverse coded.

To examine the underlying structure of this reputation measure, Pearson product-moment correlation coefficients were calculated to specify the item intercorrelations, which ranged from $r = .27$ to $r = .74$. Thus, with one exception (item six), all items indicated considerable correlations with each other, which supports the idea of one underlying factor. As item six indicates slight weaknesses concerning the fitting to the other items and as it was intended to identify an economic reputation measure, this item was excluded from further calculations. To gain a deeper understanding of the underlying structure, a PCA was conducted on the remaining seven items (KMO = .89, Bartlett's test of sphericity: $\chi^2(21) = 384.00$, $p < .001$). The PCA indicated a one-factor solution considering the scree plot and Kaiser's criterion (eigenvalue > 1), which explained 64.3% of total variance. The factor loadings for this solution ranged from $\lambda = .55$ to .76. Therefore, a seven item scale resulted with a Cronbach's α value of .91. This scale is the basic framework to assess the athlete's reputation in the major study (chapter 11). In the subsequent chapter and in a final step, the connection of reputation and trustworthiness are calculated based on a CFA with a new sample of participants.

10.4.2 Improvement of the German short version of the PEAS

The intention to establish a short version of the PEAS scale to assess the doping attitudes of a general public leads to problems concerning its quality criteria in the German version: The second study in this chapter (10.2) revealed that the application of the original wording led to a questionable reliability of Cronbach's $\alpha = .60$ for the aforementioned target group. A crucial difference between athletes and a general public is the personal relevance of doping. Whereas athletes perceive this topic as personally relevant, the general public lacks

this aspect and it is to assume that they perceive doping from a distant, media-transmitted point of view. Of course it is debatable whether an existing measure should be altered and if an insufficient reliability justifies this step. It was shown that the reliability could be enhanced by applying a positively wording for the first item (as in the original long version of the PEAS), instead of a negative wording like in the original short version. This change leads to increased reliability values of Cronbach's α = .73 (chapter 10.1) and α = .74 (chapter 10.3). Thus, to improve the measurement of doping attitudes and to understand the underlying structure, a CFA on the two samples of 10.1 and 10.3 was conducted. Table 13 gives an overview of the item intercorrelations.

Table 13: Items and intercorrelations of the adapted version of the short PEAS with a positively worded first item.

	1	2	3	4	5	6	7	8
(1) Doping is necessary to be competitive.	1							
(2) Doping is not cheating since everyone does it.	.448**	1						
(3) Only the quality of performance should matter, not the way athletes achieve it.	.188**	.395**	1					
(4) Athletes should feel guilty about breaking the rules and taking performance-enhancing drugs. (-)	.135	.375**	.182**	1				
(5) The risks related to doping are exaggerated.	.241**	.298**	.280**	.118	1			
(6) Doping is an unavoidable part of the competitive sport.	.434**	.316**	.259**	.122	.274**	1		
(7) There is no difference between drugs, fiberglass poles, and speedy swimsuits that are all used to enhance performance.	.174*	.448**	.225**	.225**	.235**	.177*	1	
(8) Legalizing performance enhancements would not be beneficial for sports. (-)	.233**	.510**	.177*	.331**	.266**	.234**	.268**	1

** = correlation: p < .001, * = correlation p < .005, (-) = item reverse coded

The item intercorrelations of the adapted short version of the PEAS indicated primarily medium correlations. Especially the fourth item showed all in all the comparable lowest intercorrelations with the other items. Based on a content level, it is the only item which refers to moral aspects of doping, whereas the other items emphasize a functional component. Thus, this item might lead to problems concerning the quality criteria of the scale and the structure of the measure should be further examined.

The following calculations were based on the statistic program SPSS AMOS version 22 and included the data of 203 participants. To examine the underlying structure, a CFA was conducted. Table 14 sums up the results of three different models: the adapted version of the short PEAS in line with Petróczi's assumption of a general factor with eight items, the

adapted version of the short PEAS with a functional and a "moral" factor, and the adapted version of the PEAS with seven items after excluding the fourth moral item.

The results reveal difficulties in finding the optimum model fit, which was already indicated by the low level of intercorrelations (see table 13). All model solutions show considerable weaknesses, but could be regarded as widely acceptable models according to Kline (2011), apart from the fact that each solution is significant. Whereas a two factor solution would lead to the best model fit concerning the characteristic values of the CFA and referring to the explained variance, the second factor was forced to be interpreted as moral component of doping attitudes, but does not fit well under this label. The third and the eight item of this factor (in addition to the fourth item, see table 13) could be interpreted on a moral level, but indicate much more a functional component of doping. Additionally, the reliability of both factors is low and therefore this solution is refused to consider.

Table 14: Summary of three different CFA solutions concerning the adapted version of the short PEAS.

	General factor (8 items)	2 factors (8 items): functional (1,3,5,6,7) "moral" (2,4,8)	General factor (7 items)
χ^2	45.36	38,93	38,96
df	20	19	14
χ^2/df	2.27	2.05	2.78
p	.001	.005	< .001
CFI	.913	.932	.904
TLI	.878	.899	.856
RMSEA	.079	.072	.094
AIC	93.362	88,933	80.962
Explained variance (according to PCA)	36.9% (1 factor) 50.5% (2 factors)		39.6% (1 factor)
Cronbach's α	.728	.619 (functional) .640 ("moral")	.721

Both general factor solutions show advantages and disadvantages. As the eight items solution indicates slightly better, but comparable characteristic values to specify the model fit in comparison to the seven item solution, the Akaike Information Criterion (AIC) is taken as a decisive factor according to Kline (2011), if competing models are compared. The AIC is smaller for the seven item solution, indicating that the possibility to replicate this model is higher. As this solution bears the further advantage that the fourth weak moral item is deleted, it was decided to apply this further shortened seven item PEAS scale in the major study in chapter 11 to prove its quality.

10.5 General discussion of the results

Taken together, the results of the aforementioned vignette studies lead to important knowledge concerning mechanisms of action within the field of doping and enable the deduction of practical implications for athletes, their management, sponsors, but also for

recipients. The previous vignette studies lead to the conclusion that the message matters more than the medium. Recipients should be aware of the fact that they obviously prefer explanations which downplay the possibility that an athlete applied doping consciously. A preference for strategies which leave room for the recipient to perceive the athlete as innocent could be observed. Thus, they support an athlete's defense efforts in keeping his or her reputation and trustworthiness protected, maybe because of the fact that recipients are consciously or subconsciously not willing to see the extent of doping in high-performance sports. Athletes and their management should be aware of the fact that a direct apology leads to the worst evaluation of an athlete's standing. But it is to assume that in case of former assertive defenses, combined with a clear body of evidence that the athlete has doped consciously, further assertive strategies won't show a positive effect and that the effect of a subsequent apology gets much worse. On the other hand, the dissemination channel and the doping prevalence of a type of sport have no impact on the effect of an athlete's crisis communication. Besides these practical conclusions, these studies lead to implications for the planning of the major study on the effects of social swarming.

The results of the experimental studies clearly indicate that a measurement of trustworthiness and reputation based on case vignettes is possible. This assertion is in line with the appraisal of Mayer and Norman (2004), who evaluated trustworthiness based on case vignettes in an organizational setting. The application of vignettes in the context of doping bears one big advantage: Vignette studies enable the assessment of the pure impact of crisis communication without disturbing influences of positive or negative presets concerning the athlete who defends him- or herself. These presets are assumed to be especially strong, if fans or recipients who dislike an athlete are regarded for example and they might influence the impact of crisis communication. Referring again to the case of Lance Armstrong, Macur (2014) described that book publications which contained new evidence to convict the doping system of Lance Armstrong gained solely a poor sales potential in the United States, while a considerable mass of American cycling fans still defends Armstrong. According to the escalation of commitment (Staw, 1981), people enhance their commitment in times of failure to reduce cognitive dissonance. This might be a substantial factor in the consideration of doping cases. It can be assumed, that the impact of crisis communication might be biased in these perhaps emotionally laden relationships. The application of case vignettes principally circumvents these influences, although indicators for an escalation of commitment were considered in the interpretation of the results of the case vignettes. On the other hand vignette studies bear the risk of weaknesses. As Barrera et al. (2012) claim, the perception of an artificial setting, the non-consideration of confounding factors and the lack of real consequences might be disturbing. These potential weaknesses were considered and attempted to counteract by a thorough vignette construction. Thus, the names, successes, etc. were carefully developed so that no real athlete who competes in this type of sport could be wrongly connected to the fictitious doping case.

The assessment of an athlete's trustworthiness based on a case vignette appears to be successful and can be connected to the understanding of initial trust by Karimov et al. (2011):

The evaluation of trustworthiness concerning a fictitious athlete was comparable to the assessment of Evi Sachenbacher-Stehle's trustworthiness. In all cases, the antecedents of trustworthiness were evaluated in a differentiated way. Both, in case of Sachenbacher-Stehle and concerning the case vignettes in this chapter, the ability component gained the comparably highest ratings and was not affected by crisis communication. Therefore, ability seems to be a special component, which is not doubted in case of doping. As already assumed in 10.1., recipients seem to judge on a more moral level, indicated especially by a lower integrity evaluation, but also by a lower benevolence level. According to these studies, the moral component can be affected positively, if recipients accept the crisis communication strategy chosen. In contrast to an organizational setting and several studies which emphasize the beneficent impact of an apology (Claeys et al., 2010; Veil, Sellnow, et al., 2012), an apologetic defense statement seems to be the worst choice in case of doping.

The studies support the idea of an exceptional position of doping concerning the research area of crisis communication. The reasons for this exceptional position can only be assumed. It is obvious that sports is an emotional laden setting with a high societal meaning, which is not comparable to the average organizational crisis that affects in general only a small amount of stakeholders. The investment of fans and recipients who are interested in sports includes not only material goods, but also time, public support or an emotional connection for example. The disappointment in case of doping seems to lead to different mechanisms of action, which cannot be compared to an organizational setting. Although the fictitious athletes were unknown to the recipients, the introduction as a talented, domestic athlete might evoke sympathy and might be sufficient as starting point for the building of a relationship.

In accordance with Wiencierz et al. (2015), trustworthiness and reputation are assumed as two constructs which need to be separated, despite their considerable correlation. Comparing both constructs it gets obvious, that they differ in their constitution: Whereas reputation is generally either good or bad and needs a valence to be interpreted reasonably, trustworthiness can be measured and interpreted on a continuum, as some kind of perception, which does not necessarily need external critiria to be compared with. Although different items to evaluate an athlete's reputation were applied in the aforementioned studies, the general pattern of results remained. Only one exception was found: The study which focused on the impact of the dissemination channel revealed only a correlation of $r = .26$, $p = .007$. But according to the questionable reliability of the reputation measure applied in this case, this result can remain disregarded. As the PCA supported the assumption of a reputation scale consisting of one single factor, this assumption needs to be replicated and explored in a CFA by including the items of the questionnaire to assess trustworthiness in sports (Dreiskämper et al., in prep.) in the analysis.

The aforementioned vignette studies contained several strengths, like the intensive research process to ensure that the vignettes are as realistic as possible concerning age, successes, competitions sites, etc. This research process ensured that participants who

searched for the fictitious athlete in the internet won't find a real athlete named like that, or won't find a competition at the specified time. Additionally, potential doubts of fans of the type of sport applied in the studies should be circumvented by choosing typical competition sites and by claiming that the fictitious athlete is a talented newcomer. Thus, sport fans should not wonder that they had not heard the name of the athlete before.

Further strength is the gradual refinement of the scales to assess reputation and doping attitudes, which ensured that reliable scales were available for the major study in the subsequent chapter. Especially the construction of a measure to assess a person's reputation is an important step, which was necessary for this research project and which could be an enrichment for further research on the perception of public figures. Thus, two measures resulted (a completely new one to assess a person's reputation and the adapted PEAS based on Petróczi to assess doping attitudes) that must be reviewed in chapter 11.

The results of these case vignettes also enable a critical analysis of parameters of Coombs' SCCT (1995, 2007b), like the matching of crisis type and crisis communication strategy, as it is concluded from the first study in this chapter, that no ascription of a crisis type is possible if solely crises related information without any attributions of reasons are given. If this is the case and no causal reasons for the crisis got public, the concerned party might define the crisis cluster itself by choosing a crisis communication strategy. Therefore, Coombs' matching idea must be limited. In general, the application of the SCCT in the setting of sports and doping is possible. As some strategies are closely connected by their content, future studies should ensure the classification of strategies by external raters.

A clear limitation is that the evaluation of the athlete's reputation is completely based on the profile and thus very abstract. Additionally, also the athlete's gender might have an influence on the recipient's evaluation, as doping behavior might be more affiliated to male athletes (Vargo, et al., 2015). On the other hand, the application of male and female athletes in independent studies enables to cover both options without confounding effect of gender. A further limitation of the aforementioned vignette studies is the lack of a pre- and post-measurement. The implication of a control condition without crisis communication reduces the impact of this limitation as it enables a comparison of the groups with and without defense statement. However, the implementation of a pre- and post-measurement would certainly enhance the quality of results, but would be non-economic in the course of the aforementioned studies. Additionally, it might lead to a memory effect which might bias the results, as the same questionnaire would be answered twice within a short time. Therefore, the experimental designs were regarded as best option to measure the impact of crisis communication concerning doping.

11 Impact of user comments on a defense statement

The previously mentioned studies were able to demonstrate, which effect an athlete's crisis communication against doping allegations and specific surrounding factors have on the public perception. Although all of these studies focused on social media, one central feature has been neglected so far: other social media users who comment on an issue. The comment function which enables the publication of instant, uncensored, and transnational notes makes social media to an outstanding tool in comparison to traditional media. In contrast to offline newspapers, television or radio broadcasts, everybody who has access to social media is able to be heard.

If one thinks of all the different explanations for a positive doping test (a self-perpetuating collection can be found by entering the keywords 'doping' and 'defense' in a search engine), they all evoked a smaller or bigger debate, whether one could believe in the athlete or not. It is yet unknown, whether this crisis communication can be influenced by outsiders and which influence additional statements from outstanding persons have on the effect of crisis communication.

11.1 Study-specific background

Having a quick glance at Lance Armstrong's official Facebook page (see: https://www.facebook.com/lancearmstrong) makes it clear that there are disappointed former fans, but also many admirers. They all comment on Armstrong's doping past in a more or less emotionally charged manner. Social media pages are one option for athletes to present and maintain a high renown in the eyes of public by strategic self-presentation. As Bette and colleagues (2012) emphasize, a positively evaluated self-presentation supports an athlete's ambitions to run their career professionally as it ensures also financial security. This positive self-presentation could be tarnished if other social media users publicly comment on an issue on an athlete's social media page in a critical or negative manner. Especially allegations of doping seem to evoke a public debate, whose effect should be examined empirically.

Although many social media users remain passive and solely read contents without making use of the opportunity to comment on topics (Busemann & Gscheidle, 2012), athletes receive a high amount of comments on their social media pages if they defend themselves against doping allegations. Brown and Billing (2012) were able to demonstrate that also fans might become active as additional crisis communicators who publish supplementary defense statements to support the team or the athletes they favor in the efforts to rehabilitate. Although self-generated user content during a crisis is regarded as beneficial (e.g., Conway et al., 2007; Taylor & Kent, 2007; Veil et al., 2011), negative comments on these contents might cause damage. Whereas self-generated content is controllable, the author of this content has no opportunity to control the comments of other users, unless censorship is conducted and unpleasant comments are deleted. Thus, athletes have the opportunity to launch a debate via social media which might be beneficial for the athlete in case of supportive comments, but which might also cause additional damage. This is important to consider, as contents which

are disseminated via social media are able to influence opinion making (e.g., Brown et al., 2003), but also as contents via social media spread rapidly and might reach persons who were less interested in the topic so far (Champoux et al., 2012).

Although Coombs (2007b) emphasized the crucial role of the internet within the framework of the SCCT, this component did not have an impact on Coombs' construction or resulted in a revision of his theory. Indeed, the social-mediated crisis communication model (Briones et al., 2011; Jin et al., 2014) offers this supplement and names influential social media creators, passive social media followers, and social media inactives as essential and influencing user groups which might have an impact on the effect and the dissemination of crisis communication. But one component is still missing in this framework: commenting social media users in addition to the original statement which is the usual setting on social media networks. In contrast to the three groups named by the social-mediated crisis communication model, commenting social media users might have a special influence as their comment in addition to the original statement might range from support to open rejection, and thus might lead to another impact on the person who perceives this information as receiving the information from one single person as in the scope of the SCCT or the social-mediated crisis communication model.

Referring to existing research on the impact of user comments and social swarming, participating in a social media context and interacting with other users led to an influence on the own opinion and the own behavior (Kaiser et al., 2013). This is an important supplement to information processing based on mass-media (Kaiser & Kröckel, 2011). The dominance of one opinion of several users enhanced the probability that another user adopted this opinion as well, especially if the user belonged to the same peer group (e.g., Kaiser & Kröckel, 2011; Kaiser et al., 2011). Altogether, only a few influential users were necessary to influence opinion making (Watts & Dodds, 2007). But on the other hand, the presence of solely positive comments was assumed to lead to suspicion, whereas solely negative comments might lead to a positive dissociation (Kaiser & Kröckel, 2011). Wiencierz et al. (2015) were able to demonstrate that a dominance of negative user comments on a campaign led to a lower perception of an organization's trustworthiness in comparison to positive comments and a balanced mixture of positive and negative comments which did not differ. However, only a few studies focused on the impact of commenting social media users so far.

Although a majority of persons (both athletes and spectators) emphasize a predominantly negative attitude towards doping (e.g., Brand et al., 2011; Peretti-Watel et al., 2004; Stamm et al., 2014), and partly claim severe sanctions (e.g., Solberg et al., 2010; Stamm et al., 2008), the case study on Alberto Contador revealed that most user reactions on Facebook were positive and supportive. Thus, it is still unknown how existing user comments influence the perception of other users and thus, how commenting users impact the effect of crisis communication.

As the perceived trustworthiness and reputation of an athlete is jeopardized in case of doping allegations, the athlete tries to defend him- or herself and starts a process of causal

attributions according to the SCCT (Coombs, 1995, 2007b). Also Tomlinson and Mayer (2009) emphasized the role of causal attributions according to the attribution theory (Weiner, 1986) in efforts to repair trust. Thus, the locus of causality, the controllability, and the stability are evaluated by outside parties: The more the damage is attributed to be controllable, internally located and stable, the more the extent of the damage and the more likely an integrity based attribution is revealed, which should be most difficult to repair according to Tomlinson and Mayer. Although in case of doping, athletes try to have an impact on the causal attribution, no empirical research focused on this topic so far. Especially in relation to the concept of the networked athlete and the assumption that doping is no single choice of a single athlete (e.g., Pappa & Kennedy, 2012), it would be interesting to see whether recipients attribute doping also externally and not only internally referring solely to the athlete. Thus, it is unknown whether the attempts of the doping network around the athlete to remain invisible function (Bette & Schimank, 2006) and whether user comments have an impact on the recipient's causal attribution.

As demonstrated in the previous chapters and studies, most research focused on trustworthiness, whereas the trusting action was neglected. Referring to the recipient-athlete relationship, one can assume that obvious trusting actions are immaterial and financial support. A new trend in sports is that athletes try to find private sponsors who finance their expenses so that they are able to pursue their career professionally. This phenomenon is called crowd funding and thus enables recipients to actively support the athlete and to perform a trusting action. As there is no research known to the author, which focused on this phenomenon, the trusting action in terms of (financial) support should be focused as well.

11.2 Specific research question and hypotheses

Especially during crises, one feature of social media becomes particularly obvious which distinguishes social media from traditional media: the opportunity to publish instantaneous comments on an issue. Commonly, an athlete's defense statement against doping allegations via social media evokes emotionally charged debates of outside parties or fans. These comments are assumed to have an impact on the effect of an athlete's crisis communication. Thus, the following research question is deduced:

What influences have judgmental user comments on the perception of an athlete's reputation and trustworthiness if this athlete defends him- or herself against doping allegations?

Research on user comments in the internet revealed, that the perception of comments had an influence on opinion making and behavior (Kaiser et al., 2013). For the context of crises in sports, it could be shown that fans try to defend their athletes publicly in addition to the official crisis communication (Brown & Billings, 2013). Thus, commenting social media users are a new component which might influence the effect of a defense statement on the evaluation of reputation and trustworthiness, in comparison to traditional media, where public voices remain mostly unheard. Combining these results with the outcomes of the vignette

studies in the scope of this research project, reputation and trustworthiness are regarded as two related constructs. Additionally, the evaluation of an athlete's ability as one antecedent of trustworthiness should not be affected by doping allegations and thus, should not be affected by user comments. Based on these considerations, the evaluation of an athlete's ability takes a special position. Therefore, the following hypothesis is deduced.

1) Supportive user comments in addition to an athlete's defense statement against doping allegations enhance the effect of the crisis communication, regarding the evaluation of the athlete's a) reputation and b) trustworthiness (except the evaluation of ability as one antecedent of trustworthiness).

Additionally, Wiencierz et al. (2015) demonstrated that negative comments led to a comparably worse evaluation of an organization's trustworthiness. Thus, positive comments should lead to a superior evaluation in comparison to negative comments. To replicate this result of Wiencierz and colleagues in the setting of crisis communication in sports, the following hypothesis is deduced:

2) In contrast to negative and predominantly negative comments on an athlete's defense statement against doping allegations, a majority of positive user comments leads to a comparably higher evaluation of a) an athlete's reputation and b) an athlete's trustworthiness, whereby the ability rating shouldn't be affected by the comments.

Two trends could be observed in research, which are contradictory at first glance: On the one hand, the more people represented the same opinion in social networks, the more likely other people adopted this opinion (Kaiser et al., 2011). And on the other hand, solely positive comments led to suspicion whereas solely negative comments evoked a positive differentiation (Kaiser & Kröckel, 2011). Focusing especially on Kaiser and Kröckel, predominantly positive or negative comments are assumed to be superior to solely positive or negative comments:

3) Predominantly positive user comments on an athlete's defense statement against doping allegations lead to a better evaluation of a) the athlete's reputation, and b) the athlete's trustworthiness (except the ability evaluation) than solely positive comments.

4) Predominantly negative user comments on an athlete's defense statement against doping allegations lead to a worse evaluation of a) the athlete's reputation, and b) the athlete's trustworthiness (except the ability evaluation) than solely negative comments.

To understand the public perception of doping in a broad and interdisciplinary way, it is important to integrate the sociological perspective. This encompasses especially the evaluation of causal attributions. Due to a lack of research concerning the causal attribution in case of crisis communication and doping, related research referring to the sociological perspective of doping have to be considered. Although mostly whole teams of support staff are involved in a doping case, and not solely one single athlete (Hamilton & Coyle, 2013; Pappa & Kennedy, 2012), the media focus primarily on the athlete alone (Bette et al., 2012), sometimes without calling the athlete's background in question, which remains invisible then.

Altogether, it should be difficult for the media to gather information on an athlete who is suspected of doping as it is most likely that the athlete or the athlete's support team remain quite to curb the extent of the crisis. Thus, if recipients evaluate a potential doping case, all information given should have an influence on the ascription of causal factors even if these information are judgmental user comments. The more negative comments are available, the more likely an integrity based attribution should be which can be regarded as the worst case for an athlete. Based on these preliminary considerations, the following hypothesis is deduced:

5) Negative comments on an athlete's defense statement against doping allegations lead to worse causal attributions: They lead a) to a higher rating concerning the locus of causality, b) to a higher rating concerning the stability, c) to a lower rating concerning the external control, and d) the a higher rating concerning the personal control, than positive comments.

The trusting behavior, as a consequence of the evaluation of an athlete's trustworthiness, should also be focused in an exploratory way. Thus, the recipient's willingness to show a personal investment in terms of immaterial or financial support is focused. This personal investment and the own vulnerability is assumed to be even higher, if the recipient recommends the support of the athlete to third parties. Otherwise, positive comments should enhance the willingness to engage in support. Thus, the following assumption is derived, also based on the aforementioned hypotheses:

6) Positive comments lead to an enhanced willingness to support the athlete immaterially and financially.

Finally, this study aims to gain a deeper understanding of the applied constructs like the public attitudes towards doping and the connection between trustworthiness and reputation. First, it aims to support the general assumption of trustworthiness and reputation as two distinguishable constructs. Based on the previous vignette studies, a strong measure to assess a person's reputation should be developed. Thus, the assumed underlying structure of reputation and trustworthiness is proven with a CFA. Second, as a result of two aforementioned vignette studies, the short version of the PEAS was additionally reduced to seven items which should represent one factor. Therefore, this study also aims to confirm this step to recommend a revision of the doping attitude scale for the target group of sports interested recipients.

11.3 Method

The online experiment applied a 6 x 1 between-subject design to examine the impact of different judgmental user comments, namely solely positive comments, predominantly positive comments, a balanced mixture of positive and negative comments, predominantly negative comments, solely negative comments, and a control group without any user comments on the impact of an athlete's defense statement against allegations of doping. As in the previous studies, this experiment made use of the software Unipark (Questback) and

applied a case vignette of a fictitious athlete. In the following, the implementation is described in more detail.

11.3.1 Pretests

Before conducting the online experiment, three pretests were applied a) to prove the intended understanding of the defense statement, b) to select the most representative positive or negative user comments, and c) to prove how many judgmental user comments should be displayed. To check the intended understanding of the defense statement, five independent raters who were familiar with crisis communication research were equipped with a defense statement and a table of crisis communication strategies including an adaption to sports (German version of table 3, see chapter 4.2.2). The defense statement should display a justification which was the most efficient crisis communication strategy according to the study in which several different defense statements were compared (see chapter 10.1). As solely three raters (percentage agreement rate of 60.0%, n = 5) were able to identify justification, including the limitation that these raters offered combinations of several strategies, the statement was revised and entered a second rating process. After this revision, three raters responded in a second run and had changed their evaluation by indicating that the defense statement applied justification as single strategy (percentage agreement rate of 100.0%, n = 3). Thus, the following defense statement was presented in the main experiment:

> "Dear fans, I am shocked by this accusation of doping. Due to a congenital anomaly, these variations in the testosterone level are natural and normal for me. On that day, the values must have been exceptionally high. I will do everything possible to clarify this affair. Yours, Nico." [translated from the German]

The second pretest focused on the identification of the most representative positive and negative judgmental user comments concerning a doping defense statement. To make the comments appear as natural as possible, a selection of comments were chosen, which were posted as comments on the real doping defenses of Alberto Contador and Evi Sachenbacher-Stehle. Based on the judgment of eight raters, the four, respectively six most frequently selected comments were taken as a basis for the third pretest.

The third pretest aimed to test both, the general study design and particularly the number of judgmental user comments which were presented in response to the defense statement. Altogether 19 persons participated in this pretest. Based on Barrera et al. (2012) who indicated that perceived artificiality could limit the validity of a case vignette and based on the participant's feedback, it was decided to change the athlete's picture, which was a morphed picture of young man with a neutral face expression (origin of the picture: Braun et al., 2001) to a natural person with a positive face expression. The picture was selected from a free database for research purposes (Karolinska Directed Emotional Faces) which contained altogether 4900 facial expressions of emotion (Lundqvist, Flykt, & Öhman, 1998). Other details of the athlete's introduction remained, as a majority of the participants were able to remember them correctly after the presentation of the fictitious website of the athlete. To

check the understanding of the judgmental user comments in order to clarify how many comments were necessary for the participants to remember the intended connotation correctly, the participants were randomly assigned to either four predominantly positive comments (three positive and one negative comment) or six predominantly negative comments (five negative and one positive comment). As relatively more participants (90.9%, n = 10) were able to remember the connotation of the four comment version correctly than of the six comment version (75.0%, n = 6), it was decided to show four user comments in the main experiment. This leads to the advantage that the design was more parsimonious, especially as participants had to read several short texts and watch the fictitious websites before reading the manipulated Facebook page with comments.

11.3.2 Study design

The experiment started with the introduction of the fictitious track and field athlete Nicholas Heppmann, as a young hopeful German athlete who competes at 400m running. To avoid an overlapping of the name, it was tested beforehand that no real person named Nicholas Heppmann existed, indicated by a lack of results applying the name in the search engine Google. 400m was chosen as a discipline because German runners on that distance are rather unknown and 400m athletes need a high amount of muscular endurance to compete successfully, which makes this discipline attractive for the application of prohibited substances. Additionally, the study was conducted from November, 2014 to January, 2015 and it would be realistic that a positive test in track and field was reported which was dated September 2014 at the end of the outdoor season, where still international competitions took place. Therefore, the design should appear as realistic as possible and should refer to a current doping case.

To introduce the athlete, the participants saw two screenshots of his fictitious website. The first screenshot contained a welcome greeting including the hint that the athlete applied social media actively to stay in direct contact with his fans, which should enhance the impression of a parasocial interaction. The second screenshot comprised an “about myself” section in which a short profile including successes and the athlete’s aim to compete at the summer Olympic Games, 2016 in Rio de Janeiro were presented. To prove, whether the introduction of the athlete was successful, the participants were asked if they perceived the athlete as likeable by means of a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Afterwards, the allegation of doping was shown as a fictitious screenshot of the popular German online newspaper Spiegel online, which reported that Heppmann was tested positive for testosterone in an out-of-competition test and that there were indications that the testosterone was of artificial origin and thus with an enhanced probability caused by doping. The allegations were followed by a screenshot of Heppmann’s fictitious Facebook page, in which he presented his defense statement and which also contained the manipulated user comments. Afterwards, a manipulation check was conducted to check whether the participants remembered the connotation of the user comments correctly and the participants entered in a questionnaire section. After finishing the questionnaires, the participants saw another

screenshot of a fictitious crowd funding website, on which Heppmann tried to recruit financial support and participants were asked afterwards whether they would support him immaterially or financially, or would recommend others to support the athlete. The study ended with a request for demographic data, a short survey of the own social media usage and an extensive debriefing. The participants were financially rewarded by vouchers and debriefed for a second time in the scope of the transmission of the vouchers, to make sure that debriefing was understood.

11.3.3 Independent variables

The manipulation consisted of six versions of a fictitious Facebook screenshot containing Nicholas Heppmann's defense statement, which differed concerning the connotation of the user comments. Figure 13 represents one version of the Facebook page.

Figure 13: Defense statement presented as Facebook post with solely positive user comments to examine the impact of judgmental user comments. (The positive comment testify a) "Chin up Nico. We stand behind you." (C. Strauch); b) "I'll keep my fingers crossed for you! Do not let them take you down." (M. Arendt); c) "I believe you. You're a great sportsman." (J. Maier); and d) "I believe in your innocence Nico." (M. Schmitz).)

In the first condition four solely positive user comments were presented in response to the justification statement of the athlete. The second condition was predominantly positive consisting of three positive and one negative comment. The third condition showed a balanced mixture of two positive and two negative comments. The fourth and the fifth condition were symmetrically designed to the positive conditions, indicating either a predominantly negative response (three negative and one positive comment) or a solely negative reaction (four negative comments). And finally the sixth condition contained no comments and was used as a control condition to measure the pure effect of the crisis communication statement. All comments had approximately the same extent of words.

In the following manipulation check, the participants had to indicate on the next page whether they remembered the connotation of their condition correctly. The manipulation check was of particular importance as Wiencierz et al. (2015) indicated that participants might have problems with remembering details and contents of Facebook pages. Especially in the aforementioned design, the participants had to inspect several pages before entering in the more active questionnaire section. Thus, a successful manipulation check should ensure that they paid particular attention to the user comments, so that the intended manipulation was confirmed.

11.3.4 Dependent measures

As in the previous studies, the athlete's trustworthiness and its antecedents were measured by the questionnaire to assess trustworthiness in sports (Dreiskämper et al., in prep.) which gained principally good values concerning its reliability (Cronbach's α = .77 for ability, α = .82 for benevolence, α = .86 for integrity, and α = .88 for the overall measure of trustworthiness). The athlete's reputation was measured via a seven item scale which resulted from the previous case studies and which was introduced in chapter 10.4. The new measure showed a high reliability (Cronbach's α = .90) and was further investigated in the course of this study.

The causal attribution was measured by a German version of the Revised Causal Dimension Scale (CDSII) by McAuley, Duncan, and Russell (1992), which includes four subscales to assess the locus of causality, stability, external, and personal control. The correctness of the German translation was checked by a person whose mother tongues are both, English and German. Each of these subscales consisted of three items. The measure applied a semantic differential with nine given options to answer between the extremes. As the CDSII was evaluated on a sum level, the values for each subscale could range from three to 27, which means the higher the score, the higher the evaluated attribution on each scale. As in the study of McAuley et al. (1992), the application of this measure led to limitations concerning its reliability. In the present study, especially the subscales to measure the locus of causality (Cronbach's α = .36) and stability (Cronbach's α = .48) showed extreme weaknesses which renders these scales unusable, whereas the two subscales to measure external control (Cronbach's α = .79) and personal control (Cronbach's α = .83) showed good reliability

values. Although the German translation was checked by a native speaker, the results of the CDSII (Cronbach's α = .65 for the whole scale) should be interpreted with great caution.

Further, the willingness to support the athlete immaterially and materially was of interest. As there is no existing measure to assess the trusting action, it was decided to assess the willingness to support the athlete on a single item basis. Two of these items ("I would cheer at competitions for Nicholas Heppmann." and "I can imagine inviting others to cheer for Nicholas Heppmann at competitions." [translated from the German]) were evaluated before and after the publication of the doping allegations and the commented defense statement and therefore enabled a pre-post comparison, whether the willingness to support the athlete had changed at all due to the doping case. After the manipulation, the participants were asked to answer further three questions, which focused on their willingness to support the athlete materially ("I can imagine, to support Nicholas Heppmann finically.", "I can imagine inviting others to support Nicholas Heppmann financially.", and "Basically, I can imagine to support other athletes financially." [translated from the German]). All of these items were assessed on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

11.3.5 Control variables

As in the aforementioned vignette studies, the data were controlled for the participant's general attitude towards doping and their propensity to trust to ensure that potential outcomes were not confounded by these two variables. The attitude towards doping was assessed by making use of the new short version of the PEAS consisting of seven items, which was developed in the scope of the previous chapter. The new scale achieved a questionable reliability of Cronbach's α = .66, but the results indicated that the participants in the six conditions did not differ concerning their doping attitudes ($F(5, 316) = 0.44$, $p = .821$).

The propensity to trust was measure by the short scale of Costa and McCrae's NEO-PI-R (Ostendorf & Angleitner, 2004), which indicated a good reliability value (Cronbach's α = .82). Also in this case, the results indicated no differences between the participants of the six conditions ($F(1, 316) = 0.91$, $p = .478$). Based on these data, the results of the main study were controlled for potential confounding effects caused by doping attitudes and the participant's propensity to trust.

11.3.6 Sample

Prior to the study, the optimal sample size was conducted in the scope of a statistical power analysis by applying the software G*Power (Faul, Erdfelder, Lang, & Buchner, 2007). Based on an effect size of f = .25, which is a medium effect according to Cohen (1988) and a pre-specified significance level of α = .05, altogether 324 participants were necessary in a design with six conditions (n = 54 per condition) to achieve interpretable results. Although the participants were randomly assigned the conditions via the software Unipark (Questback), the sample sizes ranged from n = 31 to n = 70 between the conditions. In consequence, it was decided to perform a subsequent measurement via an adaptive randomization procedure to

achieve more balanced sample sizes in the six conditions. Based on the current sample sizes, the probability to be assigned to one of the conditions with a lack of participants was increased.

Altogether 431 datasets were available. Before starting with any calculations, an exploratory data analysis was performed to check the dataset for outliers. Therefore, the scales used in the study were evaluated either concerning their average rating or concerning their sum value, depending on the prescribed analysis method for each scale. Based on the analysis and a counter-check for each of these conspicuous participants, 16 persons were excluded from the sample. They were both, identified by the statistic software, and all showed systematic response patterns.

The resulting sample size of 415 persons was further reduced by the results of the manipulation check. Generally, the manipulation could be considered as successful ($\chi^2(1, N = 415) = 126.36$, $p < .001$), although 22.4% ($n = 93$) of the participants misquoted the connotation. To ensure that potential outcomes could be attributed to the manipulation, solely those participants were included in the calculations who passed the manipulation check and who remembered the connotation of the user comments correctly.

The final sample contained 322 participants (59.9% female, 40.1% male) and was thus sufficiently large to represent interpretable results according to the aforementioned G*Power analysis. The ages ranged from 15 to 55 years ($M = 25.91$, $SD = 7.05$). Concerning the current occupation, a majority of participants were students (66.1%, $n = 213$) or worked as employees (23.0, $n = 74$). Most participants were familiar with Facebook and had a Facebook account (91.0%, $n = 293$), which they used mostly either a few times a day (48.4%, $n = 156$) or daily (23.3%, $n = 75$). About one quarter of the participants (24.8%, $n = 80$) followed one or several athletes on Facebook. They named a variety of mostly domestic athletes from different disciplines, primarily the German basketball player Dirk Nowitzki (10.0%, $n = 8$), the German football players Mats Hummels (10.0%, $n = 8$) and Thomas Müller (8.3%, $n = 7$), or the German alpine ski racer Felix Neureuther (8.3%, $n = 7$). Furthermore, they indicated several reasons for following athletes on Facebook, mostly interest in the personality of the athlete (76.3%, $n = 61$), preserving the latest information first hand (61.3%, $n = 49$), insights behind the scenes of professional sport (56.3%, $n = 49$), or entertainment (50.0%, $n = 40$). Entering in active interactions like the publication of own comments on the athlete's Facebook page (3.8, $n = 3$) or the opportunity to interact with other fans of the athlete (5.0%, $n = 4$) were named the least.

Additionally, it was checked, whether the data of the first and the subsequent measurement differed. The two measurements did not differ significantly concerning the age ($F(1, 319) = 3.02$, $p = .083$), their gender ($\chi^2(1, N = 322) = 3.48$, $p = .062$), or their educational attainment ($H = 0.43$, $p = .511$). Thus, both samples should be comparable concerning their participants.

11.4 Results

As in the other studies, calculations were performed via the statistic program IBM SPSS, or via SPSS AMOS, version 22. As several calculations were based on ANOVAs it was checked beforehand, whether the requirements for applying this type of analysis were met. Due to the between-subject design and the randomization of one participant to one condition, the participants were measured independently. It was abstained from the Kolmogorov-Smirnov test to prove the data for normal distribution as this procedure reveals problems concerning its validity in large sample sizes which exceed 300 participants (Field, 2009). Following Kline (2011) the absolute values concerning skewness and kurtosis of this sample were below the limit and thus, the dependent variables could be operated as normal distributed. Furthermore, Levene's test indicated homogeneity of variances for all dependent variables. Thus, all requirements could be considered to be met and ANOVAs were conducted. In case of significant differences, Hochberg's GT2 post-hoc procedure was chosen to deal with the unequal sample sizes (Field, 2009), as the number of participants ranged from 46 to 70 in the different conditions. Generally, the introduction of the athlete seemed to be successful, as the participants perceived him as likeable (M = 3.96, SD = 0.85) before the doping allegations were presented.

To check hypotheses one to four, univariate ANOVAs on the six conditions with either reputation or trustworthiness as dependent variables were conducted, as all of these hypotheses referred to certain individual comparisons. First of all, it needs to be mentioned that the reading of judgmental user comments in combination with a defense statement led to significant differences in the rating of the athlete's reputation ($F(5, 316) = 7.02$, $p < .001$, $\eta_p^2 = .10$) and in the overall evaluation of trustworthiness ($F(5, 316) = 5.24$, $p < .001$, $\eta_p^2 = .08$). The same pattern of results could also be seen at the level of all antecedents of trustworthiness, concerning the athlete's benevolence ($F(5, 316) = 3.04$, $p = .011$, $\eta_p^2 = .05$), the athlete's integrity ($F(5, 316) = 3.97$, $p = .002$, $\eta_p^2 = .06$), and also concerning the evaluation of the athlete`s ability ($F(5, 316) = 3.28$, $p = .007$, $\eta_p^2 = .05$), although a special position for the ability rating was expected. All effect sizes could be interpreted as medium effects according to Cohen (1988). The underlying data are presented in figure 14, on the following page. All variables were evaluated on a medium level, except the athlete's integrity which was rated comparably lower. This overall pattern of results is comparable to previous case vignettes of this research project. Interestingly, the athlete's benevolence was rated higher than the athlete's ability in terms of the different conditions, which is a new pattern of result that could not be observed yet.

11.4.1 Examination whether positive comments were beneficial at all

To check the first hypothesis, the two supportive conditions with a majority of positive comments were tested against the control group. As the participants of the control group did not see any user comments and read solely the defense statement, this condition constituted the pure effect of the crisis communication. Referring to the evaluation of the athlete's reputation, the athlete profited only notably if solely positive comments appeared compared to

no comments. Those participants who read solely positive comments (M = 3.29, SD = 0.64) evaluated the athlete's reputation significantly higher than participants of the control group (M = 2.84, SD = 0.72, p = .016, d = 0.67), whereas the comparison of participants who read predominantly positive comments with the control group did not reach a significant level (p = .161).

Concerning the evaluation of the athlete's trustworthiness, the athlete benefitted from a majority of positive comments concerning the overall evaluation of trustworthiness, but not at the level of the antecedents. Both conditions with a majority of positive comments (solely positive comments: M = 3.40, SD = 0.62, p = .029, d = 0.59; predominantly positive comments: M = 3.39, SD = 0.52, p = .019, d = 0.64) led to a significantly higher rating than the control group (M = 3.06, SD = 0.53) regarding the overall evaluation of trustworthiness.

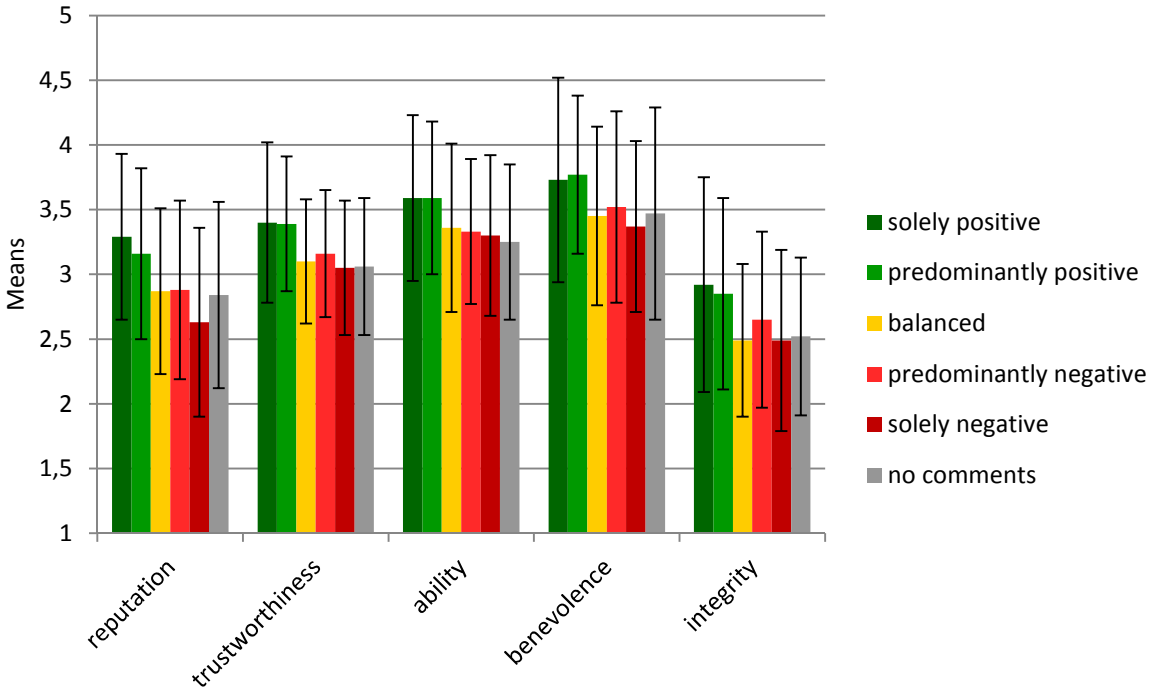

Figure 14: Means and standard deviations of the evaluation of the athlete's reputation and trustworthiness (including the antecedents: ability, benevolence and integrity) dependent on the different versions of social media user comments (standard deviations displayed as error bars).

On the level of the antecedents of trustworthiness, a different pattern of results could be observed. Due to the expected special position for ability, the results for benevolence and integrity are mentioned first. Contrary to the expectation and contrary to the result which was achieved if the three antecedents were summarized to the general measure of trustworthiness, neither in the evaluation of the athlete's benevolence (solely positive vs. control: p = .689, predominantly positive vs. control, p = .317), nor in the rating of the athlete's integrity (solely positive vs control: p = .080; predominantly positive vs. control: p = .178) significant

differences between the two positive conditions and the control group were found. Otherwise, as expected no significant differences between the participants of both positive conditions (solely positive comments: $M = 3.59$, $SD = 0.64$, $p = .095$; predominantly positive comments: $M = 3.59$, $SD = 0.59$, $p = .054$) and the control group ($M = 3.25$, $SD = 0.60$) were found concerning the ability evaluation.

Thus, the first hypothesis could be solely partly confirmed. Although the athlete generally benefitted considerably from positive user comments as if his pure defense statement was evaluated, especially concerning the rating of his reputation and the overall measure of trustworthiness, this advantage did not reach a significant level on the basis of the antecedents of trustworthiness. Additionally, it should be mentioned that the comparisons of the two negative conditions with the control did not reach a significant level for none of the aforementioned dependent measures. Thus, no additional damage was found, if a majority of negative comments appeared.

11.4.2 Comparison of the effects of positive and negative user comments

To check the second hypothesis whether supportive user comments resulted in a considerable advantage over refusing comments, the negative and the positive conditions were compared in a post-hoc test (as illustration see also figure 14). First, referring to the evaluation of the athlete's reputation, the athlete mainly profited from positive comments compared to negative comments. Participants of the solely positive condition ($M = 3.29$, $SD = 0.64$) rated the athlete's reputation higher than participants who read solely negative comments ($M = 2.63$, $SD = 0.73$, $p < .001$, $d = 0.93$) and participants who read predominantly negative comments ($M = 2.88$, $SD = 0.69$, $p = .034$, $d = 0.63$). Another pattern of results could be shown for the second set of comparisons regarding those participants who read predominantly positive comments ($M = 3.16$, $SD = 0.66$): Although they rated the reputation higher than participants who were exposed to solely negative comments ($p < .001$, $d = 0.77$), the two conditions of predominantly positive and predominantly negative comments did not differ significantly ($p = .345$). Thus, hypothesis 2a) could be partly confirmed as three of the expected four comparisons led to the expected significant difference: A majority of positive user comments on a doping defense statement led to a better evaluation of an athlete's reputation than solely negative user comments. As soon as one positive comment appeared in the negative condition, the reputation was rated higher and solely the comparison with solely positive comments showed the expected significant difference.

The second part of the second hypothesis focused on the evaluation of the athlete's trustworthiness. Comparable to the evaluation of the athlete's reputation, participants who were exposed to a majority of positive comments rated the overall trustworthiness significantly higher than participants who read solely negative comments. Thus, participants who read solely positive comments ($M = 3.40$, $SD = 0.62$) evaluated the athlete's trustworthiness higher than participants who read solely negative comments ($M = 3.05$, $SD = 0.52$, $p = .009$, $d = 0.62$) and also participants who saw predominantly positive comments evaluated the athlete's trustworthiness more positive ($M = 3.39$, $SD = 0.52$) than those

participants who were assigned to the condition with solely negative comments (p = .005, d = 0.65). No significant differences could be found for the comparisons involving the condition with predominantly negative comments (M = 3.16, SD = 0.49): Neither participants who perceived solely positive comments (p = .261), nor participants who were exposed to predominantly positive comments (p = .219) evaluated the athlete's trustworthiness better than participants who read predominantly negative comments. Thus, solely two of the expected four comparisons revealed significant differences and confirmed a part of the hypothesis. Here again, as soon as one positive comment appeared in the negative condition the trustworthiness was rated comparably better and did not differ significantly from the two conditions with a majority of positive comments.

To get a deeper understanding of the influence of user comments on the evaluation of an athlete's trustworthiness, the three antecedents were considered separately. As indicated by the aforementioned ANOVAs, the perception of user comments with diverse connotations led to significant differences on the level of antecedents of trustworthiness. It remains the question whether these differences involve the comparison of positive and negative user comments. As the athlete's ability was expected to have a special position, initially benevolence and integrity were regarded. It should be mentioned that exclusively in the evaluation of the athlete's benevolence, the rating of participants who read predominantly positive comments exceeded the rating of those who read solely positive user comments. Solely one of the comparisons referring to the athlete's benevolence became significant: Only participants who were exposed to predominantly positive comments (M = 3.77, SD = 0.61) rated the athlete's benevolence higher than participants who read solely negative comments (M = 3.37, SD = 0.66, p = .022, d = 0.64). Referring to the evaluation of the athlete's integrity, also only one comparison reached a significant level with regard to the hypothesis: Participants who read solely positive comments (M = 2.92, SD = 0.83) rated the athlete's integrity significantly higher than participants who read solely negative comments (M = 2.49, SD = 0.70, p = .025, d = 0.57). Taken together, the second hypothesis could be solely partly confirmed concerning the evaluation of benevolence and integrity, with the limitation that in each case solely one comparison reached a significant level.

Referring to the rating of the athlete's ability and its assumed special position, no significant differences for the comparisons of the conditions of solely positive comments (M = 3.59, SD = 0.64) with solely negative comments (M = 3.30, SD = 0.62, p = .212) or predominantly negative comments (M = 3.33, SD = 0.56, p = .394) could be found. The same results could be demonstrated for the comparison of predominantly positive comments (M = 3.58, SD = 0.59) with the conditions of solely negative (p = .129) or predominantly negative comments (p = .282). Thus, the second hypothesis could be supported concerning the special position of ability.

Taken together, the second hypothesis could be solely partly confirmed, as positive comments led to a better evaluation of the athlete's reputation and trustworthiness, although not all expected differences reached a significant level. The expectation concerning the

evaluation of the athlete's ability as one antecedent of trustworthiness that needs to be considered separately could be confirmed, whereas only one quarter of the comparisons concerning benevolence and integrity reached the expected significant level.

11.4.3 Check for suspicion or positive differentiation in case of unanimity

To check the third and the fourth hypothesis, the aforementioned ANOVAs were taken as a basis to compare the participant's evaluation of the two positive conditions on the one hand (hypothesis three) and the two negative conditions on the other hand (hypothesis four). In contrast to the expectation neither the two positive, nor the two negative conditions differed from each other, as table 15 revealed. This result was solely expected for the evaluation of the athlete's ability.

Table 15: Comparison of means and standard deviations (indicated in brackets) of the two positive and the two negative comments conditions concerning the evaluation of the athlete's reputation and trustworthiness.

	positive user comments			**negative user comments**		
	solely	predominantly	p	solely	predominantly	p
Reputation	3.29 (0.64)	3.16 (0.66)	.996	2.63 (0.73)	2.88 (0.69)	.588
Trustworthiness	3.40 (0.62)	3.39 (0.52)	>.999	3.05 (0.52)	3.16 (0.49)	.995
ability	3.59 (0.64)	3.59 (0.59)	>.999	3.30 (0.62)	3.33 (0.56)	>.999
benevolence	3.73 (0.79)	3.77 (0.61)	>.999	3.37 (0.66)	3.52 (0.74)	.989
integrity	2.92 (0.83)	2.85 (0.74)	>.999	2.49 (0.70)	2.65 (0.68)	.976

Thus, the third and the fourth hypothesis needed to be clearly rejected: The comparison of solely positive and predominantly positive, as well as solely negative and predominantly negative comments in relation to a defense statement did not show any differences among each other. Thus, neither suspicion in case of solely positive comments, nor a positive differentiation in case of solely negative comments could be observed.

11.4.4 Effect of user comments on causal attributions

The fifth hypothesis focused on causal attributions, which were expected to be rated as more serious and leading to a more unfavorable ascription in terms of an integrity based attribution after the perception of negative comments. The evaluation reached a medium level on each scale and for each condition (figure 15, on the following page), so that no clear ability, benevolence or integrity based attribution could be read off. It should be pointed out once again that the scales to measure the locus of causality and to measure stability reached unacceptably low reliabilities which are too low to be interpreted in a meaningful way, so that the results for these two scales are solely documented for the sake of completeness. Consequently, the scales to measure the perception of external control and personal control are focused here.

Both, the scale to measure external control ($F(5, 316) = 1.62$, $p = .154$) and the scale to assess personal control ($F(5, 316) = 1.01$, $p = .415$) were evaluated on a medium level, independent of the user comments that were displayed. Thus in contrast to the hypothesis, neither the evaluation of external control, nor the rating of the personal control was significantly influenced by judgmental user comments.

To complete this section, the items which were supposed to measure the locus of causality were evaluated comparably the lowest. Here again, no significant differences in the attribution of causality could be calculated, neither for the locus of causality ($F(5, 316) = 2.01$, $p = .076$), nor for the stability ($F(5, 316) = 0.65$, $p = .665$).

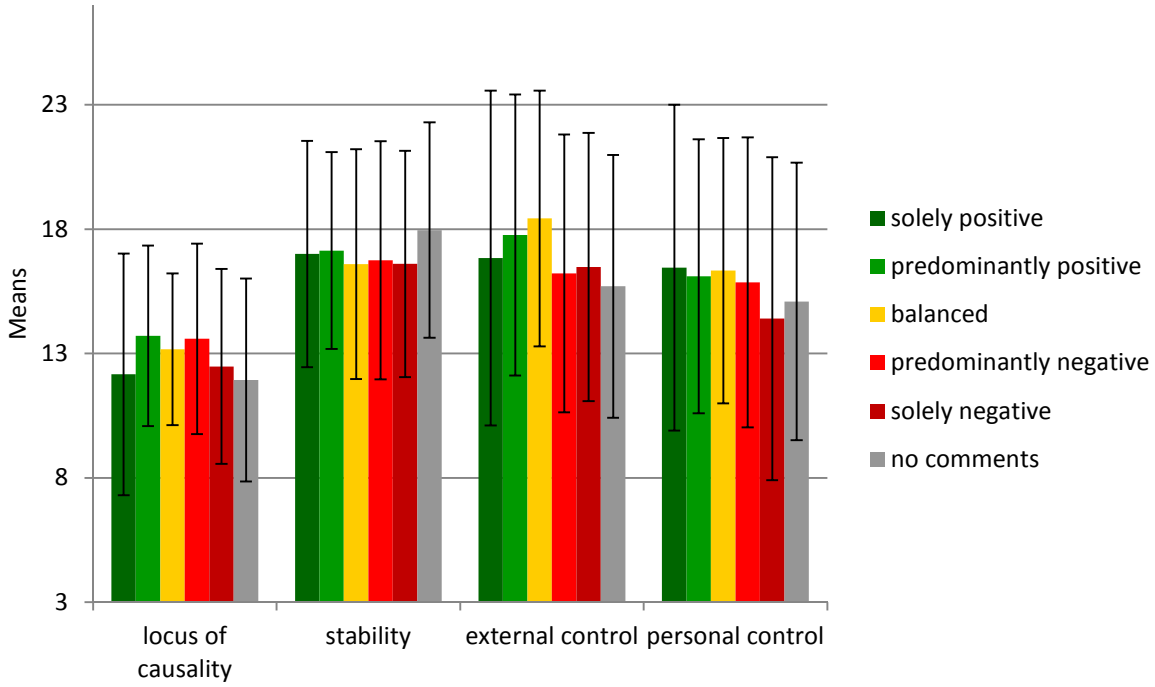

Figure 15: Causal attributions concerning the athlete's behavior after the participants were confronted with the potential doping case and the commented defense statement (means and standard deviations, displayed as error bars) depending on the condition the participants were assigned to.

Thus, the perception of user comments in a social media setting did not have an influence on the external control and the personal control attributions concerning an athlete who is alleged of doping. No reliable statements can be made concerning the attributions concerning locus of causality and stability. Despite this limitation, the fifth hypothesis needs to be clearly rejected.

11.4.5 Willingness to perform a trusting action

Before referring to the sixth hypothesis and the exploration whether positive comments enhance the willingness to support the athlete materially and immaterially, it

should be noticed that the release of a potential doping case in itself generally decreased the participants willingness to support the athlete ($F(1, 316) = 145.97$, $p < .001$, $\eta_p^2 = .32$) and also decreased the participant's willingness to invite others to support the athlete ($F(1, 316) = 56.85$, $p < .001$, $\eta_p^2 = .15$), as figure 16 on the following page indicates. Both effect sizes exceeded Cohen's (1988) convention for a large effect.

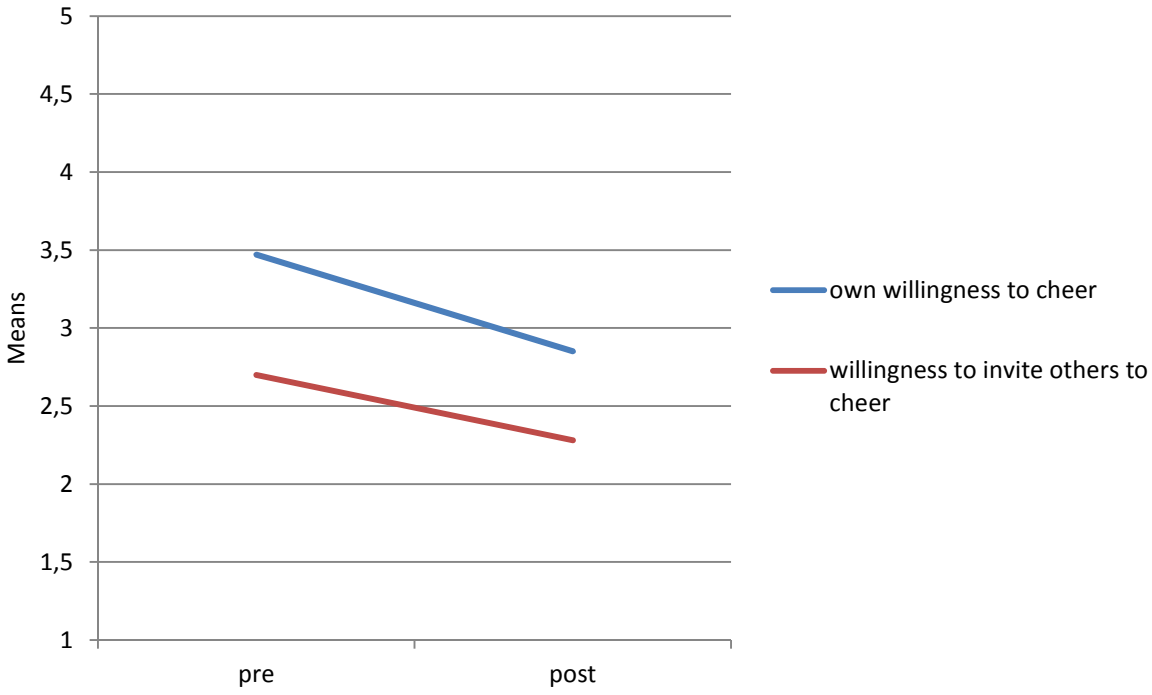

Figure 16: Condition independent decrease of the participants' willingness to support the athlete immaterially before and after the publication of the doping allegations.

The sixth hypothesis was evaluated on single item basis. Independent of the conditions and purely on a descriptive level, the participants indicated that they were less willing to support the athlete financially ($M = 1.61$, $SD = 0.82$) or invite others to support the athlete by giving money ($M = 1.56$, $SD = 0.87$). But also their willingness to support other athletes financially was rated rather low ($M = 2.24$, $SD = 1.11$). Despite the significant decrease of the willingness to support the athlete immaterially after the release of the potential doping case, this item was rated comparably higher ($M = 2.85$, $SD = 1.01$) than the material items.

The low level of willingness to support the athlete after the release of the doping allegations could be observed independent of the conditions the participants were assigned to. Thus, regardless whether the participants read positive, negative, or no comments, they did not differ concerning their low willingness to support the athlete via crowd funding ($F(5, 316) = 1.00$, $p = .417$), or regarding their low disposition to invite others to support the athlete financially ($F(5, 316) = 0.45$, $p = .814$). The same pattern of results could be found for the

participants' willingness to cheer for the athlete and thus support him immaterially. The exposition to positive, negative, or no comments had no significant influence on the willingness to cheer for the athlete ($F(5, 316) = 1.40$, $p = .224$) and to invite others to support the athlete by cheering ($F(5, 316) = 1.13$, $p = .344$). Therefore, the trusting action in the form of material or immaterial support for the athlete was not impacted by user comments and the sixth hypothesis needs to be clearly rejected.

11.4.6 Test of a combined model for reputation and trust

A further aim of this study was to get a deeper understanding of the structure of reputation, the connection between trustworthiness and reputation and whether the expected model of independent, but related components could be found in the data (item intercorrelations for these data, see appendix A). First, the items to assess a person's reputation were entered in a CFA. The CFA indicated a satisfying model fit for a solution with one general factor of reputation, if the error terms of those items were correlated which could be regarded as a synonymous expression for each other like "Nicholas Heppman has a good standing." or "Nicholas Heppmann has a high regard." [translated from the German] ($\chi^2 = 29.97$, $df = 11$, $p = .002$, $CFI = .986$, $TLI = .972$, $RMSEA = .073$).

Before referring to the assumed structure of reputation and trustworthiness, it should be noticed that the underlying structure of the adaption of the questionnaire to assess trustworthiness in sports by Dreiskämper et al. (in prep.) could be replicated based on this dataset ($\chi^2 = 209.56$, $df = 87$, $p < .001$, $CFI = .936$, $TLI = .923$, $RMSEA = .066$). Focusing on trustworthiness and reputation, the current data supported the idea of two related constructs ($r = .75$, $p < .001$). Furthermore, it could be shown that the incorporation of a reputation factor which precedes the evaluation of trustworthiness gained a satisfying model fit ($\chi^2 = 434.34$, $df = 202$, $p < .001$, $CFI = .936$, $TLI = .927$, $RMSEA = .060$) and could be hence regarded as an beneficial approach to supplement the evaluation of a person's trustworthiness based on additional knowledge and the overall impression one has from the interaction partner.

11.4.7 Evaluation of the adapted short PEAS to assess public doping attitudes

Additionally, as another further aim of this study, the seven item short version of the PEAS with a positive first item should be confirmed in the scope of this study. The revised scale achieved solely a reliability of Cronbach's $\alpha = .66$ in the present study, which can be regarded as questionable. Considering the underlying structure of this scale, several restrictions got obvious. First, on a descriptive level, the item intercorrelations based on Pearson product-moment correlation were all on a low to medium level, ranging from $r = .06$ to $r = .56$, which was comparably lower as presented in chapter 10.4.2. Second, the amount of explained variance for this general factor solution was 33.9% and was thereby also lower than expectable from chapter 10.4.2.

Otherwise, conducting a CFA for this general factor solution led to an acceptable model fit ($\chi^2 = 26.92$, $df = 13$, $p = .013$, $CFI = .955$, $TLI = .927$, $RMSEA = .058$), if the two

error terms of the related items “Doping is necessary to be competitive.” and “Doping is an unavoidable part of competitive sport.” were correlated. However, the factor loadings for this solution were generally low, ranging from $\lambda = .25$ to .71. To sum up, the further reduction to a seven item PEAS did not reach the intended improvement. Although the model fit indicated an acceptable structure, the low reliability and the low item intercorrelations did not justify this further reduction and indicated again difficulties in measuring the doping attitudes of a general public. The wording of the first item, whether it should be applied in a positive or negative coding, is still to discuss.

11.4.8 Further calculations

Besides the testing of the hypotheses, further calculations were conducted. Due to the subsequent measurement, whose gender ratio differed slightly but not significantly from the first measurement, gender became a factor that should be focused, also with its potential influence on the hypotheses. As the descriptive statistics in table 16 for reputation and trustworthiness differentiated by gender indicate, women tended to evaluate the athlete more positive than man. Thus, gender could have an impact on the results.

Table 16: Means and standard deviations for the evaluation of the athlete's reputation and trustworthiness, differentiated by condition of judgmental user comments and gender.

Condition	Gender	Reputation	Trustworthiness	Ability	Benevolence	Integrity
solely positive	male	3.19 (0.67)	3.30 (0.68)	3.52 (0.76)	3.51 (0.80)	2.87 (0.88)
	female	3.34 (0.63)	3.45 (0.60)	3.62 (0.58)	3.83 (0.77)	2.94 (0.82)
predominantly positive	male	2.90 (0.62)	3.22 (0.53)	3.42 (0.60)	3.66 (0.66)	2.64 (0.72)
	female	3.39 (0.62)	3.53 (0.48)	3.73 (0.55)	3.87 (0.57)	3.03 (0.73)
balanced	male	2.58 (0.59)	2.96 (0.56)	3.36 (0.75)	3.25 (0.83)	2.26 (0.62)
	female	2.99 (0.63)	3.15 (0.45)	3.36 (0.62)	3.53 (0.62)	2.58 (0.56)
predominantly negative	male	2.77 (0.72)	3.07 (0.53)	3.15 (0.57)	3.46 (0.73)	2.66 (0.79)
	female	3.01 (0.63)	3.26 (0.44)	3.54 (0.48)	3.59 (0.77)	2.64 (0.55)
solely negative	male	2.49 (0.73)	3.11 (0.57)	3.46 (0.60)	3.44 (0.72)	2.42 (0.71)
	female	2.70 (0.73)	3.02 (0.50)	3.22 (0.63)	3.33 (0.63)	2.53 (0.70)
no comments	male	2.75 (0.71)	2.96 (0.58)	3.07 (0.67)	3.36 (0.80)	2.51 (0.63)
	female	2.89 (0.74)	3.14 (0.49)	3.38 (0.52)	3.55 (0.84)	2.53 (0.61)

Methodologically, it was decided against a covariance analysis (ANCOVA) as it was not intended to remove the impact of gender from the analysis and as no systematic differences caused by gender were expected due to the randomization of the participants to the conditions (Miller & Chapman, 2001). On the contrary, the effect of gender was regarded as an additional focus of the analysis. Thus, following the suggestion of Harris, Bisbee, and Evans (1971), the variable was incorporated in the calculations, operationalized as an extra factor and its impact was analyzed by a two-way ANOVA with gender as an additional second factor, besides the conditions. Anyhow as a supplement to the chosen methodology, the results of different ANCOVAs by exclusion of gender are presented in appendix B, which

indicated that subtracting out the influence of gender, did not reduce the impact of the user comments on the evaluation of the athlete.

The two-way ANOVA revealed that with the exception of integrity as dependent variable which failed narrowly the level of significance, gender had an influence on the evaluation of the athlete's reputation and trustworthiness (see table 17, on the following page). And also the item which was presented directly after the introduction, whether the athlete was perceived as likeable, revealed clear gender differences ($t(320) = 3.81$, $p < .001$, $d = 0.43$), indicating that women ($M = 4.10$, $SD = 0.81$) perceived the athlete as more likeable than men ($M = 3.74$, $SD = 0.86$). Therefore, women evaluated the athlete significantly more positive concerning these variables than male participants. The incorporation of gender as an additional factor in the analysis did not change the general pattern of results concerning the reputation and trustworthiness hypotheses. There was still a main effect of the condition, but the incorporation of gender led to an additional main effect with a small effect size accoding to Cohen (1988), which means that gender was an additional important impact factor which had an influence on the evaluation of the athlete. The interaction did not reach a significant level, indicating that condition and gender did not have an influence on each other.

Table 17: Results of two-way ANOVAs for the dependent variables after incorporating gender as an additional factor.

	Factor A: Condition	**Factor B: Gender**	**Interaction**
Reputation	$F(5, 310) = 6.91$, $p < .001$, $\eta_p^2 = .10$	$F(1, 310) = 11.82$, $p = .011$, $\eta_p^2 = .04$	$F(5, 310) = 0.63$, $p = .676$
Trustworthiness	$F(5, 310) = 4.66$, $p < .001$, $\eta_p^2 = .07$	$F(1, 310) = 6.08$, $p = .014$, $\eta_p^2 = .02$	$F(5, 310) = 0.87$, $p = .500$
Ability	$F(5, 310) = 2.84$, $p = .016$, $\eta_p^2 = .04$	$F(1, 310) = 4.35$, $p = .038$, $\eta_p^2 = .01$	$F(5, 310) = 2.01$, $p = .077$
Benevolence	$F(5, 310) = 2.64$, $p = .023$, $\eta_p^2 = .04$	$F(1, 310) = 4.07$, $p = .045$, $\eta_p^2 = .01$	$F(5, 310) = 0.56$, $p = .727$
Integrity	$F(5, 310) = 3.94$, $p = .002$, $\eta_p^2 = .06$	$F(1, 310) = 3.14$, $p = .077$	$F(5, 310) = 0.75$, $p = .586$
Causal Attribution			
Locus causality	$F(5, 310) = 2.57$, $p = .027$, $\eta_p^2 = .04$	$F(1, 310) = 0.65$, $p = .420$	$F(5, 310) = 1.87$, $p = .100$
Stability	$F(5, 310) = 0.28$, $p = .923$	$F(1, 310) = 0.87$, $p = .351$	$F(5, 310) = 1.54$, $p = .178$
External control	$F(5, 310) = 1.23$, $p = .293$	$F(1, 310) = 1.84$, $p = .176$	$F(5, 310) = 0.70$, $p = 626$
Personal control	$F(5, 310) = 0.50$, $p = .777$	$F(1, 310) = 0.05$, $p = .830$	$F(5, 310) = 1.12$, $p = 348$
Support athlete			
material	$F(5, 310) = 0.85$, $p = .515$	$F(1, 310) = 0.66$, $p = .418$	$F(5, 310) = 0.32$, $p = .900$
immaterial	$F(5, 310) = 1.13$, $p = .345$	$F(1, 310) = 6.47$, $p = .011$, $\eta_p^2 = .02$	$F(5, 310) = 1.36$, $p = .239$

Furthermore, it should be clarified, whether the participant's gender influenced the other dependent variables as well (see also table 17). Thus, also the other dependent variables concerning the causal attribution and the willingness to support the athlete were entered in a two-way ANOVA. No main effect of gender could be found concerning the four scales to assess the causal attribution. Only concerning the locus of causality, one feature got obvious as the incorporation of gender as an additional factor led to a main effect concerning the condition. As this subscale showed an unacceptably low reliability, one might sum up that the regard of gender almost did not change the pattern of results concerning the causal attribution.

Hence, neither the conditions (except the locus of causality), nor the participant's gender had an influence of the rating of the causal attributions.

Concerning the participant's willingness to support the athlete, women were in general more likely to cheer for the athlete than men, but no gender differences could be observed in relation to the willingness to support the athlete financially via crowd funding. Thus, no consistent gender effect could be observed for the trusting action.

11.5 Discussion

The publication of judgmental, publicly visible comments in response to a defense statement has an impact on the perception of crisis communication, as could be demonstrated for the context of doping and Facebook. Positive comments are able to enhance the recipient's evaluation of another person's reputation and trustworthiness, in comparison to negative comments and in comparison to no comments, which can be regarded as similar to the distribution of crisis communication via traditional media without directly linked comments. A single positive comment is already sufficient to enhance the perception of another person considerably and appears to be more powerful as if on the other side solely one negative comment is surrounded by exclusively positive comments.

The present study replicates the main result of Wiencierz et al. (2015) regarding the comparison of positive and negative comments and their effect on the evaluation of trustworthiness, and similarly expands the scope of their results by choosing a crisis situation and a non-organizational setting. However, one clear difference between the study of Wiencierz and colleagues and the present study got obvious: Whereas the control group in the study of Wiencierz and colleagues reached a comparable level as the condition with positive comments, the present study indicates that negative comments and the control group did not differ meaningfully. As the case vignette seemed to work, this result supports the assumption that crisis communication in sports takes a special position. However, as these two studies provided ambiguous results, further research is necessary for a broader understanding of the effects of commenting social media users. Furthermore, this study applied a more precise gradation concerning the user comments. Whereas positive comments led to a better evaluation of the athlete's reputation and trustworthiness, the perception of negative comments in comparison to no comments caused no further damage in addition to the existing crisis. Based on these results, both, SCCT (Coombs, 1995, 2007b) and social-mediated crisis communication model (Briones et al., Jin, 2011; Jin et al., 2014) need to be revised as comments from outstanding persons have an impact on the perception of crisis communication. Even if a majority of social media users remains quite (Busemann & Gscheidle, 2012), those who comment on issues publicly can have an essential impact on the perception of others. Although only positive comments led to a significant enhancement of the evaluation of trustworthiness and reputation, and negative comments did not cause additional damage, both crisis communication theories should be extended. Especially as Coombs intends to focus also on the impact of crisis communication and the perception of outstanding persons, comments of others are a crucial factor which have at least the chance to

support someone's crisis communication and potentially might iron out an otherwise weak defense statement. Additionally, the idea of influential social media creators of the social-mediated crisis communication model, which focuses on the creation of autonomous contents, needs to be extended to commenting social media users. Thus, it is recommended to either integrate the commenting users in the concept of influential social media creators, or to define a fourth group, besides passive social media followers, social media inactives, and the aforementioned social media creators. Thus, this study is able to extend the observation by Brown and Billings (2013) that fans support the crisis communication of their favorite sports team by adding the remark that the support of fans is even beneficent for the athletes who suffer a crisis. Additionally, it could be replicated for the positive condition, that only a few user comments are necessary to influence opinion making (Watts & Dodds, 2007), whereas this effect could not be found for negative comments.

Interestingly, neither the two positive, nor the two negative conditions differed significantly concerning the evaluation of the athlete. Thus, the assumption of Kaiser and Kröckel (2011) that solely positive comments would lead to suspicion and solely negative comments would lead to a positive differentiation must be contradicted. The minimal difference between participants of the solely and predominantly positive or solely and predominantly negative condition got only obvious, if the positive and negative conditions were contrasted. And here, on the contrary to Kaiser and Kröckel, the extreme conditions of solely positive or solely negative comments mostly led to the highest (in case of solely positive comments) or lowest ratings (in case of solely negative comments) of reputation and trustworthiness. This result is in line with Kaiser et al. (2011): The more people represented one opinion, the more likely the participants either evaluated more positive or more negative corresponding to the basic attitude within the group. Especially in case of an unclear situation in which a person has too little information for a reasoned decision, the social surrounding and their opinion becomes an essential factor.

As in the previous studies, participants distinguished depending on which antecedent of trustworthiness they evaluated and rated the athlete's integrity comparably the lowest. Thus, recipients seem to judge mostly on a moral level if a domestic athlete faces doping allegations, which is in line with the results of the other case vignettes. Generally, it is important to focus on the overall measure of trustworthiness and the antecedents separately. The antecedents of trustworthiness represent completely different facets which are especially in case of doping allegation evaluated in a differentiated manner. This leads also to distortions if all scales are taken together. But on the other hand, the overall measure of trustworthiness is an important indicator for a general evaluation and a general classification of the athlete. In contrast to all previous studies, the benevolence evaluation exceeded the rating of the athlete's ability. As in the previous studies, the athlete was introduced as a young hopeful German athlete with several national and international successes. Thus, the athlete should be comparable to the other case vignettes and it would not be justified that his ability rating was evaluated lower due to a lack of successes in comparison to the other fictitious athletes. Only in the study which compared several types of defense statements (see chapter 10.1), the

justification statement led to a comparably enhanced benevolence rating, which was approximately at the same level as the ability evaluation. Thus, it is to assume that the application of justification might have caused this effect. In both studies, the athlete's defense statement referred to external factors which caused the positive test result and which can be medically proven. Therefore, the impression of a potentially wrongly accused athlete might be maintained most likely in comparison to other defenses, as it would be just a matter of time that the athlete would be alleged of doping again if no external factors could be found which caused the positive test. Thus, it could be perceived as unlikely, that the athlete refers to a genetic abnormality, if this wouldn't be true. In this study, the athlete additionally showed active commitment, that he would try to do anything possible to clarify the affair. This could be perceived by the recipients as a special service for the fans, which might have caused the comparably high benevolence rating as they have the impression that the athlete also cares for them.

Supplementary, the results indicated considerable gender differences for the evaluation of the athlete's trustworthiness and reputation. With the exception of the integrity rating, women evaluated the athlete significantly better than men throughout all conditions, with only a few exceptions. Consequently, women seem to be more forgiving. To explain the result concerning the integrity rating, a potential reason might be that male athletes and thus men can be regarded as more permissive concerning the application of doping (e.g., Bloodworth et al., 2012; Dodge & Jaccard, 2007; Lucidi et al., 2008). Therefore, it seems natural that men were more tolerant towards doping and did not doubt the athlete's integrity as serious as potentially women, which leads to an approximate equality between the rating of male and female participants together with the more forgiving nature of the women's rating. Another reason to explain the gender differences might be that women perceived the athlete as more likeable and thus rated him more positive than males. Also Vargo et al. (2015) assumed that gender affiliations might be a confounding factor, if a male in contrast to a female protagonist is evaluated. To give evidence for a gender difference and that woman are generally more permissive, the results need to be replicated in a design with a female athlete. However, especially this setting and a male athlete can be seen as a prototypical natural setting for parasocial interactions, as recipients tend to follow primarily male persons, independent of their gender (e.g., Gleich, 1997; Schramm, 2008).

The causal attributions were evaluated independent of the user comments, indicating that the participants were able to handle the reasons for the doping allegations and the user comments separately. The German version of the CDSII by McAuley et al. (1992) provided only partially reliable results, namely concerning the external and the personal control. The reliability of the scales to measure the stability of the behavior and the locus of causality could not be interpreted in a meaningful way and were thus unusable. This is a clear limitation of the study, although it is to assume that also referring to these scales no differences would be found, as in case of the personal and external control. The results concerning the two control scales indicated that the participants perceived the behavior also as externally controlled. This is interesting as doped athletes are often alone in the limelight, as outstanding

parties who are involved try to remain invisible (Bette & Schimank, 2006). Nevertheless, sport recipients seem to be aware of this fact and rate the external control approximately as high as the personal control. In this case, the trials of outstanding parties to stay in the background can be regarded as having failed, although they were not particularly mentioned.

Besides the evaluation of the athletes' trustworthiness, reputation, and the causal attributions, the study focused on concrete trusting behaviors in terms of the participants' willingness to support the athlete materially and immaterially. These questions included the participants' vulnerability as they might get disappointed or would perceive a loss of money if the athlete had really doped. As no studies known to the author focused on trusting behavior in sports, the proceeding was exploratory and indicated that the participants' willingness to cheer for the athlete or to invite others to cheer for the athlete declined significantly after the doping allegations got public. Although the questions concerning the willingness to support the athlete were regarded as suppositious, it gets obvious that the athlete loses support due to the allegations. The participants were less willing to support the athlete financially compared to an immaterial support, which could be regarded as the bigger sacrifice compared to cheering. However, as soon as a personal investment in terms of money was asked, the participants reacted more reserved. Otherwise, it is to assume that the concept of crowd funding is not very popular yet and that the participants were not familiar with the opportunity that they could fund an athlete themselves. Generally, it gets obvious, that people were less willing to invite others to support the athlete. In this case, the trusting behavior was regarded as more extensive as also other people were involved, which means that a single participant requests outstanding parties to become vulnerable and potentially harmed themselves. Thus, it could be seen as a logical consequence that the participants responded comparably more reserved.

Furthermore, this study enabled the testing of the assumed models concerning reputation, the connection between reputation and trustworthiness, and the seven item version of the PEAS. A measure to assess a person's reputation could be developed successfully, which exhibits a high reliability. Additionally, the assumed extended trust model, which incorporates reputation as a factor that precedes the evaluation of someone's trustworthiness could be evidenced successfully based on this dataset. Thereby, two important further steps could be demonstrated empirically, which extends the actual understanding of trustworthiness based on the integrative model of organizational trust by Mayer et al. (1995). Especially in the case of no preceding direct interactions and less direct experiences with the interaction partner, the assessment of reputation is an important supplement to understand a trusting relationship from an early phase on. Unfortunately, no essential improvement could be reached concerning the PEAS. Although the assumed underlying model concept could be found in the data, the scale provides still a questionable reliability. Thus, it is recommended to apply the eight item version in further studies with a positively coded first item to assess public doping attitudes. The attempt to improve the scale based on a cutback of items failed, but nevertheless the PEAS seems to be suitable for this new target group and transferable from the context of athletes to outstanding recipients.

Despite the meaningful results concerning the perception of athletes and sports in times of social media, the study bears several limitations. Due to the subsequent measurement the validity of the results is slightly restricted. In further studies it should be thought about the establishment of quotas so that a uniform distribution concerning gender and a balanced assignment to the conditions could be ensured. However, one thing cannot be controlled by the establishment of quotas: As in the study of Wiencierz et al. (2015), a considerable amount of participants was not able to remember the connotation of the comments they read beforehand correctly. This might be certainly due to the extensive materials participants had to work through, before they faced the manipulation check. However, if a fictitious athlete should be established as realistic as possible, the presentation of detailed materials is regarded as essential. On the other hand, due to the subsequent measurement, it was ensured that the sample size was sufficiently large to enable meaningful results, even after excluding those participants who were not able to remember the manipulation correctly. Further limitations are the investigation of the participants' willingness to support the athlete on single item basis and the low reliability of the CDSII. Thus, the efforts to transfer the CDSII to the setting of sports and to the German language were not successful.

The results of this study reveal meaningful implications for athletes and the handling of their social media appearance. Although the application of social media gives athletes more control over which contents are published, they are not able to control the comments of social media users, unless they exerted censorship. Although it could be shown, that negative comments did not lead to an additional damage in crisis situations, it is beneficial for athletes to care for a positive and friendly environment on their social media pages. Furthermore, it should be comforting, that the application of social media in one of the severest crises situations for athletes, like allegations of doping, is a useful tool to gain support and to gain a positive evaluation. However, the constraint must be made that it is still unknown, how a shitstorm with masses of negative comments might affect an athlete.

This study provides valuable knowledge in relation to crisis communication in the digital age and under the influence of commenting social media users. Although it is common practice that users comment on issues in the internet, only little research focused on this issue so far. At least for positive comments on crisis communication via social media, one can conclude that the defense statement is only one important piece in regarding the efficacy of crisis communication.

12 Final discussion

Social media published defense statements of athletes who are suspected of doping with or without associated user comments are able to influence the public opinion and are able to lead to improvements concerning the perception of the athlete's reputation and trustworthiness. Thus, digitized crisis communication is a useful tool for athletes to regain trustworthiness and to restore their reputation in case of doping allegations. This can be issued as the central message of the present research project, which will be discussed in greater detail on the following pages. The outcomes of this thesis also highlight the meaning of social media in communication, and especially crisis communication.

In general, doping allegations lead to a more negative evaluation of the athlete concerned, which can be influenced and improved by the application of crisis communication. The studies in the scope of this research project illustrate that the publication of doping allegations lead to a decreased willingness to support the athlete concerned. The athlete's evaluation can be improved by the application of crisis communication like in case of Evi Sachenbacher-Stehle who was able to regain at least parts of her overall trustworthiness and also by generating supportive user comments as in the case of Alberto Contador, if the athlete's statement is published via social media.

One of the influencing factors is the choice of the crisis communication strategy. Contrary to the hypothesis that apology would be the most beneficent strategy for an athlete to defend him- or herself against doping allegations, the choice of an apology led to the poorest evaluation of the athlete's reputation and trustworthiness. The application of a justificatory defense was overall and especially for the evaluation of trustworthiness most beneficent, whereas ignoring and thus remaining silent to the issue led to the best evaluation of the athlete's reputation. Especially the success of ignoring is conflicting with Coombs' (2006a) recommendation that crisis communication should be quick, consistent and open. The results of this, albeit smaller, study which focused on the impact of diverse crisis communication strategies supports the assumption that sport takes a special position concerning the impact of crisis communication. Therefore, there is not only an intensified application of more offensive strategies in sports observable as the underlying literature on online and offline crisis communication revealed, the study gives also an indication that more offensive strategies like justification or also denial appear to be more accepted in the eyes of public in a sports and doping setting. This is at least a good sign for those athletes who are wrongly accused of doping.

Against all ethical principles, athletes and their management should be aware of the fact, that a direct confession leads to a poor evaluation of the athlete and that controverting doping allegations is more beneficial. Thus, the presumption of innocence seems to be very resistant. As one possible explanation it is assumed, that apology is the only strategy in which the athlete admits doping directly and makes clear that he cheated, whereas the application of the other strategies (justification, denial, attack accuser, and also ignoring) comprises at least a residual probability that the athlete did not enhance performance with prohibited substances.

This might be more comfortable for the recipients in the sense of an escalation of commitment (Staw, 1981) that they can maintain the impression of an actually clean athlete who is innocently suspected and maybe also to maintain the perception of a sound German sports system. Nevertheless, the results of this study indicate that it is important that recipients become aware of the contradiction that they are generally against doping, but are willing to accept various explanations of a potentially doped athlete as all evaluations, except the integrity rating, reached at least a medium level. The comparably lower evaluation of the athlete's integrity is a result which can be observed throughout all studies and which is the only indicator that the recipients condemn doping behavior. Despite these results, it is still unknown, how a change in the defense strategy and potentially a subsequently necessary apology would affect the public perception and whether it is more advantageous to admit and apologize immediately to limit potentially succeeding future damage, despite the initial loss of trustworthiness and reputation. Thus, one can sum up that justification is the most successful defense strategy in case of doping, if only one defense statement is sufficient to handle the allegations.

Furthermore, it was found that the doping prevalence within a type of sport has no impact on the perception of reputation and trustworthiness of athletes. Against the assumption, that suspected athletes who compete in sports with a low doping prevalence would be evaluated more positive, the recipients did not differentiate in their evaluation of an athlete's reputation and trustworthiness depending on the doping pollution in a certain type of sport. Whereas athletes have a clear vision, how doping polluted their type of sport is and are more willing to apply performance enhancing substances themselves when they have the impression that their competitors do the same (e.g., Pappa & Kennedy, 2012; Smith et al., 2010), recipients in general do not include this background in their evaluation of the athlete, although they are aware of differences concerning the doping prevalence of different types of sports and although there are indications that recipients are able to distinguish in the ascribed doping motivation of athletes depending on the prevalence. On the other hand, athletes also have no bonus in the eyes of public in the sense of a perception that the athlete is urged to dope by external factors, is thus a victim him- or herself and deserves a less derogatory evaluation.

Focusing on the dissemination channel which is applied to distribute a defense statement against doping allegations, it got obvious that it makes no difference for the athlete whether his or her defense is distributed via traditional offline or online newspapers, or social media if the pure uncommented statement is given. Against the assumption, the application of social media was thus not superior to newspaper sources: In the evaluation of the athlete, recipients did not distinguish concerning which media channel was applied to make them familiarize with the defense statement, although they were able to differentiate the quality of the media sources and perceived newspaper sources as more credible. The traditional media's superiority in checking facts that are reported as an indicator of quality assurance had solely an influence on the better evaluation of the source, but not of the content. These findings clearly contradict the results of Schultz et al. (2011) that the medium is the message: In the

setting of sports and doping, the medium did not matter more that the message concerning the evaluation of the athlete's reputation and trustworthiness. Thus, the pure opportunity of a parasocial interaction is not yet beneficent for an athlete's defense statement. Combining these results with the social swarming study, the emergence of user comments might be the key factor to make social media superior to traditional media in the evaluation of the athlete.

Despite several studies who emphasize the advantage of self-generated web content (Conway et al., 2007; Taylor & Kent, 2007; Veil et al., 2011), the application of social media was neither beneficent nor damaging concerning the crisis communication against doping allegations. Although social media incorporate the clear advantage for athletes that they are able to control themselves how their defense statement against doping allegations is published, independent of journalistic influences, the application of social media leads to no advantage if no supportive user comments are posted in combination to the statement.

As expected, positive user comments related to a crisis communication statement improve the impact of the defense. Negative comments caused at least no additional damage for the athlete. This demonstrates that the application of social media can have a beneficial impact on the crisis communication against doping allegations, if the athlete is able to generate supportive user comments. The application of social media could be rated as overall beneficent, even in case of a negative feedback as the evaluation of the athlete did not suffer additional damage. The assumption that solely positive comments lead to suspicion and solely negative comments lead to a positive differentiation cannot be confirmed (Kaiser & Kröckel, 2011). In the contrary, in line with Kaiser et al. (2011), the recipients were more likely to adopt the prevailing opinion, even if this was only shown for the positive case. Although it is yet unknown how a shitstorm might impact and damage the perception of the athlete; it is to conclude that athletes can only gain if they publish their defense on Facebook or Twitter. Even if the pure application of social media has no advantage over traditional media, the combination with positive comments shows a clear benefit of these media. Thus, athletes should be aware of the potential advantages of social media which can be reached if supportive user comments are published in addition to the defense. In this case, athletes face a win-win situation: recipients are still able to bask in the perceived reflected glory and athlete are still able to bask in the reflected money that they receive if their renown is not tarnished. Although recipients are generally not willing to support an athlete financially like via crowd funding, quite a few sports recipients are willing to spend money for tickets, merchandise articles or products the athlete advertises, which leads finally to financial benefits for athletes.

Social media has changed the perception of athletes: As almost every netizen has an own social media account, each of these persons is able to decide themselves whether they would like to engage themselves in a parasocial interaction with an athlete. In accordance with the literature (e.g., Joinson, 2008; Kassing & Sanderson, 2009; Special & LiBarber, 2012; Tosun, 2012), recipients follow athletes and in this case mostly domestic athletes on social media because of the social component and because of the chance to receive news firsthand. The willingness to engage in a parasocial interaction with an athlete is relatively

high, considering the fact that almost one quarter of the participants of the social swarming study indicated that they followed at least one athlete and as no other public figures were regarded in this query. Thus, athletes are not only directly available for recipients; they might also get the impression that they are closely connected to the athlete. And also the impact of crisis communication has changed due to the application of social media. Athletes are able to benefit from publishing their defense statement via social media if it works to generate supportive user comments. Social media as a communication tool for high-performance athletes gives sports a particular dynamic, which only a few persons could experience in the past that actually stayed in direct contact with an athlete. As there were indications that sports takes a special position in crisis communication, one might assume that recipients perceive an emotional connection to athletes like a joint gratification in times of success or a joint misery in times of loss, which might be not comparable to the typical organization-stakeholder relationship which characterizes a majority of the crisis communication research. The aforementioned studies and methodological different approaches help to understand effect mechanisms of social mediated crisis communication in sports and are an important extension of previous research in crisis communication in general, which is mainly characterized by case studies and content analyses.

Generally, it can be observed that the application of social media is still increasing. Whereas Duncan and Smith (2013) reported that 40.0% of their sample visited their social media accounts several times a day, the social swarming study indicated that today almost half of the participants logged in several times a day. Thus, the importance of social media continues to grow in the social life and encompasses a larger scope in the time scale of everyday life. The importance of social media in crisis communication has been emphasized repeatedly (e.g., Jin et al., 2014; Utz et al. 2013) and can be confirmed by these studies as well. Social media provide the opportunity for athletes to control their self-presentation by some kind of additional broadcasting channel which enables direct and immediate actions and reactions. On the other hand, athletes give up parts of the control over their appearance as they are publicly accessible and face the danger of rapidly spreading shitstorms. Especially due to the use of smartphones, people have the possibility to be online anytime they want to be and are able to read, publish or comment on issues. The consequences can be devastating as the public esteem of an athlete can be tarnished in the long term, as the internet does not forget and contents can be always accessed.

Doping can be seen as one of the major crises in sports. What makes it so special is the conflict of recipients who face doped athletes: As Petróczi and Strauss (2015) point out, recipients want to see a clean, healthy and fair sport, but otherwise request for new records in the sense of higher, faster, and stronger. Therefore, the studies help to understand the public perception of doping. Although, a negative public attitude towards doping is assumed (e.g., Stamm et al., 2014) and can also be observed in the studies within this research project, athletes are not completely in disfavor with their recipients. Thus, recipients seem to maintain parts of the formerly positive renown of an, in these cases domestic, athlete. Generally, recipients seem to conduct a differentiated analysis, if they evaluate an athlete. The athlete's

ability is the component which is generally doubted the least, with the only exception of the social swarming study where the benevolence rating exceeded the ability evaluation. Thus, recipients have the impression that the athlete's skills are one of the most trustworthy components despite the doping allegations. Recipients doubt especially the athlete's integrity and therefore the athlete's values, which is the antecedent of trustworthiness which is assumed to be the most difficult to restore (Schoorman et al., 2007). This corresponds with the results of all studies within the scope of this research project and is either an indicator for the perceived large distance between the recipient and the unknown fictitious athlete, or for the difficulties in restoring this antecedent. Although the sample size of the longitudinal study on Evi Sachenbacher-Stehle is very small and thus faces a limited validity, it gets obvious that the evaluation of the athlete's integrity increased four weeks after the publication of her defense statement, which indicates that athlete are able to restore their integrity in the eyes of public.

A general willingness of recipients to accept various strategic explanations for positive doping tests can be observed throughout this research project, concerning real and fictitious athletes. Additionally, a disposition to penalize athletes who confess their doping offence and apologize can be observed. It seems as if recipients try to maintain also small gleams of hope, that the doping allegations were unjustified. Combining these findings, with Petróczi and Strauss' (2015) ascription of a contradictory public attitude towards new records and clean sports, the question arises whether recipients are interested in a doping-free sport, which encompasses also an abandonment of records, speed, and power. This would imply a double standard of an openly, socially desired negative attitude towards doping and a looking away if doping allegations get public. Therefore, the reprehensibility of the application of untrue crisis communication strategies is even called in question as recipients have a reason to belief that their athlete competed clean. The behavior of looking away was also described in case of Lance Armstrong, even if solid evidence for Armstrong's doping was published (Macur, 2014) and leads to the questionable implication that managers should advice their athletes to dispute doping as long as possible as a direct apology is immediately penalized. It is therefore important and indispensable that recipients become aware of their incompatible claims. As these results always include a domestic athlete, it would be useful to know how recipients deal with foreign athletes and if the same mechanisms take effect or if these athletes lose their reputation and trustworthiness even faster and whether they have more difficulties in restoring their esteem.

Until now, there is a lack of research on crisis communication in sports. Additionally, social media are almost completely excluded from studies in this setting, although a special position is indicated. Especially doping is still a major problem of today's high-performance sports. It is to assume that the application of more accurate methods to detect prohibited substances and strict inspections would lead to a higher doping prevalence, a general suspicion of athletes and the impression for athletes that they are not able to move unobserved. This development would not be desirable and emphasizes the need for an effective doping prevention. Especially the external perspective on doping has been neglected

so far, although recipients and other players like the economy, politics, sponsors, etc. are important driving forces which have meaningful influence on the sports system and which constitute a vicious circle that is difficult to break.

Methodologically, the application of case vignettes with fictitious athletes appears to be the best solution to evaluate trustworthiness and reputation in the context of doping. The differentiated evaluation of the athletes can be seen as an indicator, that the vignettes operated and that the elaborated construction was beneficent. Even on the level of initial trust (McKnight et al., 1998), recipients were able to distinguish between the antecedents of trustworthiness and reputation. Another strength of the vignette studies was, that potential weaknesses (Barrera et al., 2012) were concerned beforehand and avoided as good as possible. The case vignettes were designed with particular attention that the fictitious athlete appeared as realistic as possible and that also recipients who are familiar with the type of sport concerned did not doubt the storyline. Especially the pretests in the scope of the social swarming study provided additional conceptual hints to assure the quality and the functioning of the vignette. Therefore, strong presets which might have been a problem regarding real athletes could be circumvented and it was ensured that the athlete was perceived as likeable, which can be seen as an indicator for a natural public perception.

Regarding the evaluation of Evi Sachenbacher-Stehle and the fictitious athletes, it gets obvious that the recipients were willing to accept the case vignettes as the evaluation of the real and the fictitious athletes reached a comparable level of trustworthiness and reputation. The application of alternate methods to measure the key variables like the prisoner's dilemma (Deutsch, 1958; Tedeschi et al., 1969) or the critical incident technique (Münscher & Kühlmann, 2012) would have been too complex to initiate and would have led to results with a questionable validity. Thus, the application of case vignettes was the gold standard here.

The results of the studies point out the necessity to incorporate social media and more specifically social media users in the model conceptions concerning crisis communication, as these components can be a decisive factor in the efficacy of defense statements. The SCCT (Coombs, 1995, 2007b) does not include social media or social media users as an additional factor at all, although Coombs emphasizes the distinctiveness of the internet in crisis communication. Although the social-mediated crisis communication model (Briones et al., 2011) focuses on the features of the internet by including active online users and non-active offline recipients, it lacks to incorporate commenting social media users as one special group of netizens. The IRT (Benoit, 1995, 1997) falls short due to several reasons besides the missing integration of the internet, as this completely descriptive model lacks an empirical development and thus should not be labeled as a theory.

The SCCT (Coombs, 1995, 2007b) is a useful, empirically deduced and a variously applicable theoretical framework, which is well suited to describe the processes of crisis communication in sports and concerning a doping crisis. However, it is recommended to integrate the internet and particularly commenting social media users in the framework, as they have demonstrably an impact on the effect of defense statements. Until now, the SCCT is

a rigid system which describes the mechanisms of crisis communication as a clear process of a crisis, which is followed by a defense statement, which is either efficient or non-efficient. Thus, the SCCT neglects completely public reactions in form of discussions or newspaper framing as external influences which might have an impact on the crisis communication as well and which constitute the natural setting. In the current version, processes happen in a vacuum which simplifies the presentation, but is not realistic especially in times of social media. As the social swarming study indicates, positive comments in addition to a defense statement lead to a more beneficent outcome for the person who faced a crisis. Therefore, it is conceivable that these comments also have the power to strengthen the effect of a weak crisis communication statement, which underlines the need to integrate this factor in a modern crisis communication framework.

Although the social-mediated crisis communication model (Briones et al., 2011; Jin et al., 2014) is in extension of the SCCT, which integrates the internet and new components like influential social media creators, this framework also neglects commenting social media users and the model is not intensively studied yet. Thus, it was decided to apply the SCCT as a basis model, although some modifications of this theory appear to be necessary. In the view of the author, Coombs' matching process of circumstances around the crisis setting and the applied crisis communication strategy is to criticize, as the crisis type for example is also constituted by the choice of a strategy and is no neutral fact which is available. It appears to be more common that a defense statement to a crisis is chosen, which offers an attribution to the audience which can be accepted or not. Especially, as it cannot be expected that crisis communication always conveys the truth and the real reasons for a crisis, particularly in case of doping allegations. Objectively and subjectively perceived reasons for the crisis might diverge. Thus, two modifications for the SCCT are recommended as a result of this research project: the integration of the internet and especially commenting social media users, and the revision of the matching process of crisis situation and crisis response strategy.

Furthermore, the studies can be regarded as an important supplement to the thematically-varied, but simultaneously thin state of research in the setting of sports. The studies have shown that the integrative model of trust (Mayer et al. 1995) is adaptable to a sport setting which extends the capacity of this theory and is economic as only definitions of the model components need to be adapted to sports. Although the studies indicate, that a differentiated measurement of trustworthiness in the setting of sports is possible based on this model, the overall measure of trustworthiness, as a value consisting of all three antecedents leads to distortions. This is the case, if the overall measure indicates significant differences which cannot be found on the level of antecedents or the other way round. However, both approaches have a reason for existence as they enable a more general and a more specific consideration of trustworthiness. It gets obvious, that differences on the level of antecedents can be compensated on the overall measure or that difference are only detectable in the overall measure of trustworthiness, whereas the evaluation of the antecedents do not differ. This has to be considered in the interpretation of results. Generally, it seems that the separation of system trust (e.g., Kohring, 2002; Lentillon-Kaestner et al., 2012; Meinberg,

2010) and a personalized measurement of trustworthiness in the setting of sports was successful.

Although Schoorman et al. (2007) assume that the antecedent of benevolence is most difficult to develop; this antecedent reached the comparably highest values in the social swarming study. This result cannot be explained by a gender effect and a surplus of women who participated in this study, as this high benevolence rating cannot be found in another study with a comparable gender ratio. In this case, one can only speculate about the reasons, if it is an artefact due to the accentuation that the fictitious athlete in the social swarming study is accessible on social media or whether it is still a gender effect. Regarding this, it could be demonstrated that women are more susceptible for trust cues on commercial shopping websites (Murphy & Tocher, 2011). To clear up this observation, further research is necessary. Additionally, the studies within the scope of this research project indicate that the athlete's integrity was rated comparably the poorest, which is an indicator for a moral judgment from a public's point of view. That means that the athlete's and the recipient's view on doping need to be separated: Whereas Petróczi (2014) emphasized a functional point of view of athletes and the notion to describe doping not primarily as a form of moral disengagement (Mazaonov & Connor, 2010; Reinold & Meier, 2012), the public's point of view seems to integrate especially the moral component in the trustworthiness evaluation, whereas the functional component in terms of the ability evaluation is doubted the least.

It was possible to operationalize the evaluation of trustworthiness in a special setting, as recipients and athletes did not interact directly to any time. Nevertheless, it could be shown that an assessment of trustworthiness is feasible and can be understood by applying the framework of initial trust by Karimov et al., (2011) or McKnight and colleagues (1998). It was abstained from the concept of calculus-based trust (e.g., Lewicki & Bunker, 1996; Lewicki et al., 2006; McAllister et al., 2006), which was not implemented in a stringent manner and therefore criticized by the author. Furthermore, it has to be mentioned that the trust relationship between recipients and athletes is therefore special, as it is one-sided from the recipient to the athlete and that the recipient has no opportunity to exercise control over the athlete and therefore has to trust additionally in the doping control system of sports. But even in this special setting a differentiated evaluation of trustworthiness was possible.

Concerning trust repair, it can be clearly stated that the four-stage process which is mentioned by Gillespie and Dietz (2009) does not work in a sports and doping setting. Therefore, the lacking empirical testing of this framework remains to be done. Whereas these authors consider apology as an obligatorily necessary part for the restoration of trust, the opposite effect could be observed within the scope if this research, where an apologetic statement led to the worst evaluation of trustworthiness. Thus, the model representation of Gillespie and Dietz needs to be clearly rejected for a doping defense.

A particular strength of this research project is that it is one of the first approaches, besides the work of Wiencierz et al. (2015), which differentiates trustworthiness and reputation, and operationalizes both concepts in an integrated framework. Reputation is

regarded as a key component in the evaluation of a person, which is especially important if the other party is not familiar by direct interactions, but through the reporting of external sources and the own perception of a person. The development of the reputation concept within this research project is an economic supplement to the integrative model of organizational trust (Mayer et al., 1995), which successfully integrates trust and reputation research within one model by focusing on expressive reputation according to Eisenegger and Imhof (2008), as the functional and social components of reputation are already operationalized in the trust model. Additionally, it enables a differentiation of reputation and image on a perception level. The assumed model could be found in the data (see chapter 3.6), and is thus a good starting point for further operationalization. Furthermore, it was successful to develop a strong and economic measure to assess a person's reputation which needs to be checked concerning its discriminant validity. The criterion validity can be regarded as given due to the high correlations between reputation and trustworthiness. However, as the reputation measure was developed in the context of fictitious athletes and thus of abstract case vignettes, a transfer of the reputation scale to real athletes is necessary and could be implemented in a replication study to retest the postulated structure of reputation and trustworthiness.

Still unknown is the role of gender. The social swarming study indicated that men and women have to be differentiated in their evaluation of a person's trustworthiness and that women tend to give out a higher rating. The reasons for this effect are open for speculations and need to be clarified empirically. It was assumed that the gender of the fictitious athlete might have caused the differences and that women evaluated men more positive as men evaluated other men, and also the perception of attractiveness might have influenced the rating. Considering the context of performance enhancement, Vargo et al. (2015) also assume that gender might be an influencing factor in the evaluation of a protagonist, as doping appears to be perceived as a more male-related behavior. Therefore, further research is necessary, which focuses on the gender of the athlete who is suspected of doping. Based on these considerations, female athletes should have an advantage to rehabilitate if they face allegations of doping. This should be tested in an experimental design. In order to avoid attractiveness as a confounding factor, one should apply the morphed pictures of Braun and colleagues, which display average attractive male and female persons, based on a structured rating process.

The context of doping has been examined with different foci in the scope of this dissertation. Although the implementation of the theory of planned behavior (Ajzen, 1991) from an external perspective to assess the perceived reasons for the doping motivation of an athlete based on an own measure did not succeed, this theory is a suitable explanatory model to describe doping behavior (e.g., Ntoumanis et al., 2014) and also anti-doping behavior (Chan et al, 2015). From a recipient's point of view it could be demonstrated that they perceive differences between the types of sports depending on the underlying doping prevalence and that recipients regard athletes of a doping-polluted sports to be more willing to apply doping substances. An improved implementation of the theory of planned behavior which enables a differentiated assessment of attitudes, social norm and perceived behavioral

control from an external point of view should be intended to assess the differences more precise or to replicate the finding that the three factors cannot be found in the model regarding a recipient's point of view.

The assessment of a general public's doping attitudes by applying the short version of the PEAS (Vargo et al., 2015) leads to difficulties concerning its reliability independent of which version is applied. Generally, it can be assumed that the measure is suitable to assess the doping attitudes of recipients and thus non-athletes, but the statistical distribution leads to difficulties as the values of a majority of recipients is in the lower range of the measure, a so called ground effect. Despite these difficulties, the PEAS is one of the key measures which enable the assessment of doping attitudes and was suitable to ensure balanced doping attitudes within the specific research conditions throughout this project. However, a further improvement of the measure should be developed.

Taken together, the studies show that independent how doping polluted a type of sport is, athletes seem to be able to restore their reputation and their trustworthiness, if they use more offensive defense statements like justification, and apply social media for the publication if they are able to generate support. One the other hand, recipients appear to be open for diverse explanations which caused positive test results and are influenced by positive user comments. Certainly, the doping case of Lance Armstrong is an extreme example, which indicates that also an offensive, consistently denying crisis communication tactic fails, if the evidence is so strong that further denying is useless. Also in this case, it can be concluded that Armstrong's late apology cannot be evaluated as beneficent to increase his public appearance. Thus, doping is a special setting for the effect of crisis communication which integrates many components which are inherent in the current sports system and recipients should become aware of their active role in the maintenance of this system.

The application of social media has changed and accelerated the perception of crises in sports and also the perception of athletes or sport federations completely. The formerly distant relationship of athletes, federations and recipients has turned to a closer and more personal connection, if recipients are willing to follow an athlete or federation on social media. If they decided to do so, recipients are able to get in direct contact, like by conveying good wishes or by expressing displeasure as in the initial example of Joseph Blatter, who received several negative comments like "Looking through your bank statements will take months alone" (Twitter user Andrew MacBride) in direct response to his statement against corruption. Thus, especially the opportunity to comment on issues and the incorporation of social media is a must for modern research on (crisis) communication.

13 References

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Appendix

List of appendices

Appendix A

Item intercorrelations of the items to measure the athlete's trustworthiness (tru.), ability (abi.), benevolence (ben.), integrity (int.), and reputation (rep.) based on data of the social swarming study.

	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	I1	I2	I3	I4	I5	Tru.	Abi.	Ben.	Int.	R1	R2	R3	R4	R5	R5	R6	Rep
A1	1	.442	.319	.458	.184	.526	.239	.233	.176	.165	.300	.174	.231	.335	.265	.548	.703	.251	.323	.366	.285	.324	.357	.280	.285	.357	.410
A2		1	.222	.404	.276	.489	.274	.282	.273	.192	.182	.166	.129	.179	.141	.510	.691	.316	.197	.227	.196	.306	.258	.224	.300	.350	.338
A3			1	.315	.202	.313	.159	.144	.152	.195	.292	.173	.217	.257	.245	.465	.587	.203	.293	.170	.259	.183	.174	.241	.158	.224	.255
A4				1	.395	.525	.182	.223	.165	.216	.473	.365	.405	.468	.490	.666	.751	.246	.546	.455	.474	.433	.430	.475	.401	.405	.558
A5					1	.350	.269	.211	.235	.368	.398	.237	.341	.358	.340	.573	.600	.339	.415	.310	.294	.300	.297	.343	.278	.316	.388
A6						1	.251	.237	.254	.277	.339	.199	.289	.363	.363	.629	.770	.317	.385	.421	.369	.345	.349	.339	.292	.312	.442
B1							1	.663	.618	.412	.329	.181	.253	.290	.243	.583	.336	.824	.321	.332	.282	.334	.324	.281	.250	.281	.380
B2								1	.625	.399	.311	.202	.280	.307	.246	.586	.324	.833	.334	.303	.248	.326	.316	.249	.275	.329	.373
B3									1	.481	.335	.239	.292	.328	.278	.595	.307	.840	.365	.288	.305	.320	.317	.303	.220	.271	.369
B4										1	.358	.328	.312	.420	.323	.603	.348	.726	.432	.315	.347	.251	.370	.362	.267	.334	.407
I1											1	.457	.693	.572	.610	.726	.485	.415	.822	.524	.600	.439	.459	.648	.413	.377	.628
I2												1	.439	.508	.456	.563	.321	.299	.713	.315	.434	.280	.309	.444	.314	.269	.428
I3													1	.584	.669	.674	.394	.355	.846	.454	.565	.387	.432	.626	.400	.353	.583
I4														1	.601	.720	.477	.421	.812	.530	.579	.452	.534	.609	.408	.376	.634
I5															1	.687	.449	.341	.829	.525	.591	.445	.505	.658	.367	.344	.624
Trust-worthiness																1	.827	.736	.836	.604	.637	.560	.594	.666	.507	.537	.746
Ability																	1	.410	.527	.472	.456	.460	.452	.464	.417	.479	.582
Bene-volence																		1	.454	.385	.369	.381	.414	.373	.316	.380	.476
Integrity																			1	.582	.687	.497	.556	.741	.472	.427	.719
R1																				1	.664	.620	.715	.614	.475	.400	.821
R2																					1	.563	.601	.685	.424	.358	.782
R3																						1	.713	.524	.550	.491	.818
R4																							1	.598	.496	.462	.839
R5																								1	.475	.428	.784
R6																									1	.725	.750
R7																										1	.697
Reputation																											1

All correlations highly significant ($p \leq .010$), except for the correlation of A2 and I3 ($p = .020$)

Appendix B

Results of different ANCOVAs in consideration of gender based on data of the social swarming study.

Procedure and target variable		Test results
Reputation		
ANOVA		$F(5, 316) = 7.02$, $p < .001$, $\eta_p^2 = .10$
ANCOVA	Effect of condition after the exclusion of gender**	$F(5, 315) = 7.51$, $p < .001$, $\eta_p^2 = .10$
Trustworthiness		
ANOVA		$F(5, 316) = 5.24$, $p < .001$, $\eta_p^2 = .08$
ANCOVA	Effect of condition after the exclusion of gender**	$F(5, 315) = 5.53$, $p < .001$, $\eta_p^2 = .08$
Ability		
ANOVA		$F(5, 316) = 3.28$, $p = .007$, $\eta_p^2 = .05$
ANCOVA	Effect of condition after the exclusion of gender*	$F(5, 315) = 3.35$, $p = .006$, $\eta_p^2 = .05$
Benevolence		
ANOVA		$F(5, 316) = 3.04$, $p = .011$, $\eta_p^2 = .05$
ANCOVA	Effect of condition after the exclusion of gender*	$F(5, 315) = 3.22$, $p = .007$, $\eta_p^2 = .05$
Integrity		
ANOVA		$F(5, 316) = 3.97$, $p = .002$, $\eta_p^2 = .06$
ANCOVA	Effect of condition after the exclusion of gender	$F(5, 315) = 4.17$, $p = .001$, $\eta_p^2 = .06$
Causal attribution		
Locus of causality		
ANOVA		$F(5, 316) = 2.01$, $p = .076$
ANCOVA	Effect of condition after the exclusion of gender	$F(5, 315) = 2.05$, $p = .072$
Stability		
ANOVA		$F(5, 316) = 0.65$, $p = .665$
ANCOVA	Effect of condition after the exclusion of gender	$F(5, 315) = 0.68$, $p = .638$
External control		
ANOVA		$F(5, 316) = 1.62$, $p = .154$
ANCOVA	Effect of condition after the exclusion of gender	$F(5, 315) = 1.54$, $p = .178$
Personal control		
ANOVA		$F(5, 316) = 1.01$, $p = .415$
ANCOVA	Effect of condition after the exclusion of gender	$F(5, 315) = 1.00$, $p = .417$
Support athlete		
material		
ANOVA		$F(5, 316) = 1.00$, $p = .417$
ANCOVA	Effect of condition after the exclusion of gender	$F(5, 315) = 1.03$, $p = .400$
immaterial		
ANOVA		$F(5, 316) = 1.40$, $p = .224$
ANCOVA	Effect of condition after the exclusion of gender**	$F(5, 315) = 1.56$, $p = .170$

* significant influence of gender ($p \leq .05$)

** highly significant influence of gender ($p \leq .01$)

Appendix C

Dependent variable: Trustworthiness (chapters 9, 10.1, 10.2, 10.3, and 11)

Questionnaire to assess trustworthiness in sports (Dreiskämper et al., in prep.)

The items were developed based on the organizational trust inventory (Mayer & Davis, 1999) and evaluated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Introduction [translated from the German]:
Please answer the following question based on the impression you have gained of the athlete so far.

	German version	English translation
	Fähigkeit	**Ability**
A1	[X] ist ein/e sehr gute/r [Disziplin].	[X] is a very good [discipline].
A2	[X] ist bekannt dafür als [Disziplin] erfolgreich zu sein.	[X] is known for being successful in [discipline].
A3	[X] hat ein großes Wissen über die Abläufe in seiner/ihrer Sportart.	[X] has a great knowledge about the processes in his/her type of sport.
A4	Ich bin sehr zuversichtlich in Bezug auf [X]'s Fähigkeiten als [Disziplin].	I am very confident in terms of [X]'s skills in [discipline].
A5	[X] verfügt über spezielle Fähigkeiten, die seine/ihre Leistung im [Disziplin] steigern können.	[X] has special skills, which can increase his/her performance in [discipline].
A6	[X] ist ein/e sehr gut ausgebildete/r [Disziplin].	[X] is a highly trained [discipline].
	Wohlwollen	**Benevolence**
B1	[X] ist die Zufriedenheit seiner/ihrer Fans sehr wichtig.	The satisfaction of his/her fans is important to [X].
B2	[X] achtet sehr darauf, was seinen Fans wichtig ist.	[X] takes great care for what is important for his/her fans.
B3	Die Bedürfnisse und Wünsche seiner/ihrer Fans haben für [X] einen hohen Stellenwert.	The needs and requirements of his/her fans have a great importance for [X].
B4	[X] nimmt zusätzliche Mühen auf sich, um mir als Fan etwas zurückzugeben.	[X] takes extra effort to give something back to me as fan.
	Integrität	**Integrity**
I1	[X] hat einen starken Sinn für Gerechtigkeit und Fairness im [Disziplin].	[X] has a strong sense of justice and fairness in [discipline].
I2	Ich brauche mich nie fragen, ob [X] sein/ihr Wort hält.	I don't have to ask myself whether [X] keeps his/her word.
I3	[X] ist sehr darauf bedacht sich fair zu verhalten.	[X] is endeavoring to behave fairly.
I4	Ich mag die Werte, für die [X] einsteht.	I like the values [X] stands for.
I5	Vernünftige Prinzipien scheinen das Verhalten von [X] zu lenken.	Sound principles seem to guide the behavior of [X].

A = ability, B = benevolence, I = integrity
[X] = name of the athlete; [discipline] = type of sport the athlete competes in
Sequence of questions: A1, B1, I1, A2, B2, I2, A3, B3, I3, A4, B4, I4, A5, I5, A6

The questionnaire is evaluated as mean value of the subscales and by calculation of an additional mean value including all items.

Dependent variable: Reputation (chapters 9, 10.1, 10.2, 10.3, and 11)

Questionnaire to assess reputation (own scale, applied in this form solely in chapter 11)

The resulting reputation scale which was developed in the scope of this thesis. It is evaluated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Introduction [translated from the German]:
Please answer the following question based on the impression you have gained of the athlete so far.

	German version	English translation
R1	X ist sympathisch.	X is likeable.
R2	X ist authentisch	X is authentic
R3	X verfügt über eine positive Außenwirkung	X has a positive outward appearance.
R4	X vermittelt einen positiven Eindruck	X conveys a good impression.
R5	X ist glaubwürdig.	X is credible.
R6	X verfügt über ein hohes Ansehen	X has a high regard.
R7	X hat einen guten Ruf	X has a good standing.

[X] = name of the athlete

The questionnaire is evaluated as mean value of all items.

Dependent variable: Doping motivation (chapter 10.3)

The following items were developed in the scope of the prevalence study to assess the perceived doping motivation of an athlete based on the theory of planned behavior (Ajzen, 1991). The resulting solution with two factors is presented in the following. The items are evaluated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Introduction [translated from the German]:
Please evaluate which view [x] national and international competitors hold towards doping.

	German version	English translation
A1	[X] Mitkonkurrenten greifen aus eigenem Antrieb zu Dopingsubstanzen, unabhängig davon was andere machen.	[X] competitors apply doping substances on their own accord, irrespective what others do.
A2	[X] Mitkonkurrenten haben eine vorwiegend positive Einstellung Dopingsubstanzen anzuwenden, um ihre Leistung zu steigern.	[X] competitors have a predominantly positive attitude towards doping substances to enhance the performance.
A3	[X] Mitkonkurrenten finden Doping in ihrer Disziplin vorwiegend gerechtfertigt.	[X] competitors perceive doping as predominantly justified in their discipline.
EI1	In [X] Disziplin scheinen viele Athletinnen das Gefühl zu haben, dem Druck von außen ohne Doping nicht standhalten zu können.	In [X] discipline, many competitors appear to have the impression that they are not able to withstand the pressure from outside without doping.
EI2	In [X] Disziplin scheint der Grundsatz verbreitet zu sein, dass man dopen muss, um wettbewerbsfähig zu sein.	In [X] discipline, it seems to be a widespread principle that you have to dope to be competitive.
EI3	In [X] Disziplin haben schon viele Mitkonkurrenten positive Erfahrungen mit der Einnahme von Dopingsubstanzen gemacht.	In [X] discipline, many competitors have made positive experiences with the application of doping substances.
EI4	Zentrale Personen aus dem Umfeld von [X] und dem Umfeld ihrer Mitkonkurrenten befürworten Doping.	Key persons of [X] surrounding and of the surrounding of the competitors advocate doping.
EI5	In [X] Disziplin stehen viele Athleten unter besonderem Druck von außen gute Leistungen zu erbringen.	In [X] discipline, a lot of athletes are under particular pressure from outside to perform well.
EI6	Die vermutete Anzahl gedopter Mitkonkurrenten wird in [X] Disziplin als Legitimation für die Verwendung von Dopingsubstanzen aufgefasst.	The assumed amount of doped competitors is regarded as a legitimization to apply doping substances in [X] discipline.
EI7	Der Druck mit Dopingsubstanzen die eigene Leistung zu steigern, scheint mir in [X] Disziplin hoch zu sein.	The pressure to enhance the own performance with doping substances seems to me particularly high in [X] discipline.
EI8	In [X] Disziplin ist es leicht Dopingsubstanzen zu beschaffen.	It is easy to procure doping substances in [X] discipline.

[X] = name of the athlete, EI = external influences, A = attitude
Sequence of questions: A1, EI1, A2, EI2, EI3, EI4, EI5, EI6, EI7, EI8, A3

The two subscales are evaluated as mean values.

Dependent variable: Causal attributions (chapter 11)

Doping adaption of the CDSII (McAuley, Duncan, & Russell, 1992)

A German adaption of the CDSII on the context of doping which refers directly to the athlete's potential doping behavior. It is evaluated as a semantic differential with nine given options to answer between the extremes.

Introduction [translated from the German]:
Please refer to the impression that you have got from the athlete so far. The cause for the positive doping test…

	German version	
LC1	… spiegelt einen Aspekt von [X] Person wider	… spiegelt einen Aspekt der Situation wider
PC1	… ist von [X] beherrschbar	… ist von [X] nicht beherrschbar
S1	… ist dauerhaft	… ist vorübergehend
PC1	… kann [X] selbst steuern	... kann [X] nicht selbst steuern
EC1	… wird von anderen Personen kontrolliert	… wird nicht von anderen Personen kontrolliert
LC2	… ist [X] selbst zuzuordnen	… ist [X] nicht selbst zuzuordnen
S2	… ist stabil im Verlauf der Zeit	… variiert im Verlauf der Zeit
EC2	… wird von anderen Personen gesteuert	… wird nicht von anderen Personen gesteuert
LC3	… gibt Auskunft über [X]	… gibt Auskunft über andere Personen
PC3	… wird von [X] gelenkt	… wird nicht von [X] gelenkt
S3	… ist unveränderbar	… ist veränderbar
EC3	…wird von anderen Personen reguliert	… wird nicht von anderen Personen reguliert.

[X] = name of the athlete
LC = locus of control, S = stability, PC = personal control, EC = external control

	English translation	
LC1	… reflects an aspect of [X] person	… reflects an aspect of the situation
PC1	… manageable by [X]	… not manageable by [X]
S1	… is permanent	… is temporary
PC1	… can be regulated by [X]	... cannot be regulated by [X]
EC1	… over which others have control	… over which others have no control
LC2	… is inside of [X]	… is outside of [X]
S2	… is stable over time	… is variable over time
EC2	… is under the power of other people	… is not under the power of other people
LC3	… gibt Auskunft über [X]	… gibt Auskunft über andere Personen
PC3	… [X] has power over it	… [X] has no power over it
S3	… is unchangeable	… is changeable
EC3	…is regulated by other people	… is not regulated by other people

[X] = name of the athlete
LC = locus of control, S = stability, PC = personal control, EC = external control

The questionnaire is evaluated on a sum level. The values for each subscale could range from three to 27, which means the higher the score, the higher the evaluated attribution on each scale.

Contral variable: Public attitudes towards doping (chapters 10.1, 10.2, 10.3, and 11)

Adaption of the short version of the PEAS (Vargo et al. 2015; applied in this form only in chapter 11)

The resulting scale to assess the public attitudes towards doping, which was shortened to seven items. The items are evaluated on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree).

Introduction [translated from the German]:
Please state your level of agreement with each statement.

	German version	English translation
1	Doping ist notwendig, um wettbewerbsfähig zu sein.	Doping is necessary to be competitive.
2	Doping ist kein Betrug, weil es jeder macht.	Doping is not cheating since everyone does it.
3	Nur die Qualität der Leistung sollte zählen und nicht der Weg, wie Athleten dorthin gekommen sind.	Only the quality of performance should matter, not the way athletes achieve it.
4	Die mit Doping verbundenen Risiken werden übertrieben	The risks related to doping are exaggerated.
5	Doping ist ein unvermeidbarer Teil des Wettkampfsportes.	Doping is an unavoidable part of the competitive sport.
6	Es gibt keinen Unterschied zwischen Medikamenten, Glasfaserstäben (im Stabhochsprung) oder schnellen Schwimmanzügen, die alle zur Leistungssteigerung eingesetzt werden.	There is no difference between drugs, fiberglass poles, and speedy swimsuits that are all used to enhance performance.
7	Die Legalisierung von Doping wäre nicht förderlich für den Sport.	Legalizing performance enhancements would not be beneficial for sports. (-)

The questionnaire is evaluated on a sum level.

Control variable: Propensity to trust (chapters 10.1, 10.2, 10.3, and 11)

Scale to assess the propensity to trust (Ostendorf & Angleitner, 2004)

Original version of the scale to assess the own propensity to trust, taken from the German NEO personality inventory. The questionnaire is evaluated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Introduction [translated from the German]:
Please state your level of agreement with each statement.

	German version	English translation
1	Ich glaube, dass die meisten Menschen im Grunde gute Absichten haben.	I think that most people have basically good intentions.
2	Im Hinblick auf die Absichten anderer bin ich eher zynisch und skeptisch. (-)	I am rather cynical and skeptical in relation to the intentions of others. (-)
3	Ich glaube, dass man von den meisten Leuten ausgenutzt wird, wenn man es zulässt. (-)	I think that you are exploited by most other people, if you let it happen. (-)
4	Ich glaube, dass die meisten Menschen, mit denen ich zu tun habe, ehrlich und vertrauenswürdig sind.	I think that most people that I am dealing with are honest and trustworthy.
5	Ich werde misstrauisch, wenn mir jemand einen Gefallen tut. (-)	I am suspicious, if someone does me a favor. (-)
6	Meine erste Reaktion ist es, Menschen zu vertrauen.	My first reaction is to trust others.
7	Ich neige dazu, von anderen das Beste anzunehmen.	I tend to assume the best of others.
8	Ich habe ziemlich viel Vertrauen in die menschliche Natur.	I have a lot of trust in human nature.

(-) reversed coded

The questionnaire is evaluated as mean value of all items.

Erklärungen

Erklärungen zu den einzelnen Studien

Fragebogens zur Messung von Vertrauenswürdigkeit im Sport (Kapitel 7)
Die Übersetzung des englischen Originalfragebogens von Mayer und Davis (1999) ins Deutsche, sowie die Adaption des Fragebogens an ein Sportsetting erfolgten durch Dennis Dreiskämper und mich zu gleichen Teilen. Im Rahmen der Forward-Backward Translation wurde das Projekt durch Katherine Grosser unterstützt. Die Zusammenstellung der Daten, die Re-Analyse der Ergebnisse, sowie die Verschriftlichung im Rahmen eines Artikels erfolgten durch Dennis Dreiskämper. Der Gesamtdatensatz umfasst hauptsächlich Daten aus Bachelor- und Masterarbeiten, für die Dennis Dreiskämper verantwortlich war, aber auch aus einer Studie, die unter meiner Verantwortung entstand (siehe Studie 3, Kapitel 10.1).

Studie 1: Alberto Contador (Kapitel 8)
Die Idee zur Studie, methodische Planung, Vorbereitung und Durchführung sowie die Auswertung und Analyse der Ergebnisse und deren Verschriftlichung im Rahmen dieser Arbeit erfolgten durch mich. Bei den Übersetzungen und Kodierungen unterstützen mich Rita Wissmann, Sara Thiemann und Daniel Schenk als studentische Hilfskräfte.

Studie 2: Evi Sachenbacher-Stehle (Kapitel 9)
Die Idee zur Studie, methodische Planung, Vorbereitung und Durchführung sowie die Auswertung und Analyse der Ergebnisse und deren Verschriftlichung im Rahmen dieser Arbeit erfolgten durch mich.

Studie 3: Wirkung verschiedener Krisenkommunikations-Strategien (Kapitel 10.1)
Die Studie wurde unterstützt durch eine Bachelorarbeit von Herrn Arndt Heike. Die Idee, Projektplanung, Vorbereitung, Auswertung und Verschriftlichung erfolgten ausschließlich durch mich. Herr Heike war für die graphische Umsetzung, die Programmierung des Fragenbogens mittels Unipark (Questback) und die Durchführung der Studie zuständig. Herr Heike analysierte die Daten separat für seine Bachelorarbeit.

Studie 4: Wirkung verschiedener Medienkanäle (Kapitel 10.2)
Die Studie wurde unterstützt durch eine Bachelorarbeit von Herrn Matthes Hoof. Die Idee, Projektplanung, Vorbereitung, Auswertung und Verschriftlichung erfolgten ausschließlich durch mich. Herr Hoof war für die graphische Umsetzung, die Programmierung des Fragenbogens mittels Unipark (Questback) und die Durchführung der Studie zuständig. Herr Hoof analysierte die Daten separat für seine Bachelorarbeit.

Studie 5: Wirkung der Dopingprävalenz (Kapitel 10.3)
Die Studie wurde unterstützt durch eine Bachelorarbeit von Frau Erika Weinbender. Die Idee, Projektplanung, Vorbereitung, Auswertung und Verschriftlichung erfolgten ausschließlich durch mich. Frau Weinbender war für die graphische Umsetzung (ca. 50%), die

Programmierung des Fragenbogens mittels Unipark (Questback) und die Durchführung der Studie zuständig. Teile der graphischen Umsetzung (ca. 50%) mittels Photoshop wurden von Rita Wissmann als studentische Hilfskraft übernommen. Frau Weinbender analysierte die Daten separat für ihre Bachelorarbeit.

Studie 6: Social Swarming (Kapitel 11)
Die Idee zur Studie, methodische Planung, Vorbereitung und Durchführung sowie die Auswertung und Analyse der Ergebnisse und deren Verschriftlichung im Rahmen dieser Arbeit erfolgten durch mich. Bei der graphischen Umsetzung unterstütze Rita Wissmann als studentische Hilfskraft das Projekt.

Alle Abschlusskandidaten bzw. die Abschlusskandidatin erklärten ihr Einverständnis für eine gemeinsame Nutzung der Daten.

Hiermit versichere ich die Richtigkeit der Angaben zu den Eigenanteilen an den Studien dieser Arbeit.

Bad Zwischenahn, den _____ _____

Katharina Pöppel

Erklärung zur Eigenständigkeit der Arbeit

Hiermit erkläre ich, dass ich die vorliegende Arbeit mit dem Titel:

“Believe it or not: The effect of athlete’s crisis communication on trustworthiness and reputation in case of doping allegations”

selbstständig und ohne unerlaubte Hilfe verfasst, keine anderen als die angegebenen Quellen und Hilfsmittel verwendet und alle Zitate als solche kenntlich gemacht habe. Des Weiteren versichere ich, dass diese Arbeit noch in keinem anderen Prüfverfahren vorgelegen hat.

Bad Zwischenahn, den _____ _____

Katharina Pöppel

Persönliche Erklärung

Hiermit erkläre ich, dass ich nicht wegen eines Verbrechens, zu dem ich meine wissenschaftliche Qualifikation missbraucht habe, verurteilt (§ 6 (3) Promotionsordnung) wurde.

Bad Zwischenahn, den _____ _____

Katharina Pöppel