THE IMPORTANCE OF GENDER FOR
MORAL DILEMMA DECISIONS

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ABSTRACT

When looking at research on moral dilemma scenarios, target’s sex, as well as agent’s sex, have an impact on subsequent moral decisions. In the Footbridge Dilemma, however, we lack insight into the effect of the sex of the people on the tracks (i.e. the people to be saved: PS). The purpose of this study is to reveal the (lack of) influence that PS’s sex has on moral decision-making in dilemma situations, while taking into account ambivalent sexism and gender bias. Across two studies with a modified version of the Footbridge Dilemma, the effect of a bystander’s sex and PS’s sex on the tracks was explored with respect to moral judgments. Study 1 included 300 adults (156 female, 144 male). 292 adults (161 women, 131 men) participated in study 2. In both studies participants were randomly assigned to one of four dilemma versions. Results showed that men use more utilitarian judgments, whereas women are prone to deontological processing. Gender bias could be seen in participants’ preference for self-sacrificing for women rather than men. Individual’s were more likely to sacrifice a male bystander, therefore it can be concluded that moral chivalry is an ongoing concept in society. It was additionally found that self-sacrifice is generally more pronounced in men. Furthermore, benevolent sexism moderated individual’s moral decisions with a preference for sparing women. And hostile sexism showed a moderation effect in the moral decision of sacrificing women. Taken in sum, these results illustrated that target’s and decider’s sex influence moral choices, with benevolent sexism, hostile sexism and gender bias playing an important role.

Keywords: moral decision-making, gender differences, ambivalent sexism, self-sacrifice
ZUSAMMENFASSUNG


Schlüsselwörter: moralische Entscheidungen, Geschlechtsunterschiede, ambivalenter Sexismus, Selbstauflösung
1 INTRODUCTION

„Women and children first“ – this culturally widespread and socially persuasive norm is still in use. The norm dates back in history, when it was used as a maritime code for protecting the vulnerable in dangerous or life-threatening situations (FeldmanHall, O., Dalglish, T., Evans, D., Navrady, L., Tedeschi, E., & Mobbs, D., 2016). It reflects the chivalrous idea that women and children should be protected from harm and violence and should get safed first in life-threatening situations. This idea is also associated with an ongoing gender bias: picturing men as strong, powerful and in charge, and on the contrary imaging women as helpless and the weaker sex. Research on stereotypes and gender found that both implicit judgments (Banaji & Hardin, 1996) and explicit actions (Eagly & Crowley, 1986) are affected by biases based on gender. But how do implicit judgments and explicit actions relate to decision-making in fatal situations? Decision making refers to the process of choosing an action within many possibilities. Implicit processes are important for decision-making processes involving emotional reactions. Explicit actions, on the contrary, seem to be the result of the previously elaborated morality of a context-dependent action and its outcomes (Hastie, 2001). Various research on decision-making examined how gender influences the process of choosing a (subjectively) moral action. FeldmanHall et al. (2016) examined the influence of victim’s gender and individual’s gender in moral decision-making. With the Footbridge Dilemma (Foot, 1978) researchers investigated how target’s gender shift agent’s willingness to cause harm to another individual. While various research on the Footbridge Dilemma investigated the influence of target’s and agent’s sex on decision-making, none have taken into account the gender of the people on the tracks. However, recent research shows, that the most notable effects for moral decision-making in moral dilemmas are driven by gender (Awad et al., 2018). Men and women display a preference for sparing females, with the latter group showing a stronger preference for this effect (Awad et al., 2018). Thus, the present study’s aim is to shed light also on the influence of victim’s sex on decision-making in moral dilemma situations.

1.1 Moral Decision-making

What kinds of topics do people perceive as moral issues? Looking at morality concerns across cultures worldwide, psychological harm, violations of rights and duties and injustice are ought to be the most important ones (Haidt, Koller, & Dias, 1993). Morality is a structure including
cultural norms and values which are considered as guidelines for how people should behave in a community (Heekeren et al., 2005). On that account, one central aspect of everyday social life is moral decision-making. Moral decision-making is regarded as the evaluation of others actions as well as our own actions with taking into account cultural and subjective norms and values (Heekeren et al., 2005). So how do people choose between actions? The focus of decision-making research is on how people link their desires (personal values and goals) and beliefs (knowledge and expectations) together for choosing an action (over alternatives). Decision-quality is measured by the comparison of subjective expectations, preferences and values for achieving the most favorable outcome through displayed behavior (Hastie, 2001).

1.1.1 Measuring Moral Decision-Making

Decision-making in morally critical and ambiguous situations is often tested in the form of moral dilemma scenarios. Moral dilemmas describe situations in which participants’ beliefs about rights and duties are conflicting with choosing the greater good as an outcome (Trémolière, De Neys, & Bonnefon, 2017). Mostly, these dilemma situations are created in fictional circumstances where the individual has to choose between saving the lives of several people and sacrificing another individual or killing a single person for saving the lives of several. Since creating real-life morally ambiguous scenarios for research is difficult due to ethical restrictions and designing experimental conditions (Cao et al., 2017), hypothetical moral dilemmas are used more often than empirical studies.

For examining people’s intentions in these hypothetical situations, moral decision-making research uses personal moral dilemmas, and impersonal moral dilemmas. Personal moral dilemmas involve serious bodily harm to one or more individuals and the deflection of an existing threat. These types of dilemmas lead to putatively more emotional reactions (Greene et al., 2008). An example for personal moral dilemmas is stealing one person’s organs for distributing them to five other individuals. Also the well-known, philosophical thought-experiment Footbridge Dilemma (Foot, 1986) is part of this category. In this dilemma, an oncoming train is about to kill five people who can be saved by pushing a bystander off of a footbridge and into the train’s path. If the agent chooses to push the person, the train is stopping, the five people on the tracks are saved, but the person pushed gets killed. This dilemma is considered a personal dilemma because a direct act of harm is required. It is also considered as
involving spatial proximity, physical contact, and personal force. Therefore research suggests, that the Footbridge Dilemma elicits stronger negative emotional arousal (Greene et al., 2009). Impersonal moral dilemmas, on the other hand, do not require the physical act of harm. These dilemma versions are putatively less emotional. An example for impersonal moral dilemmas is voting for a policy which is expected to kill more people than other policies (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001).

1.1.2 Moral Development

Many years Kohlberg’s (1969) rationalist approach dominated the field of moral psychology. In his *cognitive–developmental theory*, he describes a trajectory of moral development, which applies abstract moral principles for resolving moral dilemmas. Kohlberg was the first to introduce the usage of moral dilemmas as an interviewing method: children and teenager were faced with a moral conflict situation and had to answer more in-depth questions about their responses. In Kohlberg’s approach, cognitive mechanisms for elaborating moral judgment involved conscious, language-based thinking. But not only Kohlberg emphasized rationalistic approaches. Also Piaget (1932) emphasized primarily processes of reasoning and reflection for reaching moral judgments. In rationalistic approaches, moral emotions such as sympathy might be influencing the reasoning process, but are not regarded as a direct cause for moral judgments.

Contrary to rationalistic approaches with moral reasoning, more recent research emphasized the role of emotions for moral decision-making. Haidt (2001) introduced the *social intuitionist model*. According to this model, the primary source of moral decision-making are affective processes, which are fast, automatic and intuitive in nature. Moral intuition directly causes moral judgments and is regarded as a kind of cognition, but not as a kind of reasoning. Consciously deliberated processes only play a minor role. These conscious deliberations serve as subsequent justifications only, after judgments have already been made. Furthermore, the social part of the model suggests that moral reasoning is used to influence judgments of other people, and therefore is regarded as an interpersonal process.

1.1.3 Dual-process Model of Moral Judgment

Traditionally, moral decision-making research was divided into two camps: rationalistic approaches and social approaches. Whereas in traditional, rationalistic approaches moral decision-making was regarded as highly thoughtful and as a reasoning activity (Kohlberg, 1969),
later research was focusing on moral judgments as a primarily intuitive and emotional process (Haidt, 2001). However, Greene et al. (2001), combined both approaches and introduced a dual-process model of moral judgment.

The *dual-process approach* integrates two main factors which are ought to be responsible for how humans make moral decisions. The first factor is called the *principle of deontology*. Deontology states that the perceived morality of a moral decision’ consequence is dependent on its consistency with contextual moral norms. Such contextual moral norms are created by external stimuli in the environment and subjective norms of the individual. It is based upon an idea of right or wrong, duties and moral obligations, regardless of possible consequences and outcomes. Further, the principle of deontology can be described as the affective way of processing moral decisions. For example in moral dilemma scenarios, automatic emotional responses get evoked, which create an affect-laden reaction to the idea of harming another individual. Due to its affective component, deontology leads to the rejection of harm regardless of the possibility of maximizing outcomes. The deontological principle favors harm rejection because harming another individual is perceived as an unacceptable violation of human rights and duties. These rights and duties often surpass utilitarian considerations.

The second factor is called *principle of utilitarianism*. According to utilitarianism, the morality of a moral decision and its consequences is judged by its overall outcome. Utilitarian judgments favor the greater good and are supported by underlying controlled cognitive processes. Individuals engage in a cognitive evaluation of possible outcomes with regard to maximizing benefits and minimizing costs. Therefore, utilitarianism leads to harm acceptance if the action of harm maximizes the overall outcome.

The tension between deontology and utilitarianism is captured in the Footbridge Dilemma (Foot, 1978). A prototypical deontological answer would be rejecting harm by all means, because the act of pushing a bystander is regarded as an unacceptable violation of human rights and duties. Whereas a prototypical utilitarian answer would be pushing the bystander off of the footbridge for maximizing the overall outcome, therefore accepting harm for a greater good. These two factors suggest, that automatic emotional responses as well as rationality are involved when judging moral decisions.

Furthermore, researchers found evidence for the involvement of brain areas associated with cognitive control and emotion-processing in moral decision-making (Greene et al., 2004).
Participants were faced with the footbridge dilemma and brain areas were investigated with functional magnetic resonance imaging during participant’s decision-making process. Research found, that brain areas associated with cognitive control, such as the dorsolateral prefrontal cortex, displayed increased activity while utilitarian decision-making (Greene, Nystrom, Engell, Darley, & Cohen, 2004).

Moreover, research done by Conway and Gawronski (2013) found that people with stronger empathic concerns tend to engage more in the application of deontology when making moral decisions. Furthermore, researchers found that an increase in empathy is correlated with increasing deontological processing in moral dilemma scenarios.

1.1.4 Moral Decisions and Self-sacrifice
The classical signature of a social dilemma can be described as people agreeing on what should be done for everyone’s benefit, but preferably not being done to themselves. An example for such a dilemma situation is being in an autonomous vehicle, facing a situation where the car needs to decide to either save the passenger inside the car or some pedestrians on the road. Research found, that people agree that the autonomous vehicle should use utilitarianism for deciding, hence maximizing the overall outcome and using self-sacrifice of the passenger for the greater good (Bonnefon, Shariff, & Rahwan, 2015). However, participants also indicated that they would rather wished others to cruise in a car that makes use of this utilitarian choice than they wanted to get such an autonomous vehicles themselves. People mostly agree to utilitarianism for maximizing the benefits, but it is in everybody’s self-interest to not applying utilitarian choices when people get inflicted themselves.

Moral decisions in everyday life often involve the comparison of sacrificing one’s own benefits to prevent others from suffering. However, we still do not fully understand how people calculate the costs-benefits and evaluate the costs of their own suffering compared with the suffering of others. Therefore, it is of importance to understand the role the „self“ is playing for moral decisions.

In many cultural beliefs, self-sacrifice for a specific cause is seen as a powerful signal of a moral position (Haidt, 2007). Although, there is a powerful presence of self-sacrifice in various cultures, most research on moral dilemmas within the past years has not examined the role of rather inflicting harm to oneself than others in their paradigms. Only a few studies included the
sacrifice of the decision-maker as a factor of relevance in their moral dilemmas. Sachdeva, Iliev, Ekhtiar, & Dehghani (2015) examined the role of self-sacrifice in moral dilemma scenarios. Researchers found that people, who were faced with the footbridge dilemma, regarded sacrificing oneself as more morally laudable than sacrificing someone else. The self-sacrifice effect was observed across three experiments and among different cultural groups. In all three studies, participants preferred to jump off the footbridge themselves, rather than pushing a bystander. Hence, self-sacrifice is morally preferable to sacrificing a stranger. On the account of Sachdeva et al. (2015), causing direct harm to someone else is seen as morally blameworthy, whereas self-sacrifice is perceived as worthy of praise if it is done to save others. Contrary to utilitarian theories which might picture the act of sacrificing oneself to save the life of someone as resulting from a cost-benefit analysis, deontology favors human rights and moral duties. Moreover, as stated by the dual-process model of moral judgment, the principle of deontology is rejecting the idea of causing harm to another individual. Therefore, researchers argue that the act of self-sacrifice might actually be the result of deontological concepts (Ginges, Atran, Sachdeva, & Medin, 2011).

1.1.5 Gender Differences in Moral Decision-making
Carol Gilligan (1982) further developed Kohlberg’s theory of moral development particularly with regard to gender differences. People make moral decisions based on gender stereotypes. In her arguing, “justice and fairness” represent male attributes, whereas “empathy, social responsibility and care” are regarded as female characteristics. Gilligan (1982) argued that for men, morality is depersonalized and more cognitive. Therefore, one can assume that men are more likely to use utilitarian decision-making, where controlled cognitive processing leads to a cognitive evaluation of outcomes. Research by Friesdorf, Conway, & Gawronski (2015) shows that men show more utilitarianism than women, especially in “personal” moral dilemma situations. This finding is opposing to women, who show a more affect-laden and personalized morality. Research on gender differences in moral decision making showed, that women are more likely to use deontological processing than men (Friesdorf, Conway, & Gawronski, 2015). Particularly in personal moral dilemmas where harm requires the act of physical force, women are more likely to choose the principle of deontology (Greene et al., 2009). Friesdorf et al. (2015) also found, that women show stronger affective responses to the idea of causing harm to
another individual, which they explained with the incorporation of female gender roles (Eagly & Karau, 2002). Furthermore, individuals’ moral perceptions of harm and fairness guide how we navigate emerging moral challenges. Because of societal expectations of women and men caused by different gender roles in our society, gender bias (attributing care-taking and communal behaviors to women, and assertive behaviors to men) could play a fundamental role in shaping perceptions of harm sensitivity, and thus in building the framework of moral decisions.

1.1.6 Gender in Moral Dilemma Scenarios
In a study by FeldmanHall et al. (2016), researchers found that gender bias might play a significant role in moral decision-making. Across three studies, researchers investigated the role of a target’s gender and the effect of moral perceptions of harm and fairness on altruistic behavior. Results revealed that an individual’s engagement in harmful actions and peoples’ considerations of harm are biased by a target’s gender. Researchers found a shift of harm perception when interacting with a female target. Subjects showed higher altruism when engaging with a woman than with a man. Furthermore, results revealed that individuals were more willing to protect females from harm than their male counterparts. Moreover, studies showed that harming women is perceived as significantly more unfair than harming a male target and that women are believed to have significantly lower tolerance for pain than men do. Researchers argued, that moral choices are conditional on contextual information. Targets’ gender as well as deciders’ gender have an influence on an individual’s choice to act in a more or less altruistic way. These data illustrate that harm considerations and gender bias are central for moral cognition.

1.2 Gender in Social Psychology
People form knowledge about their own sex around the age of two to three (Ruble, Martin, & Berenbaum, 2007). Because of this sex-related knowledge, individuals tend to focus on gender-relevant social information of their own sex group (Martin & Halverson, 1981). If the gender-relevant social information in the environment is useful for an individual’s own identity, it gets stored in the self. In early years of childhood, only gender-congruent information get stored in memory. However, with further development, individuals become able to also incorporate gender-incongruent knowledge into the self (Hannover, 2000). The purpose of assigning
characteristics to different groups is to simplify information processing. These group assignments are referred to as stereotypes.

1.2.1 Gender Stereotypes
Gender stereotypes are seen as cognitive structures which contain characteristics about men and women that are commonly shared in the society (Eckes, 2010). All gender stereotypes contain a descriptive part. This component entails the information of typical male and female behaviors. Further, some gender stereotypes can be of prescriptive nature as well. The prescriptive part reflects beliefs on how men and women should behave. Men and women are speculated to show differences in achievement-oriented traits, labeled as agentic, and social-oriented traits, labeled as communal (Bakan, 1966). Men get typically characterized as aggressive, independent and dominant. Women get typically characterized as kind, helpful and concerned about others. But the conceptions of the sexes do not only differ, often they are thought of as oppositional. Members of one sex are perceived as lacking characteristics which are considered to be the most common in members of the other sex (Heilman, 2001). Nevertheless, gender stereotypes are not limited to characterisations and traits. Skills, actions, preferences or physical features can also be components of gender stereotypes (Deaux & LaFrance, 1998).

1.2.2 Gender Role Self-Concept
Research shows, that people use gender stereotypical traits for describing themselves (Eagly, Wood, & Diekman, 2000; Hoffman, 2001). These gender stereotypes are part of societal expectations of how women and men should behave and which traits they should incorporate. People are aware of these societal expectations of the sexes and rely on shared gender stereotypes for creating female and male roles (Burn, 1996). The male gender role is commonly described with agentic and instrumental traits and behaviors, for example assertiveness and dominance. Communal and expressive traits and behaviors, such as being sensitive and community-oriented, are ascribed to the female gender role. These gender role stereotypes get used by individuals for self-description and are commonly shared in societies (Athenstaedt, 2003).

The gender role self-concept is described as the amount of gender stereotypes (expressive and instrumental traits) individuals use for describing themselves (Athenstaedt, 2003; Hoffman, 2001; Hannover, 2000). It can be pictured as a specific part of an individual’s
gender-related self. The *gender-related self* has a multifactorial structure and represents a junction of represented gender-related knowledge and the self in individual’s memory (Hannover, 2000). In the beginning, the gender-related self was hypothesized to be unidimensional and a bipolar construct with masculinity and femininity as two poles (Constantinople, 1973). Women were believed to incorporate a mainly feminine self-concept, whereas men were thought of having a primary masculine self concept. Indeed, research shows, that men score higher on measurements regarding masculinity, while women score higher on femininity measurements (Athenstaedt, 2003). Although there is evidence supporting the unidimensional hypothesis, this view changed when Bem (1974) and Spence, Helmreich, & Stapp (1975) established self-descriptive measurements for social traits concerning men and women. Socially desirable instrumental traits (active, independent) as well as expressive traits (gentle, helpful), which resemble stereotypes of women and men in society, build the foundation of these two scales. Given the self-descriptive nature of the scales, they are perceived as measuring gender-related traits that individuals were incorporating into their self-concept (Athenstaedt, 2003). However, further research suggests that the female role self-concept and the male role self-concept should be considered broader self-constructs beyond expressive and instrumental traits. Athenstaedt (2003) introduced a conceptualization of the gender role self-concept containing additional gender role characteristics and gender stereotypic behaviors. This multidimensional approach includes besides gender stereotypical socially desirable instrumental and expressive traits also socially perceived negative instrumental and expressive traits, as well as female and male stereotypical behaviors.

1.2.2.1 Female and Male Gender Role Self-concept

Taken together, gender stereotypical behaviors (FBehav and MBehav), socially positive expressive and instrumental gender traits (F+ and M+) as well as socially negative gender traits (F- and M-) together form the gender role self-concept. Socially desirable traits and gender stereotypical behaviors design two independent dimensions, the *female role self-concept* and the *male role self-concept*. In addition, socially negative instrumental and expressive traits are defined in two independent dimensions, correlating with the cross-gendered self-concept content (Athenstaedt, 2003). This suggests the separated incorporation of negative stereotypes from positive group stereotypes into the self-concept.
Furthermore, Athenstaedt (2003) found that the female role self-concept and the male role self-concept are independent for men. For women, on the contrary, these gender self-concepts are correlated. This finding suggests, that both, feminine and masculine aspects of gender role aspects get incorporated into women’s self-concept. Due to societal circumstances which put higher value on masculine characteristics, women might feel pressured to incorporate male role aspects into their self-concept (Athenstaedt, 2003).

Summed up, social role aspects might be of importance for the self-concept. Gender stereotypes get used for self-description and different gender stereotypes form factors of the gender role self-concept. The sex difference found in the correlation between female role self-concept and male role self-concept suggests a different meaning of gender roles for men and women.

1.2.3 Social Role Theory

Human behavior is fundamentally defined by the internalization of social roles. Parsons, Bales, & Family (1955) focused on role expectations of men and women within society. They observed a specialization of men in task-oriented behavior, whereas women engage in a specialization of socio-emotional behavior. This phenomenon is described as the gendered division of labour. Parsons, Bales, & Family (1955), state that role differentiation is functionally inherent for harmonious social interactions and that complementary female and male roles are ought to be necessary for a smoothly functioning society.

In the social role theory introduced by Eagly and Wood (2012) researchers described the causal effect of social structure on gender differences in behavior. The theory states that cultural and social norms create distinctions between male and female roles. Gender roles operate through three components of biosocial mechanisms, which influence individuals to behave in line with appropriate gender-role expectations. Biological processes including hormonal changes and physical sex differences, the incorporation of gender in the self-concept, as well as regulatory processes of the individual and the society are seen as proximal causes of differences in behavior of men and women. The interaction of these three components are resulting in differences and similarities between the sexes (Wood, Eagly, Fiske, Gilbert, & Lindzey, 2010).

Appropriate gender role behavior is partially guided through the activation of hormonal changes, particularly through changing testosterone and oxytocin levels (Wood et al., 2010).
Culturally masculine roles, such as dominance behaviors for maintaining or gaining status, are associated with a higher level of testosterone. Testosterone for example is particularly useful in social interactions containing experienced dominance contests. On the contrary, typical culturally perceived female roles that include behaviors like nurturance and intimacy get associated with higher levels of oxytocin and reduced levels of testosterone. Oxytocin on the contrary is relevant when people experience social interactions including affiliation with others and bonding.

Furthermore, biologically given physical sex differences are believed to play a crucial role in the distribution of men and women to social roles. These physical sex differences include gestation and nursing children for women and greater physical strength as well as a larger body size for men. Thus, some activities are easier and more efficient to accomplish by one sex rather than the other. This led to task specialization between the sexes, which further produces an interdependence between men and women. This interdependence resulted in a division of labour within society.

Gender role beliefs influence individuals' self-concepts. Individuals then incorporate these gender role beliefs in their self-concepts and picture themselves as either female or male. People differ in the extent to which they incorporate gender identities into their self-concepts. Further, societal aspects such as culture and conventions have an influence on the aspects of gender roles.

Moreover, others’ expectations influence gender behavior through social regulatory processes. One key assumption is that women and men get either rewarded from their social environment for behaving in line with consisting gender role beliefs, or penalized for non-conforming behavior. Given that people are aware of the costs for showing non-conforming behavior, they mostly tend to behave in gender-role conforming ways to avoid costs for deviating (Wood et al., 2010).

Eagly and Wood (2012) assert, that men and women adjust themselves psychologically to different social gender role assignments. Such gender roles are formed by expectancies of characteristics of each sex, which emerge from observations of role performances of gender-typical tasks. Typical female characteristics include care-taking and communal behaviors. Women are thought to be communal in general, which is associated with being friendly, unselfish, concerned with others and emotionally expressive. For women, close relationships are
particularly important because of their nurturing role. Therefore, the acquisition of superior relational skills and the ability for nonverbal communication gets favored in women. On the contrary, men get accommodated to male-dominated employment roles. These roles favor a pattern of relative assertive behaviors. Typical male attributed characteristics such as being agentic - that is masterful, assertive, dominant - and behaving in a competitive way get favoured. These characteristics become stereotypic for the sexes and get communicated in social interactions, which then might influence targets behavior to show confirming stereotypical characteristics.

1.3 Sexism
Prejudices or discrimination based on a person’s sex or gender is called sexism (Glick & Fiske, 1996). For years, sexism was pictured as hostility towards women (i.e. negative stereotypes of women being the weaker sex and hostile affect towards them) and the approval of traditional gender roles (i.e. women as a subordinate group with roles according to lower status and power than men). However, relationships between men and women do not fit the commonly used form of prejudice, seen as antipathy only. Since men and women are very intimately connected, sexism is considered a special case of prejudice, noticeable by ambivalence towards women (Glick & Fiske, 1996). Research suggests that traditional attitudes of women’s roles do not only fit with hostility towards females, but are also associated with highly positive evaluations of women (Eagly & Mladinic, 1989; Glick & Fiske, 1996).

1.3.1 Theory of Ambivalent Sexism
Over the past years, overtly sexist beliefs decreased (Salvaggio, Streich, & Hopper, 2009). Despite this fact, not all sexism is exterminated. According to research, contemporary sexism shows itself in a new, more complex form. Glick and Fiske (1996) offered a new conceptualisation of sexism, the *theory of ambivalent sexism*. Ambivalence means a coexistence of positive and negative feelings within an individual. The theory states, that people inherit subjectively negative and positive evaluations of men and women, comprising benevolent and hostile feelings at the same time. Sexist individuals show ambivalence without experiencing conflicting feelings or any tension about their attitudes. The nature of sexist ambivalence stems from two sets of sexist beliefs, which are related to each other and get applied simultaneously:
benevolent sexism and hostile sexism. Although being distinct concepts, they are positively correlated with each other (Glick & Fiske, 1996). Hostile sexism as well as benevolent sexism are rooted in issues of social power, gender identity, and sexuality. Both types of sexism share three components: paternalism, gender differentiation and heterosexuality. Each of the components is reflecting attitudes and beliefs about ambivalence towards women, with each concept having their peculiar aspect of hostility and benevolence.

1.3.2 Hostile Sexism
Hostile sexism is characterized as a hostile affect and negative stereotypes about women. It is directed against women that violate traditional gender roles (Becker, 2010), and concludes in a negative evaluation of non-traditional women (Glick & Fiske, 1996). It serves as a justification of male power, to justify derogatory views of women and forgives men’s exploitation of women as sexual objects. It is grounded in the belief of men being more competent and thus deserving higher status and more powerful roles. Due to hostile sexists beliefs as in picturing women as incompetent at agentic tasks, women get characterized as unfit to hold power over political, legal, or economic institutions. Hostile sexism has three components. The first component is dominative paternalism. Researchers argue, that there is a power difference between the sexes due to patriarchy. Hostile sexists justify patriarchy with the belief that women are not competent and therefore in need for a superordinate male figure. The second component is called competitive gender differentiation. Men get perceived as the only ones able to manage important social institutions because of their agentic traits. It serves as a social justification for male structural power. The last part of hostile sexism is heterosexual hostility. Women are pictured as gatekeepers for sexual intimacy, which creates vulnerability within men. This component reflects the fear of women using men’s sexual attraction to gain power and dominance over them and the tendency to view women as merely sexual objects.

1.3.3 Benevolent Sexism
Benevolent sexism relies on gentle and kind justifications of male dominance as well as prescribed traditional gender roles (Glick & Fiske, 1996). It is subjectively positive for the sexist and creates feelings of protectiveness and affection towards the target. The concept of benevolent sexism entails three components. The first component is heterosexual intimacy. Men’s sexual motivation is not only on a physical basis, but also linked with a desire for sincere
psychological closeness. The second element is *complementary gender differentiation*. It relies on the dependency of men on women as romantic objects, wives and mothers. This dependency fosters the view of women having desirable and positive traits, which complement male attributes (Eagly & Mladinic, 1994). Complementary traits are associated with complementary gender roles. Favourable traits ascribed to women, as in sensitivity to people’s feelings, are compensating for what men stereotypically are missing. Hence, for a benevolent sexist, a woman completes the man. *Protective paternalism* is the last component. For sexist individuals, women’s weaknesses require men to fulfil their role as protectors and providers. It represents traditional gender roles, with the wife being dependent on the husband for providing for her economically and for maintaining her social status.

In a study by Glick and Fiske (2001), researchers found that women more strongly rejected hostile sexism and attitudes that go along with hostility towards them than those behaviors that carry potential benefits for them such as benevolent sexism behaviors do. As benevolent sexism promotes a view of women as helpless, women tend to become dependent on the protection of men and their benevolent sexist behavior, like men holding doors open for women but not for men. Thus, the concept plays a direct role in undermining women’s motivation to engage in direct action to improve their lower status (Becker & Wright, 2011; Glick & Fiske, 1996).

### 1.3.4 System Justification Theory

Nevertheless, not only men but also women tend to incorporate benevolent sexist attitudes and opinions. According to previous research, men and also women tend to see benevolent sexism as less offensive than hostile sexism and even desirable (Barreto & Ellemers, 2005; Bohner, Ahlborn, & Steiner, 2010). Jost and Banaji (1994) introduced the *system justification theory*. This theory states that both men and women endorse benevolent sexist beliefs due to its promotion of diffuse system justification as well as the feeling that the status quo is fair (Jost & Hunyady, 2005). Based on this theory, benevolent sexism promotes the perception of society being fair and in turn boosts life satisfaction by proposing that gender inequality is justified. This justification of gender inequality states back to the positive social identities men and women get flattered with and which therefore make them believe that their complementary gender roles are well suited for them. Research done by Connelly and Heesacker (2012) is providing support for
the system justification theory. Correlational evidence was found supporting that benevolent sexism boosts life satisfaction for both sexes due to the enhancement of perceived fairness of the overall social structure. For women, this belief might boost life satisfaction by decreasing frustration whereas for men this sense of fairness might reduce the guilt of being the more powerful sex, bolster a general sense of stability and boost their self-esteem (Jost & Hunyady, 2005).

1.3.5 Ambivalent Sexism Measurements
Glick and Fiske (1996) established the *Ambivalent Sexism Inventory* as a measurement for how sexist, men and women, evaluate, treat and stereotype women. It is based on the Ambivalent Sexism Theory, also established by Glick and Fiske (1996). The inventory is a self-report measurement, which consists of two subscales, with 11 items each. It has a 6-point rating scale (with 0 – strongly disagree up to 5 – strongly agree) and has an internal consistency reliability of .8 - .9 (Glick & Fiske, 1996). The subscale named “Benevolent Sexism” covers protective paternalism, complementary gender differentiation and intimate heterosexuality. The second subscale “Hostile Sexism” consists of dominative paternalism, competitive gender differentiation and heterosexual hostility. For women in the age of non-college, undergraduate women, and undergraduate men research by Glick and Fiske (1996) shows a positive correlation between the two subscales for an average at about .5, suggesting that both subscales are components of a traditional sexist ideology. However, one of the major advantages of the ASI scale over other sexism measurements is the ability to separate out hostile sexism and benevolent sexism. Since each scale can be statistically partialed out from the other, pure measures of hostile and benevolent sexism can be extracted. Studies for predictive validity of the ASI show a prediction of opposing evaluations of women (Glick & Fiske, 1996). Moreover, the two subscales can predict attitudes and stereotypes with opposing valences about women. For both, men and women, the hostile sexism scale was significantly related to negative stereotypes and evaluations of women, whereas the benevolent sexism scale was significantly related to positive stereotypes and evaluations of women.

1.3.6 Gender Differences in Sexism
Glick and Fiske (1996) found similar structures of sexist beliefs within women and men. Albeit some aspects of sexist attitudes might be the result of specifically male drives directed at
women, sexist beliefs get transferred within a culture and thus, can be accepted and adopted by women as well. Research showed, that men show more hostile as well as benevolent sexist attitudes than women (Glick & Fiske, 1996).

Furthermore, research found a relationship between hostile sexism and the ascription of negative traits, negative feelings and negative affect towards women (Glick & Fiske, 1996). This relationship was found for both sexes, suggesting that sexism is relevant for both, men and women. Sexist people are more likely to hold onto traditional ideologies. Especially non-traditional women, such as feminists or career women, are more likely to evoke a negative picture in sexist people. Non-traditional women threaten gender-role distinct and traditional ideologies, which are perceived as essentially for sexist women self-concepts (Glick & Fiske, 1996). While research found a relationship between the ascription of negative traits to women and hostile sexism, researchers also found a relationship between the ascription of positive traits to women and benevolent sexism. Especially benevolent sexist men tend to ascribe positive traits to women (Glick & Fiske, 1996).

Moreover, the concepts produce division of women into two groups: a favourable in-group and a disliked out-group (Glick et al., 1997). The favored in-group consists of women in traditional gender roles. These traditional women get evaluated with more positive emotions, such as warmth, happiness and respect. For traditionally thinking men, these women fulfill their desire for paternalism and sexual motives. The disliked out-group is consistent of women, who challenge or threaten the needs and desires of traditional men, such as career women or feminists. Sexist individuals ascribe more negative personal traits such as being aggressive, greedy and selfish to career women. This differentiation of women creates a love-hate relationship, with loving some women and hating others. On top of that, it creates a justification of sexist attitudes as not prejudicial towards women overall, since only specific groups of women get disliked and faced with sexist behavior.

Female gender bias (being warm and nurturing) are assumed to make individuals think, women deserve to be helped (Shnabel, Bar-Anan, Kende, Bareket, & Lazar, 2015). This is in line with research, which shows that female targets are more likely than male targets to receive help from men and women alike (Eagly & Crowley, 1986). Moreover, men and women that inherit strong benevolent sexist attitudes are more likely to provide help for female targets. In addition, researchers found a higher tendency among benevolent sexist men to assume that
women expect men to provide help, hence to serve as their “male protectors” (Shnabel et al., 2015).

1.4 Aim of the study and Hypotheses
The present study’s aim is to demonstrate the influence of gender bias on moral decisions. Moreover, the goal is to find out how sexist beliefs shape people’s moral perceptions and their willingness to harm an individual. While studies have been completed with the Footbridge Dilemma (Foot, 1978) – a variation of the class Trolley Dilemma – using the gender of the bystander as the independent variable, none have varied the gender of the people on the tracks.

The present study will therefore include the gender of people saved as a variable. If sexism and gender biases, such as associating women with helplessness, contribute to moral decisions in the way of social framing, then participants engaging with female targets should show more prosocial tendencies and be more willing to save female targets. The aim is to investigate the influence of gender bias and participant’s gender on the willingness to push (WTP) in a moral footbridge dilemma (Foot, 1978). Moreover, benevolent sexism will be considered as possible moderator variable.

1.4.1 H1: men are overall more willing to push
Based on previous findings of FeldmanHall et al. (2016), which displayed that men are overall more willing to push a bystander off of the footbridge than women, the present study ought to replicate this finding. Furthermore there is evidence that for men morality is depersonalized and more cognitive; therefore men are more prone to use utilitarian judgments when making decisions (Friesdorf et al., 2015). In contrary to women, who engage in a more affect-laden and personalized morality (Gilligan, 1982) and are more likely to use deontological processing (Friesdorf et al., 2015). Especially in “personal” dilemmas where harm requires physical force (Greene et al., 2009), such as the Footbridge Dilemma, these effects are pronounced. The principle of deontology leads to harm rejection, because harm is seen as an unacceptable violation rights & duties and creates an affect-laden reaction to the idea of harming an individual (Greene et al., 2009). Since utilitarianism is described as cognitive evaluation of outcomes, with maximizing benefits and minimizing costs, utilitarian processing can lead to harm acceptance, when harm maximizes overall outcomes (Greene et al., 2009). In the present studies, the
principle of utilitarianism is reflected in pushing the bystander off of the footbridge for saving the lives of the five people on the tracks. Therefore, we argue that men have an overall higher willingness to push than women (H1).

1.4.2 H2, H3: higher willingness to push a male bystander / with female PS
In a study by FeldmanHall et al. (2016), researchers discovered a shift in perception of harm when people are interacting with a female target. Not only showed subjects higher altruism when engaging with a women than with a men, also harming women was perceived as more unfair than inflicting harm to a male target. Furthermore, research done by Eagly & Crowley (1986) found, that female targets are more likely than male targets to elicit help from male strangers. FeldmanHall et al. (2016) also found, that individuals are more willing to protect women from harm than men. Researchers argue, that the presented effects occur due to on going gender bias, which reflect typical female and male characteristics. Typical female characteristics include care-taking and communal behaviors, being friendly, unselfish and concerned with others (Eagly & Wood, 2012). This female gender bias make individuals think, women deserve to be helped (Shnabel, Bar-Anan, Kende, Bareket, & Lazar, 2015) and influence individual’s choice to act in a more altruistic way (FeldmanHall et al., 2016).

Therefore, I argue that there is an overall higher willingness to push a male bystander than a female bystander (H2). Furthermore, individuals have a higher Willingness To Push (WTP) a bystander of any gender when women are on the tracks than when men are on the tracks (H3).

1.4.3 H4, H5: men show stronger benevolent and hostile sexist attitudes
Glick and Fiske (1996) ascertained, that men show stronger benevolent as well as hostile sexist beliefs than women. This effect was considerably often replicated throughout different cultures, age cohorts and socioeconomic status groups (Jost & Banaji, 1994; Pratto, Sidanius, & Stallworth, 1993). Therefore, the present studies want to replicate findings and argue, that men score higher on benevolent (H4) as well as on hostile sexism (H5) scales than women do.

1.4.4 H6, H7: individuals high on benevolent sexism show pronounced H2 and H3
Glick and Fiske (1996) found similar structures for sexism in men and women. Researchers stated that sexist beliefs get transferred within a culture and thus, adopted by women and men.
Furthermore, previous studies found a relationship between the ascription of positive traits to women and benevolent sexism, with benevolent sexist individuals showing a tendency for ascribing positive traits to women (Glick & Fiske, 1997). As already discussed, female gender bias are influencing individual’s decision making. Women are more likely to receive help than men (Eagly & Crowley, 1986) and female gender bias make individuals think women deserve to be helped (Shnabel et al., 2015). Moreover, Shnabel et al. (2015) found, that individuals with strong sexist beliefs are more likely to provide help for women.

Therefore, H2 should be more pronounced for individuals high on the scale of benevolent sexism measures than for individuals low on benevolent sexism scales (H6). Lastly, H3 should be more pronounced for individuals scoring high in benevolent sexism than for individuals who score low on benevolent sexism (H7).

1.4.5 Self-sacrifice
Recent research demonstrated, that individuals show a stronger preference for inflicting pain to oneself than harming others (Haidt, 2007). This effect can even be observed when interacting with strangers (Huebner & Hauser, 2011). Moreover, a study by Sachdeva et al. (2015) ascertained, that individuals find it more morally praiseworthy to sacrifice themselves than inflicting harm to another person in footbridge dilemma. Researchers stated, that direct harm is seen as morally blameworthy by individuals, whereas sacrificing oneself is perceived as praiseworthy, when the act of self-sacrifice is done to save others. Therefore, in the present studies we were interested, whether people would sacrifice themselves and if so, how gender influences individual’s decision-making.
2 METHODS

Study 1 was carried out at Karl-Franzens University in Graz, Austria. Participants received all questionnaires in German language. Study 2 was carried out at Universiteit Leiden, Netherlands. Participants received the same questionnaires, but in English language. Both studies were construed as a between-subjects design. The subjects participated anonymously over the Internet and were not allowed to take part in more than one experimental session. The Karl-Franzens University ethics committee approved the study and all participants had to provide written informed consent. The present studies were pre-registered with AsPredicted. AsPredicted is a standardized online pre-registration for separating exploratory analyses from confirmatory analyses.

For examining the proposed minimum sample size, I conducted an a-priori g-power analysis with G*Power 3.1. The parameters were set as follows: estimated effect size of \( f^2 = .32 \) (medium effect size, taken from the study of Feldman-Hall et al., 2016), \( \alpha \) error level: .05 and an Actual Power of 0.95. Benevolent Sexism, Bystander’s Gender, Participant’s Gender and Gender of People saved, served as predictors. The calculation indicated a minimum sample size of 64 participants.

2.1 Study 1

A total of three hundred participants were recruited from social media, via e-mail and on various platforms. 156 female participants and 144 male subjects participated in this version of the study, with a mean age of 29.10 (SD=9.80) years in an age range of 18 up to 76 years old. The age range within female participants was between 18 and 67 with a mean age of 29.68 (SD = 10.09). The mean age of male participants was 28.47 (SD = 9.48) within an age range between 18 and 76. Most participants indicated a high school diploma (41.7%) as their highest educational level, 32% graduated with a university degree, 14% completed an apprenticeship, 5.3% had minimum compulsory schooling and the remaining 7% indicated other special training, not specified. 8.3 % of participants studied psychology. Participants’ nationalities were Austrian and German. 88 % of all participants were heterosexual, 4.7% homosexual, 5% bisexual and 2.3% pansexual.
2.1.1 Materials

2.1.1.1 Ambivalent Sexism Inventory
The inventory, established by Glick and Fiske (1996), is a self-report measurement. It consists of benevolent sexism and hostile sexism as two subscales, with 11 items for each subscale and a 6-point rating scale (with 0 – strongly disagree up to 5 – strongly agree). The internal consistency reliability measured in study 1 was cronbach’s alpha=.864 for the benevolent sexism subscale. For the hostile sexism subscale internal consistency reliability was cronbach’s alpha=.919. In study 1, we used a german translation of the ASI. The subscale named “Benevolent Sexism” covers protective paternalism, complementary gender differentiation and intimate heterosexuality. Example items for this scale are “Women should be cherished and protected by men” and “Men should be willing to sacrifice their own well-being in order to provide financially for the women in their lives”. The second subscale “Hostile Sexism” consists of dominative paternalism, competitive gender differentiation and heterosexual hostility. Example items for this scale are “When women lose to men in a fair competition, they typically complain about being discriminated against” and “Women seek to gain power by getting control over men”. We found a positive correlation between hostile sexism and benevolent sexism within female \((r = .617, p = .00)\) and male \((r = .43, p = .00)\) participants in study 1. However, since each scale can be statistically partialed out from the other, pure measures of hostile and benevolent sexism can be extracted. Therefore, the subscales are regarded as measuring two different concepts of ambivalent sexism (Glick & Fiske, 1996).

2.1.1.2 Willingness To Push
In the present study we used a modified version of the Footbridge Dilemma (Foot, 1978). We manipulated the gender of the bystander and the people on the tracks. Participants were faced with one of four scenarios where they had to push either a man or a woman onto the tracks to save the life of either five women or five men.

“Sie stehen neben einem Mann auf einer Brücke, die über Zuggleise führt. Sie entdecken einen Wagon, welcher auf 5 Frauen zurast, die sich auf jenen Zuggleisen befinden. Wenn der Wagon seinen Kurs beibehält, werden die 5 Frauen mit Sicherheit getötet. Ihre einzige Möglichkeit die Frauen zu retten besteht darin, den Mann neben Ihnen, von der Brücke, auf die Gleise zu stoßen...”
um den Wagon zu stoppen.”

After the moral dilemma participants indicated on a 10-point scale their Willingness To Push (WTP). This scale got adopted from a study by Feldman-Hall et al. (2016). “How willing are you to push the man/woman off the footbridge?” Participants had to indicate their Willingness To Push ranging from 0 “not at all willing” to 10 ”very willing”.

2.1.1.3 Willingness To Jump
We further investigated, if individuals express any willingness to sacrifice themselves in order to save the lives of the people on the tracks in the Footbridge dilemma. Participants got asked to think back of the moral dilemma they got selected to. Hence, the same version out of the four versions of the modified footbridge dilemma with varying gender of bystander and people on the tracks. Then they had to indicate on the same 10-point scale as WTP, how willing they are to jump off the footbridge themselves, ranging from 0 “not at all willing” to 10 “very willing”.

2.1.1.4 Consent Form
In the beginning, participants had to give written consent for participating in this study. The consent form included some information about the aim, the procedure and the duration of the study. It also contained information about the voluntary basis of participation and that no personal data will be given to third parties. For guaranteeing subject’s anonymity, participants needed to generate their own subject’s code. The subject’s code for anonymity was composited of following criteria: the last two letters of the own first name, followed by the first two letters of the mother’s name and ending with the digits of the own day of birth.

2.1.2 Procedure
Study 1 took place at Karl-Franzens-University Graz between Wednesday, the 21st of February and Monday, the 5th of March. The study was conducted as an online study. At first, participants were faced with the welcome page, which included the aim of the study and the written consent. In the beginning, they had to generate their subjects code for anonymity. Then, they had to fill in their demographic data. Participant’s nationality, gender (male/female), age (in years), information of their educational level (minimum compulsory schooling/apprenticeship/high school diploma/university/other special training) and type of study or work were collected as demographic data. Also the information about participant’s sexual orientation
(heterosexual/homosexual/bisexual/pansexual/asexual) was being asked. Afterwards, subjects got randomly assigned to one of four moral dilemmas: 78 participants (49 female, 29 male) were faced with version one, 84 participants (39 female, 45 male) took part in version two, 72 participants (38 female, 34 male) completed version three and 66 participants (30 female, 36 male) finished version four of the dilemma (see Table 1). In each dilemma version participant’s had to indicate their willingness to push the bystander. Next, they had to fill in the ambivalent sexism inventory. In the end of the study, they were faced again with their version of the footbridge dilemma and were asked to indicate their willingness to jump off the footbridge themselves, hence to sacrifice themselves. All together, the average time to complete the study was 9.18 minutes.

**Table 1: distribution of participants on the four dilemma versions.**

<table>
<thead>
<tr>
<th></th>
<th>MFF</th>
<th>MMM</th>
<th>FFF</th>
<th>FMM</th>
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<td>female</td>
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</tr>
<tr>
<td></td>
<td>78</td>
<td>84</td>
<td>72</td>
<td>66</td>
</tr>
</tbody>
</table>

*Annotation: MFF= male bystander + women on the tracks, MMM= male bystander + men on the tracks, FFF= female bystander + women on the tracks, FMM= female bystander + women on the tracks*

### 2.2 Study 2

292 adults were participating in Study 2. The study was examined with international participants, at Leiden University in the Netherlands. People were recruited from social media and other platforms. 161 women and 131 men participated in this version of the study, with a mean age of 24.28 (SD=5.21) in the age range of 18 up to 58 years old. The mean age of female participants was 23.4 (SD = 5.01) in an age range of 18 to 58 years old. The age range within male participants was 18 to 53 years, with a mean age of 25.37 (SD = 5.26) years. Most people indicated a university diploma as their highest level of education (87.3%), 9.6% of participant’s a high school diploma, 2.4% graduated from other special training and minimum compulsory schooling as well as apprenticeship indicated 1 person each. 13% of participants studied
psychology. Participant’s nationalities were from all over the world. Hence, English was for most participants not their native language. 255 people were answering the questionnaire in their second language, while the sample consisted of only 27 English native speaker. 87% of the subjects were heterosexual, 7.9% bisexual, 4.1% homosexual and two people were pansexual.

2.2.1 Materials

2.2.1.1 Ambivalent Sexism Inventory

In study 2, we applied the original version of the Ambivalent Sexism Inventory, established by Glick and Fiske (1996) in English language. The internal consistency reliability measured in study 2 was *cronbach’s alpha* = .799 for the benevolent sexism subscale. For the hostile sexism subscale internal consistency reliability was *cronbach’s alpha* = .849. Furthermore, we found a positive correlation between the the benevolent sexism subscale and the hostile sexism subscale of the Ambivalent Sexism Inventory also in study 2. The correlation shows, that within the female sample (*r* = .632, *p* = .00) and the male sample (*r* = .46, *p* = .00) the subscales are correlating.

2.2.1.2 Willingness To Push

In Study 2, the modified Footbridge Dilemma was used in English language:

“A runaway trolley is hurtling down the tracks towards 5 men who will be killed if it proceeds on its present course. You are standing next to a man on a footbridge that spans the tracks. They only way to save the 5 men on the tracks is to push the man next to you off of the footbridge and into the path of the trolley.”

2.2.2 Procedure

The procedure of the present study was the same as in Study 1. The only point in which the studies differed was the assignment of subject to the different moral dilemma scenarios. 61 participants (36 female, 25 male) completed version one, 78 participants (48 female, 30 male) took part in version two, 85 participants (46 female, 39 male) were faced with version three and 68 participants (31 female, 37 male) finished version four of the dilemma (see Table 2).
<table>
<thead>
<tr>
<th></th>
<th>MFF</th>
<th>MMM</th>
<th>FFF</th>
<th>FMM</th>
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</tr>
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<tr>
<td></td>
<td>61</td>
<td>78</td>
<td>85</td>
<td>68</td>
</tr>
</tbody>
</table>

 Annotation: MFF = male bystander + women on the tracks, MMM = male bystander + men on the tracks, FFF = female bystander + women on the tracks, FMM = female bystander + women on the tracks
3 STATISTICAL ANALYSES

All analyses were conducted with SPSS 23 (IBM Corp., 2015). For identifying outliers, histograms, boxplots and scatterplots were conducted. No outliers could be identified; therefore, all the analyses were executed with all participants included in the sample. For all analyses, the level of significance is .05. Variables were coded as 0 for male bystander, male person’s saved and male participant. And +1 was used as coding for female bystander, female person’s saved and female participant.

3.1 Study 1

3.1.1 Descriptive Statistics

Table 3 shows the descriptive statistics; hence mean deviation, standard deviation and range, of all relevant dependent variables for study 1. Since the present study was focusing on gender differences, descriptive analyses were performed in a gender-split manner.

Table 3: descriptive results for dependent variables: self-sacrifice, Willingness To Push (WTP), Benevolent Sexism (BS) and Hostile Sexism (HS)

<table>
<thead>
<tr>
<th></th>
<th>min</th>
<th>max</th>
<th>MD</th>
<th>SD</th>
</tr>
</thead>
<tbody>
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<td>female</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTJ</td>
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<td>10</td>
<td>3.37</td>
<td>2.68</td>
</tr>
<tr>
<td>WTP</td>
<td>1</td>
<td>10</td>
<td>2.88</td>
<td>2.17</td>
</tr>
<tr>
<td>BS</td>
<td>1</td>
<td>5.36</td>
<td>3.10</td>
<td>.99</td>
</tr>
<tr>
<td>HS</td>
<td>1</td>
<td>6.00</td>
<td>3.00</td>
<td>1.08</td>
</tr>
<tr>
<td>male</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTJ</td>
<td>1</td>
<td>10</td>
<td>3.72</td>
<td>2.86</td>
</tr>
<tr>
<td>WTP</td>
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<td>10</td>
<td>3.49</td>
<td>2.79</td>
</tr>
<tr>
<td>BS</td>
<td>1</td>
<td>5.73</td>
<td>3.43</td>
<td>.97</td>
</tr>
<tr>
<td>HS</td>
<td>1</td>
<td>5.73</td>
<td>3.49</td>
<td>1.04</td>
</tr>
</tbody>
</table>

Annotation: WTJ=Willingness To Jump WTP=Willingness To Push, BS=Benevolent Sexism, HS=Hostile Sexism; MD=Mean Deviation, SD=Standard Deviation
3.1.2 Statistical requirements
For examining whether the requirements were being met for later analyses, all relevant variables were checked if they show a normal distribution of values. In order to test these prerequisites, I conducted Kolmogorov-Smirnov-Tests. Some of the variables failed to show a normal distribution of values, but due to the large sample size, the central limit theorem was effective. The theorem states, that with increasing sample size the distribution of the arithmetic mean is changing to a normal distribution within the sample. Bortz and Schuster (2011) argued, that a sample size of thirty or higher (n ≥ 30) is sufficient for values being normally distributed within the sample under all circumstances. Study 1 showed a sample size of 300 people in total, therefore all calculations could be performed with parametric methods. Furthermore, since all dependent variables followed interval scaling, also the prerequisites of interval scaling were fulfilled throughout the entire sample.

For checking the independence of the independent variables, φ -correlations were conducted. The independent variables participant’s sex and sex of people saved could not reach independence ($\chi^2(1) = 4.372$, $p = .038$, $\phi = .12$). However, independence of the variables is present when looking at participant’s sex and bystander’s sex ($\chi^2(1) = .76$, $p = .383$, $\phi = -.05$).

3.1.3 Correlations
The present study contained a variety of variables, which were directly or indirectly connected with the dependent variables Willingness To Push (WTP), Benevolent Sexism (BS) and Hostile Sexism (HS). Because of the focus on gender differences, at first all correlational analyses were conducted in a gender-split manner. However, since correlation coefficients were similar in their directions and their sizes, all correlational analyses were examined and interpreted independently of gender. An overview of associations between these variables is given in Table 4.
### Table 4: Correlations of relevant variables.

<table>
<thead>
<tr>
<th></th>
<th>Gend</th>
<th>Age</th>
<th>WTP</th>
<th>BS</th>
<th>HS</th>
<th>WTJ</th>
<th>Bysta</th>
<th>Savee</th>
</tr>
</thead>
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<td></td>
<td></td>
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</tr>
<tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td>WTP</td>
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<td>-.119*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BS</td>
<td>.166**</td>
<td>.124*</td>
<td>.054</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS</td>
<td>.228**</td>
<td>.123*</td>
<td>.144*</td>
<td>.547**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTJ</td>
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<td>-.167**</td>
<td>.342**</td>
<td>.009</td>
<td>.000</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bysta</td>
<td>-.05</td>
<td>.028</td>
<td>-.081</td>
<td>.064</td>
<td>-.010</td>
<td>-.147*</td>
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<td></td>
</tr>
<tr>
<td>Savee</td>
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<td>.007</td>
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<td>.098</td>
<td>.040</td>
<td>-.069</td>
<td>.040</td>
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</tr>
</tbody>
</table>

**Annotation:** gender (0 = female, 1 = male), WTP = Willingness to Push Scale (1-10), BS = Benevolent Sexism Scale (1 – 6), HS = Hostile Sexism Scale (1-6), WTJ = Willingness To Jump Scale (1-10), Bysta = bystander gender (0 = female, 1= male), Savee = gender of people saved (0 = females, 1 = males)

* significant on a .05 level
** significant on a .01 level

#### 3.1.3.1 Willingness To Push

Furthermore, a significant negative correlation between participant’s age and their willingness to push \( r_{AGE, WTP} = -.119, p=.04 \) was found, implying that with increasing age, people show a decrease in their willingness to push a bystander off the footbridge. Surprisingly, there was a significant positive correlation between Hostile Sexism and people’s Willingness To Push \( r_{HS, WTP} = .144, p=.013 \), indicating that with increasing hostile sexist beliefs, also people’s willingness to push is increasing. An interesting finding was the correlation between participant’s gender and their Willingness To Push \( r_{GEND, WTP} = .120, p=.037 \). This finding suggested an increase in Willingness To Push with increasing gender, hence male participants. Another surprising finding was the significant positive correlation between people’s willingness to push and their willingness to jump \( r_{WTP, WTJ} = .342, p=.00 \), demonstrating an increase of willingness to sacrifice oneself by jumping off the footbridge with increasing willingness to push another person off the footbridge.
3.1.3.2 Willingness To Jump

In addition, the analyses reveal a significant correlation between Willingness To Jump and age \((r_{\text{AGE, WTJ}} = -0.167, p = 0.004)\). This finding shows a decrease of people’s willingness for sacrificing themselves, hence jumping off the footbridge, with increasing age. Furthermore, results showed a significant correlation between Willingness To Jump and bystander’s gender \((r_{\text{BYSTA, SELF}} = -0.155, p = 0.011)\). The finding suggests that people’s willingness to jump is decreasing with increasing gender; hence men are more willing to jump.

3.1.3.3 Benevolent Sexism and Hostile Sexism

As already presumed, Benevolent Sexism and Hostile Sexism were positively correlating with each other on a .01 significance level \((r_{\text{BS, HS}} = .547, p < .001)\), indicating that with increasing benevolent sexist attitudes also hostile sexist beliefs are increasing. Furthermore, there is a significant positive correlation between Benevolent Sexism and Age \((r_{\text{AGE, BS}} = .124, p = .032)\), suggesting that with increasing age also an increase in benevolent sexist beliefs occurs. This effect also applied for the significant positive correlation between Hostile Sexism and Age \((r_{\text{AGE, HS}} = .123, p = .033)\), which was displaying an increase in hostile sexist attitudes throughout the lifespan. Further, there was a significant positive correlation between both sexism scales and participant’s gender \((r_{\text{GEND, BS}} = .166, p = .004; r_{\text{GEND, HS}} = .288, p = .00)\). This finding suggested, that with increasing gender (hence, male participants) also hostile sexist attitudes and benevolent sexist beliefs are increasing.

3.1.4 Gender Differences in Willingness To Push

Based on previous literature, hypotheses one to three were focusing on differences between the sexes and their Willingness To Push. The first hypothesis stated, that men have an overall higher Willingness To Push a bystander of any gender off the footbridge (H1). The second hypothesis claimed, that people are more willing to push a male bystander than a female bystander off the footbridge (H2). The third hypothesis presumed, that people are more willing to push a bystander of any gender off the footbridge, when there are women on the tracks, who need to be saved (H3). Analyses were conducted with three independent variables: bystander’s gender (male/female), gender of participant (male/female), gender of people saved (male/female). Therefore, the present study consists of an experimental 2x2x2 between-subjects Design. I conducted an analysis of variance with Willingness To Push as dependent variable and the three
independent variables already mentioned above.

Levene’s-Test of Equality of Error Variances tests the null hypothesis, that across all groups, the error variance of the dependent variable “Willingness To Push” is equally distributed. For this analysis, error variances of the dependent variable were not equally distributed across all groups ($F_{(7,292)}=5.17, p=.00$). Hence, the groups were not homogenous. However, due to a sufficient sample size and equal group sizes, it can be presumed, that the violation of homogeneity was not problematic for further analyses.

There was no significant main effect bystander’s gender ($F_{(1,292)}= 1.61, p=.21, \eta_p^2=.005$), hence there is no difference in people’s willingness to push, whether they are standing next to a woman or a man. Also, there was no significant main effect of gender of people saved ($F_{(1,292)}= .038, p=.85, \eta_p^2=.000$), which implies that also the gender of people on the tracks does not make a difference in participants Willingness To Push. Likewise there were no significant interactions (bystander*saves: $F_{(1,292)}=.513, p=.21, \eta_p^2=.002$; bystander*participant: $F_{(1,292)}=1.02, p=.313, \eta_p^2=.003$; saves*participant: $F_{(1,292)}=1.14, p=.287, \eta_p^2=.004$; bystander*saves*participant: $F_{(1,292)}=.028, p=.867, \eta_p^2=.00$). However, the analysis showed a significant main effect participant’s gender ($F_{(1,292)}= 3.93, p=.049, \eta_p^2=.013$). Men show an overall higher willingness to push ($MD=3.49, SD=2.79$) a person off the footbridge, regardless of the gender of people saved or the bystander’s sex than women ($MD=2.88, SD=2.17$). In this case, effect size according to Cohen is $d=.24$ and regarded as a small effect (Cohen, 1992).
Table 5: mean deviation (MD), standard deviation (SD) and sample size (n) for participant’s gender, bystander’s gender and gender of people saved dependent on Willingness To Push.

<table>
<thead>
<tr>
<th>participant</th>
<th>bystander</th>
<th>savees</th>
<th>MD</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
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<td>female</td>
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<td>female</td>
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<td>2.50</td>
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<td>87</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td>2.67</td>
<td>1.92</td>
<td>69</td>
</tr>
<tr>
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<td></td>
<td>total</td>
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</tbody>
</table>

Since findings of correlational analysis shown in Table 4 demonstrated a significant correlation between Willingness to Push and age ($r_{\text{AGE,WTP}} = -0.119$, $p = 0.04$) I included age as a covariate in the analysis of variance.

Due to the inclusion of age as a covariate, the main effect participant’s gender changed from demonstrating a significant result, to only indicating a tendency of significance and a slightly diminished effect size ($F_{(1, 291)} = 3.53$, $p = 0.061$, $\eta^2_p = 0.012$). This finding suggests, that the former finding of men having an overall higher Willingness To Push than women, is partially attributable to participant’s age.
3.1.5 Gender Differences in Willingness To Jump

The analysis consisted of an experimental 2x2x2 between-subjects Design. I examined an analysis of variance with willingness to jump serving as dependent variable and bystander’s gender (male/female), gender of participant (male/female), gender of people saved (male/female) served as independent variables.

A Levene’s-Test of Equality of Error Variances showed, that error variances were not distributed equally across groups ($F_{(7,292)}=2.73, p=.01$). However, because of a sufficiently big sample size and almost equal group sizes, the violation of homogeneity was not seen as problematic for subsequent analyses.

There was no main effect participant’s gender ($F_{(1,292)}=1.26, p=.262, \eta^2_p=.004$), hence there is no difference between men and women in their overall willingness to jump. Furthermore, there was no significant main effect gender of people saved ($F_{(1,292)}=1.26, p=.263, \eta^2_p=.004$), which suggests that also the gender of people on the tracks does not make a difference for one’s willingness to self-sacrifice. Also the interactions did not show significant results (bystander*savees: $F_{(1,292)}=.493, p=.483, \eta^2_p=.002$; bystander*participant: $F_{(1,292)}=.133, p=.716, \eta^2_p=.00$; savees*participant: $F_{(1,292)}=.029, p=.865, \eta^2_p=.00$; bystander*savees*participant: $F_{(1,292)}=.178, p=.673, \eta^2_p=.001$). Nevertheless, there was a significant main effect of bystander’s gender ($F_{(1,292)}=6.19, p=.013, \eta^2_p=.021$). The results revealed, that people are more willing to sacrifice themselves, when standing next to a female bystander ($MD=3.98, SD=3.01$) than when standing next to a male bystander ($MD=3.16, SD=2.5$). With an effect size of $d=.3$, the result resembles a medium effect within the population (Cohen, 1992).
Table 6: mean deviation (MD), standard deviation (SD) and sample size (n) for participant’s gender, bystander’s gender and gender of people saved dependent on Willingness To Jump.

<table>
<thead>
<tr>
<th>participant</th>
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<th>savees</th>
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<th>SD</th>
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<tr>
<td></td>
<td></td>
<td>total</td>
<td>3.54</td>
<td>2.77</td>
<td>300</td>
</tr>
</tbody>
</table>

Because of a significant correlation between the variables Self-sacrifice and Age ($r_{AGE, SELF} = - .167, p=.004$), I ran another analysis of variance which included Age as a covariate. However, the results did not reveal any new findings. (participant: $F_{(1,291)}=3.525$, $p=.061$, $\eta^2_p=.012$; bystander: $F_{(1,291)}=1.568$, $p=.212$, $\eta^2_p=.005$; savees: $F_{(1,291)}=2.04$, $p=.878$, $\eta^2_p=.000$; bystander*savees: $F_{(1,291)}=4.79$, $p=.49$, $\eta^2_p=.002$; bystander*participant: $F_{(1,291)}=6.48$, $p=.422$, $\eta^2_p=.002$; savees*participant: $F_{(1,291)}=1.304$, $p=.255$, $\eta^2_p=.004$; bystander*savees*participant: $F_{(1,291)}=.003$, $p=.955$, $\eta^2_p=.000$)
3.1.6 Gender Differences in Ambivalent Sexism

One goal of this study was to replicate previously observed gender differences between men and women in benevolent and hostile sexism, with men scoring higher on benevolent and hostile sexism scales than women (Glick & Fiske, 1996). For examining whether there is a significant difference between the sexes in hostile and benevolent sexism, I conducted analyses of variance, with the benevolent sexism subscale and the hostile sexism subscale of the Ambivalent Sexism Inventory as dependent variables and participant’s gender (male/female) as independent variable.

A Levene’s-Test for Equality of Variances showed, that equal error variances of the dependent variable across groups can be assumed ($F_{(1,298)}=.47$, $p>.05$; $F_{(1,298)}=.516$, $p=.473$).

Results revealed that there is a significant difference between men and women in benevolent sexism ($F_{(1,298)}=8.43$, $p<.01$, $\eta^2_p=.028$). The result stated, that men score higher in benevolent sexism ($MD=3.42$, $SD=.97$) than women ($MD=3.1$, $SD=.99$). Results revealed a medium effect of gender differences in benevolent sexist attitudes within the population ($d=.33$) (Cohen, 1992). Furthermore, analyses showed a significant main effect participant’s gender ($F_{(298)}=16.31$, $p<.01$, $\eta^2_p=.052$). As presumed, men score higher in hostile sexism ($MD=3.49$, $SD=1.04$) than women ($MD=3$, $SD=1.08$). The effect size revealed a medium effect of gender differences in people’s hostile sexist attitudes within the population ($d=.46$) (Cohen, 1992).

Since previous correlational analysis indicated a significant correlation between benevolent sexism, as well as hostile sexism and age ($r_{AGE, BS}=.124$, $p=.032$; $r_{AGE, HS}=.123$, $p=.033$), I included age as a covariate in the analyses of variance. Anyway, the analysis did not demonstrate any difference in the significant main effect participant’s gender, neither for benevolent sexism ($F_{(1,297)}=9.45$, $p=.002$, $\eta^2_p=.031$), nor for hostile sexism ($F_{(297)}=17.79$, $p=.00$, $\eta^2_p=.057$).

3.1.7 Moderation-effect of Benevolent Sexism on Bystander’s Gender and WTP

The present study further wanted to examine whether individuals high in benevolent sexism show a higher Willingness To Push a male bystander off the footbridge than individuals scoring low on the benevolent sexism scale. This suggestion implied a moderator-effect of benevolent sexism on the effect of bystander’s gender on participant’s Willingness To Push.

In particular, a moderation analysis checks if the independent variable affects the dependent variable differently according to particular manifestations of the moderator variable
itself. Analyses tested, whether the independent variable bystander’s gender was affecting the dependent variable Willingness To Push in a different way, when the moderator-variable Benevolent Sexism was added. I conducted a moderation-analysis with Andrew F. Hayes’ program Process, which I installed as an add-on in SPSS. In total, Process includes 74 different models to verify moderation and mediation processes. The present analysis was conducted with model 1 (see figure 1). Corresponding to this model, Willingness To Push served as criteria variable (y); bystander’s gender was used as predictive variable (x) and for the moderator-variable I took Benevolent Sexism (m).

![Figure 1: representation of the model for the moderation-analysis.](image)

The moderation-analysis, carried out with Process, showed no significant moderation-effect of benevolent sexist attitudes on the effect of bystander’s gender on participant’s Willingness To Push ($F_{(3,296)}= 1.06, p=.37, R^2=.011$). The results reveal, that benevolent sexism does not play a crucial role in whether people are rather willing to push a female or male bystander off the footbridge.

### 3.1.8 Moderation-effect of Benevolent Sexism on Gender of PS and WTP

Furthermore, the present study’s aim was to prove whether individuals high in benevolent sexism are more willing to push a bystander of any gender off the footbridge for saving women, rather than men, than individuals scoring low in benevolent sexism scores. In this analysis the target of interest was whether the independent variable gender of people on the tracks is affecting the dependent variable Willingness To Push in a different way, when the moderator-variable Benevolent Sexism is added.
I conducted a moderation-analysis with Andrew F. Hayes’ program Process. The present analysis was conducted with model 1 (see figure 1). Corresponding to this model, Willingness To Push served as criteria variable (y); the gender of people on the tracks was used as predictive variable (x) and as moderator-variable served Benevolent Sexism (m).

Overall the model summary of the moderation-analysis did not reach significance ($F_{(3,296)}=1.93, p=.1247, R^2=.019$). Anyway, there was a significant interaction of Benevolent Sexism and gender of people saved on participant’s Willingness to Push ($F_{(1,296)}=5.075, p=.025, R^2_{\text{change}}=.0164$). However, when looking at conditional effect of people on the tracks’ gender on Willingness To Push, there were no significant effects reportable.

Furthermore, I used Willingness To Push as criteria variable (y); Benevolent Sexism as predictive variable (x) and as moderator-variable (m) the gender of people on the tracks (PS). Results revealed no overall significant model summary ($F_{(3,296)}=1.93, p=.12, R^2=.019$). Nevertheless, the interaction effect of Benevolent Sexism and PS ($F_{(1,296)}=5.08, p=.025, R^2_{\text{change}}=.016$) reached significance. People on the track’s gender shows a significant moderation-effect, but only when women need to be saved ($t=2.211, se=.209, p=.0278$) and not when men are on the tracks ($t=-.937, se=.1965, p=.3493$).

Figure 2: effects of Benevolent Sexism on people’s Willingness To Push a bystander off the footbridge for saving the lives of either female or male persons on the tracks.
3.2 Study 2

3.2.1 Descriptive Statistics

Table 6 shows mean deviation, standard deviation and range of all relevant dependent variables for the present study. Like in study 1, we are focusing on gender differences; therefore descriptive analyses are performed in a gender-split fashion.

Table 7: descriptive results for dependent variables: Willingness To Jump (WTJ), Willingness To Push (WTP), Benevolent Sexism (BS) and Hostile Sexism (HS)

<table>
<thead>
<tr>
<th></th>
<th>min</th>
<th>max</th>
<th>MD</th>
<th>SD</th>
</tr>
</thead>
<tbody>
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<td>female</td>
<td>WTJ</td>
<td>1</td>
<td>10</td>
<td>3.92</td>
</tr>
<tr>
<td></td>
<td>WTP</td>
<td>1</td>
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</tr>
<tr>
<td></td>
<td>HS</td>
<td>1</td>
<td>5</td>
<td>2.47</td>
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</tbody>
</table>

<table>
<thead>
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<th></th>
<th>min</th>
<th>max</th>
<th>MD</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>male</td>
<td>WTJ</td>
<td>1</td>
<td>10</td>
<td>4.46</td>
</tr>
<tr>
<td></td>
<td>WTP</td>
<td>1</td>
<td>10</td>
<td>4.23</td>
</tr>
<tr>
<td></td>
<td>BS</td>
<td>1.45</td>
<td>5.27</td>
<td>3.02</td>
</tr>
<tr>
<td></td>
<td>HS</td>
<td>1.27</td>
<td>4.91</td>
<td>2.96</td>
</tr>
</tbody>
</table>

Annotation: WTJ=Willingness To Jump, WTP=Willingness To Push, BS=Benevolent Sexism, HS=Hostile Sexism; MD=Mean Deviation, SD=Standard Deviation

3.2.2 Statistical Requirements

For checking the requirements for later analyses, Kolmogorov-Smirnov-Tests were conducted. However, not all values of relevant variables followed a normal distribution. Nevertheless, the central limit theorem was effective. Since the overall sample size was 292, the number of participants was sufficient for values being normally distributed within the sample under all circumstances. Therefore, all calculations were performed with parametric analyses.

For checking the independence of the independent variables, $\phi$ -correlations were conducted. The independent variables participant’s sex and sex of people saved reach independence ($\chi^2(1) =$
.125, \( p = .724, \phi = .021 \). Also for the variables participant’s sex and bystander’s sex \( (\chi^2_{(1)} = 3.006, p = .083, \phi = -.101) \) independence could be reached.

### 3.2.3 Correlations

A variety of variables were directly or indirectly connected with the dependent variables Willingness To Push (WTP), Benevolent Sexism (BS) and Hostile Sexism (HS). To test influences, I conducted a correlation analysis, with the associations between relevant variables given in Table 7.

**Table 8: Correlations of relevant variables**

<table>
<thead>
<tr>
<th></th>
<th>Gend</th>
<th>Age</th>
<th>WTP</th>
<th>BS</th>
<th>HS</th>
<th>WTJ</th>
<th>Bysta</th>
<th>Savee</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td>WTP</td>
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<td>.023</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>BS</td>
<td>.169**</td>
<td>.05</td>
<td>.092</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS</td>
<td>.268**</td>
<td>.004</td>
<td>.068</td>
<td>.573**</td>
<td>1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>WTJ</td>
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<td>.107</td>
<td>.313**</td>
<td>.032</td>
<td>-.069</td>
<td>1</td>
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<td></td>
</tr>
<tr>
<td>Bysta</td>
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<td>-.028</td>
<td>.128*</td>
<td>-.039</td>
<td>-.138*</td>
<td>.067</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Savee</td>
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<td>-.029</td>
<td>.062</td>
<td>.002</td>
<td>-.072</td>
<td>-.057</td>
<td>.117*</td>
<td>1</td>
</tr>
</tbody>
</table>

**Annotation:** gender (0 = female, 1 = male), WTP = Willingness to Push Scale (1-10), BS = Benevolent Sexism Scale (1 – 6), HS = Hostile Sexism Scale (1-6), WTJ = Willingness To Jump Scale (1-10), Bysta = bystander gender (0 = female, 1= male), Savee = gender of people saved (0 = females, 1 = males)

* significant on a .05 level

** significant on a .01 level

### 3.2.3.1 Willingness To Push

An interesting finding is the significant correlation between participant’s Willingness To Push and bystander’s gender \( (r_{\text{Bysta, WTP}} = .128, p=.029) \). With an increase of bystander’s gender, also people’s Willingness To Push is increasing.
3.2.3.2 Willingness To Jump

Analyses showed a significant correlation between people’s Willingness To Push and their Willingness To Jump off the footbridge themselves \( (r_{WTP,WJ} = .313, p<.001) \). With an increase of people’s Willingness To Push, also their willingness for sacrificing themselves is increasing.

3.2.3.3 Benevolent Sexism and Hostile Sexism

The correlational analyses showed a significant correlation between Benevolent Sexism and Hostile Sexism \( (r_{HS,BS} = .573, p<.001) \). This result suggested, that with increasing benevolent sexist attitudes people show an increase in hostile sexist beliefs as well. Further, a significant correlation between Benevolent Sexism and participant’s gender \( (r_{GEND,BS} = .169, p=.004) \) was revealed. This finding suggested that with increasing gender also benevolent sexist attitudes are increasing. The same effect was pictured in the significant correlation between Hostile Sexism and participant’s gender \( (r_{GEND,HS} = .268, p<.001) \).

3.2.4 Gender Differences and Willingness To Push

The first hypothesis stated, that men have an overall higher Willingness To Push a bystander of any gender off the footbridge than women \( (H1) \). The second hypothesis claimed, that people are more willing to push a male bystander rather than a female bystander, off the footbridge \( (H2) \). And the third hypothesis presumed, that people are more willing to push a bystander of any gender off the footbridge, when there are women on the tracks who can be saved \( (H3) \). Three independent variables were included in the analyses: bystander’s gender (male/female), gender of participant (male/female), gender of people saved (male/female). Therefore, the present study consisted of an experimental 2x2x2 between-subjects Design. I conducted an analysis of variance with Willingness To Push as dependent variable and the three independent variables already mentioned above.

Levene’s Test for Equality of Error Variances showed equally distributed error variances of the dependent variable “Willingness To Push” across all groups \( (F_{(7,284)}=1.74, p=.10) \). Therefore, groups are homogenous and the requirement for an analysis of variance is being met.

There was no significant main effect of participant’s gender \( (F_{(1,284)}= 2.42, p=.12, \eta^2_p=.008) \), which indicates that there is no difference between the sexes regarding their Willingness To Push. There was no significant main effect of gender of people saved \( (F_{(1,284)}= 1.01, p=.32, \eta^2_p=.004) \), implying that the gender of the people on the tracks does not make a
difference in people’s Willingness To Push. Furthermore, the analysis did not show any significant interactions (participant*bystander: $F_{(1,284)}=2.73, \ p=.1, \ \eta^2_p=.01$; participant*savees: $F_{(1,284)}=2.73, \ p=.1, \ \eta^2_p=.01$; bystander*savees: $F_{(1,284)}=0.7, \ p=.79, \ \eta^2_p=.00$; participant*bystander*savees: $F_{(1,284)}=1.96, \ p=.16, \ \eta^2_p=.007$). However, results did show a significant main effect of bystander’s gender ($F_{(1,284)}=4.94, \ p=.03, \ \eta^2_p=.017$), with an effect size of $d=.26$ indicating a small effect within the population (Cohen, 1992). Participants show a higher willingness to push a male bystander ($MD=4.31, \ SD=2.53$) off the footbridge than a female bystander ($MD=3.67, \ SD=2.42$).

Table 9: mean deviation (MD), standard deviation (SD) and sample size (n) for participant’s gender, bystander’s gender and gender of people saved dependent on Willingness To Push.

<table>
<thead>
<tr>
<th>participant</th>
<th>bystander</th>
<th>savees</th>
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<th>SD</th>
<th>n</th>
</tr>
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<td>2.49</td>
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</table>
3.2.5 Gender Differences in Willingness To Jump

The analysis consisted of an experimental 2x2x2 between-subjects Design. An analysis of variance with Willingness To Jump serving as dependent variable and participant’s gender, bystander’s gender and gender of people saved was conducted.

Results of a Levene’s-Test showed, that the error variances of the dependent variable Willingness To Jump were equal across all groups ($F_{(7,284)}=1.11$, $p=.356$). Consequently, all requirements for subsequent analyses were met.

Results revealed a tendency of participant’s gender as a significant main effect ($F_{(1,284)}=3.50$, $p=.062$, $\eta^2_p=.012$). This tendency implied, that men have an overall higher Willingness To Jump ($MD=4.46$, $SD=2.66$) than women ($MD=3.92$, $SD=2.55$). With an effect size of $d=.21$, the effect found is regarded as a small effect within the population (Cohen, 1992). Further, the analysis did not show a significant main effect bystander ($F_{(1,284)}=2.06$, $p=.152$, $\eta^2_p=.007$) or gender of people on the tracks ($F_{(1,284)}=1.32$, $p=.252$, $\eta^2_p=.005$). These results indicate, that people do not differentiate between the sexes when it comes to willingness to self-sacrifice for people on the tracks and the bystander. In addition, there were no significant interactions (participant*bystander: $F_{(1,284)}=.161$, $p=.689$, $\eta^2_p=.001$; participant*savees: $F_{(1,284)}=.161$, $p=.689$, $\eta^2_p=.001$; bystander*savees: $F_{(1,284)}=.021$, $p=.886$, $\eta^2_p=.00$; participant*bystander*savees: $F_{(1,284)}=.005$, $p=.945$, $\eta^2_p=.00$).
Table 10: mean deviation (MD), standard deviation (SD) and sample size (n) for participant’s gender, bystander’s gender and gender of people saved dependent on Willingness To Jump.

<table>
<thead>
<tr>
<th>participant</th>
<th>bystander</th>
<th>savees</th>
<th>MD</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>female</td>
<td>female</td>
<td>female</td>
<td>3.85</td>
<td>2.66</td>
<td>46</td>
</tr>
<tr>
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<td>male</td>
<td></td>
<td>3.39</td>
<td>2.19</td>
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<td>2.47</td>
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<td>total</td>
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<td>3.92</td>
<td>2.55</td>
<td>161</td>
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</table>

| male        | female    | female | 4.41 | 2.64 | 39 |
|             | male      |        | 4.24 | 2.68 | 37 |
|             | total     |        | 4.33 | 2.65 | 76 |
| male        | female    |        | 4.80 | 2.83 | 25 |
|             | male      |        | 4.50 | 2.60 | 30 |
|             | total     |        | 4.64 | 2.68 | 55 |
| total       | female    |        | 4.56 | 2.70 | 64 |
|             | male      |        | 4.36 | 2.63 | 67 |
|             | total     |        | 4.46 | 2.66 | 131|

| total       | female    | female | 4.11 | 2.65 | 85 |
|             | male      |        | 3.85 | 2.49 | 68 |
|             | total     |        | 3.99 | 2.57 | 153|
| male        | female    |        | 4.59 | 2.57 | 61 |
|             | male      |        | 4.15 | 2.70 | 78 |
|             | total     |        | 4.35 | 2.65 | 139|
| total       | female    |        | 4.31 | 2.62 | 146|
|             | male      |        | 4.01 | 2.60 | 146|
|             | total     |        | 4.16 | 2.61 | 292|

3.2.6 Gender Differences in Ambivalent Sexism

Two analyses of variance were conducted with the benevolent sexism subscale as well as the hostile sexism subscale as dependent variable and participant’s gender as independent variable.

A Levene’s-Test for Equality of Variances indicated, that equal error variances of the dependent variables throughout the sample can be assumed for benevolent sexism ($F_{(1,290)} = .242, p=.623$) as well as for hostile sexism ($F_{(1,290)} = 2.242, p=.135$).

Analyses showed, a significant main effect participant’s gender for both subscales. There was a significant difference between the sexes in benevolent sexism ($F_{(1,290)} = 8.48, p=.004,$
\( \eta_p^2 = .03 \), as well as in hostile sexism \( (F_{(t,290)} = 22.38, p = .00, \eta_p^2 = .072) \). Men scored significantly higher in benevolent sexism \( (MD = 3.02, SD = .76) \) than women \( (MD = 2.77, SD = .73) \). The same effect was shown with hostile sexism, where men scored higher in hostile sexism \( (MD = 2.96, SD = .81) \) than women \( (MD = 2.48, SD = .9) \). The effect size of \( d = .34 \) for gender differences in benevolent sexism is indicating a medium effect, whereas the effect size of \( d = .56 \) is pointing towards a large effect within the population (Cohen, 1992).

### 3.2.7 Moderation-effect of Benevolent Sexism on Bystander’s Gender and WTP

In the present study researcher argued that individuals scoring high in the benevolent sexism score have a higher Willingness To Push a male bystander off the footbridge than individuals scoring low in the benevolent sexism scale. For checking this hypothesis, I conducted a moderation-analysis with model 1 (see figure 1). Willingness To Push served as criteria variable \( (y) \), bystander’s gender was used as predictive variable \( (x) \) and Benevolent Sexism was the moderator variable \( (m) \).

The moderation-analysis showed no significant moderation-effect of benevolent sexist attitudes on the effect of bystander’s gender on participant’s Willingness To Push \( (F_{(3,288)} = 2.57, p = .054, R^2 = .026) \). Therefore, results revealed, that benevolent sexism does not play a crucial role in people’s willingness to push either a female or male bystander off the footbridge.

### 3.2.8 Moderation-effect of Benevolent Sexism on Gender of PS and WTP

In this analysis target of interest was whether the independent variable gender of people on the tracks is affecting the dependent variable Willingness To Push in a different way, when the moderator-variable Benevolent Sexism is added. The present analysis was conducted with model 1 (see figure 1) of PROCESS. Corresponding to this model, Willingness To Push served as criteria variable \( (y) \); the gender of people on the tracks was used as predictive variable \( (x) \) and as moderator-variable served Benevolent Sexism \( (m) \).

The moderation-analysis revealed following results: there was no significant moderation effect of benevolent sexism on the effect of the gender of people on the tracks on participant’s Willingness To Push \( (F_{(3,288)} = 1.23, p = .3, R^2 = .013) \). Therefore, one can conclude, that benevolent sexist attitudes do not play an important role in participant’s willingness to push a person off the footbridge to save the lives of either female or male persons on the tracks.
3.2.9 Moderation-effect of Hostile Sexism on Bystander’s Gender and WTP

We investigated whether the independent variable bystander’s gender is showing a different effect on the dependent variable Willingness To Push, when the moderation-variable Hostile Sexism is added. The present analysis was conducted with model 1 (see figure 1) of Andrew F. Hayes program Process. In accordance with the model, Willingness To Push served as the criteria variable (y), bystander’s gender served as predictive variable (x) and Hostile Sexism was used as moderator variable (m).

There was a significant moderation effect of hostile sexism on the effect of bystander’s gender on participant’s Willingness To Push ($F_{(3,288)}=2.94, p=.0335, R^2=.0297$). Even though, the interaction effect of bystander’s gender and hostile sexism on participant’s WTP did not reach significance in the first step ($F_{(1,288)}=1.76, p=.186, R^2_{(change)}=.0059$), when taken a closer look at the conditional effect of bystander’s gender on participant’s WTP at different values of the moderator, there were significant moderation-effects. People scoring low on hostile sexism have a lower WTP when facing a female bystander than people low in hostile sexism when they get faced with a male bystander ($t=2.63, se=.4122, p=.009$). This effect can also be seen within people scoring moderately on the hostile sexism scale ($t=2.39, se=.2914, p=.0176$). There was no significant influence of great hostile sexism attitudes on people’s willingness to push according to the bystander’s gender ($t=.7478, se=.4126, p=.4552$).

Furthermore we used Willingness To Push as the criteria variable (y), Hostile Sexism as predictive variable (x) and bystander’s gender as moderator variable (m). Analyses reveal a significant effect of bystander’s gender on the effect of hostile sexism on participant’s Willingness To Push ($F_{(3,288)}=3.55, p=.015, R^2=.0297$). The interaction effect of hostile sexism and bystander’s gender did not reach significance in the first step ($F_{(1,288)}=1.81, p=.18, R^2_{(change)}=.0059$), there are significant moderation-effects within the conditional effects. Bystander gender does have a significant moderation-effect, but could only be reported for the female bystander ($t=2.05, se=.2278, p=.0411$) and not for the male bystander ($t=.1517, se=.2273, p=.8795$).
Figure 3: effects of Hostile Sexism on people’s Willingness To Push either a female bystander or a male bystander off the footbridge.
3.3 Merged Data

Since important strengths of this study are the big sample sizes and the two versions of the same study, further analyses want to investigate whether there are some cultural or other influences on previously shown effects.

3.3.1 Sample

Taken both samples together, there is a total of 592 participants. 317 females and 275 men participated in sum. Of special interest is the Study Version, or the location where the study was examined. Therefore, location of the study was included in analyses. Study 2 at Universiteit Leiden was coded as +1, whereas Study 1, located at Karl-Franzens Universität Graz, was coded as 0.

3.3.2 Willingness To Push

For investigating whether there is a difference between participants in Study 1 and in Study 2 in their overall Willingness To Push, an independent samples t-test was conducted. Willingness To Push served as dependent variable and Study Version To test the requirements, a Levene’s Test for Equality of Variances was conducted and showed, that variances are homogeneously distributed within the samples ($F_{(590)}=.263, p=.608$).

Results showed, that there is a significant difference between participants in Study 1 and Study 2 ($t_{(590)}=-3.914, p<.001$). Participants in Study 2 ($MD=3.98, SD=2.488$) showed a higher Willingness To Push compared to participants in Study 1 ($MD=3.17, SD=2.501$).

3.3.3 Willingness To Jump

For testing a possible difference between participants in Study 1 and participants in Study 2 in their Willingness To Jump, an independent samples t-test was executed. A Levene’s Test was conducted for checking if the requirements were met. The variances are equally distributed within the samples ($F_{(590)}=1.438, p=.231$).

Results showed, that there is a significant difference between the Study Version’s in participant’s overall Willingness To Jump ($t_{(590)}=-2.822, p=.005$). Participants in Study 2 ($MD=4.16, SD=2.609$) are overall more willing to jump off of the footbridge than participants in Study 1 ($MD=3.54, SD=2.769$).
4 DISCUSSION

The fundamental intention of this study was to shed light on the influence of gender on moral decision-making processes, also taking into account sexism. As recently ascertained, there are gender differences in moral dilemma scenarios depending not only on participant’s gender (FeldmanHall et al., 2016). The current study was designed to take account for relevant factors associated with the influence of gender in moral decisions, and sexism playing a possible moderating role.

Previous findings concerning gender differences in moral dilemma situations showed similar effects as the ones encountered in the present study. The effect demonstrated by FeldmanHall et al. (2016), with men being overall more willing to push a bystander off the footbridge, could be replicated only partially. The same picture was found regarding the second hypothesis, stating that people are overall more willing to push a male bystander. This gender effect can be seen in study B, the international version of the study, whereas there is no effect found in study A, the German version.

Awad et al. (2018) recently ascertained, that gender effects are most notable for moral decision-making in moral dilemmas. Heretofore, there are no former studies regarding gender differences in moral decision making with taking into account the gender of people on the tracks. Therefore, the present study included manipulated gender of people on the tracks for shedding light on gender influences on this domain. However, no differences depending on gender could be reported. When people get faced with a moral dilemma, the gender of people who need to be saved does not influence the respondent’s moral judgment.

Another innovation of the present studies was the investigation of ambivalent sexism as a possible moderation variable. Previous literature never further investigated the role of sexism in moral decision-making with regard to gender differences. This is why the present studies examined the effect of ambivalent sexism on people’s Willingness To Push with respect to the gender of people on the tracks. Analyses showed, that people interacting with women in need show increasing Willingness To Push with increasing exhibition of benevolent sexist attitudes. Benevolent sexism was noticeable as moderation-effect only when women needed to be saved. Furthermore, results indicated, that people’s Willingness To Push a female bystander increases with individual’s increasing hostile sexist attitudes. The moderation-effect of hostile sexism was observable with the female bystander only.
Results of the present studies further demonstrated anew gender differences in sexism. On average, men show more benevolent as well as hostile sexist attitudes than women. Men scored higher on hostile sexism and benevolent sexism scales. In both versions of the study, these findings could be revealed. Therefore, one can conclude, that once again the effect of gender differences on sexist attitudes could be replicated.

Furthermore, previous research showed that for many people self-sacrifice is preferable to sacrificing someone else (Sachdeva et al., 2015). A study by Sachdeva, Iliev, Ekhtiari, & Dehghani (2015) points out, that in general people prefer to jump off the footbridge themselves rather than pushing a bystander off the footbridge. Therefore, also in the present studies researchers were interested in participant’s willingness to jump off the footbridge, hence sacrificing themselves. Results showed, that there are gender differences in people’s self-sacrifice behavior. Researchers conclude, that men are overall more willing to self-sacrifice. Furthermore, people are more willing to self-sacrifice when interacting with a female bystander.

4.1 Utilitarianism for Men; Deontology for Women
To begin with, it was expected to reproduce the effect of participant’s gender on their Willingness To Push. As seen in previous research of FeldmanHall et al. (2016), men are more willing to push a bystander of any gender off of the footbridge than women. Confirmation for this effect was found in study 1, where male participants were overall more willing to push. Research done by Friesdorf, Conway and Gawronski (2015) and Greene et al. (2009) offers a possible explanation. In their studies, the researchers found a gender effect in moral decision-making. Women are in general more likely to use deontological processing than men, especially in personal moral dilemmas with physical force involved. The principle of deontology leads to harm rejection, because harm is seen as an unacceptable violation rights & duties and creates an affect-laden reaction to the idea of harming an individual (Greene et al., 2009). Whereas utilitarianism is described as cognitive evaluation of possible outcomes, with maximizing benefits and minimizing costs, utilitarian processing can lead to harm acceptance, when harm maximizes overall outcomes (Greene et al., 2009). Moreover, Gilligan (1982) stated, that male and female gender stereotypes are responsible for people’s moral decisions. More in detail, “justice and fairness” represent male attributes, which go in line with utilitarian judgments. Contrary to that, “empathy, social responsibility and care” are seen as stereotypical characteristics of women, characteristics that
represent deontological judgments. Therefore, findings of the present study underline the argument of morality for men being depersonalized and approaching cognitive processes, whereas women show affect-laden, personalized moral processing and stronger emotional responses in general (Brody & Hall, 2010), which in turn leads to more sensitivity for harm considerations (Eagly & Karau, 2002).

### 4.2 Moral Chivalry

Recent research showed, that the most notable effects for moral decision-making in moral dilemma situations are driven by gender (Awad et al., 2018). Men and women display a preference for sparing females, with the latter group showing a stronger preference for this effect (Awad et al., 2018). As previous research by FeldmanHall et al. (2016) showed, harming women is perceived as more unfair than harming a male target. Even though it is considered as equally emotionally aversive to harm any individual, regardless of their gender, within society there is still the perception of harming women as more morally unacceptable. Furthermore, social norms regarding harm considerations and gender account for more harm behavior towards male rather than female targets. More in detail, research showed that societal perceptions regarding gender point towards the belief that women are less tolerant to pain (FeldmanHall et al., 2016). Additionally, research displayed that it is considered as more morally unacceptable to harm women, because of the endorsement of chivalrous behavior within society (FeldmanHall et al., 2016). Moreover, researchers found a shift in people’s harm perception during an interaction with female targets, resulting in more altruistic behavior when engaging with women than when engaging with men. Furthermore, other findings indicate, that people are overall more willing to protect females from harm than their male counterparts (FeldmanHall et al., 2016). Due to endorsing gender role beliefs, which are construed as women being helpless, sensitive and needing nurturance, it is perceived as more salient and aversive to harm women, who are considered as stereotypically weak targets, than harming men, who get associated with strength and competence (FeldmanHall et al., 2016). Furthermore, this female gender bias induces the idea of women being worthy of help (Shnabel, Bar-Anan, Kende, Bareket, & Lazar, 2015). Hence, the finding of study 2, with participant’s being more willing to push a male bystander off of the footbridge than a female bystander, is in line with previous research and underlining the importance of gender for moral decision making.
Surprisingly, there is no evidence for differences in people’s willingness to push regarding the gender of people on the tracks in the footbridge dilemma. The third hypothesis of the present study stated that people are overall more willing to push a bystander of any gender off the footbridge, when women need to be saved. Anyway, neither in Study 1, nor in Study 2 a gender effect can be reported. This is surprising, since research found that people tend to show more positive attitudes towards women than men (Nosek & Banaji, 2001). Furthermore, research established that not only women ascribe more positive attitudes towards other females, but also men (Nosek & Banaji, 2001). Hence sparing females was the expected result. However, other studies gave evidence for in-group favoritism, which might be competing with chivalrous behavior towards women. Dovidio et al. (2010) found, that people show decreased empathic concerns when engaging with outgroup members, whereas they found an increase in empathy towards individual’s in-group. Furthermore, studies showed that people experience dampened physiological and affective empathic responses when outgroup members get exposed to physical pain (Cikara, Bruneau, & Saxe, 2011). Therefore, empathy concerns regarding in-group members and in-group favoritism competing with moral chivalry behavior and gender bias might be an explanation for the lack of confirmation found.

4.3 Foreign-Language Effect

However, there is an interesting finding regarding the location where the study was carried out. When looking at the results of the merged data analyses, results showed that participants in study 2 are more willing to push a male bystander off the footbridge than people participating in study 1. One possible explanation for the confirmation found in the English-speaking sample, whereas there is no effect in Graz, is the heterogeneously distributed variable of language within the sample of study 2. Most of participants in study 2 were answering the questionnaires in their second language. As by recent research established, people tend to systematically judge differently when they face a moral dilemma in a foreign language than in their mother-tongue (Costa et al., 2014). Costa et al. (2014) introduced the Foreign Language Effect. According to this effect, people who are facing moral dilemmas in a foreign language make substantially more use of utilitarian judgments than generate choices of deontological nature. The researchers stated that this effect appears due to reduced emotional responses evoked by the foreign language. Such reduced emotional involvedness promotes a more controlled and reasoned way of processing,
such that utilitarian choices get enhanced. Consequently, the impact of intuitive emotional concerns gets reduced, whereas utilitarian judgments get increased. Further, the increase of psychological distance when using a foreign language could play a role in inducing utilitarianism when engaging in moral decisions. Costa et al. (2014) explained, that the usage of a foreign language provides distance because foreign languages are less grounded in emotional processes or within the emotional system than is the native tongue of a person. Generally, when using a foreign language, decision biases that are rooted in the emotional system, hence deontological judgments, are less manifest than when using a native language (Keysar, Hayakawa, & An, 2012). Evidence for this effect shows a study carried out by Costa et al. (2014). Researchers included the “footbridge” moral dilemma in their study, just as it is the case in the present study. Results showed, that more participants preferred to save five people by pushing one bystander, hence selected the utilitarian choice, when they got faced with the dilemma in a foreign language rather than their native language. These results support the hypothesis of reduced emotional resonance when using a foreign language. Reduced emotional resonance is causing individuals being less affected by emotional aversion, hence pushing a bystander off the footbridge, which in turn enhances their utilitarian decision-making. Taken together, the effect of people being more willing to push a male bystander off of the footbridge in study 2 could resemble a reduction of emotional reactivity due to a foreign-language-use and therefore an enhancement of utilitarian judgments.

4.4 Ambivalent Sexism and Decision-making

Even though it was presumed that people scoring high in benevolent sexism show a higher Willingness To Push interacting with a male bystander than with a female bystander, the results of the present study could not give evidence for this effect. However, in Study 1 we found evidence for the effect of benevolent sexism on people’s Willingness To Push regarding women in need to be saved. As expected, people showed an increasing Willingness To Push a bystander to spare women on the tracks with increasing benevolent sexist attitudes. The present effect stresses the effect of ongoing moral chivalry, gender bias and benevolent sexism in society.

Glick and Fiske (1996) found a difference in power between the sexes. Men are perceived as the more powerful, dominant group whereas women tend to occupy lower-status reputation. According to research, high-status groups prefer to act benevolently towards the subordinate groups thus the latter will more easily agree on their inferior status and even show support for the
hierarchy within the social system (Jost & Kay, 2005). Confirming results are given by the study of Jost and Banaji (1994), who found that status differences promote superiority-beliefs of the dominant or high-status groups – even among the subordinate or low-status groups. Nevertheless, not only men but also women tend to incorporate benevolent sexist attitudes and opinions. Since women are still pictured as the lower status group, the dominant group as well as the subordinate group, tend to picture women as being nicer and friendlier (Jost & Major, 2001). According to previous research, there is an effect within the population showing that female gender bias which reflect characteristics such as nurturance and kindness, create the mind-set of women deserving to be helped (Shnabel et al., 2015). Underlining this evidence, a study found a difference in helping behavior with female targets being more likely to receive help from men and women, rather than male targets (Eagly & Crowley, 1986). Furthermore, researchers found, that higher levels of benevolent sexism among men are predictive for a general tendency to provide help to women (Shnabel et al., 2015). This effect is allegeable with endorsing benevolent sexist beliefs, which picture women as the weaker sex and men in power.

Moreover, in Study 2 researchers found that people’s Willingness To Push a female bystander increases with individual’s increasing hostile sexist attitudes. The presented effect supports the underlying mechanism of hostile sexism and its proponents view on women. Research suggests, that the higher a person scores in hostile sexism, the more likely they are to view women in a negative way. Hostile sexism correlates with negative feelings and negative affect towards women, as well as the ascription of negative traits and characteristics to women (Glick, Diebold, Bailey-Werner, & Zhu, 1997). Also derogatory characterizations of women, especially non-traditional and women behaving non-conforming with traditional gender roles, play a crucial role in hostile sexism (Glick, Diebold, Bailey-Werner, & Zhu, 1997). Research found, that hostile sexism correlates with attitudes of legitimizing violence against women and the justification of these attitudes (Glick, Sakalli-Ugurlu, Ferreira, & Souza, 2002). Therefore, the effect found in the present study is matching with previous findings on hostile sexism, namely negative attitudes towards women and violence against them.

4.5 Men show more Hostile and Benevolent Sexist Attitudes

As already shown by previous research (Glick & Fiske, 1996), men show more hostile sexist as well as benevolent sexist attitudes than women. Also in the present studies this gender difference
was the case. Benevolent sexism and hostile sexism share roots in biological and social conditions. Patriarchy, men holding power and structural control of economic, legal and political institutions, is still prevalent across cultures. There is a bias towards patriarchy. One possible explanation offers the biology of reproduction, where sexual dimorphism, with men’s greater size and strength dominating preindustrial societies, plays a crucial role.

Taking into account previous research on group dynamics and power differences, dominant groups tend to show benevolent behavior towards lower status groups. As established by Glick and Fiske (1996), there is a difference in power between the sexes. Men are perceived as the more powerful, dominant group whereas women tend to occupy lower-status reputation. According to research, high-status groups prefer to act benevolently towards the subordinate groups thus the latter will more easily agree on their inferior status and even show support for the hierarchy within the social system (Jost & Kay, 2005). Confirming results were given by the study of Jost and Banaji (1994), who found that status differences promote superiority-beliefs of the dominant or high-status groups – even among the subordinate or low-status groups.

Based on the system justification theory (Jost & Banaji, 1994), benevolent sexism promotes the perception of society being fair and in turn boosts life satisfaction by proposing that gender inequality is justified. Positive social identities of men and women make them believe that their complementary gender roles are well suited for them. Research done by Connelly and Heesacker (2012) found that benevolent sexism boosts life satisfaction for both sexes due to the enhancement of perceived fairness of the overall social structure. For women, this belief might boost life satisfaction by decreasing frustration whereas for men this sense of fairness might reduce the guilt of being the more powerful sex, bolster a general sense of stability and boost their self-esteem (Jost & Hunyady, 2005).

Despite picturing women as being nice and caring, stereotypes do not only contain positive traits. Women are portrayed as incompetent on agentic dimensions, for example in analytical thinking. Research showed, that women tend to get perceived as less favourably than men when they hold leadership-positions in a predominantly male domain (Eagly, Makhijani, & Klonsky, 1992). Furthermore, men’s stronger social dominance orientation is depicted a result of biological reproduction and seen as a factor in hostile sexism (Pratto, Sidanius, & Stallworth, 1993). Taken together, sexism in men reflect their motivational orientation towards women, in terms of a
backlash against feminism and concerns about the relations between men and women regarding power and structural control.

4.6 Men are more willing to Self-sacrifice

In Study 2, results showed an unambiguous effect with male participants rather taking action when asked to jump off of the footbridge for rescuing people on the tracks than female participants.

In a paper published by Eagly and Crowley (1986), researchers found sex differences in helping behavior with men being overall more willing to help than women, whereas women tend to receive more help than men. This effect is explainable with the male gender role in its traditional form, which encourages heroic behavior seen in altruistic acts of saving others even with involved risk for oneself. Thus, men are more likely to engage in helping behaviors requiring chivalry and heroism. Heroism is consistent with helping behavior, where individuals take actions to help others, despite the fact that their action might result in injury or death to the helping person. They choose to take risks for saving one or more people, even though there is a striking possibility of death or serious physical consequences from the action taken (Becker & Eagly, 2004). In nowadays society, there is still the tradition of honouring heroes, not only in literature but also in film, television and journalism. One striking feature of public presentation of heroes is that they are mostly male. The linking of heroism and masculinity can be traced back to myths and religion. Medieval chivalry established concepts of ideal male behavior as men being obliged to show courageous behavior, even to the extent of putting themselves in danger for helping others. Societal influences produce a cultural and socially constructed male gender role, which is defined as communal expectations about men’s behavior, how men do and should behave (Eckes & Trautner, 2012). Included in the male gender role are attributes such as being adventurous, daring and being willing to take risks. Men, more than women, are associated with the propensity to take risks also due to their role-consistent occupation of social roles in society that require taking risky actions, which are entailing risk to one’s life like fire-fighter or policemen. For example, young boys already get prepared for their later male role occupancies by being socialized to take risks. The occupation of men to these social roles is deriving mainly because of men’s physical features, like their greater physical strength, and the reproductive role which women in society got ascribed to (Wood & Eagly, 2002).
Since heroic forms of helping prescribe the male gender role, research suggests that men are more willing to help than women. Moreover, because of society’s expectation of men risking their life for the sake of others, men may tend to care more about the disapproval they would receive if they declined to help a person in a risky or dangerous situation, whereas this expectation is not held for women. Especially the presence of an audience might be relevant to heroic helping behaviors. Heroic status can only be achieved if there is an audience who witnesses the heroic act of self-sacrifice and therefore, the person gets public recognition for it’s exploits. Therefore, there may be a gender difference in the motives behind the choices the sexes make in dilemmas involving self-sacrifice.

4.7 Self-sacrifice for Women in Need

In Study 1, results showed that people would rather sacrifice themselves for the life of a female bystander than a male bystander.

Previous research on self-sacrifice and altruistic behavior concerning moral decision-making established that self-sacrifice might actually be the result of deontological concepts (Ginges et al., 2011). When looking at deontological concepts in the sense that people act in accordance with their values because they think their behavior, with respect to their values, is the right or noble thing to do, gender differences may occur due to cultural norms and associated helping behaviors. As also discussed by FeldmanHall et al. (2016), there is a pervasive norm in our culture, which indicates the chivalrous idea of protecting women from harm. Research showed, that culture and an individual’s environment are producing specified moral values and principles, which are responsible for different kinds of behaviors (Sachdeva, 2010). In the extent of which chivalry is still being valid in our society and therefore still being part of our culture, it may be influencing helping behavior. Societal expectations of men reflect their engagement in an other-oriented protectiveness (Sachdeva, 2010). This view is shared with the male gender-role. Features of the male gender role are attributes describing men as being adventurous, daring and willing to take risks. This societal influence should be seen in men being more likely to engage in helping behaviors in situations that require chivalrous protectiveness of women, as was demonstrated in Study 1.

Furthermore, Eagly and Crowley (1986) suggested that when faced with dangerous environments, men may exhibit chivalrous or victimizing behavior towards weaker individuals.
Therefore, the decision environment is influencing helping behavior. Key element of the decision environment in the present studies was the manipulation of gender. Moreover, as recently ascertained by Amad et al. (2018), gender effects are most prominent for moral decision-making in moral dilemma situations.

Also for women the gender of the bystander is influencing their decision of sacrificing themselves, with women being more willing to show self-sacrifice behavior when standing next to a female bystander. Research done by Swann et al. (2014) introduces the importance of identity fusion for self-sacrifice behavior for one’s group or ingroup members. Identity fusion denotes a visceral sense of being one with the group and promotes relational ties with their fellow ingroup members, therefore resembles group identification (Swann et al., 2012). Research suggests, that identity fusion triggers emotional reactions that foster people’s motivation to engage in self-sacrificing behaviors for their ingroup members. Furthermore, there is evidence for an amplification of extreme pro-group behavior by increasing ingroup member’s physiological arousal (Swann et al., 2010), which is the case also in the present studies with the footbridge dilemma. Additionally, research showed that in several versions of the trolley dilemma, which is including physiological arousal as well, people who experience a strong belonging to their fellow group would jump in front of a speeding train to save their ingroup members lives (Swann et al., 2014). Furthermore, when people perceive a strong feeling of belonging to a group, the same emotions of distress, anxiety and tension that get activated when they get threatened themselves, also get activated when ingroup members get faced with danger (Swann et al., 2012). In addition, the emotional reaction people experience is enhancing their deontological, hence emotional, processing of moral decisions. Therefore, the application of deontological principles motivates individuals to resolve ingroup members plight and to sacrifice themselves for saving members of their in-group (Swann et al., 2014).

Summed up, the male gender role and the culturally pervasive norm of women being in need of protection serves as an explanation for men being more willing to sacrifice for a female bystander. Whereas for women, group identification and in-group favoritism can shed light on the present effect.
4.8 Limitations

For time-economic reasons researcher applied an online survey for the present study. Online surveys contain major advantages such as recruiting people from different countries and doing so in a short amount of time. As a result of applying online studies, the sample groups are numerous and diverse in participants and lead to a homogeneous distribution of gender within the samples. On the other hand, online surveys contain the disbenefit of an uncontrolled environment, with no guaranteed optimal surrounding while completing the study.

Another debatable point is the generalizability of the results. When using hypothetical dilemma scenarios, researchers are assuming a strong link between the moral intention eliciting in people when faced with a hypothetical moral dilemma and the actions they are willing to take in the real world (Teper, Inzlicht, & Page-Gould, 2011). However, previous research indicates little congruence of people’s stated moral intentions and their actions in real life (FeldmanHall et al., 2012). Literature suggests, that the dynamic system of moral cognition is dependent on complex cognitive processes. These cognitive processes integrate socio-emotional factors, for instance personal past experiences, situational cues and future rewards, as well as prospective consequences (Bandura, 1989). Therefore, hypothetical moral dilemma scenarios, which are spartan in their contextual information, leave people with more room for interpretation and mental simulation. The more room for mental simulation people have, the more their responses differ in the hypothetical moral problem from their real life behavior (FeldmanHall et al., 2012). Furthermore, research found that in simple hypothetical moral dilemma situations people are unable to access contextual-dependent knowledge (FeldmanHall et al., 2012). Whereas this contextual-dependent knowledge is salient in real life moral decision-making, people faced with hypothetical scenarios are incapable of experiencing so. Therefore, in hypothetical moral dilemma situations, people rely on the moral duty of not harming one another, which is culturally perceived as one of the most salient motivations. This leads to the assumption, that hypothetical moral problems, which are underspecified and impoverished in nature, are not a reliable instrument for capturing the complexity of social, emotional and motivational cues inherent to real moral dilemma decision-making. This assumption cast doubt on whether moral decisions made in decontextualized hypothetical moral scenarios are representative for real moral decision-making.
4.9 Perspective
For future studies the importance of gender for self-sacrifice and its influence on moral decision-making processes in moral dilemma situations may be of major interest. As the present studies hold two prominent findings for self-sacrificing behavior in moral dilemma decisions, it is of major interest to investigate the underlying mechanisms of gender and its implications on self-sacrificing behavior more in detail. Furthermore, examining the importance of gender with less aversive moral dilemmas might be of interest for future studies. The Footbridge Dilemma is considered a high-aversive dilemma with personal force involved (Greene et al., 2009), which elicits a strong negative response within participants. Future research might find stronger effects for gender differences in less-aversive dilemma scenarios. Greene et al. (2009) already created versions of the Footbridge Dilemma with different varying aspects of spatial proximity, physical contact and personal force. Researchers found, that personal force plays a crucial role for deciding whether an action is regarded as morally acceptable. For a follow-up study using a Footbridge Dilemma with less personal force involved with varying gender of bystander and people on the tracks would be suggested.
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8 APPENDICES

8.1 Appendices for Study 1

Appendix A: Willkommen

Morality in Everyday Life?!

Liebe/r Teilnehmer/in,

Herzlich Willkommen bei der Online-Untersuchung zu Einstellungen bezüglich Themen des Alltags und Moral.


Die Teilnahme erfolgt auf freiwilliger Basis. Es werden keine Daten an Dritte weitergegeben. Die Anonymität Ihrer Person ist völlig gewährleistet!

Welchen Nutzen haben Studienteilnehmerinnen durch eine Teilnahme?

- Einführung in die psychologische Forschung gewinnen
- Rückmeldung über die Ergebnisse der Studie
- Psychologiestudierende erhalten für ihre Teilnahme einen „Untersuchungsschein“ für die Dauer der Untersuchung

Sie sind bereit mitzumachen?!

Für die Teilnahme an der Studie klicken Sie unten auf weiter. Die Teilnahme ist ausnahmslos freiwillig und Sie haben jederzeit die Möglichkeit und das Recht, die Studie ohne weitere Angabe von Gründen und ohne Entstehung von Nachteilen abzubrechen und Ihre Zustimmung zu widerrufen.

 Folgen Sie bitte genau den Anweisungen während der Umfrage. Wenn Sie sich bei einer Frage nicht sicher sind, kreuzen Sie bitte einfach die Antwort an, die noch am ehesten auf Sie zutrifft. Es gibt keine richtigen oder falschen Antworten! Lediglich Ihre persönliche Einschätzung ist wichtig.

Ihre Teilnahme ist wirklich eine große Hilfe – vielen Dank dafür!

Wenn Sie die Informationen zur Kenntnis genommen haben und der weiteren Teilnahme zustimmen, klicken Sie jetzt auf "weiter".

Appendix B: ProbandInnencode
ProbandInnenCode

Bitte generieren Sie als Erstes Ihren ProbandInnenCode, der Ihre Anonymität gewährleistet.

Gehen Sie bitte nach den folgenden Kriterien vor:

Beginnen Sie mit den letzten beiden Buchstaben des eigenen Vornamens (TheoSA).
Darauf folgen die beiden ersten Buchstaben des Vornamens Ihrer Mutter (Barbara).
Zuletzt stehen die Ziffern des Tages des eigenen Geburtstages (21.10.91).

Aus diesem Beispiel würde sich folgender Code ergeben: SABA21

Appendix C: Demographische Daten

Geschlecht:

☐ weiblich          ☐ männlich

Alter:

in Jahren

höchste abgeschlossene Ausbildung:

☐ Pflichtschule  ☐ Lehre  ☐ Matura  ☐ Universität / Fachhochschule  ☐ andere Fachausbildung

Studienrichtung:

(nicht auszufüllen, wenn keine universitäre Ausbildung vorliegt)
Appendix D: Footbridge Dilemma Version

Hier nun das Gedankenexperiment. Bitte klicken Sie für Ihre Antwort auf die Skala unten!

Sie stehen neben einem Mann auf einer Brücke, die über Zuggleise führt. Sie entdecken einen Wagon, welcher auf 5 Frauen zurast, die sich auf jenen Zuggleisen befinden. Wenn der Wagon seinen Kurs beibehält, werden die 5 Frauen mit Sicherheit getötet. Ihre einzige Möglichkeit die Frauen zu retten besteht darin, den Mann neben Ihnen, von der Brücke, auf die Gleise zu stoßen um den Wagon zu stoppen.

Wie bereit sind Sie, dies zu tun?

Appendix E: Ambivalent Sexism Inventory
Im Folgenden finden Sie jetzt einige Aussagen. Geben Sie bitte an, inwieweit diese Aussagen auf Sie zutreffen oder Ihre persönliche Meinung widerspiegeln. Es gibt dabei weder richtige oder falsche Aussagen. wir sind nur an ihrer persönlichen Meinung interessiert!

Antworten Sie spontan und lassen Sie keine Aussage aus!

<table>
<thead>
<tr>
<th>Frauen sind zu schnell beleidigt.</th>
<th>1 - trifft gar nicht zu</th>
<th>2 - trifft nicht zu</th>
<th>3 - trifft eher nicht</th>
<th>4 - trifft ein wenig zu</th>
<th>5 - trifft eher zu</th>
<th>6 - trifft voll zu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feministinnen stellen an Männer vollkommen berechtigte Forderungen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ein Mann sollte bereit sein, sein eigenes Wohl zu opfern, um für seine Frau zu sorgen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verglichen mit Männern haben Frauen ein besseres moralisches Empfinden.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Egal wie erfolgreich ein Mann auch sein mag, ohne eine Frau, die ihn liebt, fehlt ihm etwas ganz Wichtiges.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeder Mann sollte eine Frau haben, die er wirklich liebt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viele Frauen haben eine Art von Ehrlichkeit, die nur wenige Männer besitzen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viele Frauen haben Spaß daran, mit Männern zu „spielen“, indem sie sich zurecht verführerisch geben, dann aber die Annäherungsversuche der Männer zurückweisen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eine Frau sollte von ihrem Mann auf Händen getragen werden.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was Feministinnen wirklich wollen, ist, dass Frauen mehr an Macht bekommen als Männer.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Man kann im Leben erst richtig glücklich sein, wenn man einen Partner/eine Partnerin hat, der/die man liebt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hat eine Frau erst mal einen Mann „rumgekriegt“, versucht sie ihn an die kurze Leine zu legen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wenn Frauen in einem fairen Wettbewerb gegenüber Männern den Kürzeren ziehen, behaupten sie gerne, sie seien diskriminiert worden.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viele Frauen versuchen unter dem Deckmantel der Gleichberechtigung, besondere Vorgünstigungen zu erlangen, wie z.B. eine Bevorzugung bei der Besetzung von Arbeitsstellen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Die meisten Frauen sehen gar nicht, was Männer alles für sie tun.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frauen sollten von Männern umsorgt und beschützt werden.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix F: Willingness To Jump

Erinnern Sie sich noch einmal an das Dilemma:

Inwieweit sind Sie bereit, selbst von der Brücke auf die Zugleise zu springen?

8.2 Appendices for Study 2

Appendix A: Welcome Page
Morality in everyday life?!

Dear participant,

Welcome to my online-study with the topics morality and attitudes towards issues of everyday life.

Thank you very much for your interest in this study! For my Master's thesis in Social Psychology at Karl-Franzens-University of Graz, I am interested in the influence of attitudes on moral decisions. Therefore, I generated an online-study, which entails only one questionnaire and a few data about you. It will start with a thought experiment, which is purely hypothetical and does not bear any relation to real circumstances. The average time of this study is about 10 minutes.

The participation is on a voluntary basis. No data will be given to third persons. Your anonymity is guaranteed.

You want to participate?!

For participating click on "continue". Participation is voluntary. Anytime you have the right and the possibility to stop the survey, without any disadvantages or declaration about your reasons.

Please, follow the instructions throughout the survey. If you are not sure what to answer, click on the answer that suits you most. There are no correct or false answers, your personal opinion is important.

Thank you for your participation!

If you agree with the terms of participation and want to partake in this study, please click on "continue".

Appendix B: Participant’s Code for Anonymity

Participant's code

Please first generate your participant's code to ensure your anonymity.

Please proceed according to following criteria:

Start with the last two letters of your own first name (ThereSa).
Followed by the first two letters of your mother's first name (BA/here).
Finally use the digits of your own birthday (21.10.91).

Following this example the participant's code would be: SABA21

Appendix C: Demographic Data
Appendix D: Moral Dilemma Version

<table>
<thead>
<tr>
<th>Sex</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>female</td>
<td></td>
</tr>
<tr>
<td>male</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>in years</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Educational Level</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>minimum compulsory schooling</td>
<td></td>
</tr>
<tr>
<td>apprenticeship</td>
<td></td>
</tr>
<tr>
<td>high school diploma</td>
<td></td>
</tr>
<tr>
<td>university / university of applied sciences</td>
<td></td>
</tr>
<tr>
<td>other special training</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field of Study</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(only (former) students)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nationality</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Sexual Orientation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>heterosexual</td>
<td></td>
</tr>
<tr>
<td>homosexual</td>
<td></td>
</tr>
<tr>
<td>bisexual</td>
<td></td>
</tr>
<tr>
<td>pansexual</td>
<td></td>
</tr>
<tr>
<td>asexual</td>
<td></td>
</tr>
</tbody>
</table>
A runaway trolley is hurtling down the tracks towards 5 men who will be killed if it proceeds on its present course. You are standing next to a man on a footbridge that spans the tracks. The only way to save the 5 men on the tracks is to push the man next to you off the footbridge and into the path of the trolley.

**how willing are you, to push the man off the footbridge?**

<table>
<thead>
<tr>
<th>1 - not at all willing</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10 - very willing</th>
</tr>
</thead>
</table>

---

Appendix E: Ambivalent Sexism Inventory

Below are a series of statements concerning men and women and their relationships in contemporary society. Please indicate the degree to which you agree or disagree with each statement using the scale below:

*answer spontaneously and do not leave out any question!*

<table>
<thead>
<tr>
<th>Statement</th>
<th>1 - strongly disagree</th>
<th>2 - disagree somewhat</th>
<th>3 - disagree slightly</th>
<th>4 - agree slightly</th>
<th>5 - agree somewhat</th>
<th>6 - strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When women lose to men in a fair competition, they typically complain about being discriminated against.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for &quot;equality.&quot;</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Every man ought to have a woman whom he adores.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Women should be cherished and protected by men.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Women, compared to men, tend to have a superior moral sensibility.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Men should be willing to sacrifice their own well-being in order to provide financially for the women in their lives.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Women, as compared to men, tend to have a more refined sense of culture and good taste.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>In a disaster, women ought not necessarily to be rescued before men.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Appendix F: Willingness To Jump

think back about the moral dilemma:

how willing are you to jump off the footbridge, onto the tracks yourself?
8.3 AsPredicted Questions

**CONFIDENTIAL - FOR PEER-REVIEW ONLY**

GENDER MORAL DILEMMA DECISIONS - FOOTBRIDGE DILEMMA, Graz, January 2018 (#8372)

Created: 02/12/2018 11:15 AM (PT)
Shared: 12/06/2018 11:15 AM (PT)

This pre-registration is not yet public. This anonymized copy (without author names) was created by the author(s) to use during peer-review. A non-anonymized version (containing author names) will become publicly available only if an author makes it public. Until that happens the contents of this pre-registration are confidential.

1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
The aim is to investigate the influence of gender bias and participant's gender on willingness to push (WTP) in a moral footbridge dilemma (Foot, 1978). Moreover, benevolent sexism will be considered as possible moderator variable.

H1: There is an overall higher WTP a male bystander off the footbridge than a female bystander.
H2: Men have an overall higher WTP than women.
H3: Individuals have a higher WTP a bystander of any gender when women are on the tracks than when men are on the tracks.
H4: Men score higher in benevolent sexism than women.
H5: Men score higher in hostile sexism than women.
H6: H1 should be more pronounced for individuals high in benevolent sexism than for individuals low in benevolent sexism.
H7: H3 should be more pronounced for individuals high in benevolent sexism than for individuals low in benevolent sexism.

3) Describe the key dependent variable(s) specifying how they will be measured.
Willingness to Push (WTP). "How willing are you to push the man/woman off the footbridge?" 10-point scale ranging from 1 "not at all willing" – 10 "very willing"

4) How many and which conditions will participants be assigned to?
Four experimental conditions:
1) 5 men on the tracks, 1 female bystander
2) 5 men on the tracks, 1 male bystander
3) 5 women on the tracks, 1 male bystander
4) 5 women on the tracks, 1 female bystander

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
Variance analysis and multiple Linear Regression Analysis
Moderator analyses with Process
Another explorative question will be if individuals express any willingness to self-sacrifice in the Footbridge dilemma. All the main analyses will be also performed with this measure.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
age range: 18 - 60 as inclusion criteria. people are not allowed to take part in more than one session.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
Minimum 240 participants with 30 male and 30 female participants per condition dilemma. The sample size was determined with power analyses based upon low to average effect sizes found for gender differences, moral decisions, and sexism (FeldmannHall et al., 2016)

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
Ambivalent Sexism Inventory (Glick & Fiske, 1996) will be used as measurement of benevolent sexism.
If individuals express any willingness to self-sacrifice in the Footbridge dilemma will be an exploratory analysis, using the same scale as for WTP ("how willing are you to jump off the footbridge yourself?" 1 "not at all willing" - 10 "very willing").

Verify authenticity http://aspredicted.org/blind.php?k=8mr8kc