CHIVALRY: THE RELATION BETWEEN A CULTURAL SCRIPT AND STEREOTYPES ABOUT WOMEN

BY

T. WILLIAM ALTERMATT

B.A., Millersville University of Pennsylvania, 1995
A.M., University of Illinois at Urbana-Champaign, 1998

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ABSTRACT

Chivalry is a cultural script prescribing the preferential treatment of women by men in the contexts of protection and provision. Although it is often regarded as a polite and prosocial script for male-female relations, chivalry is sometimes suspected of undermining efforts to promote equal status for women because it suggests that women require more help than men do. In this report, I examined the relation between chivalry and two beliefs about women: the belief that women are more virtuous than men and the belief that women are less agentic than men. Endorsement of the chivalry script was found to be significantly positively correlated with the belief that women are more virtuous than men and the belief that women are less agentic than men. In addition, chivalrous men tended to show preferential treatment only to women who appeared to be high in virtue and low in agency. Finally, participants who merely observed a woman receiving chivalrous treatment perceived her to be significantly less independent than participants who observed the same woman when she did not receive chivalrous treatment.
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# TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION........................................................................................................1

CHAPTER 2: A REVIEW OF THE LITERATURE ON CHIVALRY AND
BELIEFS ABOUT WOMEN........................................................................................................7

CHAPTER 3: RESEARCH PRELIMINARY TO THE DISSERTATION
EXPERIMENT................................................................................................................................18

CHAPTER 4: OBSERVING CHIVALRY..........................................................................................79

CHAPTER 5: INTEGRATION........................................................................................................112

TABLES......................................................................................................................................119

FIGURES....................................................................................................................................155

APPENDIX A: A HISTORY OF CHIVALRY.............................................................................158

APPENDIX B: VIGNETTES AND Traits FROM STUDY 2.........................................................163

REFERENCES..........................................................................................................................168

CURRICULUM VITAE.................................................................................................................176
CHAPTER 1: INTRODUCTION

Chivalry is a concept that has undergone considerable change in meaning since its origin in the Middle Ages. Derived from the French cheval (“horse”), chivalry initially referred to a group of warriors on horseback, what we now call the cavalry (a word with similar etymology). Over the centuries, chivalry began to connote a code of appropriate behavior expected of men. In its modern usage, chivalry typically refers to a pattern of behavior characterized by gallantry toward women. In this report, I treat chivalry as a “cultural script” – a set of expectations for behavior that is shared by members of a culture (Triandis, Marin, Lisansky, and Betancourt, 1984). Cultural scripts describe the sequence of activities that are expected under certain social conditions (Harris, Schoen, & Hensley, 1992). Like the script for a play, the chivalry script describes a set of behaviors expected from particular actors toward particular targets in a particular context. In the chivalry script, preferential treatment is expected from men toward women in the context of protection and provision.

The chivalry script leads men to behave toward women in a way that is different from the way they would treat other men – a pattern of behavior that fits the definition of discrimination. Unlike most forms of discrimination, chivalry is associated with benevolent rather than hostile intentions toward the target group, women. Peter Glick and Susan Fiske have explored this unusual situation in their theory of Ambivalent Sexism (Glick & Fiske, 1996). According to their theory, there are two forms of sexism: hostile and benevolent. Whereas hostile sexism involves negative beliefs about women and an adversarial approach to male-female relations, benevolent sexism involves “a set of interrelated attitudes toward women that are sexist in terms of viewing women stereotypically and in restricted roles but that are subjectively positive in feeling tone (for the perceiver) and also tend to elicit behaviors typically categorized as prosocial
(e.g., helping) or intimacy-seeking (e.g., self-disclosure)” (Glick & Fiske, 1996, p. 491). Glick and Fiske (1996) found that the correlation between measures of benevolent and hostile sexism is approximately 0.43 among male student samples and slightly higher among female student samples (Glick & Fiske, 1996, p. 502), suggesting that the positive and negative attitudes about women assessed by their scales tend to co-occur. Based on the correlation between the two types of sexism, Glick and Fiske (1996) propose that they should be considered simultaneously, as *ambivalent sexism*, in which responses to the target group (women) are a mix of positive and negative attitudes.

The distinction between chivalry and ambivalent sexism is between a set of attitudes and a cultural script. Whereas ambivalent sexism is a set of attitudes about women, chivalry is an organized knowledge structure containing information about behaviors – when and to whom they should occur, and what activities are involved (e.g., door-opening, giving up one’s seat, etc.). Glick and Fiske (1996) describe the relation between chivalry and ambivalent sexism as the relation between a set of cultural conditions and the attitudes that emerge from those conditions. In their discussion of how levels of hostile and benevolent sexism vary across cultures, the authors use the example of a chivalrous society to illustrate how the ratio of benevolent to hostile sexism can be very high (Glick & Fiske, 1996, p. 492).

To summarize, chivalry is a set of expectations for behavior that is shared by members of a culture. It is characterized by the themes of men protecting and providing for women, and it is related to hostile and benevolent sexism in that it describes one set of cultural conditions likely to produce a high ratio of benevolent to hostile sexism.¹

¹ In contrast to chivalry, some cultures exhibit a script of institutionalized misogyny. Women of the Yanamano Indian culture, who live on the border between Brazil and Venezuela, are described as “among the most brutalized in the world” (Triandis, 1994, p. 129). In their culture, wives are obtained through raids, and it is prestigious for a man to beat and even stab his wife in public (Triandis, 1994). Thus, chivalry is only one of many possible cultural scripts prescribing the proper relation between men and women.
In this report, I examine the hypothesis that chivalry is related to two beliefs about women: the belief that women are more virtuous than men, and the belief that women are less agentic than men. In Chapter 2, I provide a theoretical context for this hypothesis by reviewing some of the history, theory, and research on chivalry and beliefs about women. Chapters 3 and 4 describe three empirical approaches to testing the central hypothesis. The first two approaches involved four studies conducted in collaboration with Dov Cohen and Tina Johnson, and are discussed in detail in Chapter 3. The third approach involved an experiment conducted independently by me, and comprises the independent research component of this dissertation. It is discussed in Chapter 4. The three approaches are introduced below.

The goal of the first approach was to develop a measure of the strength of endorsement of the chivalry script and to examine whether the endorsement of chivalry was correlated with two beliefs about women: that they are more virtuous than men and that they are less agentic than men. This approach tells us nothing about the causal direction of the relation between chivalry and these beliefs. It cannot tell us, for example, whether chivalry leads to certain beliefs about women, whether certain beliefs about women lead to chivalry, or whether some third factor (such as a belief in traditional sex roles) leads to both. What it does show is that individuals who endorse chivalry also hold beliefs about women’s virtue and agency relative to men. This would suggest that chivalry is not only consistent with these two beliefs, but that the three sets of beliefs in some sense “go together.”

Another way to test whether chivalry is related to beliefs about women is to observe what happens when these beliefs are disconfirmed. If a chivalrous man believes that women are more virtuous and less agentic than men, what happens when he encounters a woman who is very high in agency or very low in virtue? Does he treat her differently than a man who does not endorse
chivalry? The second approach was to examine whether the endorsement of chivalry is related to reactions to women who violate or conform to expectations of high virtue and low agency. In this approach, virtue and agency are treated as experimental variables, manipulated to be displayed at either high or low levels by a stimulus person. According to this approach, we would expect a man who endorses chivalry to give preferential treatment to a woman only when she is high in virtue and low in agency. When she appears to be low in virtue or high in agency, chivalrous individuals are expected to respond with indifference or disapproval rather than preferential treatment. This approach contributes two pieces of information for understanding chivalry.

First, if individuals high in chivalry are more likely than individuals low in chivalry to distinguish among women based on how well they conform to expectations of virtue and agency, then there is more support for the idea that chivalry is related to beliefs about women’s virtue and lack of agency. Specifically, chivalry could be said to be contingently related to beliefs about women; it is more likely to occur when the target is low in agency and high in virtue. Second, the finding that chivalry is not indiscriminate in its provision of preferential treatment is itself noteworthy. It calls into question the image of chivalry as an altruistic pattern of behavior by showing that certain conditions must be met in order for a woman to receive special treatment. To the extent that the receipt of chivalrous behavior is regarded as rewarding by women, the existence of these conditions has implications for how chivalry might actively promote a decrease in agentic behavior and an increase in virtuous behavior among women. If chivalrous treatment is rewarding and received only when women behave in a virtuous and non-agentic manner, then the likelihood of virtuous and non-agentic future behavior will increase. Thus, if chivalry is related to a discrimination among women based on their apparent virtue and
agency and the receipt of chivalry is regarded as rewarding, then it could be said to promote a lack of agency and a premium on virtue.

The third approach deals with the consequences of chivalrous behavior. Imagine two scenarios in which a woman is riding on a crowded bus and does not have a seat. In one scenario, a male passenger offers her his seat and she accepts. In the other, no offer is made. Would observers of these two scenarios form different impressions of the actors? Would the female who accepted the offer, for example, appear more dependent than the female who never received an offer? This approach offers two features not present in the first two approaches. First, it treats chivalry as an experimental variable rather than an individual difference variable, enabling a test of the causal relation between chivalrous behavior and third-party impressions. Second, it takes the perspective of an observer of chivalrous behavior. This perspective is important because the observation of public behavior is one method of receiving information about social roles. In her social roles theory (1987), Alice Eagly proposes that beliefs about sex differences are influenced by observations of the roles typically occupied by men and women. Observations of chivalrous behavior may contribute to the belief that women are less agentic than men are because in the chivalry script, men play the role of provider while women play the role of recipient.

In summary, the first approach examines whether two sets of cognitions – the chivalry script and beliefs about women’s virtue and agency – tend to co-occur. The second approach tests whether chivalrous men distinguish among women based on virtue and agency. The third approach investigates the effect of chivalrous behavior on the impressions that are formed of actors in a dyadic interaction. The methods and results of these three approaches are discussed in detail in Chapters 3 and 4. In the next chapter, I review the empirical and historical literature.
on chivalry and beliefs about women in an effort to provide a context for my research on chivalry.
CHAPTER 2: A REVIEW OF THE LITERATURE ON CHIVALRY AND BELIEFS ABOUT WOMEN

A Brief History Of Chivalry

Chivalry as a cultural phenomenon is unusual in that it is possible to pinpoint its beginnings with considerable accuracy. In the 11th century, knights who had once protected Europe against Viking invasion jeopardized the social order through continuous warfare among themselves. In an effort to control the knights, the Roman Catholic Church reconstructed the knight’s role to include the protection of women, the weak, and the oppressed. During the Crusades, the role of knight was transformed from brutal mercenary into, in the words of Pope Urban II, “the true soldiery of Christ” (Prestage, 1928). Over the centuries, the military and equestrian aspects of chivalry faded and gave way to a script describing gallantry, bravery, and deference to women.

The legacy of chivalry bestowed upon later generations was the idea of the gentleman, described in Castiglione’s The Courtier (1528, cited in Bronowski & Mazlich, 1986) as possessing some of the martial skills of the knight but seeking a greater balance with learning and devoting less time to religious pursuits. An often-cited exemplar of the chivalrous gentleman, Sir Walter Raleigh (1554-1618), was an Oxford-educated Englishman who fought in France on the side of the Huguenots, sailed the globe pirating treasure from the Spanish, and wrote a history of the world (Bronowski & Mazlich, 1986). It was Sir Raleigh who, according to popular legend, cast his coat on the ground to provide Queen Elizabeth a clean path over a puddle of mud. While it may be apocryphal, the story highlights the deference to women that is one of the hallmarks of chivalry.

Research on Chivalry

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2 See Appendix A for more information on the history of chivalry.
Contemporary empirical research in several domains of social behavior has proposed chivalry as an explanation for sex differences. Alice Eagly proposed that chivalry was a normative component of the male gender role, inhibiting aggression toward women (Eagly & Steffen, 1986) and facilitating helping behavior (Eagly & Crowley, 1986). Eagly and Crowley’s (1986) meta-analysis on helping found that women were more likely to receive help than men and that men were more likely to offer help than women. In another meta-analysis, Eagly and Steffen (1986) found that men were more likely to be the victims of aggression than women, especially when the aggression was physical rather than psychological. Chivalry has also been used to explain the leniency bias toward female criminal defendants (Steffensmeier & Kramer, 1982) and the tendency for advocates to be more defensive of female than male interests in negotiation (Pruitt, Carnevale, Forcey, & Van Slyck, 1986). These findings support the idea that Western society possesses norms of protecting and providing for women, norms that are consistent with the chivalry script. However, in the research cited above, chivalry is invoked as a post-hoc explanation for sex differences. Very few studies have focused directly on chivalry or tried to assess, quantitatively, its effect on behavior. Some studies that have are reviewed below.

Support for some elements of the chivalry script come from a field experiment conducted by Ventimiglia (1982). In this experiment, a male or female confederate approached the doors to a library slightly ahead of an unsuspecting participant and held the door for him or her. Sex of participant and confederate were crossed, and an unobtrusive observer recorded the participant’s reaction (gratitude, confusion, disapproval, or avoidance). The greatest level of gratitude occurred when a male opened the door for a female, the greatest level of confusion when a female opened the door for a male, and the greatest level of disapproval when a male opened the door for another male. These reactions are consistent with a behavioral script in which men are
expected to open doors for women. When the script was followed, the actors reacted with gratitude. But when it was violated, the actors expressed confusion or disapproval.

Chivalry is typically understood as a predominately benevolent phenomenon, characterized by concern and protection. Yet, there is some evidence that chivalry may have negative consequences for women’s status and social freedom. Nadler and Morrow (1959) hypothesized that chivalry “places a positive value upon special ‘deference’ and ‘protectiveness’ toward women” but also “stereotypically conceives of women as morally pure, physically fragile, and intellectually naive” (p. 113). These researchers developed a scale of chivalry that included eighteen chivalrous beliefs (e.g. “It is inexcusable when a man escorting a lady fails to help her on with her coat.”) and found high and significant correlations between that scale and both ethnocentrism and fascism, as measured by the California Attitudes Study scales (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950). Rather than emerging from Nadler and Morrow’s (1959) analysis as a prosocial force, chivalry appears to be compatible with ideologies that promote the subordination of one group to another based on superficial group differences.

The impact of chivalrous attitudes on a person’s locus of control and sense of responsibility was the subject of a study by Kahoe (1974). Kahoe (1974) found that chivalrous attitudes (attitudes endorsing the preferential treatment of women) among women were significantly negatively related to an internal locus of control, whereas among men chivalrous attitudes were significantly positively related to feelings of responsibility. Just as affirmative action may lead a minority employee to believe that he or she is less qualified (Blaine, Crocker, & Major, 1995), the belief that women should be given special preference may erode women’s feelings of control.
In conjunction with Glick and Fiske’s (1996) finding that benevolent and hostile sexism tend to co-occur, the research by Nadler and Morrow (1959) and Kahoe (1974) suggests that the positive beliefs about women often associated with chivalry are accompanied by negative beliefs. As mentioned above, my hypothesis is that chivalry is related to two sets of beliefs about women: one positive and the other negative. The positive beliefs are organized around the idea that women are more virtuous than men, and might explain why chivalrous behavior is “deserved”: men should take care of women because women are angelic creatures who deserve to be put on a pedestal. The negative beliefs are organized around the idea that women are less agentic than men, and might explain why chivalrous behavior is “required”: men should take care of women because women are not able to take care of themselves. Beliefs in women’s relative naiveté, weakness, and virtue have a long tradition in human history (Bullough, 1974) and are still found by researchers of sex stereotypes, to whom I turn next.

Beliefs about Women

Ruble and Ruble (1982) state that “across time and history, women and men have been perceived as fundamentally different; these differences have been perceived as important; and they have been closely linked to the roles of the sexes in society” (p. 192). In what ways are women viewed as different from men? This question is addressed by research on sex stereotypes, the widely held beliefs about the characteristics of men and women.

Sex stereotype research began with attempts to identify the content of stereotypes and has more recently turned to investigating their structure and function. The landmark study of the content of sex stereotypes was Rosenkrantz, Vogel, Bee, Broverman, & Broverman (1968). In this study, participants evaluated 122 adjectives in terms of how typical they were of adult males and females. Using a consensus criterion of 75% agreement, Rosenkrantz et al. (1968) identified
41 items as “stereotypic.” Four years later, Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz (1972) published a paper evaluating several studies that used their 1968 scale. They concluded that there is remarkable consensus about the differing characteristics of men and women, regardless of the demographic characteristics of the respondent (including sex). Masculine traits tend to form a cluster of competence, rationality, and assertion, while feminine traits form a cluster of warmth and expressiveness.

This conclusion is supported by research by Ashmore and Tumia (1980), who used multidimensional scaling (MDS) methods to investigate the underlying dimensions of sex stereotypes. Again, masculinity was found to be related to competence while femininity was related to warmth. Ashmore and Tumia’s (1980) results further indicated that these beliefs were bipolar, so that femininity was related to incompetence and masculinity to coldness. These results suggest that masculinity is construed as a blend of being cold (e.g. critical, stern) and competent (e.g. inventive, intelligent), while femininity is construed as being warm (e.g. sociable, good-natured) and incompetent (e.g. foolish, naive). Even more strongly related to the masculine-feminine dimension was a dimension the authors labeled “potency” and described in terms of “hard” and “soft.” This dimension was virtually overlapping with the masculinity-femininity dimension and included the anchors “dominating” and “submissive.” Potency, or power, appears to be even more central to an understanding of masculinity and femininity than the dimensions of competence and warmth. According to Ashmore and Tumia’s (1980) findings, what is dominating is masculine, and what is submissive is feminine.

Rather than describing stereotypes in terms of underlying dimensions, some researchers have attempted to describe stereotypes as composed of several smaller and more specific subtypes. Deaux, Winton, Crowley, and Lewis (1985) propose that social categories, like the
natural categories studied by Rosch (1978), could be expressed in hierarchical terms. Just as the labels “table” and “chair” are more useful when describing a living room than the label “furniture,” so might women and men be more effectively classified as “professional women” or “macho men.” Soon after the publication of Broverman et al.’s (1972) review, evidence began to accumulate that a monolithic stereotype of women was misleading. Based on clustering analyses conducted by Clifton, McGrath, and Wick (1976), Deaux et al. (1985), Noseworthy and Lott (1984), and Six and Eckes (1991), a consensus began to emerge on the existence of three distinct subtypes of women: traditional women (mothers and homemakers), professional women, and women as sex objects. Six and Eckes (1991) used multidimensional scaling techniques to search for the dimensions underlying these subtypes of women and found two: a pure-impure dimension (anchored by “sex bomb,” “tart,” and “vamp” on one end and “straightforward” and “maternal” on the other) and a competent - incompetent or progressive - traditional dimension (anchored by “naive” and “secretary” on one end and “career woman” and “intellectual” on the other). In summary, empirical research on beliefs about women has produced two major findings: First, that femininity is associated with the traits warmth, submissiveness, and a lack of competence; and second, that the female stereotype can be subdivided into three subtypes – traditional, professional, and sex object.

While the empirical literature is suggestive of several important beliefs about women that are relevant to chivalry, history provides some additional insights. In his book *Madonnas and Magdalens*, Trudgill (1976) offers several revealing examples of how beliefs of feminine incompetence, weakness, and purity were perpetuated in Victorian England. Norms of “feminine delicacy” conspired to impose real physical and intellectual handicaps on women.

Interestingly, Six and Eckes’ (1991) analysis of male stereotypes resulted in a much looser association within subtypes. The subtypes were much less distinct and cohesive than the three clusters of female stereotypes identified.
The tight lacing of corsets, inadequate diet, and abstention from exercise contributed to “a doll-like physical fragility in women” that men found attractive (Trudgill, 1976, p. 67). It became fashionable for women to lisp, walk with an unsteady gait, and even feign illness: “Beauty in distress is much the most affecting beauty,” wrote one contemporary male observer (Trudgill, 1976, p. 67). Women’s supposed incompetence was reinforced by the widespread view that educating women was often unnecessary. As a result, female children were often the last in a family to be educated, and their education tended to be cut short through early marriage.

While women were believed to be inferior in intellect, their moral sense was believed to be more well-developed than men’s. In the words of Havelock Ellis, “woman was treated as a cross between an angel and an idiot” (1885, p. 825). Describing women as angels in Victorian England was “conventional hyperbole” (Trudgill, 1976, p. 76) but suggests a deep-seated belief in the fundamental virtue of women. Among the faithful, female virtue served as further evidence of their beliefs. As Tennyson wrote, “The best things that the best believe / Are in her face so kindly writ / The faithless, seeing her, conceive / Not only heaven, but hope of it.”

The premium on female sexual virtue has been attributed by observers to several factors. Two factors mentioned by Trudgill (1976) concern the laws of inheritance and a widespread belief in the slippery slope of sexual impropriety. Before reliable methods of establishing paternity were available, it was possible to know with certainty only that a child was related to his or her mother. In order for men to have confidence that their children were “legitimate” heirs to the family’s property, they had to have confidence that their wives were faithful to them. Thus, the positive valuation of female sexual virtue may have been the result of norms designed to insure the paternity of heirs: “Consider of what importance to society the chastity of woman is. Upon that all property in the world depends. They who forfeit it should not have the
possibility of being restored to good character; nor should the children of an illicit connection attain the full right of lawful children” (Trudgill, 1976, p. 16).

Another cause for the obsession with female virtue was the belief that sexual decency was related to social stability (Trudgill, 1976). The French Revolution was held up as an example of what could happen if sexual morals were abandoned. The relationship seemed to proceed thus: sexual restraint led to a stable family life, which in turn led to social stability. The fear of political turmoil and the perceived relationship between the sexual and the political that existed around the time of the French Revolution led the Bishop of Durham in 1798 to warn the Lords that the French dancing girls now performing in England may be a French plot to undermine the English government (Trudgill, 1976, p. 32).

Based on this review of empirical and historical research, two dimensions seem to be central to organizing information about women: virtue (both sexual and moral) and agency (a combination of competence and power). These dimensions describe the structure of sex stereotypes and subtypes, and also capture some of the historical beliefs about women.

The Potential Costs of Chivalrous Helping

Up to this point, the focus of discussion has been on how beliefs about women might be related to cognitions regarding chivalry (the chivalry script). There is also evidence that chivalrous behavior may have negative consequences for beliefs about women. Two lines of research on helping show that, under some conditions, behaviors that are typically considered prosocial can have antisocial effects.

The first line of research is concerned with the attributions made about someone who has received help. If women are perceived as receiving help more frequently than men are (as indicated by Eagly and Crowley, 1986), then observers may attribute this difference to a greater
need for help among women. The inference of low ability from the receipt of help has been observed in schoolchildren as young as five years old (Graham & Barker, 1990). Graham and Barker (1990) propose a working-backward attribution model to explain this phenomenon. According to their model, children begin by observing that they are more likely to volunteer help when the recipient’s need for help is uncontrollable (e.g. due to lack of ability rather than lack of effort). When children observe their teacher providing help, they attribute this behavior to the teacher’s belief that the recipient lacks ability. Thus, to the extent that chivalry contributes to a systematic helping of women by men, it may contribute to the belief that women are lower in ability than men.

The principle that receiving help leads to decreased evaluations of ability can be used to intentionally undermine positive evaluations of a person’s ability. This process, called “overhelping” (Gilbert & Silvera, 1996), occurs when one person conspicuously provides help to another person who does not need the help and whose evaluation will be negatively impacted by the help. Although this insidious strategy is not expected to provide the primary motivation for chivalry, it is another example of how helping can have negative consequences and it is worth considering that chivalry could be used for such a purpose.

The second line of research is concerned with the effect of helping on recipients themselves. Although helping often does improve the objective well-being of a recipient, the process of receiving help may be unpleasant or may lead to negative long-term consequences. Recipients may feel a sense of indebtedness to the provider of help (Greenberg, 1980), or they may feel that the helper has imposed on them an unwanted obligation to reciprocate (Worchel & Andreoli, 1974). Fisher, Nadler, and Whitcher-Alagna (1986) found that receiving help can threaten one’s self-esteem if care is not taken to downplay comparisons between the donor and
recipient and between the recipient’s current state and the degree of self-reliance valued by him or her. Ironically, non-threatening help is also problematic because it increases the risk that the recipient will become dependent upon the help that is provided (Fisher et al., 1986). This research suggests the possibility that the helpful behaviors that are part of the chivalry script may have negative consequences for the self-esteem and sense of independence of the women who receive them.

A special case of the second line of research concerns helping members of stereotyped groups. In domains where a stereotyped group is expected to perform poorly, help that is provided without request and without any signs that it is needed (“assumptive” help) may communicate to the recipient that the helper expects the recipient to need assistance (Schneider, Major, Luhtanen, & Crocker, 1996). In their experiment, Schneider et al. (1996) led black and white participants to believe that they received feedback from a same-sex white peer. The feedback was given with knowledge of the participant’s race but without knowledge of the participant’s performance on an earlier task. Thus, any feedback that contained advice on how to do better assumed that the participant hadn’t performed well and needed help. Assumptive help was found to lead to lower self-esteem among black participants but not among white participants. This research is relevant to chivalry because the chivalry script encourages men to take the initiative in helping women without evaluating their level of need. This assumptive help may undermine women’s self-esteem in contexts where stereotypes of women contribute to expectations of low performance, such as leader, expert, and other high-agency roles.

Research on helping’s effects on perceptions of the recipient and on the recipient him- or herself suggests that there are several conditions in which helping can have negative consequences. Because it advocates greater helping of women than of men, chivalry has the
potential to promote the perception that women are less able and less independent than men. Among the women who receive chivalrous help, chivalry also has the potential to lower women’s self-esteem and lead to feelings of indebtedness.

A Theoretical Model of Chivalry

My objective in this report is to present evidence that the chivalry script is related to the two factors I identified as organizing beliefs about women: virtue and agency. Based on the research cited above, I propose a model describing the relation between chivalry and beliefs about women (see Figure 1). Figure 1 illustrates the relations I hypothesize among the chivalry script, beliefs about women, and chivalrous behavior. As mentioned above, the belief that women are more virtuous than men may support the chivalry script by explaining why women “deserve” preferential treatment. The belief that women are less agentic than men may support the chivalry script by explaining why women “require” preferential treatment. The chivalry script, in turn, will lead to chivalrous behavior only toward women who appear high in virtue and low in agency – these beliefs serve as “eliciting conditions” for chivalrous behavior. Finally, chivalrous behavior reinforces beliefs regarding women’s lack of agency relative to men by contributing to the idea that women require assistance.

The following two chapters describe a series of empirical studies that explore this model by testing the various arrows in Figure 1. Study 1 tests the relation between chivalry and beliefs about women through a questionnaire. Studies 2, 3, and 4 test the relation between the chivalry script and chivalrous behavior. These four studies are presented in Chapter 3. Finally, Study 5 tests the relation between chivalrous behavior and beliefs about women; this is presented in Chapter 4.
CHAPTER 3: RESEARCH PRELIMINARY TO THE DISSERTATION EXPERIMENT

Study 1: The Chivalry Script: Its Content and Relation to Beliefs about Women

The first study was designed to develop a measure of the degree to which an individual endorsed the chivalry script and to determine whether the endorsement of chivalry was significantly positively correlated with the belief that women are less agentic than men and the belief that women are more virtuous than men. Virtue and agency were each subdivided into two subscales. Virtue was divided into sexual virtue and moral virtue, and agency was divided into power and competence (see Tables 2 and 3). Participants completed questionnaires designed to assess all four of these variables as well as a questionnaire designed to assess the degree to which they endorsed the chivalry script.

Methods

Participants

411 students from an introductory psychology course participated in partial fulfillment of the requirements of that course. 66% were male. 82% identified themselves as white, 8% as Asian or Indian, and 4% as African American. The average age of the participants was 18.8 years. The median income of participants’ parents (or participants if they considered themselves financially independent) was between $80,000 and $100,000 and the modal income was between $60,000 and $80,000.

Procedure

The questionnaire was distributed during a 50-minute experimental session and was introduced as a study of people’s attitudes regarding men, women, and their relationships. After the questionnaire was described and any questions were answered, participants gave written

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4 This study was conducted in collaboration with Tina Johnson and Dov Cohen.
informed consent and began the questionnaire. When participants completed the questionnaire, they were given a written debriefing form and were dismissed.

Materials

All participants received a questionnaire containing a series of statements and were asked to indicate the degree to which they agreed or disagreed with each statement using a 7-point Likert-type response scale. All questionnaires contained items to be used for the creation of a Chivalry Scale and items measuring beliefs about women. For the first 201 participants, these items were supplemented with the short form of the Attitudes Toward Women Scale (Spence, Helmreich, & Stapp, 1973), the Hostile Sexism Scale (Glick & Fiske, 1996) and Nadler and Morrow’s (1959) Chivalry Scale. The Attitudes Toward Women Scale is the most widely-used scale of gender-role attitudes (McHugh & Frieze, 1997) and focuses on people’s beliefs about “the rights, roles, and privileges women ought to have or be permitted” (Spence & Helmreich, 1978, pp. 38-39). Thus, the attitude object is not women per se, but rather women’s rights, roles, and privileges. Some of the items from the AWS are phrased to represent egalitarian beliefs, such as “Women should assume their rightful place in business and all the professions along with men.” Other items are explicitly sexist: “The intellectual leadership of a community should be largely in the hands of men.” The AWS is scored with the egalitarian items reversed, so that a high score on the AWS represents a rejection of egalitarian attitudes and an endorsement of traditional sex roles. The Hostile Sexism Scale is an 11-item subscale of Glick and Fiske’s (1996) Ambivalent Sexism Inventory, and taps attitudes towards beliefs such as that women use sexual attraction to manipulate men and that institutional policies to improve the status of women

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5 These scales were administered only to the first 201 participants because these participants were responsible for completing only eight written scenarios (see Study 2) whereas the remaining 210 participants completed twelve scenarios.
(such as affirmative action) are unfair to men. Nadler and Morrow’s (1959) Chivalry Scale is an 18-item measure designed to assess beliefs dealing with men’s obligations to protect, assist, and show special deference toward women. This scale was not used as a direct measure of chivalry in the present study for three reasons. First, its language is dated and may not be interpreted correctly by contemporary participants. Phrases such as “in alighting from an automobile” and “it is inexcusably boorish” illustrate this issue. Second, many of the behaviors described in the scale have become so uncommon as to be non-diagnostic with regard to chivalry, such as those involving a man taking off his hat, offering his arm, and walking on the curb side of the pavement. Third, Nadler and Morrow’s Chivalry Scale includes many items dealing directly with a belief in women’s superior virtue. Since one of the objectives of the present study was to test the relation between chivalry and this belief, the inclusion of such items in our chivalry measure would be inappropriate.

Results

New Scales

We performed separate principal components analyses on items from the Chivalry Scale and each of the four scales measuring beliefs about women, the results of which are presented in Tables 1, 2, and 3. The Cronbach alpha reliability coefficient for each scale is presented in Table 4. These statistics suggest that each of the scales has satisfactory internal reliability.

We were concerned that the Chivalry Scale did not explicitly distinguish between politeness in general and politeness specifically directed towards women. Although the items are framed in terms of behaviors performed for women, no item rules out the possibility that an equal effort would be made for another man. To address this concern, a second questionnaire

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6 The Benevolent Sexism Scale, the other component of the Ambivalent Sexism Inventory, was not included in this study due to an oversight during questionnaire construction. Correlations between the Chivalry Scale and the Benevolent Sexism Scale are presented in later studies.
that explicitly compared male and female targets was distributed to an independent sample of 272 participants. For example, rather than asking participants whether “A man should give up his seat to a woman if the bus is crowded,” the new item asked participants whether “It’s more important for a man on a crowded bus to give his seat to a woman than to give his seat to another man.” Responses to these items were subjected to a principal components analysis along with responses to the original Chivalry Scale items. In addition, each of the more explicit items was correlated with the Chivalry Scale. Results of these analyses are presented in Table 5. The correlations between the more explicitly phrased items in Table 5 and the corresponding individual items from the Chivalry Scale were each significant. So too were the correlations between the more explicitly phrased items and the total score on the ten-item Chivalry Scale. Finally, a principal components analysis using both the original and the new items indicated that the new items could be included in the Chivalry Scale without loss of coherence. The average principal component loading for the original items was 0.59. Looking at the loadings of the more explicit items, the greatest departure from this average is only 0.03. Taken together, these findings support the interpretation of the Chivalry Scale as a measure of the degree to which men should behave differently toward women than they should behave toward men.

**Sex Differences in Mean Level of Response**

The average responses of male participants to the Chivalry Scale were significantly higher than the average responses of female participants (\(M_s = 4.8\ vs. 4.1, t = 6.9, p < .001\)). Significant differences by sex were also found for each of the four scales measuring beliefs about women. Male participants were significantly more likely than female participants to endorse the beliefs that, relative to men, women are less competent (\(M_s 3.37\ vs. 2.07, t = 10.9, p < .001\), less
powerful ($M_{s} 3.5$ vs. 2.3, $t = 11.8$, $p < .001$), more morally virtuous ($M_{s} 3.9$ vs. 3.5, $t = 3.8$, $p < .001$), and more sexually virtuous ($M_{s} 3.9$ vs. 3.5, $t = 3.4$, $p < .001$).

Correlations among Scales

To create composite scores for Agency and Virtue from their subscales (Power and Competence in the case of Agency and Sexual and Moral in the case of Virtue), the subscales were weighted so that each subscale was represented equally in the composite, rather than according to the number of items in each. Correlations between each of the scales are presented separately for female and male participants in Tables 6 and 7, respectively.

For both male and female participants, the correlations between Chivalry and Agency and Chivalry and Virtue were positive and significant. Thus, the more a participant believed in the appropriateness of the chivalrous treatment of women by men, the more that participant also believed that women were less agentic and more virtuous than men. The subscales were also significantly correlated with Chivalry, with one exception. For males, there was a positive but nonsignificant correlation between Chivalry and Competence. Thus, males who endorsed the chivalry script were not significantly more likely than males who did not endorse chivalry to believe that women are less competent than men. For all other subscales of Virtue and Agency, the correlations with Chivalry were positive and significant for both male and female participants.

A cursory look at Tables 6 and 7 reveals that the correlations for female participants are generally greater than the correlations for male participants. These differences were tested using Fisher’s method for comparing correlation coefficients, and significant differences are indicated in Table 7 by subscripts.
Discussion

Correlation between Chivalry and Beliefs about Women

The question we set out to answer with Study 1 is, “Is an endorsement of chivalry significantly positively correlated with the beliefs that women are less agentic and more virtuous than men?” For female participants, the answer to that question is yes. Females who endorse the chivalrous treatment of women by men are significantly more likely to also believe that men are more competent than women, that men are more suited to positions of authority than women, that women are more morally refined than men, and that women are more sexually reserved and disinterested than men.

For men, our hypothesis concerning the relationship between chivalry and beliefs about women was confirmed for moral virtue, sexual virtue, and power, but not for competence. These results generally support the hypothesis that chivalry is related to the belief that women are more virtuous but less agentic than men are. Given the non-significant correlation between chivalry and competence, it may be the case that the relation between chivalry and agency is more concerned with the issue of women in authority than with the issue of women as experts.

Sex Differences

In three of the four correlations between chivalry and beliefs about women, the correlation was stronger for female participants than for male participants. Women, as compared to men, were significantly more likely to associate an endorsement of chivalry with the beliefs that women are less competent, less suited to authority, and more morally virtuous than men. One possible explanation for this finding is that high-virtue, low-agency women tend to (a) experience more chivalry and thus endorse chivalry more than other women, and (b) believe, through false consensus, that women in general are higher in virtue and lower in agency than
men are. To test this explanation, it is first necessary to determine whether chivalrous behavior is more likely to be experienced by women who are high in virtue and low in agency than by women who are not (see Studies 2 through 4). Second, it is important to determine whether women who endorse chivalry consider themselves to be higher in virtue and lower in agency than women who do not endorse chivalry. This question is not addressed in the present series of studies, and must await further research to be answered.

Correlation between Chivalry and Other Attitude Scales

In addition to the correlations between chivalry and the scales measuring beliefs about women that were developed for this study, chivalry was also correlated with three other attitude scales. The correlation between chivalry and the Attitudes Toward Women Scale was significant for both male and female participants, and significantly stronger for female than for male participants. Chivalry and the AWS share an association with traditional sex roles that emphasize male agency and female passivity, so it is not surprising that they are correlated. Given that high scores on the AWS indicate a rejection of egalitarian sex roles, the positive correlation of the AWS and chivalry suggests that chivalry may not be compatible with egalitarianism, at least at the level of beliefs.

The correlation between chivalry and hostile sexism was significant for female participants (r = 0.45) and significantly higher than the correlation for male participants (r = 0.09). The central beliefs represented in the Hostile Sexism Scale are the beliefs that efforts to improve the status of women through affirmative action and sexual harassment policies have gone too far, leading women to an adversarial orientation toward men. The connection between chivalry and hostile sexism might be explained as a response to an alternative value system that is incompatible with and threatens one’s own. Women who endorse chivalry may endorse
hostile sexism because they are unwilling to exchange their role in the chivalry script with institutional efforts to provide women with economic independence and safety, which may be perceived as cold and impersonal substitutes for chivalry. Given the correlational nature of the present study, further research is needed to test whether the relation between chivalry and hostile sexism is a reaction to such a perceived threat, or is the result of some other process.

The sex difference in the correlations between chivalry and both the AWS and the HSS is worthy of note. Both the AWS and the HSS represent reactionary responses to a change in the social role of women. Perhaps this change is more threatening to chivalrous women than to chivalrous men because the transition for women involves a change in self-definition, whereas for men it is merely an accommodation to a change in others. More research is needed to clarify these sex differences.

Finally, the very high positive correlation between the Chivalry Scale and Nadler and Morrow’s (1959) measure of chivalry indicates that a similar construct is being assessed. Although too dated in its language to be of use in the present investigation, Nadler and Morrow’s (1959) scale provides a useful benchmark against which to assess the validity of the Chivalry Scale.

**Conclusion**

Study 1 documents the creation of a 10-item Chivalry Scale and provides support for the hypothesis that chivalry is related to both positive and negative beliefs about women. The Chivalry Scale was significantly positively correlated with scales measuring beliefs that women are more virtuous and less agentic than men, and these correlations were generally stronger for female participants than for male participants. In addition, the Chivalry Scale was significantly positively correlated with the Attitudes Toward Women Scale and, for female participants only,
with the Hostile Sexism Scale. Finally, the Chivalry Scale was significantly positively correlated with Nadler & Morrow’s (1959) original measure of chivalry.

Study 2: Chivalry and Behavioral Intentions:

Is Chivalry only for Virtuous and Non-Agentic Women?\(^7\)

In Study 2, our goal was to test whether the endorsement of chivalry was related to the treatment of women who did and did not conform to expectations of high virtue and low agency. A similar hypothesis was made by Glick, Diebold, Bailey-Werner, and Zhu (1997), who stated that the ambivalence of possessing both hostile and benevolent attitudes toward women could be resolved by treating some women with benevolence and other women with hostility, based on the degree to which they conform to expectations of low power and traditional sex roles. Glick and colleagues (1997) tested their hypothesis by examining responses to female subtypes, such as “career women” and “homemakers,” who are assumed to possess differing levels of agency and virtue. Rather than relying on subtypes, which contain pre-existing levels of traits, we manipulated the traits of female stimulus persons independently in written descriptions. The four traits used in Study 2 parallel the beliefs about women used in Study 1: competence, power, moral virtue, and sexual virtue. Competence and power are collectively considered to represent agency, while virtue is composed of both moral and sexual aspects. Our hypothesis was that participants’ responses to the female stimulus persons will depend on the interaction between their own level of chivalry and the traits of the stimulus person. Specifically, preferential treatment will only be shown when the participant is high in chivalry and the stimulus person is high in virtue or low in agency. Furthermore, because the chivalry script describes behavior expected by men and not by women, the predictions are expected to hold only for male participants.

\(^7\) This study was conducted in collaboration with Tina Johnson and Dov Cohen.
**Methods**

**Participants**

311 of the participants for Study 1 participated in Study 2 during the same one-hour experimental session. 65% were male. 81% identified themselves as white, 9% as Asian or Indian, 4% as African American. The average age of participants was 18.8 years. The median income of participants’ parents (or participants if they considered themselves financially independent) was between $80,000 and $100,000 and the modal income was between $60,000 and $80,000.

**Procedure**

The questionnaire was distributed during a 50-minute experimental session and was introduced as a study on people’s attitudes regarding men, women, and their relationships. After the questionnaire was described and any questions were answered, participants gave written informed consent and began the questionnaire. When participants completed the questionnaire, they were given a written debriefing form and were dismissed.

**Materials**

Participants received a questionnaire packet that began with a series of vignettes describing an interaction with a female stimulus person. To manipulate the traits of these stimulus persons, we varied their description. Each stimulus person was described by two sentences designed to give the impression of either high or low levels of two of the four traits competence, power, moral virtue, and sexual virtue. All possible combinations of two traits were used, and the order of each trait was varied so that each trait occurred first an equal number of times.
In addition to varying by the traits of the stimulus person, the vignettes also varied by the behavior they were designed to elicit. We selected these behaviors to reflect the conduct expected of a chivalrous man. Chivalrous men are expected to be more helpful toward women than toward men and also to attenuate their aggressive responses toward women to a greater extent than they do toward men. To provide a more fine-grained analysis, we divided helpful behavior into three categories based on the potential cost to helper and victim. We defined these three categories as defending, helping, and rewarding.

A defending situation is defined as a situation in which a lack of intervention on the part of the participant would result in imminent harm to the stimulus person by a third person. These situations involve the greatest cost to the stimulus person if the participant chooses not to intervene, and also involve the greatest cost to the participant because of the risk of harm from the stimulus person’s assailant. A sample defending scenario is presented below, along with one sentence designed to create the impression of high moral virtue and another sentence designed to create the impression of low power.

You’re sitting at McDonald’s, trying to finish up your meal before you go to class. A woman getting her food catches your eye. You think she is the same woman your friend told you about who did such a good job directing the local church youth group. She was in a large group you went to the beach with, and you recall her being very shy and reserved. On her way to a table, she trips and spills her food onto a man seated nearby. The man stands up abruptly, yelling “What the hell’s your problem?!” He throws his soggy sandwich on her tray and starts walking toward her, his face getting redder.
The response alternatives available to participants were designed to resemble a continuum from approach to avoidance. For participants reading a defending scenario, they were (1) Physically disengage (Avoid the situation; leave); (2) Mentally disengage (Pretend not to notice); (3) Stare at the person, making it clear that you’re involved; (4) Intervene if it wouldn’t risk your personal safety; and (5) Intervene even if your personal safety would be threatened.

The second context, which we labeled simply “helping,” is one in which a lack of intervention by the participant would result in inconvenience, but not injury, for the female stimulus person. Below is a sample helping vignette, along with traits for low sexual virtue and low competence.

You are walking down Green Street to meet a friend for coffee. By the side of the road, you see a woman from one of your classes. Her car is pulled over and the hood of the car is up. She’s dressed in a miniskirt and a tight blouse. You remember hearing that she sleeps around a lot. She used to be one of your friend’s roommates, and apparently started a fire by trying to cook spaghetti without using any water.

Response alternatives for helping were the same as those for defending for the first two alternatives. The remaining alternatives were (3) Be available to help, but not offer help; (4) Offer help if it is convenient; and (5) Offer help even if it involves sacrifice or risk.

Rewarding occurs when intervention by the participant improves the welfare of another person, and a lack of intervention merely results in the status quo. Rewarding contexts involve the least cost to the recipient if intervention is not provided, and also typically involve little cost to the provider. Below is a sample rewarding scenario, along with traits for high power and high moral virtue.
It’s your third summer working in a very easy but well-paying job on campus. You are a senior and must decide who will fill your position when you leave. You’ve been asked to evaluate a female candidate who works in another division. From what you have heard, she is a very kind and generous person. You remember her from class as being someone who is quick to interrupt and contribute her own views. How would you treat her in your evaluation, given that you expect her to be as qualified as any other candidate?

The rewarding scenarios were accompanied by a different set of response alternatives: (1) Treat her much worse than average; (2) Treat her slightly worse than average; (3) Treat her the same as everyone else; (4) Treat her slightly better than average; (5) Treat her much better than average.

In these three contexts, we expect female stimulus persons who conform to expectations of high virtue and low agency to elicit a greater willingness to intervene from men who endorse chivalry than from men who do not endorse chivalry. Aggressing against the female stimulus person was assessed because we predicted that chivalrous individuals should be less likely than non-chivalrous individuals to aggress against female stimulus persons high in virtue and low in agency. Below is a sample aggression vignette, along with descriptive sentences designed to elicit impressions of high competence and low moral virtue.

It’s Saturday night at a campus bar and you are in line to order a drink. It’s been 10 minutes and you are finally at the front of the line. When the bartender turns around to take your order, a woman quickly elbows her way in front of you at the last second and orders first. You recognize her from her picture in the school paper, in which she received an award for academic excellence. You have seen her at a couple of parties and she was always so drunk that she couldn’t talk.
The first two responses for aggression scenarios were the same as those for the defending and helping scenarios. The last three were: (3) Confront the person calmly but assertively; (4) Verbally insult the person; and (5) Physically assault the person (shove, punch, etc.).

For each of the four behaviors examined (aggression, defending, helping, and rewarding), three scenarios were prepared. These scenarios were designed to vary in the degree to which they provoked a response. For example, in one of the Defending scenarios a student takes another student’s seat when she leaves to get a drink (low provocation), while in a different Defending scenario a man is on the verge of assaulting a woman (high provocation).

After reading the vignettes and indicating their behavioral intentions, participants completed the questionnaires described in Study 1. See Appendix B for a list of all the vignettes and traits.

Results

The first step in the analysis was to examine the variability within scenario type. Table 8 presents the mean level of response for the three versions of each of the four behaviors, as well as the results of a hierarchical linear model testing for differences among each set of three scenarios. For each behavior, the mean level of responding varied significantly across the three scenarios. Combining responses to the three scenarios without adjusting for these mean differences would unnecessarily increase the error variance. To reduce the error variance and make the responses to each scenario equivalent, responses were standardized to a (0,1) distribution within each scenario. Thus, responses to each scenario have mean 0 and standard deviation 1.0.

The scenarios were analyzed using hierarchical linear models (mixed-model regression). Given the multiple observations collected from each participant, the assumption of independent
observations is violated. Hierarchical models take this dependency into account when calculating the parameters of the fixed effects. The results of the hierarchical linear modeling of the responses of male and female participants are presented in Tables 9 and 10, respectively.

Modeling proceeded in four steps: First, an unconditional model was fit to the data. This model included only one random factor, the intercept, and was designed to partition the total variance in the dependent variables into its within-subject and between-subject components. Within-subject variability represents the variability in participants’ responses from one occasion to the next, while between-subject variability represents the effect of all the ways that participants differ from one another. While chivalry is clearly a between-subjects effect because it shows no variability within a single participant, the manipulated traits are a combination of between-subject and within-subject effects. Each participant responded to several different traits in their questionnaire packets (within-subject effect) but no participant received all possible traits at all possible levels; these permutations of traits were distributed over multiple forms of the scenarios that were received by different participants (between-subjects effect). Using the measures of within-subject and between-subject variance, we computed the intraclass correlation, which indicates the proportion of the total variance that is between-subjects. The intraclass correlation not only indicates the degree of dependency in the data due to multiple observations coming from the same person (greater values indicate greater dependency), but also indicates the maximum proportion of the total variance that could be explained by between-subjects factors (or, by subtracting the intraclass correlation from 1, by within-subjects factors). The proportion of variance information is useful for placing the results of more sophisticated models in context; if a model indicates that it has accounted for 75% of the explainable between-
subjects variability and the explainable variability (as indicated by the intraclass correlation) is only 2% of the total, then we have explained a great deal of very little.

The second step in the modeling process was to fit a model that included the between-subjects factor of chivalry. Like multiple linear regression, hierarchical linear models estimate coefficients for each of the terms in the model and these coefficients can be tested for statistical significance by dividing them by their estimated standard errors. Thus, the estimate for the chivalry coefficient can be tested to determine whether there is a significant linear relationship between participants’ scores on the Chivalry Scale and their responses to the scenarios. This model also produces estimates of the between-subjects and within-subjects variance. By comparing the between-subjects variance estimated from this model to the between-subjects variance estimated by the unconditional model, we computed the proportion of the explainable between-subjects variance that was explained by the addition of the chivalry term (see Bryk & Raudenbush, 1992, p. 63 for an explanation).

The third step involved the addition of all four traits to the model. In addition to estimating and testing the coefficients of the traits, we also computed the proportion of the explainable between-subjects and within-subjects variance that was explained by the addition of the traits. That is, we compared the fit of the model with the traits and chivalry to the fit of the model with chivalry alone. This provides an estimate of the variance uniquely explained by the traits. The fit of the models was sensitive to extraneous (i.e., non-significant) terms, occasionally suggesting a worse fit than a model that did not include the traits. As a result, we included only those terms with significant coefficients in the calculation of explained variance. When none of the trait coefficients were significant, we did not compute explained variance for the traits.
In the fourth and final step, we entered terms for the interaction between chivalry and the traits. We estimated and tested the coefficients and, when at least one coefficient was significant, computed the proportion of explainable between-subjects and within-subjects variance uniquely contributed by the interaction term.

**Main Effects of Chivalry**

The main hypothesis in this study deals with the interaction between chivalry and the traits of the stimulus person. However, it may be informative to test whether an endorsement of chivalry leads to any general tendencies to respond prosocially or (in the case of aggression) antisocially, regardless of the characteristics of the stimulus person. The results of this test are presented in Step 2 of Tables 9 and 10 for male and female participants, respectively.

**Male participants.** For male participants, chivalry is significantly related to intentions to intervene in two of the four scenarios: Defending and Helping. The positive valence of the significant coefficients in Step 2 of Table 9 indicates that higher levels of chivalry are associated with higher levels of helping and defending, while lower levels of chivalry are associated with lower levels of helping and defending. Chivalry accounts for 6% of the explainable between-subjects variability in Defending and 12% of the explainable between-subjects variability in Helping. The intraclass correlations indicate that the between-subjects variability accounts for 26% and 15% of the total variance in responses to the Defending and Helping scenarios, respectively. Thus, chivalry accounts for 6% of 26%, or 1.6%, of the total variance of Defending responses, and 12% of 15%, or 1.8%, of the total variance of Helping responses.

To provide a better understanding of the relation between chivalry and Defending and between chivalry and Helping, high and low levels of chivalry were created by trichotomizing

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8 Three-way interactions between chivalry and two-trait combinations were suppressed in the analysis because of the small number of responses available in each cell.
the distribution of Chivalry Scale scores and comparing the top-third (High Chivalry) to the bottom-third (Low Chivalry). The mean responses of these above-average and below-average in chivalry males are presented in Table 11. Comparisons of these two groups involves a loss of statistical power due to a) a one-third reduction in degrees of freedom and b) a less sensitive measure of chivalry. Thus, statistically significant effects are generally less likely with trichotomized chivalry as with chivalry as a more-or-less continuous measure. Still, a comparison of mean levels is useful in understanding the general pattern of results even if it does not always confirm the significant relation identified through analysis of chivalry as a continuous measure.

Only one of the differences between the mean responses of high-chivalry and low-chivalry participants was significant: the responses of high-chivalry males in the Helping vignette were significantly higher than the responses of low-chivalry males (\( t = 3.31, p = .0012 \)). Since the means are in standard units, values less than zero indicate below-average responses, and values above zero indicate above-average responses. These responses can be tested for deviations from the average by comparing them to 0. For males, high levels of chivalry are associated with above-average levels of helping (\( t = 3.43, p < .001 \)), and defending (\( t = 3.06, p < .005 \)). Thus, high-chivalry males are more likely than the average respondent to indicate that they would help and defend the stimulus person in the vignettes. In addition, low levels of chivalry are associated with below-average levels of helping, although this difference does not reach conventional levels of significance (\( t = 1.76, p = .08 \)). This suggests that a non-endorsement of chivalry is associated with below-average levels of helping.

**Female participants.** For female participants, chivalry was significantly related to intentions to intervene in only one of the scenarios – Rewarding. The positive valence of the
coefficient for chivalry in Step 2 of Table 10 indicates that high levels of chivalry are associated with high levels of rewarding, and low levels of chivalry are associated with low levels of rewarding. Unfortunately, an estimate of the between-subject variance was not possible for the responses to the Rewarding scenario for female participants, so estimates of the proportion of between-subjects variance explained is not possible. Some exploration of the relation between chivalry and Rewarding (as well as the other three scenarios) is displayed in Table 12. The positive relation between chivalry and Rewarding seems to be a function of significantly below-average rewarding responses among low-chivalry female participants ($t = 2.81, p < .01$) – favoritism is suppressed to the extent that female participants do not endorse the chivalry script.

**Main Effects of Traits**

**Male participants.** Although not part of the central hypothesis of this experiment, it is interesting to consider the effect of the manipulated traits on participants’ intentions to respond. For male participants, the effects of the traits are described in Step 3 of Table 9. In the Aggression scenario, only the Power trait had a significant effect on participants’ willingness to intervene. The greater the assertiveness or confidence expressed by the target in the scenario (and the lower their meekness or vulnerability), the more likely male participants were to indicate that they would aggress against the targets. In both the Defending and Helping scenarios, Power had a significant negative effect, indicating that the greater the assertiveness of the target, the less willing male participants were to come to her aid. Moral Virtue also played a role in participants’ willingness to intervene in the Helping and Defending scenarios: the more morally virtuous the target appeared, the more likely male participants were to indicate that they

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9 The matrix of variances for the random-effects parameters was determined not to be positive definite in the case of female responses to the Rewarding scenario. In the unconditional model, intercepts are estimated for each participant. Thus, the estimate of the variance of the intercepts corresponds to the between-subject variance. Because the intercept is a random effect and the matrix of variances for random-effects was not positive definite, an estimate of the between-subjects variance was not possible. Attempts to circumvent this problem by sampling from the female data were not successful.
would assist her. The most powerful effects of the traits were observed in the Rewarding scenario. Here, male participants were more likely to intervene when targets displayed high levels of competence and high levels of both moral and sexual virtue. Unlike the traits in the other scenarios, which accounted for between less than one and four percent of the explainable between-subject variance and between two and seven percent of the explainable within-subject variance, the traits in the Rewarding scenario accounted for a whopping 41% of the explainable between-subjects variance and 26% of the explainable within-subjects variance.

**Female participants.** As described in Step 3 of Table 10, the pattern of the effects of traits on female participants’ intentions to intervene is similar to the pattern of effects observed for male participants. No traits were significantly linearly related to responses in the Aggression scenario, but Moral Virtue had a significant positive effect on responses in each of the other three scenarios. Moral Virtue was the only significant effect in the Defending scenario, but significant negative effects for Power and significant positive effects for Sexual Virtue were found in both the Helping and Rewarding scenarios. Rewarding also featured a significant positive effect for Competence. In the Defending scenario, Moral Virtue explained 6% of the explainable between-subjects variance and 2% of the total variance. Although there were three significant effects for the Helping scenario, these explained less than 1% of the between-subjects variance. Estimates of the between-subjects variance explained by the traits were not possible for the Rewarding scenario, but much more explainable within-subjects variance (35%) was explained in the Rewarding scenario as in the Helping (16%) or Defending (2%) scenarios.

**Interactions between Chivalry and Traits**

The main hypothesis in Study 2 concerns whether an endorsement of the chivalry script is associated with a differential treatment of women based on the extent to which they conform to
expectations of low agency and high virtue. This was tested in Step 4 of the hierarchical linear modeling, shown for male and female participants in Tables 9 and 10, respectively. If the treatment of women who conform or do not conform with expectations of agency and virtue is dependent upon the degree to which individuals endorse the chivalry script, then the interaction terms should be significant. Table 9 shows two significant interactions between chivalry and traits for male participants. In the Defending scenario, chivalry interacts significantly with Competence, and in the Helping scenario, chivalry interacts significantly with Sexual Virtue. To understand the nature of these interactions, we trichotomized scores on the Chivalry Scale and calculated the mean response for low and high levels of chivalry (the top and bottom third of the distribution of Chivalry Scale scores) and low and high levels of each of the traits that interacted significantly with chivalry. These means are presented in Table 13. In the Defending scenario, low-competence stimulus persons received significantly higher responses from high-chivalry males than from low-chivalry males ($p < .05$). In the Helping scenario, high-sexual-virtue stimulus persons received significantly higher responses from high-chivalry males than from low-chivalry males ($p < .05$).

The results of the mixed-model regression for female participants are shown in Step 4 of Table 10. There were three instances where chivalry interacted significantly with traits for female participants. In the Aggressing scenario, chivalry interacted significantly with Competence; and in the Defending scenario Chivalry interacted significantly with both Moral Virtue and Power. These interactions were also explored by trichotomizing Chivalry and calculating the means for low and high levels of Chivalry at both low and high levels of each of the traits (see Table 14).
Discussion

Main Effects

As expected, the endorsement of chivalry was significantly positively related to male participants’ willingness to intervene in both the Defending and the Helping scenarios (p < .01). We expected chivalry to also lead to an attenuation of aggression (Eagly & Steffen, 1986) and an increase in rewarding behavior, but in fact chivalry was unrelated to male participants’ responses in the Aggression and Rewarding scenarios. These two scenarios were distinguished by a lower tendency for respondents to select responses 4 and 5, the two most extreme responses on the “approach” end of the continuum. Whereas 50% of the responses in the Defending and Helping Scenarios were a 4 or 5, 4s and 5s were selected in the Rewarding and Aggression scenarios only 23% of the time (a difference significant at p < .0001). This reduced range may indicate that the scenarios were not sufficiently evocative to elicit extreme reactions. In addition, the Rewarding scenarios presented situations in which participants were asked to select someone for an award or recommend someone for a job, both situations in which a candidate’s qualifications would play a strong role. Table 9 Step 3 supports this interpretation, showing that the traits absorbed 41% of the explainable between-subjects variance and left little room for Chivalry to exert any influence, perhaps accounting for the failure to find a significant effect for chivalry.

For female participants, chivalry was unrelated to a willingness to aggress, help, or defend the female stimulus persons. This is consistent with our conceptualization of chivalry as a script describing the behavior expected of men but not the behavior expected of women. However, chivalry was related to a tendency to be generous in the allocation of rewards.

Interaction of Chivalry with Traits
Male participants. According to the Chivalry hypothesis, males who endorse chivalry should only show preferential treatment to women who appear low in agency and high in virtue. The results presented in Table 13 provide support for this hypothesis. When the female stimulus person in the Defending scenario was low in competence, high-chivalry males were significantly more likely than low-chivalry males to say they would intervene. In fact, high-chivalry males were significantly more likely than the average male respondent to say they would intervene. When the female stimulus person was high in competence, there was no difference in the responses of high- and low-chivalry males. Thus, a difference in the helpful intervention of high- and low-chivalry males only occurred when the female stimulus person was low in competence.

A similar effect was observed in the Helping scenario for sexual virtue. When the female stimulus person in the Helping scenario was high in sexual virtue, high-chivalry males were significantly more likely than both low-chivalry males and average males to say they would intervene. When the female stimulus person was low in sexual virtue, there was no difference between the responses of high- and low-chivalry males. Once again, a difference in the helpful intervention of high- and low-chivalry males was observed only when the female stimulus persons conformed to expectations, in this case high sexual virtue.

Female participants. Because chivalry is defined as a script describing the behavior of men toward women, the chivalry hypothesis makes no predictions with regard to the behavior of females toward other females. Regardless, the responses of female participants may help us to understand the role of women in chivalry. The patterns of means in Table 14 are somewhat consistent and somewhat inconsistent with the predictions for male participants. Looking at the effect of moral virtue in the Defending scenario, the responses of high-chivalry female
participants were lower for low-moral-virtue stimulus persons than for high-moral-virtue
stimulus persons ($t = 2.23, p < .05$; Tukey adjusted $p = .15$). This pattern of means is consistent
with predictions for high-chivalry male participants, who would be expected to show less
defending to women who did not conform to the expectation of high virtue, as compared to
women who did conform. An interesting difference between the pattern found for male
participants and the pattern found for female participants is in the valence of responses. Rather
than showing an increase in preferential treatment when the stimulus person conformed (which
would be indicated by positive values in Table 14), female participants showed a decrease in
helpful behavior (indicated by the negative values in Table 14) when the stimulus person was
“deviant.”

In the case of the other two significant interactions, the results are less consistent with
predictions for male participants. High-chivalry females were more likely to say they would
defend a high-power female stimulus person than a low-power stimulus person, and they were
more likely to say they would aggress against a low-competence stimulus person than a high-
competence stimulus person. Both of these results are inconsistent with the predictions for male
participants, and are puzzling given the correlation between Chivalry and the beliefs that women
are less competent and powerful than men. Although these findings are not inconsistent with the
chivalry hypothesis, they do warrant additional research to explain the apparent inconsistency
between beliefs and behavioral intentions.

**Conclusion**

The results of Study 2 provide support for the hypothesis that high-chivalry males are
more likely than low-chivalry males to say that they will intervene to assist a woman, but only
when that women conforms to expectations of either high virtue or low agency. High-chivalry
males were significantly more likely than low-chivalry males to indicate that they would help a woman whose description implied high sexual virtue, but were no different from low-chivalry males in their responses to a woman whose description implied a low level of sexual virtue. In the defending scenario, high-chivalry males were significantly more likely than low-chivalry males to come to the defense of a woman described as low in competence, but no different from low-chivalry males when the woman was described as high in competence. Study 2 provides evidence that, at least in their reported intentions, chivalrous men distinguish among women based on their level of virtue and agency. Two features of Study 2 prompt some hesitation in concluding that chivalry is related to distinguishing among women. First, participants reported only their behavioral intentions. Given the possibilities for bias – both motivated and unconscious (cf. Nisbett & Wilson, 1977) – these intentions may be a poor substitute for observations of actual behavior. Second, the same pattern of results might have been observed had the stimulus persons been male rather than female – Study 2 does not enable a test of this possibility. To address both of these limitations, Study 3 was conducted.

**Study 3: Chivalry in the Laboratory**

The design of Study 3 was similar to that of Study 2: Participants were given the opportunity to respond to stimulus persons who varied in terms of virtue and agency. Study 3 differed from Study 2 in four important ways. First, virtue and agency were no longer subdivided into subcategories. Instead, stimulus persons varied along only the two main dimensions of virtue and agency. Each of these two dimensions were presented at two levels – low and high. Thus, the manipulated characteristics of stimulus persons formed a 2 (virtue: high or low) x 2 (agency: high or low) design. Second, the stimulus persons in Study 3 were confederates rather than written descriptions. Third, the dependent variables in Study 3 were

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10 This study was conducted in collaboration with Dov Cohen.
observations of actual behavior in the laboratory rather than participants’ responses to hypothetical situations. Finally, whereas Study 2 included male and female participants but only female stimulus persons, Study 3 used both male and female stimulus persons but only male participants. Male and female confederates were included to test whether high-chivalry men responded differently to male stimulus persons than they did to female stimulus persons. Female participants were excluded from Study 3 because the chivalry hypothesis makes no predictions regarding the behavior of females toward other females.

Methods

Participants

The participants in this study were 77 white male undergraduates enrolled in an introductory psychology course at the University of Illinois at Urbana-Champaign. 58 received credit in their introductory psychology course in return for their participation, and 17 participated in return for a $5 payment. The average age of participants was 19.4 years. Based on their responses during the debriefing and to a questionnaire item asking about the hypotheses of the experiment, two participants were excluded from analysis because they suspected that the confederates were, in fact, accomplices of the experimenter. As a result, data obtained from 75 participants were used in this experiment.

Procedure

The basic procedure in Study 3 involved two sequences of interactions. The first sequence was designed to give participants particular impressions of confederates who were their partners. The second sequence of interactions provided participants with the opportunity to perform several courteous and helpful behaviors on behalf of the confederates.
During the experiment, each participant interacted with two different confederates. Although some specific events varied between the first and second partner, the two-sequence pattern of impression-formation followed by helping/courtesy was used with each partner. Because of the large number of activities scheduled in this experiment, the time allocated to each activity was strictly controlled by the experimenter, who announced the beginning and end of each activity using an intercom.

Four participants and three confederates were scheduled to participate every hour. The confederates were two white male and five white female undergraduates. Each confederate played each of the four roles an equal number of times. On the rare occasion when all four of the participants who were scheduled for a session arrived, one was randomly selected to complete a series of questionnaires rather than to participate in the experiment. When participants arrived for the experiment, they found a note on the door asking them to wait quietly in the hallway until the experimenter called them. The hallway contained seven chairs, so the participants and confederates had a few minutes in which to quietly observe one another. It was at this point that the first manipulation of the experiment took place. The dress of each confederate was manipulated to convey one of two levels of virtue. Confederates in the high-virtue condition were dressed conservatively in loose-fitting dress shirts and/or sweaters, slacks or floor-length dresses, occasionally a piece of jewelry indicating religious affiliation, and very little make-up or hair styling. Low-virtue confederates were dressed in what the confederates referred to as “bar apparel” – the kind of clothing one would wear to attract romantic attention when frequenting one of the heavily attended undergraduate campus bars during the weekend evenings. Their clothing was typically tight, brightly colored (e.g. red blouse for female confederates, electric

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11 My thanks to Meighan Bixler, Philip Bowen, Mark Bradford, Sue Harvey, Denise Marshall, Kelly Petrunic, and Erica Portnoy for playing the role of the characters in the laboratory experiment.
blue dress shirt for male confederates), and accompanied by a great deal of hair styling and, for female confederates, heavy makeup around the eyes and bright lipstick. In addition, low-virtue confederates were often reading the latest issue of Cannabis Culture or Skin Art, a tattoo magazine.

Three minutes after the hour, the experimenter invited the six or seven people in the hallway into the laboratory and introduced the experiment as a study of the effects of first impressions and environment on task performance. Following a brief overview of the experiment, informed consent was obtained and participants and confederates were handed a stapled packet of paper that included a schedule of the experiment as well as all the questionnaires they would be completing. Their first assignment was to look on the first page of the packet for the number of the room to which they were to report. Six smaller rooms lined two sides of the main laboratory room, three on each side. Although the packets were passed out seemingly at random, they were arranged so that one confederate was always assigned to the same room as one participant.

After each pair reported to their small side rooms, the first manipulation for agency took place. High-agency confederates immediately shook hands and introduced themselves using the name created for the role they were playing (e.g., Vicki McCarthy was the low-virtue, high-agency female). They maintained eye contact, sat up straight, and took the initiative in the dyad’s activities. Low-agency confederates avoided eye contact, behaved in a more reserved manner, and allowed the participant to take the initiative. The dyad’s first official task was to answer a series of “icebreaker” questions provided by the experimenter. Participants were told that anxiety interferes with assessing performance, and that these questions were designed to

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12 We were thoroughly challenged to portray the same degree of low virtue for both male and female confederates. It is an interesting reflection of our culture that low-virtue female attire is easier to recognize than low-virtue male attire. We suspect that this difference is related to the double standard in the acceptability of sexual experience for men and women (Oliver & Sedikides, 1992; Sprecher, McKinney, & Orbuch, 1991).
reduce their anxiety in the tasks to come. Confederates’ responses to these icebreaker questions were carefully scripted to add to the impression they were trying to create. High-agency confederates reported that they were juniors or seniors, majoring in engineering or political science, with goals to either attend law school and enter politics (high agency, low virtue) or attend graduate school in engineering and then join the Peace Corps (high agency, high virtue). Low-agency confederates reported that they were freshmen, hadn’t decided on a major, and were not sure what they wanted to do after graduation. Two questions were designed to contribute to impressions of virtue: “Describe a memorable event from last summer,” and “What is the most embarrassing picture of you?” Some high-virtue confederates reported traveling with the families of their boyfriend/girlfriend and having their picture taken after they tripped during their sister’s wedding procession. Some low-virtue confederates told their partners about a trip to South Carolina in which they “hooked up” with one opposite-sex person to watch the sun rise and were later with another person when they sneaked into a resort area. One low-virtue embarrassing photograph involved the confederate flashing a crowd of people at Marti Gras, unknowingly having his or her picture taken, and later discovering it on the internet.

The final impression formation manipulation took place after the icebreaker task and consisted of a trivia game that participants played against their partners. The trivia game was modeled after the popular board game Outburst, in which one player holds a card that lists a category and several examples of that category. For example, a card might read “Southern U.S. States” and contain “Florida,” “Georgia,” etc. This player tells the other player the category and the other player receives one point for every example on the card that he or she can list in a set time limit, 30 seconds in the case of this experiment. This task was designed to manipulate the competence component of agency. High-agency confederates received difficult categories (e.g.,
“Famous Supreme Court Justices,” “Foreign Art Museums and Galleries”) and performed very well, having memorized the answers earlier. Low-agency confederates received relatively easy categories (e.g., “Recent U.S. Vice Presidents,” “Largest U.S. Lakes”) and did very poorly. A competitive task was selected because it defines competence not in an absolute sense but rather relative to the participant. This distinction has important implications for participants’ responses to competence, particularly in mixed-sex interactions. When competence is defined as “the capacity to effectively solve problems,” it is difficult at first to conceive of a situation in which a competent person would be undesirable because of his or her competence. Both Deaux (1972) and Spence and Helmreich (1972) found that highly competent women were liked more than women with low competence by both male and female observers. However, competence may become a liability when it is perceived as a threat to one’s status. Hagen and Kahn (1975) found that the relation between competence and liking disappeared when male participants were directly interacting with a highly competent female. When asked whom they would choose to exclude from their group, the participants in Hagen and Kahn’s (1975) experiment indicated that they would be significantly more likely to exclude competent females than competent males. In addition, both Spence and Helmreich (1972) and Hagen and Kahn (1975) found that discrimination against competent women was magnified among men who reported traditional sex-role attitudes on the Attitudes Toward Women Scale. The competitive game in this experiment is designed to evoke the threatening aspects of competence by providing a salient upward social comparison between participants and high-agency confederates.

To verify that the manipulations had their desired effect, participants and confederates completed a “first impressions” questionnaire after the trivia game in which they evaluated their partner on a number of dimensions, the most important of which were agency (e.g., competence,
assertiveness) and virtue (e.g., respectable, virtuous, sexually promiscuous). Participants were told during the introduction to the experiment that they may not have enough information to answer all the questions, but to rely on whatever impressions they had formed up to that point and to answer all the questions using these first impressions.

Completion of the manipulation check marked the end of the impression-formation sequence. In the next sequence, participants were led through a series of interactions that provided them with several opportunities to behave in a helpful or courteous manner toward their partners. These helping opportunities were selected from reviews of helping research in laboratory and field settings (e.g., Pearce & Amato, 1980; Smithson & Amato, 1982; McGuire, 1994) and from the chivalry script (e.g., holding doors).

After finishing the manipulation check, participants and their partners were instructed to move to a second room listed on their instruction packet. Each pair was kept together during this move, and the move was explained as a manipulation of their environment – particularly temperature, lighting, and the configuration of furniture. This explanation was particularly convincing given the wide range in temperatures in the small side rooms caused by mysterious fluctuations in the building’s heating and cooling systems. The purpose of the move was to provide participants with the opportunity to hold the door for their partner, who was trained to linger a few moments behind. Door holding was recorded by confederates when they reached the next room.

Once in the second room, participants and confederates engaged in a prisoner’s dilemma game with each other. On one sheet of their instruction packet was a series of five binary choices: cooperate or compete. At the top of the page was a payoff matrix explaining that if a

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13 My thanks to Denise Marshall for this suggested reason for moving from one room to another. To reduce the risk that room temperature would systematically affect the results, confederates and participants were randomly assigned to rooms.
participant and his partner cooperated on the same round, they both received 1 point. If they both competed, they both gained 0 points. If one competed and the other cooperated, the partner who competed would receive 2 points and the partner who cooperated would lose 1 point. To provide some incentive to participants, the page also stated that every point they gained provided them with one chance to win a $25 lottery.\(^{14}\)

While their partner was playing the prisoner’s dilemma game, confederates withdrew a comb and pulled it through their hair a few times before setting it on a large manila envelope lying on the desk. They then “accidentally” dropped their pen on the ground and, while leaning over to pick up the pen, planted their hand firmly on the envelope for balance. As they pushed down on the envelope and the table to lift themselves up, the envelope and the comb “slipped” from their grasp and sailed toward the unsuspecting participant. The confederate observed whether the participant retrieved the comb or the envelope. If the participant didn’t make some movement toward the comb or envelope within approximately five seconds, the confederate retrieved them. A comb was selected because it would not be unusual for someone to carry a comb and because we believed that combs have the potential to elicit disgust. Elementary school children are often instructed not to share combs because of lice. In addition, combs might be expected to contain hair, oil, and flakes of dead skin. Finally, based on Frazier’s (1940) “law of contagion” (“once in contact, always in contact”) and Rozin’s (e.g., Nemeroff & Rozin, 1994) research on disgust, we thought that participants’ treatment of the comb might be related to their feelings regarding the “cleanliness” or “purity” of its owner.

After completing the prisoner’s dilemma game, participants completed a follow-up to the first-impression questionnaire. This questionnaire asked how much participants liked their

\(^{14}\) Because each player’s performance on the prisoner’s dilemma game was dependent upon a confederate whose experimentally manipulated impression may have led participants to expect cooperation or competition, distributing prizes on the basis of performance would not be fair. Instead, I selected a $25 lottery winner through a purely random process. Thus, one participant was randomly selected and awarded the lottery prize.
partner, how physically attractive they found their partner, and to what degree they would consider befriending, dating, or marrying their partner (these last two contained the qualification “if applicable”). Confederates completed a questionnaire that at first glance appeared similar to participants’ but contained questions regarding their partner’s behavior. Here they recorded whether their partner held the door for them, whether he picked up the comb or the envelope, and how warm the entire interaction was.

In the last two minutes of their interaction with their partner, confederates produced a neatly folded signup sheet and told their partner that they were collecting pledges for the “Campus Cleanup Campaign.” Confederates said that they would be picking up trash around campus and were trying to collect money to cover the cost of trash bags and gloves. No money was to be collected now, just a pledge to pay later. Two amounts were already listed on the signup sheet, one for 25 cents and one for two dollars. These amounts were designed to restrict the range of participants’ donations. If participants agreed, they wrote their name and phone number on the form and indicated how much they would pledge.

Interactions with the second partner followed the same basic pattern as the first, with a few notable exceptions. First, care was taken to reduce the risk that participants would grow suspicious of their partners. Each of the four roles created by crossing high and low levels of virtue and agency was presented to a particular participant only once. That is, participants never heard the same story from their second partner that they heard from their first partner. Although the door-opening measures were used for both the first and second partners, the comb/envelope measure and the donation measure were used only with the first partner. A new measure was created to take the place of these two measures. While participants and confederates were performing the icebreaker and trivia tasks, the experimenter quietly entered the rooms
participants would enter next and placed a precariously balanced stack of pencils on top of a box that was lying under the table. When confederates and participants entered the second room, confederates kicked the box while they were sitting down. The pencils scattered across the floor, and confederates observed the degree to which their partners assisted in picking up the pencils.

After completing all interactions with their second partner, participants were given a set of questionnaires that they filled out alone in one of the side rooms. Pilot studies suggested that participants were more nervous during debriefing when the confederates remained in the room, so confederates left while participants were completing their questionnaires. When they were finished with the questionnaires, participants were given a thorough debriefing by the experimenter, who probed for suspicion and then explained each of the manipulations and dependent measures. After answering any questions the participants had, the experimenter administered a three-item questionnaire asking about participants’ reactions to the experiment. The participants were given a written debriefing that included a website address where they could see the results of the study after the data were analyzed, and were then dismissed.

**Materials**

Participants were given an instruction/questionnaire packet at the beginning of the experiment. As described above, the packet contained information about the rooms to which they should report, the categories and acceptable answers for the trivia game, a nine-item “first impressions” questionnaire, a prisoner’s dilemma payoff matrix and response card, and a 7-item questionnaire asking participants about their feelings toward their partners. Confederates received a similar packet that asked questions about the dependent measures in the experiment rather than their feelings toward their partners. These questions provided confederates the opportunity to record their partners’ behaviors with little delay. Door-opening and retrieval of
the comb and envelope were recorded as 1 (behavior occurred), 0 (behavior did not occur), or 0.5 (ambiguous, not sure). Helping with pencils was recorded on a 4-point scale from 1 (did not help or offer to help) to 4 (insisted on picking up all the pencils himself).

After interacting with both partners, participants received a final questionnaire which included the Chivalry Scale, Glick and Fiske’s Ambivalent Sexism Scale (Glick & Fiske, 1996), and the Attitudes Toward Women Scale (Spence, Helmreich, & Stapp, 1973). For each of these scales, participants were asked to respond using a 7-point Likert scale from “Strongly disagree” to “Strongly agree.” This questionnaire also asked participants their age, ethnicity, and year in school. Finally, participants were asked to give a written guess as to the hypotheses of the study (“What do you think the researchers expected to find in this study?”).

For the trivia game, participants and confederates used small digital timers that could be set for 30 seconds. The combs that were dropped near participants were small black plastic combs, all identical. The donation form was copied on colored paper, was titled “Campus Cleanup Campaign 1999,” and was designed to look semi-official, as though prepared by an organized volunteer group on campus. The pencils concealed beneath the desk were 24 unsharpened orange number-2 pencils, and were balanced on top of a shoe-box-sized box, which was in turn balanced on a boxtop from a case of copy paper. To reduce the probability that this precarious arrangement would be discovered by participants, it was not assembled until just before participants and confederates entered the rooms. To distract attention away from the boxtop under the desk, several random objects were strewn around each of the six small rooms: pieces of wood, chairs, large collapsed cardboard boxes, and some small electronic equipment. To reduce the risk that participants in one room would hear the pencils in another room fall to the floor, a noisy fan was in operation in the main room throughout the experiment.
Results

Manipulation Check

After the icebreaker and trivia game manipulations were complete, participants evaluated their partner on nine traits using a 7-point Likert scale. Responses to these traits were subjected to an unrotated principal components analysis that identified two components with eigenvalues greater than one: an Agency component consisting of the items “Organized,” “Assertive,” “Competent,” “Intelligent,” and “Ambitious,” (α = 0.9372) and a second component consisting of the single item “Promiscuous.” To determine whether agency had been manipulated as intended, the Agency items were averaged to form a single measure and this was input into a hierarchical linear model where the independent variables were the experimentally manipulated levels of virtue and agency as operationalized in the confederates’ roles. The model of agency ratings identified a significant main effect for manipulated agency ($M_{low} = 3.7, M_{high} = 6.1, t_{69} = 22.79, p < .0001$), no effect for manipulated virtue ($t_{69} = .69, p > .5$), and no significant interaction between manipulated virtue and agency ($t_{69} = 1.65, p > .1$).

A second hierarchical linear model was fit to participants’ ratings of their partners’ promiscuity. This analysis yielded a significant effect for manipulated virtue ($M_{low} = 5.1, M_{high} = 3.2, t_{68} = 5.47, p < .0001$). A significant effect was also observed for agency ($t_{68} = 4.22, p < .0001$) and the interaction between virtue and agency was also significant ($t_{68} = 2.85, p < .01$). The cell means for the 2 x 2 design indicate that, for confederates playing low-virtue roles, whether they also portrayed high-agency or low agency made no difference in their perceived promiscuity; both groups had a mean promiscuity rating of 5.0. For the high-virtue confederates, however, perceived promiscuity varied significantly by agency level. Confederates who portrayed characters who were high in virtue and low in agency received an average promiscuity
rating of 2.6, while characters who were high in virtue and high in agency received an average promiscuity rating of 3.6 (a difference significant at $p < .01$ in Tukey’s honestly significant difference comparison). Despite this difference, confederates playing high-virtue roles had mean scores below the mid-point of 4 on the 7-point scale (indicating disagreement with the label of “promiscuous”) and were perceived to be significantly less promiscuous than the low-virtue confederates.

In summary, the manipulations were successful. Confederates assigned to high-agency roles were perceived as significantly more agentic than confederates assigned to low-agency roles, and confederates assigned to high-virtue roles were perceived as significantly less promiscuous than confederates assigned to low-virtue roles.

**Prisoner’s Dilemma Game**

Although it was designed to be used only as the context for other helping opportunities, the prisoner’s dilemma game did produce data that could be analyzed. Responses to the PDG were scored as 0 if participants cooperated and 1 if participants competed. The sum of the five responses was divided by 5 to yield the proportion of times a participant selected the competitive response, and this proportion was modeled separately for the first and second partners and for male and female partners using logistic regression. The results of these four models are shown in Table 15.

None of the effects were significant for interactions with the first partner, but analysis of responses to the second partner yielded significant effects for both the male and female partners. To better understand these effects, new models were fit using only the significant effects (and supporting lower-order terms in the case of interactions) and these models were used to plot the estimated probability of a competitive response across a range of Chivalry Scale scores. These
plots are shown in Figures 2 and 3. With male partners, there was a positive relation between chivalry and competing when the partner was portraying a high-virtue role but a negative relation between chivalry and competing when the male was portraying a low-virtue role. With female partners, there was a positive relation between chivalry and competing when the partner was portraying a high-agency role but a negative relation when the partner was portraying a low-agency role.

Helpful and Courteous Behaviors

Preliminary analysis of the comb measure indicated that one male confederate accounted for 55% of all the combs that were retrieved. This confederate reported having remarkable success in striking participants with the flung comb, and under these circumstances it is likely that the comb was difficult to ignore. Because the results would have been disproportionately influenced by this one confederate, comb data involving this confederate were not included in the analysis. The remaining variables – holding the door, picking up the comb and the envelope, donating to charity, and picking up spilled pencils – were combined to form a single index of helpful and courteous behavior. One participant pledged a donation of ten dollars, and since this was more than three times the amount pledged by any other participant and produced a mean value that was not representative of most participants, it was replaced with the next-highest value (three dollars) for purposes of analysis. Each measure was standardized to a mean of zero and standard deviation of one. The result of this standardization was that variables with low base rates were given greater weight when the behavior did occur, and all behaviors were placed on a common metric for combination. They were then averaged together and modeled using hierarchical linear models that accounted for the dependency among observations from a single
The models tested whether helpful and courteous behaviors varied significantly based on the characteristics of the confederates (virtue and agency) and participants’ scores on the Chivalry Scale.

Mean level of helpful and courteous behavior was not significantly higher for female confederates than for male confederates ($M_{female} = -0.0009$, $M_{male} = 0.0156$). In addition, the main effect of chivalry and the interaction of chivalry with virtue and agency did not significantly vary by sex of confederate. The remaining analyses were computed separately for male and female confederates.

For female confederates, there was a significant interaction between chivalry and virtue ($p = .03$), but there was no significant interaction between chivalry and agency. The proportion of variance explained by the interaction was not estimable because the between-subject variance for the full model was greater than that for the unconditional model, and the within-subject variance for the full model was greater than that for a model with no interaction term. For male confederates, chivalry did not significantly interact with either virtue or agency. Analysis revealed no significant three-way interaction between the virtue and agency of confederates and the chivalry of participants for either male or female confederates. The pattern of results for interactions with female confederates is presented in Table 16, which shows the mean level of helpful and courteous behavior for low-chivalry and high-chivalry participants (trichotomized, showing top and bottom third of the distribution of Chivalry Scores) and by the level of virtue of confederates. Table 17 shows the same set of means for male confederates.

High-chivalry participants were significantly more likely than average participants to show helpful and courteous behavior to high-virtue female confederates ($p < .05$). High-virtue

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15 The intraclass correlation was 0.06 for all participants, indicating only a small degree of dependency within participants.
female confederates received significantly more helpful and courteous behavior than low-virtue female confederates from high-chivalry participants ($p = .05$). There is some evidence that high-virtue female confederates received more helpful and courteous behavior from high-chivalry participants than from low-chivalry participants ($p = .04 / .16$ after adjusting for 4 pairwise comparisons). No other comparisons were significant.

One source of error in the analyses just described is the variability due to differences among the confederates. To reduce this error, a separate set of analyses was conducted in which the identity of the confederates was used as a blocking variable. Despite the reduction in error variance, these analyses produced no new significant effects.

Refitting the hierarchical linear models after replacing chivalry with the other individual difference measures indicated that helpful and courteous behavior was not significantly related to participants’ scores on Glick & Fiske’s (1996) Ambivalent Sexism Inventory or its two subscales, nor was it related to participants’ scores on the Attitudes Toward Women scale.

Post-experiment Questionnaire

Participants were asked four questions after they had been debriefed about the purposes of the experiment: 1) Relative to other experiments, how interesting did you find this experiment? (1=very boring, 5=very interesting); 2) Relative to before the experiment, how do you feel after participating in this experiment? (1=much worse than before, 5=much better than before); 3) Do you think that deception was necessary for this experiment to work correctly? (1=yes, 0=no); and 4) How would you feel about participating in another experiment like this one in the future? (1=very negatively, 5=very positively). Average responses to these four questions indicate that participants found the experiment interesting ($M_1 = 4.74$), felt slightly better after the experiment than before it ($M_2 = 3.92$), believed that deception was necessary ($M_3$,
Discussion

Helpful and Courteous Behaviors

The results of Study 3 for interactions between the male participants and female confederates show a more pronounced pattern of interaction between chivalry and virtue than was observed in Study 2. Unlike the wedge-shaped interaction in Study 2, the results of Study 3 show a complete cross-over interaction between chivalry and virtue. This pattern is consistent with the hypothesis that chivalrous men will show more preferential treatment to women that appear to be high in virtue than to women who appear to be low in virtue. The cross-over pattern implies that the results for low-chivalry males were just the opposite: low-chivalry males were slightly (but not significantly) more courteous and helpful toward the low-virtue female confederates than they were toward the high-virtue female confederates. Although the lack of a significant simple main effect makes any discussion of differences tentative, the preference for low-virtue over high-virtue confederates for low-chivalry participants is interesting to consider. The interpretation of low chivalry scores is difficult because of the many reasons why someone might disagree with the items on the Chivalry Scale. Low-chivalry participants may be staunchly egalitarian, disapproving of any preferential treatment based on sex. Or they may be misogynistic, believing that women deserve to be treated worse than men do. In either case, a rejection of the chivalry script may be associated with a preference for low-virtue females because low-virtue females might be regarded as less inhibited in their social behavior. If low-chivalry participants see no inherent value in virtue and no negative social consequences for
affiliating with women of low virtue, then they may regard low-virtue females as more desirable, on balance, than high-virtue females.

Unlike Study 2, no interaction was found between chivalry and agency. One explanation for this lack of a finding is that the nonverbal behaviors of high-agency confederates may have been interpreted by participants as overtures of friendship. Having confederates introduce themselves, maintain eye contact, and initiate activities with their partners may have increased participants’ liking for the confederates. This interpretation is supported by the findings that: (a) high-agency confederates were rated as significantly more likable than low-agency confederates \((p < .02)\), (b) participants felt significantly more positively toward high-agency as compared to low-agency confederates \((p < .02)\), and (c) participants thought that high-agency confederates were significantly more like someone they might consider for a friend \((p < .01)\). Thus, it is possible that participants’ liking for high-agency confederates overcame any threat the participants may have experienced from being paired with a highly competent partner.

Although the interaction between virtue and chivalry was not significant when the confederates were played by males, the means presented in Table 17 indicate a pattern similar to that for female confederates: high-chivalry participants were more helpful to high-virtue confederates, and low-chivalry participants were more helpful to low-virtue confederates. While this pattern of results may appear to suggest that chivalry is not sex-specific but rather trait-specific, a finding from Study 1 makes this interpretation premature. In Study 1, the Chivalry Scale was found to be significantly correlated to several statements that explicitly distinguished between men and women as the targets of behavior. While Study 3 did not show that chivalrous men respond differently to women than they do to other men, neither did it show that they respond equally (doing so would involve concluding the null hypothesis; inappropriate without a
high level of statistical power). Further research is needed to explore the behavior of chivalrous men toward other men.

Prisoner’s Dilemma Game

Responses to the Prisoner’s Dilemma Game (PDG) showed a relation between chivalry and competitiveness, but only in the context of the second interaction with a confederate. The failure to find any effects with the first partner may be due to participants’ lack of familiarity with the task or to their anxiety after having nearly been hit by a flying comb. Whatever the reason, some caution is necessary in the interpretation of effects that only occurred in the latter half of the experiment. Given that qualification, the pattern of results for male and female confederates is quite interesting and deserves some mention.

Female partners. The responses of male participants to female partners provides the only evidence in this experiment for a discrimination against high-agency females by chivalrous males. The greater the chivalry of the participant, the more competitive he behaved toward a high-agency female partner but the less competitive he behaved toward a low-agency female partner. These results are consistent with predictions that high-chivalry males will be more likely to protect the interests of low-agency females than high-agency females. However, the results are not consistent with the pattern of helpful and courteous behaviors observed both before and after the prisoner’s dilemma game, which showed no interaction between chivalry and agency. One difference between the PDG and the other behavioral measures is that participants’ responses on the PDG cannot be seen by their partners, whereas their helpful and courteous behavior is more public. Given participants’ reported liking for high-agency female partners, it is possible that their public behaviors were in part a means of ingratiation. Since their partners did not observe their responses on the PDG, participants would have felt no need to
disguise or modify their attitudes for fear of being rejected by their partners. Being only a single measure and not terribly involving in the present experiment (consequences were mild and distant rather than severe and immediate), the Prisoner’s Dilemma Game results must be regarded as merely suggestive of the possibility that high-chivalry males may discriminate against females when they a) violate expectations of low agency and b) will not learn of the discrimination so long as further interaction with them is desired.

Male partners. The results of the PDG for male partners suggest that high-chivalry participants discriminate against male partners who are high in virtue. The more chivalrous the participant, the more likely he was to make a competitive response for the high-virtue male partner and the less likely he was to make a competitive response for the low-virtue male partner. This result is in contrast to the pattern of means for helpful and courteous behavior, which indicated that high-chivalry participants showed greater courtesy to high-virtue male partners than low-virtue male partners. As with the results for female participants, a public/private distinction may facilitate interpretation. Perhaps in public, high-chivalry participants felt that they should acknowledge the good conduct of their virtuous partners, but privately they felt that their partners were displaying a degree of virtue more appropriate for women than for men.

The results from the prisoner’s dilemma game suggest some interesting questions for future research. Foremost among them is the question of how the chivalry script is related to behavior in public versus private settings. How do chivalrous individuals behave when their helpful and courteous responses are anonymous? Are they motivated out of a concern to benefit the recipient (what Batson, 1991, would label “altruism”) or merely by a desire to fulfill their role in the chivalry script? What are the implications of intensifying the chivalrous man’s accountability, such as by introducing the presence of an audience?
Summary

In summary, the results from Study 3 provide support for the hypothesis that chivalrous men distinguish among women based on virtue, and that this distinction can be seen in their helpful and courteous behavior. This finding extends the results from Study 2 by linking chivalry to the belief that women are more virtuous than men using a behavioral rather than a written measure of preferential treatment and by using confederates rather than written descriptions of stimulus persons. Some support for a discrimination among women based on their agency is given by participants’ responses to the prisoner’s dilemma game. Chivalry was positively related to competitive responses when female partners were high in agency, but negatively related to competitive responses when female partners were low in agency.
Study 4: Chivalry and Evaluations of Female Subtypes\textsuperscript{16}

Study 4 differs from Studies 2 and 3 in the manner in which virtue and agency are manipulated. Rather than manipulating the level of agency and virtue possessed by a particular stimulus person, I relied on pre-existing subtypes of women that are associated with different levels of virtue and agency. As discussed above, one line of research on stereotypes about women has consistently identified three subtypes of women: traditional/homemakers, professional, and sex objects or sexually permissive women (Clifton, McGrath, & Wick, 1976; Deaux et al., 1985; Noseworthy & Lott, 1984; Six & Eckes, 1991). Based on the hypothesis that high-chivalry males show preferential treatment only to women who conform to expectations of high virtue and low agency, I expected high-chivalry males to show more preferential treatment to the homemaker subtype (who violates neither) than to either the professional (who violates low agency) or sexually permissive (who violates high virtue).

Female subtypes were used by Glick, Diebold, Bailey-Werner, & Zhu (1997) to investigate whether men who scored high on scales of both Hostile and Benevolent Sexism (labeled “ambivalent sexists”) were more polarized in their evaluations of women. Glick et al. (1997) found that the variance in ratings of the three subtypes was significantly positively correlated with ambivalent sexism for male participants but not for female participants. In addition, ambivalent sexism was negatively correlated with evaluations of career women (although only significantly so for female participants) and positively correlated with evaluations of homemakers (although only significantly so for male participants). Participants’ reactions to sexy women were ambiguous, which the authors attribute to two possible interpretations of this subtype: attractive and permissive. The present study extends Glick et al.’s (1997) research in several ways. First, it examines whether evaluations of the subtypes vary by scores on the

\textsuperscript{16} This study was conducted in collaboration with Tina Johnson.
Chivalry Scale as well as scores on the Ambivalent Sexism Inventory. Second, instead of simply correlating the ASI (or in this case, the Chivalry Scale) with the variance among ratings of subtypes, I analyzed ratings using a repeated-measures analysis of variance that permitted tests of contrasts between the various subtypes. Finally, the sexual subtype was clarified as sexually permissive rather than physically attractive.

In addition to its investigation of the relation between chivalry and female subtypes, three other features make Study 4 different from Studies 1–3. First, Study 4 involves the administration of both the Hostile and Benevolent Sexism subscales of the Ambivalent Sexism Inventory. Although the Benevolent Sexism Subscale was administered in Study 3, the larger and more diverse sample in Study 4 allows for a more reliable estimate of its association with the Chivalry Scale.

Second, Study 4 also involves the administration of a short form of the Social Desirability Scale (Reynolds, 1982). This scale presents participants with a series of statements that “are culturally sanctioned and approved but which are improbable in occurrence” (Crowne & Marlowe, 1960, p. 350). For example, one item read, “It is sometimes hard for me to go on with my work if I am not encouraged.” Participants who strongly disagreed with this item would be suspected of attempting to present themselves in an exaggeratedly favorable light. While the above statement may be true for some individuals, the use of many items in the scale reduces the risk of mislabeling a genuinely socially desirable individual. Social desirability is an important variable to assess with regard to chivalry because none of the items in the Chivalry Scale are framed in a socially undesirable way. Thus, individuals may receive high scores on the Chivalry Scale because of their desire to appear in a favorable light rather than their actual endorsement of the chivalry script. In addition, a correlation between chivalry and social desirability might
indicate that chivalry is related to a more general tendency toward impression management. The chivalry script could be used, for example, as a means of ingratiation.

Third, a new measure of sexism was administered along with the Attitudes Toward Women Scale (Spence, Helmreich, & Stapp, 1973): the Neo-Sexism Scale (Tougas, Brown, Beaton, & Joly, 1995). To understand the contribution made by this scale, it is useful to consider Benokraitis and Feagin’s (1986) delineation of three forms of sexism: overt, covert, and subtle.

Overt sexism is “unequal and harmful treatment of women that is readily apparent, visible, and observable, and can be easily documented” (Benokraitis & Feagin, 1986, p. 30). With its straightforward and relatively transparent items, the Attitudes Toward Women Scale likely taps this type of sexism (Swim & Cohen, 1997). Covert sexism involves “engaging in unequal and harmful treatment of women and men in a hidden or clandestine manner” (Swim & Cohen, 1997, p. 104). Individuals engaging in covert sexism may say that they endorse gender equality, but then act in a way that may “intentionally undermine women’s work or lead them to fail” (Swim & Cohen, 1997, p. 104). Whereas overt sexism is easily identified by behavior that is harmful to women, covert sexism is defined more by the intention to harm women while avoiding detection.

Two scales have been designed to assess individuals’ covert sexist beliefs: the Modern Sexism scale (Swim, Aikin, Hall, & Hunter, 1995) and the Neosexism scale (Tougas et al., 1995). These scales measure whether respondents tend to (a) deny the existence of discrimination against women, (b) resent complaints about discrimination, and (c) resent special “favors” for women. I selected the Neosexism Scale over the Modern Sexism Scale for inclusion in the questionnaire because of Campbell, Schellenberg, and Senn’s (1997) finding that the Neosexism Scale had higher internal validity and exhibited greater gender differences than the Modern Sexism Scale. Finally, subtle sexism is “openly unequal and harmful treatment of women that goes unnoticed.
because it is perceived to be customary or normal behavior. Individuals who perpetrate such
treatment may be in favor of gender equality and their responses to scales such as the AWS may
reflect egalitarian beliefs. These same individuals may not notice when they or others are
treating individuals unfairly based on their gender or they may not realize that such behaviors
contribute to unequal and harmful treatment of women” (Swim & Cohen, 1997, p. 104). The
Benevolent Sexism Scale (Glick & Fiske, 1996), with its emphasis on positive but restrictive
beliefs about women, best captures subtle sexism.

In summary, Study 4 uses female subtypes to provide another test of the hypothesis that
chivalrous men discriminate among women based on their conformity to expectations of high
virtue and low agency. In addition, Study 4 examines the relations among Chivalry, social
desirability, overt sexism, covert sexism, and subtle sexism.

Methods

Participants

185 undergraduate students in an introductory psychology course participated in return
for course credit. 62% were male, and the average age of participants was 18.6 years. 85% of
participants identified themselves as white, 9% as Asian or Indian, and 2% as African-American.
The median income of participants’ parents (or of participants if they considered themselves
financially independent) was between $80,000 to $100,000 and the modal income was between
$60,000 and $80,000.

Procedure

After being introduced to the experiment, asking questions, and completing an informed
consent form, participants were given a questionnaire packet. Participants completed the
questionnaire within a 50-minute experimental session. After they completed the questionnaire, participants were thanked, given a written debriefing, and dismissed.

Materials

The questionnaire packet contained four published attitude scales: the Attitudes Toward Women Scale (Spence, Helmreich, & Stapp, 1973), Neo-Sexism Scale (Tougas et al., 1995), Ambivalent Sexism Scale (Glick & Fiske, 1996), and Social Desirability Scale (Reynolds, 1982). In addition, the questionnaire included the Chivalry Scale and a set of demographics questions regarding sex, age, ethnicity, and income. The subtypes portion of the questionnaire was introduced with a brief statement about research on subtypes in general and subtypes of women in particular:

One of the purposes of this study is to examine how people organize their perceptions of larger groups by putting them into subgroups. In this study we are interested in people’s perceptions of the subgroups or “types” of women. Previous research indicates that there are three dominant subgroups that people use to organize their perceptions of women: professional or career women, homemakers, and sexually permissive or “easy” women. In the following pages, you will be asked some questions about your thoughts and feelings regarding each of the subgroups listed above.

Participants were then presented with a subtype (e.g., “Professional Women”) and asked to answer five questions about their reactions to the subtype. These five questions were adapted from those used by Glick et al. (1997) and were: 1) overall evaluation (0=extremely unfavorable, 100=extremely favorable), 2) degree to which the group possesses positive traits (1=not at all, 7=very much; the rest of the questions used this scale also), 3) degree to which the
group possesses negative traits, 4) extent to which you feel positive emotions when you come into contact with or think about people in this group, and 5) extent to which you feel negative emotions when you come into contact with or think about people in this group.

Results

Evaluations of Subtypes of Women

Participants’ responses to the five questions about each subtype were highly intercorrelated. For each subtype, principal components analysis indicated a single principal component with eigenvalue greater than one, accounting for between 60% and 72% of the variance. The five responses to each subtype were combined by computing the arithmetic mean of the five values after standardizing each to a (0,1) distribution. Multivariate analysis of variance (MANOVA) was conducted on the evaluations of the three subtypes in a 2 (chivalry: top third vs. bottom third) by 3 (subtype: homemaker, professional, sexually permissive) design with repeated measures on subtype. The MANOVA indicated a significant chivalry by subtype interaction for both male ($p = .01$) and female ($p = .05$) participants. Mean responses for male and female participants are presented in Tables 18 and 19, respectively.

Simple main effects for chivalry indicate a significant difference between the responses of high-chivalry and low-chivalry male participants in their evaluations of both the homemaker ($p = .04$) and permissive ($p = .03$) subtypes, and a difference in evaluations of the professional subtype that approaches but does not achieve conventional significance levels ($p = .10$). For female participants, the high-chivalry versus low-chivalry comparisons revealed significant differences for professional ($p < .001$) and permissive ($p = .03$) subtypes but not for homemakers. The difference between male and female responses to the homemaker and professional subtypes (see Tables 18 and 19) prompted a test of the interaction between chivalry
and sex on evaluations of these two subtypes. No significant interaction was found for evaluations of homemakers, and the interaction effect for evaluations of the professional subtype approached but did not achieve conventional levels of significance ($p = .08$).

In addition to the simple main effects, the high-chivalry versus low-chivalry difference for each subtype was compared in a repeated-measures contrast. The contrast compared the high-chivalry versus low-chivalry difference for homemakers to the chivalry differences obtained in both the professional and permissive subtypes. For example, the high-chivalry versus low-chivalry difference for male participants evaluating the professional subtype is $-0.32 - 0.06 = -0.38$. For evaluations of homemakers, it is $0.36 - (-0.21) = 0.57$. Given the reversal in valence observed in this and each of the other contrasts, it is perhaps unsurprising that each of these contrasts was statistically significant ($p < .05$) for both male and female participants.

Analyses using chivalry as a continuous variable produced similar results. For female participants, the relation between chivalry and evaluations of subtypes was significantly negative for the professional and permissive subtypes and non-significant for the homemaker subtype. For male participants, the relation between chivalry and evaluations of subtypes was significant for the permissive subtype but not significant for the professional ($p = .06$) or the homemaker ($p = .25$) subtypes. For both male and female participants, the repeated-measures contrast with chivalry as a continuous variable indicated a significant difference between evaluations of the homemaker and both the professional and permissive subtypes (both $p$’s < .05).

I computed additional MANOVAs using scale scores other than Chivalry. Neither Social Desirability, Benevolent Sexism, Hostile Sexism, nor Ambivalent Sexism (sum of Benevolent and Hostile Sexism scores) significantly interacted with evaluations of the three subtypes. Significant interactions were found for both the Attitudes Toward Women Scale (AWS) and the
Neo-Sexism Scale (NSS). Univariate tests indicated significant negative relations between evaluations of the professional subtype and both the AWS and the NSS for male and female participants. Evaluations of the homemaker subtype were significantly positively related to the AWS but unrelated to the NSS, and evaluations of the permissive subtype were unrelated to both the AWS and the NSS.

**Correlations among Questionnaire Scales**

The correlations among the Chivalry Scale, Benevolent Sexism Scale, Hostile Sexism Scale, Ambivalent Sexism Inventory, Attitudes Toward Women Scale, Neo-Sexism Scale, and Social Desirability Scale are presented for female and male participants in Tables 20 and 21, respectively.

**Discussion**

**Evaluations of Subtypes of Women**

There are two ways to examine the pattern of results in Tables 18 and 19. The first is to look at each subtype by itself and determine whether the evaluations of high-chivalry participants are significantly different from the evaluations of low-chivalry participants. The second method is to examine whether the difference between the evaluations of high- and low-chivalry participants varied across the three subtypes.

Using the first method, one subtype was evaluated differently based on the chivalry of the participant regardless of whether the participant was male or female. The permissive subtype was evaluated significantly more negatively by high-chivalry participants than by low-chivalry participants of both sexes. In conjunction with the results from Studies 1, 2, and 3, this result suggest that sexual virtue is strongly related to the chivalry script, and that women who violate
expectations of high sexual virtue will be evaluated and treated more negatively by individuals who endorse the chivalry script.

The other two subtypes produced mixed results. The professional subtype was evaluated significantly more negatively by high-chivalry females than by low-chivalry females, but no significant difference was obtained among males. Although the interaction between chivalry and sex was not significant, the pattern of means suggests that the professional subtype received particularly negative evaluations from high-chivalry female participants. This pattern is interesting when considered in conjunction with the results from Study 1, in which female participants showed a significantly stronger correlation between chivalry and beliefs in women’s lack of agency than male participants did. Whereas Study 1 showed that high-chivalry females tend to believe that women are less agentic than men, the results from Study 4 add that high-chivalry females believe that women should be less agentic than men. When they encounter a woman who violates that expectation, high-chivalry females feel negatively toward her. It is interesting to speculate about the motivational basis for this negative evaluation. Perhaps the negative evaluation is a form of punishing the deviance from a prescribed social role, as might be expected from bystanders if someone cut in line at a concession stand. But there might be a deeper explanation: If, in believing that women are less agentic than men, high-chivalry females have abdicated some measure of their own agency in exchange for chivalrous protection and provision, then professional women would be threatening because they call that exchange into question. Professional women have chosen to retain their agency by pursuing economic self-sufficiency. Professional women may lead high-chivalry females to wonder whether they made the best choice in trading their agency for preferential treatment. An important limitation of the findings concerning high-chivalry female participants and their evaluations of the professional
subtype is that, although all of the participants are receiving an education that will improve the probability that they will become professionals, none of the participants are currently members of that subtype. It would be premature to conclude that professional women were anathema to chivalry without including responses from professional women, some of whom may harbor the desire to be treated in a chivalrous fashion. Resolution of this issue must await a broader sample.

The homemaker subtype was evaluated significantly more positively by high-chivalry male participants than by low-chivalry male participants, but no significant effect for chivalry was found for female participants. As with the professional subtype, there was no significant sex by chivalry interaction, but the difference between high-chivalry males and high-chivalry females suggests that males find the homemaker subtype particularly favorable. The positive evaluation of homemakers may be due to an association between the homemaker subtype and mothers in the minds of high-chivalry male participants. As Paul Fussell writes, the special care that chivalry advocated for women was especially acute when it came to one’s mother: “To the traditional Anglo-American male imagination in the late-19th century, it was taken for granted that one’s attitude toward one’s mother should be conspicuously chivalric, if not reverential” (Fussell, 1988, p. 149). The maternal aspect of the chivalry script presents several questions for an understanding of the relation between chivalry and beliefs about women. First, is a special reverence for a boy’s mother part of the chivalry script, and if so, how is this related to beliefs and expectations about women in general? Second, what do high-chivalry males believe about their own mothers’ level of agency? Competence in meeting domestic responsibilities and assertiveness in maintaining discipline among children would seem inconsistent with the idea that women are low in agency. Perhaps a high estimation of the competence of one’s mother, a single individual, is easy to reconcile with a belief regarding women in general because a single
exception does not violate a general tendency. Both of these questions may be fruitful topics for further research.

Using the second approach, the pattern of responses for high- and low-chivalry participants was found to vary significantly over the three subtypes. This variation can be observed in the difference between the evaluations of high- and low-chivalry participants across subtypes shown in Tables 18 and 19. For the homemaker subtype, this difference was positive, indicating that high-chivalry participants reported more favorable evaluations of this subtype than low-chivalry participants did. For the professional and permissive subtypes, however, the opposite was true: high-chivalry participants gave less favorable evaluations of these two subtypes than low-chivalry participants. In two contrasts comparing the pattern of responses to the homemaker subtype to the pattern of responses to the other two subtypes, each contrast indicated a significant difference. Thus, compared to low-chivalry participants, high-chivalry participants gave significantly higher evaluations to the homemaker subtype than to either the professional or the permissive subtypes. This pattern of results is consistent with the hypothesis that chivalrous individuals respond less favorably to women who violate expectations of high virtue (the permissive subtype) or low agency (the professional subtype), relative to women who do not (the homemaker subtype).

Correlations among Scales

Chivalry was strongly and significantly positively correlated with benevolent sexism for both male and female participants. This finding is consistent with the hypothesis that the chivalry script is related to the beliefs that women are more virtuous than men are and deserve to be placed on a pedestal, beliefs assessed by both the Chivalry Scale and the Benevolent Sexism Scale.
Unlike the correlations obtained in Study 1, Study 4 found no sex difference for the
correlation between chivalry and hostile sexism: for both male and female participants, this
correlation was 0.24. Given the 0.09 correlation between HSS and chivalry found in Study 1 for
males, the results of Study 4 warrant a second look at the association between chivalry and
hostile sexism. Why would hostile sexism tend to co-occur with chivalry? One possibility,
suggested by Glick et al. (1997) in their discussion of ambivalent sexism, is that the word
“women” may evoke a different schema in the Hostile Sexism Scale than it does in the
Benevolent Sexism Scale. When chivalrous men encounter the statement “Women, compared to
men, tend to have a superior moral sensibility” from the Benevolent Sexism Scale (Glick &
Fiske, 1996, p. 512), they may be thinking of “ladies,” women of high virtue. But when they
encounter an item from the Hostile Sexism Scale such as “Women seek to gain power by getting
control over men” (Glick & Fiske, 1996, p. 512), chivalrous men may be considering the
sexually permissive subtype. Thus, chivalrous individuals may feel benevolence toward one
subtype but hostility toward another. This interpretation is supported from the evaluations of
subtypes presented above, where three subtypes of the larger group “women” were evaluated
significantly differently based on the degree to which the evaluator endorsed chivalry.

Another explanation for the association between chivalry and hostile sexism is that
hostile sexism is partly a measure of negative attitudes towards affirmative action and sexual
harassment policies. These policies may be disliked by chivalrous individuals because they
threaten beliefs about female agency that are related to chivalry. Hostile sexism and chivalry
may be correlated because hostile sexism reflects a dissatisfaction with institutional means of
protecting and providing for women, whereas chivalry represents an alternative means of
protecting and providing for women.
Given the moderate correlation between chivalry and the HSS and the high correlation between chivalry and the BSS, it is unsurprising to find a correlation of intermediate value between chivalry and the ASI. This is in part a necessary consequence of the confounding of the two subscales in the larger scale, but may also suggest that chivalry is related to ambivalent attitudes toward women. Indeed, the central hypothesis of this thesis is that chivalry is related to both positive and negative beliefs about women: the belief that women are more virtuous than men are, and the belief that women are less agentic than men are. To the degree that the ASI measures ambivalence in attitudes toward women, the correlation between chivalry and the ASI is supportive of the central hypothesis.

The significant positive correlation between chivalry and the Attitudes Toward Women Scale suggests that chivalry is related to an endorsement of traditional sex roles. This is consistent with an understanding of chivalry as a cultural script, relying heavily upon tradition and upon the idea that men and women play different roles.

The positive correlation between chivalry and the Neo-Sexism Scale for female participants is curious considering that one of the attitudes measured by the NSS is a resentment of special favors for women. Closer inspection of the Neo-Sexism Scale reveals that it more specifically addresses resentment of institutional policies favoring women, which are distinct from informal norms of courteous behavior toward women. Unlike hostile sexism, neo-sexism does not suggest that women are out to “get” men; it is concerned more with attitudes toward affirmative action, women in the workplace, and women in authority. Female participants who endorse chivalry may perceive these ideas as threatening to the traditional sex roles that chivalry advocates. The higher correlations between chivalry and the AWS than between chivalry and the NSS suggests that chivalry is associated more with overt sexism than with covert sexism.
Thus, chivalry may be less related to intentionally trying to undermine the status of women than it is to preserving traditional sex roles that are explicitly sexist.

The significant positive correlation between chivalry and the Social Desirability Scale for male participants indicates that participants who tended to report unrealistically high levels of socially desirable characteristics also tended to agree with the items on the Chivalry Scale. The tendency for individuals who were “faking good” to try to portray themselves as chivalrous suggests that male participants may generally believe that chivalry is a socially desirable pattern of behavior. It also suggests that males who are deliberately attempting to present a favorable impression of themselves may rely on chivalry as a form of strategic self-presentation. Future research should address the possibility of multiple motives for chivalry, including the use of chivalry as an impression management device.

Conclusion

The results of Study 4 support the hypothesis that chivalrous individuals respond more favorably to women who conform to expectations of high virtue and low agency than to women who violate these expectations. Compared to low-chivalry participants, high-chivalry participants gave significantly lower evaluations to female subtypes that violated expectations (professional and sexually permissive) than to a subtype that did not (homemaker). In addition to these results, which support the results from Studies 2 and 3, Study 4 also investigated the correlation between chivalry and several published scales. For both male and female participants, chivalry was found to be significantly positively correlated with the Benevolent Sexism Scale, the Ambivalent Sexism Inventory, and the Attitudes Toward Women Scale. The responses of male participants showed a significant correlation between chivalry and the Hostile Sexism Scale and between chivalry and the Social Desirability Scale. Finally, the correlation
between chivalry and the Neo-Sexism Scale was significant for female participants. These results suggest that chivalry is associated with negative attitudes toward institutional policies of protecting and providing for women such as are represented by affirmative action and sexual harassment policies.

General Discussion of Studies 1–4

The results of Studies 1 through 4 lend support to the hypothesis that chivalry is related to the belief that women are more virtuous than men and the belief that women are less agentic than men. In Study 1, correlations between participants’ responses to the Chivalry Scale and several scales assessing beliefs about women indicated that beliefs in women’s relative virtue and lack of agency tend to co-occur in the minds of individuals who endorse the chivalry script. Study 2 presented participants with written descriptions of women who varied in virtue and agency. High-chivalry male participants were more likely than low-chivalry male participants to report that they would intervene to help or defend women only when they were low in agency or high in virtue. In a follow-up to Study 2, Study 3 involved confederates who enacted roles to manipulate their perceived levels of virtue and agency. Based on the helpful and courteous behaviors observed in the laboratory, high-chivalry participants showed more favorable treatment to female confederates who were high in virtue than low-chivalry participants, who tended to prefer female confederates low in virtue. Unlike Studies 2 and 3, which independently manipulated levels of virtue and agency, Study 4 involved the use of three female subtypes that are associated with different levels of virtue and agency. The results of Study 4 indicate once again that, compared to low-chivalry participants, high-chivalry participants responded more favorably toward women who conformed to expectations of high virtue and low agency than toward women who violated these expectations.
Taken together, these four studies provide support for the idea that chivalry is related to two sets of beliefs about women: one positive (the belief that women are more virtuous than men) and one negative (the belief that women are less agentic than men). These beliefs are reflected not only in correlations between chivalry and belief statements, but also by discrimination among women based on their level of virtue and agency.

In addition to providing support for the hypothesis that chivalry was related to virtue and agency, Studies 1-4 also provide support for the Chivalry Scale as a measure that provides information distinct from Glick and Fiske’s (1996) measures of ambivalent sexism. It assesses a cultural script defined by specific patterns of behavior and related to specific beliefs about women: virtue and agency. Although developed in a theoretical context similar to Glick and Fiske’s (1996) groundbreaking work on ambivalent sexism, the Chivalry Scale was found to be significantly related to responses to women based on their virtue and agency while Glick and Fiske’s measures were not. In Studies 3 and 4, no significant effects were observed using the Benevolent Sexism Scale, the Hostile Sexism Scale, or the Ambivalent Sexism Inventory in place of the Chivalry Scale, and only one significant effect was observed in Study 2.17 The Chivalry Scale captures an aspect of male-female relations not measured by the concept of ambivalent sexism.

A common limitation to all four studies is the limitation possessed by any study of individual difference variables. In each of the four studies, there was no random assignment to different levels of chivalry, preventing a definitive answer to questions of cause and effect. Study 5, discussed in the next chapter, was designed to overcome this limitation.

17 Hostile Sexism was positively related to Defending when the stimulus person was high in moral virtue but negatively related to Defending when she was low in moral virtue (HSS x Moral Virtue β = 0.03, t = 2.72, p = 0.0086).
CHAPTER 4: OBSERVING CHIVALRY

Study 5 was an experiment investigating the effects of chivalrous behavior on an observer. Specifically, I examined how the presence and absence of chivalry in an interaction between two people affected an observer’s impressions of those people. The central question to be answered from this experiment is: Are men and women perceived differently when observed in an interaction involving chivalry than they are when observed in an interaction that does not involve chivalry? If they are, what is the nature of this difference?

The design of this experiment differs in several ways from Studies 1 through 4. First and foremost, this experiment manipulated the amount of chivalry to which participants were exposed. By manipulating chivalry and randomly assigning participants to high and low levels of chivalry, I am able to make causal inferences regarding the effect of chivalry on participants’ responses. Rather than concluding that chivalry tends to be found together with particular attitudes or particular patterns of behavior as I did in the studies reported in chapter 3, in this experiment I can make inferences about the effect of chivalry on participants’ responses.

Another difference between Study 5 and earlier studies is that it expands the understanding of chivalry by placing participants in the role of observers. Consider a chivalrous exchange between two people. There is the chivalrous behavior performed by a male, the receipt of that behavior by a female, and, possibly, one or more people who witness the exchange. In Studies 1 through 4, I focused on the intrapsychic factors affecting the behavior of the male in the exchange just described. In those studies, I was interested in how the male’s endorsement of the chivalry script affected his behavior. Two roles were left unexamined by this approach: the role of the observer and the role of the female recipient. In later studies I hope to address the reaction of females to chivalrous behavior, both affective (e.g., self-esteem), cognitive (e.g.,
beliefs about one’s agency), and behavioral (e.g., encouraging or discouraging the chivalrous individual). The present experiment addresses the third role: an observer of chivalrous behavior.

Assuming the role of an observer is a useful vantage point for examining the nature of chivalry because it is potentially much broader than the other two perspectives. If chivalry can have an effect on people merely by taking place within their field of attention, then it has the potential to influence a very large number of people. A single chivalrous exchange involves only one chivalrous man but could include countless observers, especially if it were recorded and transmitted by the mass media as it has been in literature, film, and television. The importance of the observer’s role was similarly emphasized by Dane Archer and colleagues’ (1983) research on “face-ism.” The finding that facial prominence is positively associated with perceptions of intelligence and ambition is an interesting laboratory finding. But when it is considered in conjunction with the fact that media depictions of men have profoundly greater facial prominence than women, the finding has greater importance because it means that any effects of face-ism are being visited upon millions of observers. The role of the observer is important because we are all observers, whereas we may not all be chivalrous men.

The psychological process most descriptive of what observers in the present experiment will be doing as they witness the interaction is attribution. Observers will attempt to explain the cause of the behaviors they witness in terms of characteristics of the actor (person attribution), the target (entity attribution) and the situation (occasion attribution). Graham and Barker’s (1990) experiment on the effects of witnessing the presence or absence of help given to a student by a teacher was also centrally concerned with attribution: to what do students attribute the helpful behavior? In Graham and Barker's (1990) research, the answer was clear: help was attributed to a lack of ability on the part of the recipient – a person attribution. In the present
experiment, my hypothesis is that participants will attribute some of the chivalrous behavior to characteristics of the target and some to characteristics of the actor. As in Graham and Barker's (1990) study, I expect observers to attribute some of the assistance to the recipient’s lack of agency. This prediction is complicated somewhat by considering how participants’ endorsement of the chivalry script will affect their perceptions of chivalrous or non-chivalrous behavior. High-chivalry participants are likely to see chivalry as the appropriate response to the situational demands. Both Kelley’s (1972) causal schemata model and Jones and Davis’ (1965) correspondent inference model of attribution stress the importance of information regarding the appropriateness of behavior. According to these models, inappropriate behavior is more likely to lead to a person attribution than appropriate behavior, which will likely be attributed to the demands of the situation. If high-chivalry participants expect that chivalrous behavior should occur, they might be more likely to attribute such behavior to the situation rather than to the actors. As indicated by Studies 2 through 4, however, an important factor in determining the appropriateness of chivalry is the deservingness of the female target. The “eliciting conditions” for chivalrous conduct, therefore, reside more in the female character (the entity) than in the physical surroundings (the situation). Thus, chivalry will be expected only when the female actor is perceived as virtuous and low in agency. If perceptions of the female character’s virtue and agency are ambiguous, chivalrous participants may use the behavior she receives as indicative of her virtue and agency. A useful analogy might be a traffic intersection, in which the determination of appropriate behavior involves the characteristics of an entity – the traffic light – more than it involves some more generalized assumptions about the situation. An observer who witnesses cars passing through an intersection may reasonably infer that the light is
green, just as a high-chivalry participant may infer that a woman receiving chivalry is low in agency and high in virtue.

In this experiment, participants watched a series of three videotapes. The first videotape was always the same and was designed to familiarize participants with the procedure and to provide a standard against which later responses could be compared. The second and third videotapes showed an interaction between a male and female actor in a restaurant and in a library. Some participants saw high-chivalry versions of the videotapes, while other participants saw low-chivalry versions. After each videotape, participants evaluated the characters in the videotape on a number of dimensions. In addition to analyzing how these evaluations varied by the level of chivalry in the videotape, I also investigated how level of chivalry interacted with a number of other factors, including a participant’s endorsement of the chivalry script and his or her tendency to think carefully when making attributions.

Methods

Participants

The participants in this study were 233 undergraduates enrolled in an introductory psychology course at the University of Illinois at Urbana-Champaign. 81% identified themselves as white, 5% as African-American, 5% as Indian, 4% as East Asian, and 4% as Latina/Latino. Participants received credit in their introductory psychology course in return for their participation. The average age of participants was 18.4 years. The median annual income of participants’ parents was between $80,000 and $100,000, and the modal income was between $50,000 and $80,000.
Procedure

The experiment was introduced as a study on first impressions. After describing the procedure and answering questions, the experimenter\textsuperscript{18} obtained the written informed consent of participants. The experimenter distributed a questionnaire packet and explained how participants would use the packet to indicate their first impressions of the people in the videotapes. Participants watched a series of three videotapes, each between three and six minutes in length. The first videotape was used to familiarize participants with the procedure, and was always the same (see \textbf{Videotapes} below). After watching this video, participants rated the dark-haired actor using the questionnaire. The next two videotapes were experimentally manipulated to illustrate high or low levels of chivalry. The presentation order of these two videotapes was counterbalanced, and approximately equal numbers of each of the four possible combinations of high and low levels of the two videotapes were presented to participants. After watching each videotape, participants rated the two actors using the questionnaire.

After participants watched the third videotape and completed their ratings of the characters in the videotape, they completed the attitude scales and demographic questions at the end of the questionnaire. When all participants finished, they were debriefed, thanked for their participation, and dismissed.

Materials

\textbf{Videotapes.}\textsuperscript{19} Three videotapes were presented to each participant. The first videotape was the same for all participants, and was designed with two purposes in mind: First, to familiarize participants with the process of evaluating someone after seeing them on video for only a few minutes; second, to provide a standard against which participants’ evaluations of

\textsuperscript{18} My thanks to Ryann Lofchie, Rosy Mani, and Erin VanNess for serving as the experimenters in this study; and to Meredith Berger and Christine Reichardt for their meticulous entry and checking of the data.

\textsuperscript{19} My special thanks to Mark Bradford, Sharon Coleman, Terri Graham, Bill Kowalczyk, Amanda Marion, Kelly Petrunic, and Erin Van Ness for playing the roles of the characters in the videotapes.
other characters could be judged. Conventional standardization by transforming each participant’s responses so they have a mean of 0 and standard deviation of 1 is impractical in the present case because not all participants were responding to the same stimuli. However, there was one stimulus to which all participants were exposed: the dark-haired female character in the first videotape. Since this character was always presented in the same way, her ratings provide some clues about individual differences in response bias. If one participant rates this ‘control’ character as a “2” on moral virtue and another participant rates her as “7,” then these participants could be said to differ in their response bias. To reduce some of the error introduced by such differences in response bias, analyses dealing with ratings of the characters were checked to see if additional effects are revealed once response bias is controlled.

Before they saw the control video, participants were told that they would see two people who were working together on a research project. They were also asked to pay particular attention to the student with dark hair, because they would be asked their impression of her after the video. The first video began with a dark-haired female student reading data to a blond female student who was entering the data into a laptop computer. They quickly finished the data entry and ran a correlation between “number of hot days and violent crime,” obtaining 0.67. They were happy with this, but the dark-haired student said that they should check their results against Anderson’s (referring to Craig Anderson, e.g., 1987) to see how they compared. The blond student agreed and left for the library while the dark-haired student began writing up their results. The scene shifted to the library where the blond student entered, approached the bookshelves, selected and opened a volume, and then transcribed some numbers onto a piece of paper she was carrying. She then reshelved the book and left. Back in the first room, the dark-haired student was still typing as the blond student returned. The blond student sat and reported
than Anderson obtained a correlation of 0.52 between hot days and violent crime, and the dark-haired student nodded and entered the number into her report.

The second and third videotapes were designed to manipulate the level of chivalry that participants observed. Each videotape presented an interaction between a male and female actor, but the two videotapes differed in the actors and the setting. One videotape showed two actors having lunch at a restaurant, while the other videotape showed two different actors working on a project at the library. The videotapes were constructed so that the male actor passed through a series of opportunities to perform chivalrous behaviors for the female actor. Two versions of each scene were created: one in which the male actor took advantage of all the chivalrous opportunities, and one in which he took advantage of none of them. The two versions were created by using a common set of scenes that were interrupted by high-chivalry or low-chivalry segments. Thus, the two versions were identical in all respects except for the segments that indicated the presence or absence of chivalrous behavior. Participants never saw two versions of the same setting but rather always saw one videotape of the library scene and one of the restaurant scene. Although the control videotape was always presented first, the order of the restaurant and library videotapes was counterbalanced. All possible combinations of the two experimental videotapes were presented an approximately equal number of times.

The restaurant scene was introduced as a scene in which two people who worked together at a department store were going out to lunch. Participants were told that the characters were not romantically involved and knew each other only from work. The scene was filmed at a well-appointed locally owned restaurant\(^{20}\) in the hours before it opened. At the beginning of the restaurant scene, the two characters were greeted by a waitress who asked them to follow her to a table. In the high-chivalry version of the scene, the male character gestured to the female

\(^{20}\) My thanks to the management and staff of Silvercreek Restaurant in Champaign, IL.
character to precede him, and she complied. In the low-chivalry version, the male character stepped forward to walk behind the waitress and the female character followed him. The scene shifted to their table, where the waitress placed their menus and said that she would return shortly to take their orders. In the high-chivalry version, the male character pulled out a chair and held it for the female character, who sat down as he pushed it in. In the low-chivalry version, the male and female characters each took their seats at the same time. After a few moments of considering the menu, the female character asked if the male character would excuse her for a moment and he answered, “Sure.” In the high-chivalry version, the male character rose out of his seat as the female character left, and stood again when she returned to the table. In the low-chivalry version, the male character did not move. The waitress returned and asked the male character if he knew what he would like to order. In the high-chivalry version, the male character gestured to the female character to order first, and she did. In the low-chivalry version, the male character ordered and then the female character placed her order. The waitress said that she would return shortly with their food, and the scene faded out. When it faded back in, the characters had just finished eating. The waitress entered and placed a small leather folder containing the bill in the center of the table, saying that she would take it up whenever they were ready. In the high-chivalry version, the male character picked up the folder and said, “I’ve got it.” The female character said, “Are you sure?” and the male character casually replied, “Oh, yeah.” Conversation then shifted to separate meetings that each character had later in the day, and the scene faded out. In the low-chivalry version, the male character picked up the folder, looked at the bill, and then put some cash in the folder before handing it to the female character, who also put some cash into the folder. As they each paid their half of the bill, the characters began talking about their meetings later in the day, and the scene faded out. In the final scene,
the characters walked through the parking lot toward the male character’s car. In the high-chivalry version, he unlocked and opened her door and then closed it behind her before walking around the car to unlock his door. In the low-chivalry version, he walked around the car and unlocked his door first, unlocking her door once he was inside the car.

The library scene was introduced as a scene in which two people met at the library to do some work on a class project. Participants were told that the characters were not romantically involved and knew each other only from class. At the beginning of the scene, the female character was walking down a hallway in the library carrying an armload of books. As she greeted the male character, she gestured to the books and explained that she needed to return them before they were overdue. In the high-chivalry version, the male character said, “Here, let me help you with those” and took the books from the female character, who thanked him. In the low-chivalry version, the male character said, “Sounds good” and walked with the female character toward the book return. The next scene began with an elevator door opening. In the high-chivalry version, the male character gestured to the female character to step out first and she complied. In the low-chivalry version, the male character stepped out of the elevator first. Both characters were carrying what appeared to be a list of books, and as they walked off camera they began talking about the books they were looking for on that floor. The scene shifted to the characters reaching the opening of an aisle of bookshelves. The female character said that she thought that one of her books was in the aisle, and began walking down it, towards the camera. The male character said that one of his books was nearby, and walked off camera. The female character then located the book but it was on the top shelf and she could not reach it. She asked the male character if he knew whether a stepstool was nearby. In the high-chivalry version, the male character responded with, “Hold on a second, I’ll help you” and then walked around the
aisle and retrieved the book for her. In the low-chivalry version, the male character said, “I think I saw one over by the elevator.” The female character walked off camera, returned with a stepstool, and retrieved her book. In the next scene, the characters were each carrying an armload of books as they approached a table in a corner of the library. They sat down and began taking notes as the scene faded out. When it faded back in, the male character asked whether the female character would be interested in getting something to drink. She said yes, and the two gathered up their books before walking down to a vending machine area in the basement of the library. In the high-chivalry version, the male character approached a Coke machine and asked the female character what she would like. She replied, “a Coke” and he handed her one. As she began to open her wallet the male character said, “Don’t worry about it.” He then bought himself a Coke and the two proceeded to a table. In the low-chivalry version, the male character bought himself a Coke and then moved aside to allow the female character to buy her own Coke. The scene shifted to the characters seated at their table, continuing to take notes on the books they had gathered. The female character shivered and asked the male character if he thought it was cold. In the high-chivalry version, the male character took off his jacket and said, “Yeah, it is a little cold. Here, take my jacket; I don’t need it.” The female character took the jacket, thanked him, and then the two agreed to keep working until 10pm. In the low-chivalry version, the male character agreed that it was cold but did nothing more. The two then agreed to keep working until 10pm. In the final scene, the characters stood and agreed to meet next week to continue working on the project. When the female character asked where the male character was parked, he told her and pointed toward one exit. When he asked her where she was parked, she replied and pointed toward the opposite exit. In the high-chivalry version, the male character volunteered to walk the female character to her car. She said that he didn’t have to, but he
replied, “It’s no problem” and started walking with her toward the exit she indicated. In the low-chivalry version, the characters wished each other good night and walked toward their respective exits.

The opportunities for chivalrous behavior for each of the settings are summarized in Table 22. They represent a combination of provision (buying lunch or buying a Coke), protection (escort to car), and numerous courteous gestures that have come to be associated with chivalry (e.g., “ladies first”).

**Questionnaire.** The questionnaire participants used to evaluate the characters on the videotapes was nine pages long and divided into four sections. The first section consisted of questions regarding the videotaped interactions that the participants observed. On the first page of the questionnaire was a table with rows labeled according to personality traits and columns corresponding to the characters in the videotapes. Participants were presented with eleven personality traits selected to represent the broader constructs of virtue and agency: intelligent, competent, warm, respectable, kind-hearted, assertive, ambitious, independent, sexually experienced, and sexually liberal. In addition, participants’ ratings of the physical attractiveness of each character were collected. Participants were asked to indicate the degree to which each character possessed each trait using a 9-point scale from 1 (“Not at all”) to 9 (“A great deal”). Only one character was evaluated from the first videotape because the purpose of the first videotape was to familiarize participants with the procedure and provide a standard for comparison. In the second and third video, both the male and the female characters were evaluated.

In the second section of the questionnaire, participants were asked questions about how each character felt about the other character: how much each character respected the other
character, how much each character was romantically attracted to the other character, and how much each character believed that the other character was capable of solving problems and achieving goals independently. As with the previous section, participants responded to these items using a 9-point Likert scale. The last question asked about the relative status of the two characters (i.e., did the male or female character have more status), with responses represented as a continuum from 1 (“female has more status”) to 9 (“male has more status”) with the midpoint labeled “equal status.”

The third section contained two attitude surveys. The first was a combination of the Chivalry Scale, the Attitudes Toward Women Scale, and the Ambivalent Sexism Inventory, with items randomly intermixed and sorted into two forms to control for order effects. The second was the Attributional Complexity Scale (Fletcher, Danilovics, Fernandez, Peterson, & Reeder, 1986), a measure of the degree to which individuals attend to and process information about the causes of behavior. Individuals high in attributional complexity tend to generate more causes for personality dispositions and select more complex causal attributions for behavioral events, as compared to individuals low in attributional complexity (Fletcher et al., 1986). The ACS was included because this experiment relies on participants’ attributions for the provision and receipt of chivalrous behavior. Participants who score high on the ACS would be expected to provide more carefully considered attributions, so effects that are considered marginal gain additional weight if they are greater among high-ACS participants than among low-ACS participants. After completing the attitude surveys, participants completed the final section of the questionnaire, which asked four demographic questions: sex, age, ethnicity, and the range most representative of their parents’ annual income.

Manipulation Check
As part of an in-class demonstration of research methods, a separate sample of 94 students in an introductory social psychology course participated in an abbreviated form of the experiment. Participants in the first section watched the low-chivalry version of both the restaurant and library scenes, while participants in the second section watched the high-chivalry version of both scenes. Participants evaluated the characters in the videotapes and answered a demographics question about their sex, but they did not complete any of the attitude surveys. After turning in their questionnaires, participants were given one more questionnaire sheet that served as a manipulation check for chivalry. At the top of the sheet was the sentence, “‘Chivalry’ refers to a pattern of behavior characterized by men protecting and providing for women.” Two questions followed this statement: “How much chivalry did the male character demonstrate in the second video?” and “How much chivalry did the male character demonstrate in the third video?” For both of these questions, participants responded using a 9-point scale from 1 (“None at all”) to 9 (“A great deal”).

Results

Manipulation Check

Participants’ ratings of how much chivalry the male character demonstrated in each video corresponded to the manipulation of chivalry in the experiment. The average chivalry rating for the restaurant was 2.29 for the low-chivalry version (95% confidence interval = 2.10, 2.48) and 7.53 for the high-chivalry version (95% CI = 7.31, 7.75). For the library scene, the average chivalry rating for the low-chivalry version was 4.08 (95% CI = 3.81, 4.35) and for the high-chivalry version it was 7.85 (95% CI = 7.62, 8.08). Thus, the male characters in the high-chivalry versions of both the restaurant and the library scenes were perceived to be significantly more chivalrous than the same males in the low-chivalry versions of those scenes.
Trait Ratings of Characters

Creation of composite variables from ratings. I suspected that responses to the eleven traits that participants’ used in their evaluations of characters would cluster into a smaller number of factors. Maximum likelihood factor analysis with varimax rotation confirmed this suspicion, identifying three clusters of items composed of the following sets: 1) intelligent, competent, ambitious, and assertive; 2) warm, kind-hearted, and respectable; and 3) sexually liberal and sexually experienced. The Cronbach alpha for ratings of the first four traits ranged from 0.82 to 0.86 over the four characters. Likewise, the Cronbach alpha for warm, kind-hearted, and respectable ranged from 0.86 to 0.88. The correlations between sexually liberal and sexually experienced ranged between 0.52 and 0.67. As a result of this consistency among evaluations, a composite agency score was created by computing the mean of ratings for intelligent, competent, ambitious, and assertive. A composite moral virtue score was created by computing the mean of ratings for warm, kind-hearted, and respectable. And a composite sexual virtue score was created by reverse-scoring the ratings for sexually experienced and sexually liberal and computing their mean. In addition to these three composite variables, two other variables were retained for analysis: independent and physically attractive. Thus, five variables were used to assess participants’ evaluations of the characters: agency, moral virtue, sexual virtue, independence, and physical attractiveness.

Sex differences in ratings. Investigating differences in the responses of male and female participants is important for two reasons. First, it is important to know whether the relation between manipulated levels of chivalry and participant ratings differ based on the sex of the participant. That is, do women who witness chivalry respond to it differently than men who witness chivalry? If they do, then the effect of chivalry on ratings needs to be assessed
separately for male and female participants. Second, the reporting of sex differences in mean levels of responding contributes to an understanding of gender differences more generally.

To determine whether the sex of participants interacted with the manipulated levels of chivalry, hierarchical linear models were fit to each of the five rating variables. The terms included in the models were the chivalry level of the video, the sex of the participant, and the interaction between the two. For only one rating was there a significant interaction between sex of participant and level of chivalry: the attractiveness of the male character in the restaurant setting. Ratings of the male character’s attractiveness by male participants did not differ significantly between the high-chivalry and low-chivalry conditions ($M_{\text{High}} = 3.74$, $M_{\text{Low}} = 3.43$, ns). However, this difference was significant for female participants, who saw the male actor in the high-chivalry condition as significantly more attractive than the same male actor in the low-chivalry condition ($M_{\text{High}} = 4.81$, $M_{\text{Low}} = 3.54$, $p = 0.0004$). Thus, the effect of level of chivalry on ratings of the male character’s attractiveness was found only among female participants. The general finding that sex of participant and level of chivalry do not significantly interact suggests that the observation of chivalry had a similar effect on male and female participants. Thus, the responses of male and female participants were combined for purposes of analysis.

In addition to the interactions between chivalry and sex, the hierarchical linear models also indicated several significant main effects for the sex of participants, displayed by setting in Table 23. Female characters in both the restaurant and the library settings were rated lower in both agency and independence by male participants than by female participants. In addition, male participants rated male characters in both settings significantly lower in physical attractiveness than female participants did. The main effects of the remaining term, chivalry, are discussed in the following section.
Main effect of level of chivalry in videotape on ratings. The primary question to be answered by this study is whether manipulating the observed level of chivalry leads to differences in the evaluations of people involved in the chivalrous (or non-chivalrous) interactions. To answer this question, participants’ evaluations of each of the four characters in the manipulated videotapes were analyzed using hierarchical linear models (mixed-model regression).

The first set of analyses considered the evaluations of the male and female characters separately, and tested whether the characters in the high-chivalry condition were perceived differently from the characters in the low-chivalry condition. Hierarchical linear models were tested for each of the five dependent variables for the male and female characters, aggregating across the two settings. Results of these models are presented in Tables 24 and 25 for male and female characters, respectively.

The dependency from obtaining multiple observations per participant (as measured by the intraclass correlation) ranged from 0.09 for ratings of the male character’s independence to 0.57 for ratings of the male character’s attractiveness, with intermediate values for ratings of the traits of the female characters. This indicates that the dependency was very strong in some cases but quite mild in others.

For the male characters, significant effects for the level of chivalry in the videotape were found for ratings of agency, moral virtue, and physical attractiveness (see Table 24). The proportion of explainable within-subject variance explained by chivalry ranged from 3% in the case of attractiveness to 10% in the case of agency and 24% in the case of moral virtue. The proportion of explainable between-subjects variability could not be computed for agency or
moral virtue, but for attractiveness it was determined to be 2%. Mean ratings for the male characters at low and high levels of chivalry are presented in Table 26. Tests for an interaction between these effects and the setting (restaurant versus library) revealed a significant interaction for only one of the dependent variables: moral virtue. As Table 27 indicates, this interaction simply shows that the difference obtained in the Restaurant setting is even stronger than the difference obtained in the Library setting, which is still significant.

For female characters, the effect of chivalry was significant for only one dependent measure: independence (see Table 25). In this case, chivalry was estimated to explain 11% of the explainable between-subjects variance and less than 1% of the explainable within-subjects variance. As shown in Table 28, female characters in the low-chivalry condition were perceived as significantly higher in independence than female characters in the high-chivalry condition. None of the interactions between chivalry and setting were significant for ratings of the female characters.

**Interaction of level of chivalry in videotape with endorsement of chivalry script.**

Participants who endorse the chivalry script are likely to view chivalrous and non-chivalrous interactions differently than participants who do not endorse the script. I would expect high-chivalry participants to be more approving than low-chivalry participants of the male character’s behavior in the high-chivalry condition, and more disapproving in the low-chivalry condition. To investigate this possibility, I computed mixed-model regressions for each of the five rating

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21 In the case of agency, estimates of the between-group variance for the model that included chivalry were greater than estimates of the between-group variance for the unconditional model, resulting in a proportion of variance that would be negative. Typically, inflated estimates of the variance accompany non-significant terms that contribute only noise and take up degrees of freedom. In this case, it may have been that the iterative procedure used to generate parameter estimates settled in a local minimum. In the case of moral virtue, the matrix of the variance for random effects (consisting only of the intercept) was determined not to be positive definite, rendering an estimate of between-subjects variance impossible.
variables using three predictor variables: chivalry level in the videotape, score on the Chivalry Scale, and the interaction between these two factors.

Significant interactions between video chivalry and Chivalry Scale scores occurred for ratings of the agency and moral virtue of the male character and the moral virtue of the female character. These interactions are described in Table 29 using the top and bottom third of the distribution of chivalry scores. Although the simple main effects were generally not significant, the pattern of means in each case was the same: the difference in ratings between the high-chivalry and low-chivalry versions of the videotapes was greater among high-chivalry participants than it was among low-chivalry participants.

**Comparison of male and female characters.** In addition to considering the ratings of each character independently, it may be useful to consider the ratings of the male and female characters in a setting relative to one another. Table 30 presents the mean ratings of male and female characters in the low-chivalry and high-chivalry conditions, as well as the results of paired comparisons from a three-level hierarchical linear model that accounted for the dependency within ratings for a particular setting and for the dependency within ratings by a particular participant. In addition to the two main effects of chivalry and sex of character, there was a significant interaction between chivalry and sex of character that was significant ($p < .05$) for all five variables.

In ratings of agency, independence, and physical attractiveness, the main effect of sex was the result of female characters being evaluated significantly more positively than male characters at both high and low levels of chivalry. However, the significant interaction between sex and chivalry reveals that the magnitude of this difference was significantly greater at low levels of chivalry than it was at high levels of chivalry. For ratings of sexual virtue, male
characters were evaluated significantly more positively than female characters at both high and low levels of chivalry. The magnitude of this difference was significantly greater at high levels of chivalry than at low levels of chivalry. Finally, ratings of moral virtue exhibited a cross-over pattern. At low levels of chivalry, female characters were perceived as significantly more morally virtuous than male characters. But at high levels of chivalry, male characters were perceived as significantly more morally virtuous than female characters.

Using responses to the first videotape as a measure of response bias. To control for individual differences in response bias in the analysis of each character’s trait ratings, ratings of the control character were entered as factors into a hierarchical linear model that also included the level of chivalry in the video. This analysis produced substantial evidence for response bias among participants. Ratings of the control character were a significant ($p < .05$) predictor of ratings of the female characters’ agency, moral virtue, sexual virtue, and attractiveness and of the male characters’ moral virtue and attractiveness. Participants who gave above-average ratings to the control character also tended to give above-average ratings to the other characters, and participants who gave below-average ratings to the control character also tended to give below-average ratings to the other characters. Although the effects for chivalry were generally strengthened by controlling for responses to the control character, no new significant effects were identified.

Comparisons of male and female characters within settings were also reanalyzed after entering responses to the control character as a factor. Results of paired comparisons were similar but slightly weaker compared to those presented in Table 30, presumably because the comparison of the male to the female characters provided its own measure of control for
response bias – an individual with a positive response bias would give above-average ratings to both the male character and the female character.

**Controlling for attributional complexity.** The 28-item Attributional Complexity Scale had a Cronbach alpha of 0.92 based on 223 observations. An Attributional Complexity (AC) score was computed by calculating the average of the 28 items after reverse-scoring the appropriate items. To examine whether attributional complexity interacted with level of chivalry, hierarchical linear models were fit using a model including AC, level of chivalry in the videotape, and their interaction as the predictors. This model was used to predict each of the variables that were found to significantly differ between levels of chivalry. This analysis identified significant interactions between AC and level of chivalry for only one variable: perceptions of female characters’ independence ($p = .007$). This interaction is described in Table 31 using only the top and bottom third of the distribution of AC scores. Although none of the simple main effects were significant after adjusting for multiple comparisons, the pattern of means indicates that the negative relation between chivalry and perceived independence was found among participants in the upper-third of the attributional complexity distribution but not among participants in the lower-third.

**Evaluations of the Characters’ Beliefs about Each Other**

The second section of the questionnaire asked participants to indicate what the male character thought about the female character, and vice-versa. The specific questions involved the amount of respect and romantic attraction each character felt for the other character, each character’s beliefs about the other character’s ability to solve problems, and the relative status of the two characters.
Main effect of level of chivalry in videotape on ratings. As with the analysis of trait ratings, the central question of this analysis is whether the ratings of what each character believes about the other character differ between the high-chivalry and low-chivalry conditions. Before combining responses to the library and restaurant settings, I first fit a model to test for interactions between chivalry and setting. A hierarchical linear model of responses to the questions regarding one character’s beliefs about the other character was fit using three factors: chivalry, sex of character, and setting, as well as all possible interactions involving these three factors. There was only one instance of an interaction by setting: male characters in the low-chivalry condition of the library setting were perceived as having significantly more respect for their female partners than male characters in the low-chivalry condition of the restaurant setting ($M_{Library} = 6.52$, $M_{Restaurant} = 5.68$, $t = 4.40$, $p < 0.0001$). Despite this difference, both of these ratings were significantly lower than ratings of the male character’s respect for his partner in the high-chivalry conditions of both the library and the restaurant settings ($M_{Library} = 8.16$, $M_{Restaurant} = 8.17$). Since the general pattern of means for this interaction was the same in both settings and no other interactions by setting were significant, data for the restaurant and library settings were aggregated for analysis.

To examine the effect of chivalry on perceptions of one character’s feelings about the other, each pair of evaluations (i.e., respect felt by male toward female and respect felt by female toward male) was analyzed in a three-level hierarchical linear model with level of chivalry (high or low), sex of character (male evaluating female or female evaluating male), and the interaction between these factors as predictors. The three-level model accounted for the dependency within the two observations of a single setting and the dependency within the four observations from a single participant. A separate analysis was conducted for the final question, which asked
participants to directly indicate the difference in the status of the two characters by indicating the degree of inequality in status and whether the inequality favored the male or the female character. This variable was analyzed using a hierarchical linear model that accounted for the dependency in the ratings of both settings by the same person and had only one factor – level of chivalry in the video – as the predictor variable. Mean values for each rating, as well as the results of pairwise comparisons among them, are presented in Table 32.

The pattern of means for ratings of respect indicate that greater respect for one’s partner was inferred for both the male and the female characters in the high-chivalry condition than in the low-chivalry condition. Within the high-chivalry condition, the male character was perceived as respecting the female character significantly more than vice-versa. Ratings of the degree to which each character was romantically attracted to the other character indicate that, in both conditions, the male character was perceived as more romantically attracted to the female character than vice-versa. In addition, both the male and the female characters in the high-chivalry condition were perceived as significantly more romantically attracted to their partners than they were in the low-chivalry condition. In ratings of the characters’ confidence in their partners’ problem-solving abilities, only one value stands out: in the low-chivalry condition, female characters were perceived as having significantly less confidence in their male partners’ problem-solving abilities than in any other condition. The mean ratings of the relative status of the two characters did not significantly differ between levels of chivalry.

**Interactions with endorsement of the chivalry script.** The above findings were further analyzed to determine whether they were affected by the degree to which participants endorsed the chivalry script. The hierarchical linear models described above were refit with the addition of a factor representing participants’ scores on the Chivalry Scale and all the interactions of this
factor with the other factors already in the models. The three-way interaction of Chivalry Scale, level of chivalry in the video, and sex of character was significant ($p < .05$) for ratings of respect, romantic attraction, and confidence in problem-solving. The interaction between Chivalry Scale and level of chivalry in the video was significant ($p < .01$) for ratings of the relative status of the two characters. These interactions are described in Table 33 by mean values for the top and bottom third of the distribution of Chivalry Scale scores, level of chivalry in the video, and – in the case of all the variables except for status – by sex of character. To conserve statistical power, pairwise comparisons were conducted only between high- and low-chivalry participants. Thus, the correction for multiple comparisons only considered four of the possible comparisons within each feeling category (i.e., respects, is romantically attracted to, etc.).

Comparisons of participants who scored high and low on the Chivalry Scale revealed three significant differences. For the degree to which the male character both respected and had confidence in the problem-solving ability of his partner, high-chivalry participants in the low-chivalry condition gave significantly lower ratings than low-chivalry participants in the low-chivalry condition. In the case of romantic attraction, high-chivalry participants in the high-chivalry video condition gave significantly higher ratings than low-chivalry participants in the high-chivalry condition.

**Interactions with attributional complexity.** Ratings of each character’s evaluation of the other character were re-analyzed using a hierarchical linear model containing level of chivalry, AC, and interactions between these two factors. The interaction between chivalry and AC was significant ($p = .05$) for only one variable – status. Means for the top and bottom third of the distribution of attributional complexity scale scores and high and low chivalry conditions are presented in Table 34. Among participants with high attributional complexity, the status of the
male and female characters was approximately equal in the low-chivalry condition (indicated by a value near 4, the midpoint on the scale of relative status) but was significantly more favorable for male characters in the high-chivalry condition.

Correlations among Scales

Correlations among the Chivalry Scale, the Attitudes Toward Women Scale, the Ambivalent Sexism Inventory and both its subscales, and the Attributional Complexity Scale are presented for female and male participants in Tables 35 and 36, respectively.

Discussion

Ratings of the Characters in the Videotape

Male characters. For perceptions of the male characters, chivalry had a profound positive effect. Compared to the impressions they gave in the low-chivalry version of the videotapes, male characters in the high-chivalry versions were seen as significantly more agentic and morally virtuous, and (among female participants only) even more physically attractive (see Table 26). Adding support to the relation between chivalry and these effects is the finding that the effects for agency and moral virtue were even more pronounced among participants who strongly endorsed the chivalry script (see Table 29).

The positive evaluations of males in the high-chivalry condition carried over to participants’ beliefs about what the female character thought about her male partner. Participants believed that female characters in the high-chivalry condition had more confidence in their male partners’ ability to solve problems and achieve goals than did female characters in the low-chivalry condition (see Table 32).

Female characters. For female characters, chivalry had less of an effect but what effect it did have was negative. Female characters were perceived as significantly less independent when
they were in the high-chivalry condition as compared to when they were in the low-chivalry condition (see Table 28). While this effect was much smaller than the effects observed for male characters, one additional finding adds support to it. Among participants with high attributional complexity (who tend to think carefully about how they explain behavior), the difference in perceived independence between the high-chivalry and low-chivalry conditions was greater than among participants with low attributional complexity (see Table 31). If the difference in perceived independence were real, it should be more likely to emerge among these high-attributional complexity participants because they are devoting more cognitive resources to forming impressions of people.

The finding that female characters tend to be perceived as less independent when they are the recipients of chivalry as compared to when they are not has important implications for understanding the effect of chivalry on perceptions of women. Merely being the recipient of chivalry is sufficient to cause a woman to be seen as less independent than if she had never received it, regardless of an observer’s attitude toward chivalry. This consequence is unfortunate for the recipients of chivalry but may be even more unfortunate for the status of women everywhere if chivalry is widely observed. Because chivalry advocates a disproportionate amount of help for women by men, it may lead to the perception that women in general are less independent than men. Further research is needed to determine whether repeated exposure to chivalry leads to changes in stereotypes about the relative independence of men and women.

In addition to its effect on the perception of women’s independence, there is evidence that the level of chivalry in the videotapes was also related to the perception of the female character’s moral virtue. The interaction between level of chivalry and Chivalry Scale score was significant for ratings of the moral virtue of the female character, and examination of the means
Table 29 reveals a cross-over pattern: In the high-chivalry video, high-chivalry participants rated the male character as having slightly more moral virtue than low-chivalry participants did, but the reverse was true in the low-chivalry video. While the simple main effects were not significant, the pattern of means is supportive of the idea that high-chivalry participants look with favor upon characters who behave consistently with the chivalry script but with disfavor upon those who violate the script.

Comparisons of male and female characters. The finding that, overall, female characters were evaluated as significantly more independent and agentic than male characters was surprising given previous research showing a lack of sex-related bias in evaluations of performance (Swim et al., 1989; Top, 1991). It was also surprising to find that the male characters were perceived as significantly less sexually experienced and sexually liberal than the female characters given research on the double standard of sexual experience (Oliver & Sedikides, 1992; Sprecher, McKinney, & Orbuch, 1991). Because participants in this experiment responded to only two male and two female actors, care should be taken not to generalize these findings to perceptions of men and women generally. In addition, the central question of whether perceptions of men and women are different depending on the level of chivalry is unanswered by findings of sex differences alone. More informative to the central hypothesis is the interaction between the sex of characters and the level of chivalry in the videotape, to which I turn next.

The sex differences in the perception of agency were significantly greater at low levels of chivalry than they were at high levels of chivalry. Since female characters were generally perceived as more agentic than male characters, the interaction indicates that the advantage possessed by the female characters at low levels of chivalry was not as great as the advantage
they possessed at high levels of chivalry. While male characters benefited from their chivalrous conduct in their perceived agency, female characters did not.

Perceptions of the relative moral virtue of male and female characters were completely reversed between the two levels of chivalry. At low levels of chivalry, female characters were perceived as significantly more morally virtuous than male characters, but at high levels of chivalry the opposite was true. Because perceptions of the female character’s moral virtue were unaffected by chivalry, this change illustrates the dramatic effect of chivalry on perceptions of the male character’s moral virtue.

The difference between the perceived sexual virtue of the male and female characters was significantly greater at high levels of chivalry than it was at low levels of chivalry. However, the absence of any simple main effects involving chivalry makes the interpretation of this difference difficult. The pattern of means suggests that male characters who appeared chivalrous were perceived as slightly less sexually experienced and liberal than males who did not appear chivalrous. In contrast, female characters in the high-chivalry condition were perceived as slightly less sexually virtuous than they were in the low-chivalry condition. Perhaps chivalry communicates that a man is willing to spend time developing a relationship with his partner, resulting in fewer partners in the long run than a man who does not spend as much time. While chivalry may make male characters look more sexually virtuous, it may make female characters appear less so. One explanation for this finding is that females who receive chivalry may be perceived as participating in an exchange that has sexual overtones. Researchers of the dating script (e.g., Korman & Leslie, 1982) have hypothesized that the tradition of men paying for dates may create an expectation that the woman will reciprocate with sexual intimacy. Perhaps participants in this experiment saw the female character in the high-chivalry condition as the
kind of person who is willing to enter into such an exchange. Given the small and non-
significant differences between high and low levels of chivalry, these interpretations are tentative
and await evidence from future research for clarification.

Sex differences in the perception of independence were significantly greater at low levels
of chivalry than they were at high levels of chivalry. These differences were the result of
significantly lower ratings for female characters at high levels of chivalry than at low levels of
chivalry and no difference between high and low levels of chivalry for male characters. While
chivalry appears to undermine perceptions of the independence of the female recipient, it does
nothing for perceptions of the male provider’s independence.

Finally, ratings of physical attractiveness exhibit a significantly greater sex difference at
low levels of chivalry than at high levels of chivalry. Although perceptions of the female
character’s attractiveness are slightly lower at high levels of chivalry than at low levels,
perceptions of the male character’s attractiveness show a more dramatic (and statistically
significant) difference. Male characters in the low-chivalry condition were perceived as
significantly less physically attractive than males in the high-chivalry condition, despite the fact
that they were played by the same actors at both levels. As mentioned above, however, the
difference in attractiveness ratings for male characters was observed only among female
participants.

Not only does chivalry convey information about the traits of the characters, but it also
provides information about the relative status of the male and female characters. Among
participants with high levels of attributional complexity, the relative status of the male and
female characters was approximately equal at low levels of chivalry but significantly tilted in
favor of the male character at high levels of chivalry (see Table 34).
In summary, comparisons of the male and female characters at low and high levels of chivalry show a pattern in which advantages possessed by female characters at low levels of chivalry (i.e., agency, independence, and attractiveness) are smaller at high levels of chivalry, and any advantages possessed by male characters at low levels of chivalry (i.e., sexual virtue) are greater at high levels of chivalry. In the case of moral virtue, the advantage possessed by female characters at low levels of chivalry is completely reversed at high levels of chivalry and given to male characters. Based on the relative ratings of male and female characters, chivalry appears to have positive consequences for men but negative consequences for women.

Evaluations of the Characters’ Beliefs about Each Other

Additional insight into the nature of chivalry is gained by looking at the responses of participants to the questions about how one character felt toward the other character (see Table 32). A greater degree of respect and romantic attraction between characters was perceived in the high-chivalry condition than in the low-chivalry condition. Especially high were ratings of the respect and romantic attraction of the male character for the female character in the high-chivalry condition. These effects are magnified among participants who strongly endorse the chivalry script (see Table 33).

Given the large differences in romantic attraction perceived for the high-chivalry as compared to the low-chivalry male characters, it is possible that the effects attributed to chivalry may in fact be the result of romantic attraction. For example, perhaps lower ratings of independence for females in the low-chivalry condition (as compared to the high-chivalry condition) are the result of the perception that the characters are part of a couple. To examine this possibility, ratings of both the male and female characters’ attraction to their partners were used in hierarchical linear models predicting the ratings of both male and female characters. All
of the significant main effects for chivalry that were identified earlier remained significant after the characters’ romantic attraction for each other were entered into the models, indicating that the chivalry in the videotapes had a unique effect on participants’ perceptions beyond its effect on their perception of romantic attraction.\(^{22}\)

Based on observers’ perceptions of the respect and attraction felt by the male character for his female partner, chivalry appears to function both as a gesture of respect and as an overture of romantic interest. It is interesting to consider chivalry as a form of communication, indicating men’s romantic interest but also respect for their partners. Perhaps chivalry is used by men to indicate that their “intentions are honorable,” that they do not intend to seduce and mistreat women. This hypothesis is also supported by the interaction between sex and chivalry for sexual virtue reported earlier – male characters were perceived as slightly (but not significantly) more sexually virtuous at high levels of chivalry than they were at low levels of chivalry. Anecdotal support for the chivalry-as-communication hypothesis comes from informal discussions with some of the undergraduate females who assisted in this project, who said that men who behaved chivalrously were regarded as “safer” for dating. Many questions present themselves when chivalry is considered as a form of communication. For example, is the meaning extracted by women the same as the meaning intended by men? Are chivalrous men “safer” for dating? Further research is needed to explore the information conveyed by chivalry as well as its larger role in romantic relationships.

Correlations

\(^{22}\) While it did not interfere with the effect of chivalry, romantic attraction was found to be a significant predictor of the dependent measures (e.g., agency, independence, etc.) in several cases. For example, male characters were perceived as less independent when they were strongly attracted to their partner (the relation between “attraction of male to female” and “independence of male” was negative). However, they were perceived as more independent when their partner was attracted to them (the relation between “attraction of female to male” and “independence of male” was positive).
The correlations among the scales for female participants are similar to those obtained in earlier studies (see Table 35). Chivalry is positively correlated to benevolent and hostile sexism as well as to ambivalent sexism – findings that are consistent with the hypothesis that chivalry is associated with both positive and negative beliefs about women. In addition, chivalry is correlated with the Attitudes Toward Women Scale, which suggests that chivalry is related to attitudes consistent with traditional sex roles. Surprisingly, female participants exhibited a significant positive correlation between attributional complexity (AC) and chivalry ($r = 0.29$). Female participants who endorse chivalry also tend to be more careful about their attributions than the average person. Perhaps endorsement of the chivalry script is related to a tendency to evaluate people based on whether they are conforming to their expected roles. This would result in a greater likelihood of considering situational factors (i.e., roles) in explaining people’s behavior, and would counteract the fundamental attribution error of overestimating personal as opposed to situational factors when making attributions. Further research should investigate this and other characteristics that may distinguish high-chivalry from low-chivalry individuals.

For males, the same correlations between chivalry and benevolent sexism and between chivalry and the Attitudes Toward Women Scale are observed in this study as were observed for females. Unlike the findings for female participants, a nonsignificant and near-zero correlation was observed between chivalry and attributional complexity. High-chivalry males appear to be no different than low-chivalry males in the resources they devote to understanding people’s behavior, suggesting that this connection may be an exclusively female phenomenon. For male participants, the correlation between chivalry and hostile sexism is non-significant and nears zero. Of the three correlations between chivalry and hostile sexism reported in this thesis, two have been near zero ($r = .09$ and -.03, see Tables 7 and 36) and the third has been low ($r = .24$, ...
see Table 21). A weighted average of the three values using Fisher-transformations is $r = .099$, indicating the general absence of a linear relation between these two variables for males.

The difference in correlations between chivalry and hostile sexism for males and females could be partly due to cognitive dissonance among female participants. Part of hostile sexism involves a rejection of affirmative action and sexual harassment policies, which could be said to perform some of the same functions as chivalry because they are designed to increase women’s ability to provide for themselves and to protect them from unwanted male advances on the job. These institutional policies may be perceived as an alternative to chivalry because they obviate the need for special protection and provision for women by men. Given the choice between chivalry and institutional policies, high-chivalry women chose chivalry. In Brehm’s (1956) classic cognitive dissonance experiment, participants who freely chose between two alternatives later devalued the unselected alternative. Zanna and Sande (1987) found that this tendency was even more pronounced when the choice involved substantial commitment to the chosen alternative. If women who select chivalry as a means of protection and provision tend to sacrifice their self-conceptions of agency, then they have made a substantial commitment to chivalry because they have reduced their ability to pursue alternatives. This commitment is greater than the commitment for men who endorse chivalry, who sacrifice some of their resources but retain their sense of agency. Thus, women who endorse chivalry may have sacrificed more than men who endorse chivalry, and would face stronger cognitive dissonance if they were to reject chivalry in favor of institutional policies designed to improve the status of women.

**Conclusion**
In this study, the level of chivalry to which participants were exposed was experimentally manipulated by randomly assigning participants to observe either high or low levels of chivalry in videotaped interactions. By randomly assigning participants to high or low levels of chivalry, I was able to reach conclusions regarding the effect of chivalry on perceptions of the characters in the videotaped interactions. For males who behave chivalrously, chivalry appears to hold tremendous benefits. Male actors who behaved in a chivalrous manner were perceived as both more agentic (i.e., more competent, intelligent, ambitious, and assertive) and more morally virtuous (i.e., more kind-hearted, warmer, and more respectable) than the same male actors when they did not take advantage of several opportunities for chivalrous behavior. Among observers with high attributional complexity (attentiveness and interest in making accurate attributions), male characters were perceived as having more status than female characters in the high-chivalry condition but the same status in the low-chivalry condition. These findings suggest one reason why chivalry may continue to be practiced: It is very rewarding for the male who provides it.

For females, chivalry offers few benefits that were measured in this study and some costs. Among high-chivalry participants, females who received chivalry were perceived as more morally virtuous than females who did not. However, the reverse was true among low-chivalry participants. In addition, merely observing a female receive chivalrous treatment was sufficient to cause her to be evaluated as less independent than if she had never been offered the chivalrous treatment.
CHAPTER 5: INTEGRATION

The findings contained in the five studies reported above have important implications both for an understanding of what chivalry is and for an evaluation of chivalry as a reasonable script for male-female relations. To assist with a discussion of how the results help to describe chivalry, I refer again to Figure 1, which diagrams the relations among the chivalry script, chivalrous behavior, and beliefs about women. The central hypothesis of this report is that the chivalry script is related to two beliefs about women: the belief that women are less agentic than men and the belief that women are more virtuous than men. Study 1 provided evidence that people who endorse the chivalry script – who believe that it is appropriate for men to, for example, give up their seats to women on a crowded bus – also tend to hold beliefs that women are less agentic than men (less suited to positions of authority and, for female participants, less competent) and more virtuous than men (both morally and sexually). Thus, the chivalry script is not only consistent with the beliefs that women are more virtuous and less agentic than men, but these three cognitive structures tend to be found together in the minds of individuals.

In Studies 2, 3, and 4, I found that these beliefs about women affected the behavior of chivalrous men by establishing “eliciting conditions” under which chivalrous behavior would occur. Based on the results of these three studies, it appears that chivalrous men do not show preferential treatment equally to all women. In fact, chivalrous men were more likely than men low in chivalry to show preferential treatment when women conformed to expectations of low agency and high virtue. The existence of these eliciting conditions provides additional support that chivalry is related to these two beliefs about women, and it also offers one suggestion of how chivalry might be related to these beliefs. Eliciting conditions describe the relation between chivalry and characteristics of potential targets as an if-then relation. If the potential female
target of chivalrous behavior conforms to expectations of high virtue and low agency, then the chivalry script will be activated and she will receive assistance. Such a relation suggests that chivalry may be an exchange: In return for acting a certain way, females are given special treatment.

The view of chivalry as an exchange raises interesting questions about chivalry’s effect on male-female relations. What do chivalrous men get in return for the resources they provide? Perhaps the answer is “power.” Part of acting as if one were low in agency is not asserting one’s will, but rather complying with the will of others. Part of acting as if one were high in virtue is restricting one’s freedom to say, wear, consume, visit, or otherwise do what one wishes. The chivalry script, when adopted at a cultural level, may imply a social contract between men and women in which women receive protection and provision in return for an abdication of their power. In return for the resources required to provide this protection and provision, men receive the power to structure society so that it is to their advantage. Some evidence for this social contract is given by the responses of female participants in Study 1. Among female participants, there were strong positive correlations between endorsement of the chivalry script and the beliefs that women were less competent ($r = 0.32$) and less suited for authority ($r = 0.53$) than men (see Table 6). The female participants who accepted chivalry also accepted the idea that women were less competent and less able to wield power than men. Because an exchange is a dynamic process, static collection of data is inadequate to fully test whether chivalry is an exchange. One means of further investigating the exchange hypothesis would be to study the development of the chivalry script in children and adolescents. As girls are socialized to accept chivalry, do their self-conceptions of ability and sex stereotypes change? Especially interesting would be changes in the self-conceptions of girls who initially displayed great potential for academic success or
leadership. Among these high-agency girls, do the girls who begin to endorse the chivalry script decrease in their outward expressions of agency more than the girls who do not endorse chivalry?

Whereas the first four studies examined the beliefs and behaviors characteristic of people who endorse the chivalry script (as compared to people who do not), the fifth study compared people’s reactions to witnessing a chivalrous scene with the reactions of people who witnessed the same scene without any chivalry. Two important findings emerged from this study. First, there is evidence that the observation of chivalrous behavior is related to perceptions of women’s agency and virtue. Second, it appears that chivalry has a powerful positive effect on the perceptions of the male who provides it.

To address the first point, women who received chivalry appeared less independent than the same women when they did not receive chivalry. Thus, one component of the concept of agency – independence – is related to the observation of chivalry. The perceived virtue of females was also found to vary depending on the amount of chivalry observed, although this effect was qualified by an interaction with observers’ endorsement of the chivalry script. Thus, chivalrous behavior does appear to be related to the beliefs that women are less agentic and more virtuous than men.

As Figure 1 illustrates, this finding completes a cycle between chivalry and beliefs about women: women who are high in virtue and low in agency are more likely to receive chivalry, which in turn leads to perceptions that they are high in virtue (although only among those who endorse the chivalry script) and low in agency. Perhaps chivalry actively maintains beliefs regarding the relative virtue and agency of women to men by identifying women who conform to
a low-agency / high-virtue standard and then intensifying the perception of their low agency and
high virtue. Additional research is needed to investigate the implications of this cyclical relation.

The second finding concerns the perceptions of males who are chivalrous, and the results
clearly indicate a much more favorable impression of chivalrous males than non-chivalrous
males. In addition to being consistent with beliefs about the relative virtue and agency of
females, chivalry also appears to be an effective strategy for enhancing a man’s public image.
Further research should explore how men consciously use chivalry as a means of impression
management and how women interpret chivalry.

The hypothesis that chivalry is related to a social contract in which resources are
exchanged for power gains additional support from the results of Study 5. Whether or not the
provision or receipt of chivalry is consciously intended as an exchange by the parties involved,
observers who witness a chivalrous interaction perceive the man as more agentic and the woman
as less agentic than if the interaction had contained no chivalry. The interaction produces a net
loss of agency in one party and a net gain in the other. Thus, from the point of view of an
observer, a transfer of agency has taken place from the woman to the man.

Agenda for Future Research

Throughout this report, I have made frequent appeals to future research that might clarify
some unresolved issues. In this section, I review some of those appeals and outline a general
plan for continuing the research presented above.

First, additional research is needed to clarify the nature of the cyclical relation between
chivalry and beliefs about women that is diagrammed in Figure 1. Is the relation between
chivalry and beliefs about women a mutually reinforcing cycle – a positive feedback loop?
Experiments in which opportunities for chivalrous behavior by male participants are manipulated
could help to answer this question by observing whether males who take advantage of such chivalrous opportunities show a higher correlation between their endorsement of chivalry and their beliefs about women than do male participants who do not exhibit chivalrous behaviors when they have the opportunity. If chivalry is reciprocally related to beliefs about women, then attempts to disentangle chivalry from negative stereotypes about women are more difficult than they may otherwise seem because the connection between the two concepts would have to be severed at two points of intersection. A self-reinforcing cycle might also suggest a self-fulfilling prophecy for chivalrous men, who believe women to be virtuous and agentic, seek out women who seem to be so for interactions, and then behave in such a way that their expectations are confirmed.

An important aspect of the chivalry script left unexamined by the studies reported here is the effect of chivalrous behavior on the female recipient. Although Study 5 suggests that female recipients of chivalry appear less agentic to observers, it does not provide any information about how the recipient experiences and responds to chivalrous treatment. Because of its tight association with traditional stereotypes about women, chivalry may serve as a prime for these stereotypes. Research on stereotypes suggests that, under some circumstances, stereotype activation can result in self-perceptions that are consistent with the stereotype, decreased self-esteem, and a decrement in cognitive ability (Schneider et al., 1996; Spencer, Steele, & Quinn, 1999). One method of testing for a connection between chivalry, stereotypes, and female recipients’ reactions would be through an experiment in which female participants receive different levels of chivalrous treatment and then are assessed with regard to stereotype accessibility, self-esteem, self-perceptions of virtue and agency, and even cognitive performance. Research might also provide insight into the conditions under which chivalry is favorably and
unfavorably received by women, and how women reinforce (or punish) chivalrous behavior (or its absence).

Although in this thesis I have defined chivalry as a script describing the expected behavior of men toward women, chivalry has traditionally applied to other relations as well. One such domain is the chivalrous norm for “fair fighting” between males. This aspect of chivalry has a long tradition, beginning with the elaborate scripts for appropriate conduct at medieval tournaments and also notable in the Marquess of Queensbury rules. Enactments of the chivalry script could be examined to determine whether high-chivalry male participants are less likely than low-chivalry male participants to take “unfair” advantage of their opponents in a competitive context.

In addition to being regarded as a cognitive and cultural script, chivalry can also be considered in the context of communication. What does chivalry mean to the women who receive it and to the men who perform it? Is chivalry a way of communicating romantic interest and honorable intentions? These questions could be answered through attitude surveys and through the responses of female participants in a laboratory experiment to chivalrous behavior performed by an experimental confederate.

Finally and most importantly, further research is needed to test the hypothesis that chivalry functions as an implicit social contract between men and women in which protection and provision is exchanged for power. This interpretation of the results of Studies 1 through 5 relies on the assumption that women who adopt chivalry as a desirable cultural script give up a degree of agency – the ability to solve problems and achieve goals independently. As mentioned earlier, one method of testing this assumption is to use a longitudinal design that tracks women’s

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23 Written by John Chambers and sponsored by John Douglas, ninth Marquess of Queensbury, these rules were first published in 1867 and helped to define the official rules for a fair boxing match.
self-conceptions of agency as well as their endorsement of the chivalry script over an extended period of time. A cross-sectional alternative would require sampling a large number of women and correlating their self-perceptions with their endorsement of the chivalry script. Both approaches extend the studies reported here by examining the self-conceptions of women rather than their beliefs about women in general.

The results of the five studies discussed in this report suggest that the chivalry script is related to beliefs about women. The agenda for future research discussed in this section points to a number of additional lines of research that can add to our understanding, ranging from further analysis of the cyclical relation between chivalry and beliefs about women to conceptualizing chivalry as communication and to investigating whether chivalry implies a social contract. Together, these efforts can add to the understanding of chivalry and its consequences and thereby to a more accurate evaluation of it as an appropriate script for relations between men and women.

Conclusion

Insofar as it promotes the expectation that women require protection and provision from men, chivalry may undermine efforts to eliminate stereotypes about women’s lack of agency relative to men. But given its association with self-sacrifice and with the romantic script, chivalry may yet have something to offer. Future research should identify which aspects of the chivalry script promote beliefs that threaten the perceived and actual agency of women, and which aspects are relatively benign. Perhaps then, a revised chivalry script can be written that retains the cultural richness of chivalry and promotes mutual respect.
### TABLES

**Table 1**

Principal Component Loadings for Chivalry Scale in Study 1

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chivalry Scale</strong></td>
<td></td>
</tr>
<tr>
<td>1. A man should give up his seat to a woman if the bus is crowded.</td>
<td>0.72</td>
</tr>
<tr>
<td>2. I believe in “old fashioned” traditions, like holding a door open for a woman.</td>
<td>0.71</td>
</tr>
<tr>
<td>3. When a man and a woman are together, the man should always offer to pay the check.</td>
<td>0.70</td>
</tr>
<tr>
<td>4. It’s important for men to act “gentlemanly” when dealing with a woman.</td>
<td>0.70</td>
</tr>
<tr>
<td>5. Men should be especially courteous and polite when dealing with women.</td>
<td>0.68</td>
</tr>
<tr>
<td>6. Women deserve special respect from men.</td>
<td>0.61</td>
</tr>
<tr>
<td>7. If there is a dangerous job to be done, it is better for a man to do it than a woman.</td>
<td>0.60</td>
</tr>
<tr>
<td>8. A man has an obligation to protect a woman who is in danger.</td>
<td>0.57</td>
</tr>
<tr>
<td>9. It is rude for a man to refuse a request from a woman if it is within his means.</td>
<td>0.52</td>
</tr>
<tr>
<td>10. A man should remain standing until a woman takes her seat.</td>
<td>0.52</td>
</tr>
</tbody>
</table>
### Table 2

**Principal Component Loadings for Beliefs about Women’s Virtue Relative to Men in Study 1**

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moral Virtue</strong></td>
<td></td>
</tr>
<tr>
<td>1. Women have a finer moral sense than men do.</td>
<td>0.80</td>
</tr>
<tr>
<td>2. Women have a quality of purity few men possess.</td>
<td>0.73</td>
</tr>
<tr>
<td>3. Men have more of an animal side than women do.</td>
<td>0.68</td>
</tr>
<tr>
<td>4. It’s easier for men than for women to be cruel when they need to be.</td>
<td>0.50</td>
</tr>
<tr>
<td>5. It makes me more uncomfortable to hear profanity from a woman than from a man.</td>
<td>0.48</td>
</tr>
<tr>
<td><strong>Sexual Virtue</strong></td>
<td></td>
</tr>
<tr>
<td>1. Women aren’t as interested in sex as men are.</td>
<td>0.81</td>
</tr>
<tr>
<td>2. Sex isn’t as much of a priority for women as it is for men.</td>
<td>0.75</td>
</tr>
<tr>
<td>3. Compared to men, women’s romantic feelings are less likely to include lust.</td>
<td>0.68</td>
</tr>
<tr>
<td>4. Chastity is more of a virtue for women than for men.</td>
<td>0.48</td>
</tr>
<tr>
<td>5. Women who sleep around deserve just as much respect as women who don’t.</td>
<td>0.46</td>
</tr>
<tr>
<td>(reversed)</td>
<td></td>
</tr>
<tr>
<td>6. A woman who is very sexually available deserves no respect.</td>
<td>0.43</td>
</tr>
</tbody>
</table>
Table 3

Principal Component Loadings for Beliefs about Women’s Agency Relative to Men in Study 1

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power</strong></td>
<td></td>
</tr>
<tr>
<td>1. Men are better at handling power than women are.</td>
<td>0.83</td>
</tr>
<tr>
<td>2. Men are better leaders than women are.</td>
<td>0.83</td>
</tr>
<tr>
<td>3. Men should “wear the pants” when it comes to important family decisions.</td>
<td>0.77</td>
</tr>
<tr>
<td>4. It’s easier to take orders from a man than from a woman.</td>
<td>0.74</td>
</tr>
<tr>
<td>5. Women should be more submissive than men.</td>
<td>0.73</td>
</tr>
<tr>
<td>6. It’s better for a man to be domineering than it is for a woman to be</td>
<td>0.72</td>
</tr>
<tr>
<td>domineering.</td>
<td></td>
</tr>
<tr>
<td>7. I see no problem with women holding positions of power. (reversed)</td>
<td>0.62</td>
</tr>
<tr>
<td>8. Women should be just as assertive as men. (reversed)</td>
<td>0.58</td>
</tr>
<tr>
<td>9. Domineering women are more annoying than domineering men.</td>
<td>0.55</td>
</tr>
<tr>
<td><strong>Competence</strong></td>
<td></td>
</tr>
<tr>
<td>1. Men understand the complexities of the political world better than women.</td>
<td>0.81</td>
</tr>
<tr>
<td>2. When it comes to science, men are better than women.</td>
<td>0.82</td>
</tr>
<tr>
<td>3. Women are just as logical and rational as men. (reversed)</td>
<td>0.76</td>
</tr>
</tbody>
</table>
Table 4

Reliability of Scales in Study 1

<table>
<thead>
<tr>
<th>Scale</th>
<th># Items</th>
<th>N</th>
<th>α</th>
<th>%var</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chivalry Scale</td>
<td>10</td>
<td>407</td>
<td>0.87</td>
<td>0.46</td>
</tr>
<tr>
<td>Virtue</td>
<td>11</td>
<td>407</td>
<td>0.78</td>
<td>0.32</td>
</tr>
<tr>
<td>Moral</td>
<td>5</td>
<td>410</td>
<td>0.64</td>
<td>0.42</td>
</tr>
<tr>
<td>Sexual</td>
<td>6</td>
<td>407</td>
<td>0.67</td>
<td>0.38</td>
</tr>
<tr>
<td>Agency</td>
<td>12</td>
<td>410</td>
<td>0.90</td>
<td>0.49</td>
</tr>
<tr>
<td>Competence</td>
<td>3</td>
<td>410</td>
<td>0.71</td>
<td>0.64</td>
</tr>
<tr>
<td>Power</td>
<td>9</td>
<td>410</td>
<td>0.87</td>
<td>0.51</td>
</tr>
<tr>
<td>Attitudes Toward Women Scale</td>
<td>15</td>
<td>196</td>
<td>0.84</td>
<td>0.34</td>
</tr>
<tr>
<td>Hostile Sexism Scale</td>
<td>11</td>
<td>198</td>
<td>0.88</td>
<td>0.47</td>
</tr>
<tr>
<td>Nadler &amp; Morrow’s Chivalry Scale</td>
<td>18</td>
<td>195</td>
<td>0.89</td>
<td>0.35</td>
</tr>
</tbody>
</table>

Note. α = Cronbach’s alpha. %var = Proportion of the variance accounted for by the first principal component.
Table 5

Correlations Between Original Chivalry Scale Items in Study 1 and More Explicitly Comparative Items

<table>
<thead>
<tr>
<th>More Explicitly Comparative Chivalry Items</th>
<th>Loading</th>
<th>Correlation Item</th>
<th>Correlation Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It’s more important for a man on a crowded bus to give his seat to a woman than to give his seat to another man.</td>
<td>0.70</td>
<td>0.65**</td>
<td>0.56**</td>
</tr>
<tr>
<td>3. When a man and a woman dine together, they should split the cost of the meal.</td>
<td>-0.56</td>
<td>-0.50**</td>
<td>-0.45**</td>
</tr>
<tr>
<td>5. Men should be more courteous and polite when dealing with women than when they are dealing with other men.</td>
<td>0.68</td>
<td>0.59**</td>
<td>0.53**</td>
</tr>
<tr>
<td>6. Men need to show more respect for women than they do to other men.</td>
<td>0.60</td>
<td>0.32**</td>
<td>0.46**</td>
</tr>
<tr>
<td>8. A man has more of an obligation to protect a woman who is in danger than to protect another man who is in the same amount of danger.</td>
<td>0.58</td>
<td>0.36**</td>
<td>0.43**</td>
</tr>
<tr>
<td>9. It is more rude for a man to refuse a woman’s request than it is for him to refuse the same request from another man.</td>
<td>0.60</td>
<td>0.43**</td>
<td>0.46**</td>
</tr>
</tbody>
</table>

Note. *Loading* indicates each item’s loading on the first principal component when both the original and the more explicit items are subjected to a principal components analysis;

*Correlation/Item* is the correlation between each item and the corresponding item from the Chivalry Scale (the item’s number in Table 5 refers to the corresponding item number in Table 1); *Correlation/Scale* is the correlation between each item and the 10-item Chivalry Scale;

**p<.01.
Table 6

Correlations between Scales for Female Participants in Study 1

<table>
<thead>
<tr>
<th>Virtue</th>
<th>Moral</th>
<th>Sexual</th>
<th>Agency</th>
<th>Comp</th>
<th>Power</th>
<th>AWS</th>
<th>HSS</th>
<th>N&amp;M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chivalry</td>
<td>0.49**</td>
<td>0.54**</td>
<td>0.34**</td>
<td>0.45**</td>
<td>0.32**</td>
<td>0.53**</td>
<td>0.63**</td>
<td>0.45**</td>
</tr>
<tr>
<td>Virtue</td>
<td>0.91**</td>
<td>0.90**</td>
<td>0.57**</td>
<td>0.49**</td>
<td>0.57**</td>
<td>0.42**</td>
<td>0.39**</td>
<td>0.47**</td>
</tr>
<tr>
<td>Moral</td>
<td>0.65**</td>
<td>0.54**</td>
<td>0.46**</td>
<td>0.55**</td>
<td>0.40**</td>
<td>0.30**</td>
<td>0.54**</td>
<td></td>
</tr>
<tr>
<td>Sexual</td>
<td>0.50**</td>
<td>0.44**</td>
<td>0.50**</td>
<td>0.35**</td>
<td>0.40**</td>
<td>0.31**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency</td>
<td>0.94**</td>
<td>0.93**</td>
<td>0.73**</td>
<td>0.68**</td>
<td>0.43**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comp.</td>
<td>0.74**</td>
<td>0.54**</td>
<td>0.58**</td>
<td>0.32**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>0.81**</td>
<td>0.68**</td>
<td>0.48**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AWS</td>
<td>0.70**</td>
<td>0.61**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSS</td>
<td></td>
<td>0.44**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** N for each correlation was 138 except for correlations including the Attitudes Toward Women Scale (AWS), the Hostile Sexism Scale (HSS), and Nadler & Morrow’s Chivalry Scale (N&M), in which case N = 80. **p < .01.
Table 7

Correlations between Scales for Male Participants in Study 1

<table>
<thead>
<tr>
<th></th>
<th>Virtue</th>
<th>Moral</th>
<th>Sexual</th>
<th>Agency</th>
<th>Comp</th>
<th>Power</th>
<th>AWS</th>
<th>HSS</th>
<th>N&amp;M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chivalry</td>
<td>0.34**</td>
<td>0.41**</td>
<td>0.20**</td>
<td>0.21**</td>
<td>0.10</td>
<td>0.31**</td>
<td>0.37**</td>
<td>0.09</td>
<td>0.87**</td>
</tr>
<tr>
<td>Virtue</td>
<td>0.88**</td>
<td>0.89**</td>
<td>0.51**</td>
<td>0.42**</td>
<td>0.52**</td>
<td>0.50**</td>
<td>0.26**</td>
<td>0.33**</td>
<td></td>
</tr>
<tr>
<td>Moral</td>
<td>0.57**</td>
<td>0.45**</td>
<td>0.35**</td>
<td>0.49**</td>
<td>0.50**</td>
<td>0.24</td>
<td>0.43**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual</td>
<td>0.45**</td>
<td>0.40**</td>
<td>0.44**</td>
<td>0.41**</td>
<td>0.24**</td>
<td>0.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency</td>
<td>0.93**</td>
<td>0.90**</td>
<td>0.78**</td>
<td>0.71**</td>
<td>0.33**</td>
<td>0.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comp.</td>
<td>0.68**</td>
<td>0.67**</td>
<td>0.43**</td>
<td>0.28**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.82**</td>
<td>0.57**</td>
<td>0.28**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AWS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.51**</td>
<td>0.36**</td>
<td></td>
</tr>
<tr>
<td>HSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.01</td>
<td></td>
</tr>
</tbody>
</table>

Note. N for each correlation was 270 except for correlations including the Attitudes Toward Women Scale (AWS), the Hostile Sexism Scale (HSS), and Nadler & Morrow’s Chivalry Scale (N&M), in which case N = 118. a The correlations for male participants differed significantly (p < .01) from the correlations for female participants. **p < .01.
Table 8

Mean Response Level to Scenario for Each Behavior in Study 2

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggressing</td>
<td>2.47&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.74&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.74&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Defending</td>
<td>3.65&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.51&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.82&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Helping</td>
<td>3.76&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.07&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.03&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Rewarding</td>
<td>3.17&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.91&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.90&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**Note.** Means in the same row having the same superscript are not significantly different at p < .05 in the Tukey honestly significant difference comparison.
Table 9

Hierarchical Linear Modeling of Male Participants’ Responses to Study 2 Scenarios

<table>
<thead>
<tr>
<th></th>
<th>Aggression</th>
<th>Defending</th>
<th>Helping</th>
<th>Rewarding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1: Unconditional model</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>0.08</td>
<td>0.19</td>
<td>0.09</td>
<td>0.07</td>
</tr>
<tr>
<td>Btw-subject $\sigma^2$</td>
<td>0.37</td>
<td>0.25</td>
<td>0.16</td>
<td>0.17</td>
</tr>
<tr>
<td>W/in-subject $\sigma^2$</td>
<td>0.67</td>
<td>0.73</td>
<td>0.90</td>
<td>0.89</td>
</tr>
<tr>
<td>Intraclass $\rho$</td>
<td>0.35</td>
<td>0.26</td>
<td>0.15</td>
<td>0.16</td>
</tr>
<tr>
<td><strong>Step 2: Chivalry</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B$(Chivalry)</td>
<td>0.00</td>
<td>0.15**</td>
<td>0.16**</td>
<td>-0.05</td>
</tr>
<tr>
<td>% Btw explained</td>
<td>0.00</td>
<td>0.06</td>
<td>0.12</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Step 3: Traits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B$(Competence)</td>
<td>0.05</td>
<td>0.09</td>
<td>0.10</td>
<td>0.51**</td>
</tr>
<tr>
<td>$B$(Moral Virtue)</td>
<td>-0.05</td>
<td>0.16**</td>
<td>0.21**</td>
<td>0.51**</td>
</tr>
<tr>
<td>$B$(Power)</td>
<td>0.17**</td>
<td>-0.19**</td>
<td>-0.23**</td>
<td>-0.06</td>
</tr>
<tr>
<td>$B$(Sexual Virtue)</td>
<td>-0.01</td>
<td>0.04</td>
<td>0.01</td>
<td>0.20**</td>
</tr>
<tr>
<td>% Btw explained</td>
<td>0.01</td>
<td>0.04</td>
<td>0.00</td>
<td>0.41</td>
</tr>
<tr>
<td>% W/in explained</td>
<td>0.02</td>
<td>0.03</td>
<td>0.07</td>
<td>0.26</td>
</tr>
<tr>
<td><strong>Step 4: Interactions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B$(Chiv x Comp)</td>
<td>0.08</td>
<td>-0.15**</td>
<td>0.00</td>
<td>0.07</td>
</tr>
<tr>
<td>$B$(Chiv x M. Virt)</td>
<td>0.03</td>
<td>0.05</td>
<td>0.03</td>
<td>0.10</td>
</tr>
<tr>
<td>$B$(Chiv x Power)</td>
<td>-0.09</td>
<td>0.05</td>
<td>0.04</td>
<td>-0.08</td>
</tr>
<tr>
<td>$B$(Chiv x S. Virt)</td>
<td>-0.02</td>
<td>-0.01</td>
<td>0.19**</td>
<td>0.08</td>
</tr>
<tr>
<td>% Btw explained</td>
<td>n/a</td>
<td>0.02</td>
<td>0.09</td>
<td>n/a</td>
</tr>
<tr>
<td>% W/in explained</td>
<td>n/a</td>
<td>0.01</td>
<td>0.00</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Note:** $B$ is the unstandardized regression coefficient from a model including all terms in the current and previous steps. % explained refers to the proportion of explainable variance explained above and beyond models in previous steps, by a model that includes only those terms that had significant parameters. *$p < .05$. **$p < .01$. 
### Table 10

**Hierarchical Linear Modeling of Female Participants’ Responses to Study 2 Scenarios**

<table>
<thead>
<tr>
<th></th>
<th>Aggression</th>
<th>Defending</th>
<th>Helping</th>
<th>Rewarding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1: Unconditional model</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-0.16</td>
<td>-0.37</td>
<td>-0.17</td>
<td>-0.14</td>
</tr>
<tr>
<td>Btw-subject $\sigma^2$</td>
<td>0.27</td>
<td>0.28</td>
<td>0.11</td>
<td>--</td>
</tr>
<tr>
<td>W/in-subject $\sigma^2$</td>
<td>0.62</td>
<td>0.56</td>
<td>0.72</td>
<td>0.84</td>
</tr>
<tr>
<td>Intraclass $\rho$</td>
<td>0.31</td>
<td>0.33</td>
<td>0.14</td>
<td>--</td>
</tr>
<tr>
<td><strong>Step 2: Chivalry</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B(Chivalry)$</td>
<td>0.09</td>
<td>0.00</td>
<td>-0.09</td>
<td>0.11*</td>
</tr>
<tr>
<td>% Btw explained</td>
<td>0.02</td>
<td>0.00</td>
<td>0.01</td>
<td>--</td>
</tr>
<tr>
<td><strong>Step 3: Traits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B(Competence)$</td>
<td>-0.12</td>
<td>0.11</td>
<td>0.12</td>
<td>0.43**</td>
</tr>
<tr>
<td>$B(Moral Virtue)$</td>
<td>0.00</td>
<td>0.19**</td>
<td>0.34**</td>
<td>0.57**</td>
</tr>
<tr>
<td>$B(Power)$</td>
<td>0.12</td>
<td>-0.06</td>
<td>-0.24**</td>
<td>-0.12*</td>
</tr>
<tr>
<td>$B(Sexual Virtue)$</td>
<td>-0.04</td>
<td>-0.02</td>
<td>0.20**</td>
<td>0.28**</td>
</tr>
<tr>
<td>% Btw explained</td>
<td>n/a</td>
<td>0.06</td>
<td>0.00</td>
<td>--</td>
</tr>
<tr>
<td>% W/in explained</td>
<td>n/a</td>
<td>0.02</td>
<td>0.16</td>
<td>0.35</td>
</tr>
<tr>
<td><strong>Step 4: Interactions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B(Chiv x Comp)$</td>
<td>-0.17*</td>
<td>0.02</td>
<td>-0.04</td>
<td>0.04</td>
</tr>
<tr>
<td>$B(Chiv x M. Virt)$</td>
<td>0.09</td>
<td>0.13*</td>
<td>0.07</td>
<td>0.00</td>
</tr>
<tr>
<td>$B(Chiv x Power)$</td>
<td>0.00</td>
<td>0.15*</td>
<td>-0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>$B(Chiv x S. Virt)$</td>
<td>-0.03</td>
<td>0.05</td>
<td>0.01</td>
<td>0.12</td>
</tr>
<tr>
<td>% Btw explained</td>
<td>0.01</td>
<td>0.00</td>
<td>n/a</td>
<td>--</td>
</tr>
<tr>
<td>% W/in explained</td>
<td>0.01</td>
<td>0.04</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Note:** $B$ is the unstandardized regression coefficient from a model including all terms in the current and previous steps. % explained refers to the proportion of explainable variance explained above and beyond models in previous steps, by a model that includes only those terms that had significant parameters. *$p < .05$.  

128
Table 11

Mean Responses of Male Participants to Scenarios in Study 2, by Chivalry

<table>
<thead>
<tr>
<th></th>
<th>Low Chivalry</th>
<th>High Chivalry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggression</td>
<td>0.08</td>
<td>0.09</td>
</tr>
<tr>
<td>Defending</td>
<td>0.06</td>
<td>0.29&lt;sup&gt;†&lt;/sup&gt;</td>
</tr>
<tr>
<td>Helping</td>
<td>-0.17&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.24&lt;sup&gt;b†&lt;/sup&gt;</td>
</tr>
<tr>
<td>Rewarding</td>
<td>0.12</td>
<td>0.01</td>
</tr>
</tbody>
</table>

**Note:** Low Chivalry and High Chivalry refer to the mean of the top and bottom thirds of the distribution of Chivalry Scale scores. Means in a particular row that have different superscripts are significantly different from one another (p < .01). <sup>†</sup>Value is significantly different from zero (p < .05).
Table 12

Mean Responses of Female Participants to Scenarios in Study 2, by Chivalry

<table>
<thead>
<tr>
<th></th>
<th>Low Chivalry</th>
<th>High Chivalry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggression</td>
<td>-0.23</td>
<td>-0.01</td>
</tr>
<tr>
<td>Defending</td>
<td>-0.44</td>
<td>-0.21</td>
</tr>
<tr>
<td>Helping</td>
<td>-0.13</td>
<td>-0.09</td>
</tr>
<tr>
<td>Rewarding</td>
<td>-0.20(^t)</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Note: B is the unstandardized mixed-model regression coefficient. %var is the percentage of between-subject variance explained by chivalry. Low Chivalry and High Chivalry refer to the mean of the top and bottom thirds of the distribution of Chivalry Scale scores. *\(p < .05\). \(^t\)Value is significantly different from zero (\(p < .05\)).
Table 13

Mean responses to high and low levels of stimulus person traits by male participants of high and low levels of chivalry in Study 2

<table>
<thead>
<tr>
<th></th>
<th>Defending</th>
<th>Helping</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Competence</td>
<td>Sexual Virtue</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Chivalry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>0.40&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.20&lt;sup&gt;ab&lt;/sup&gt;</td>
</tr>
<tr>
<td>Low</td>
<td>-0.30&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.21&lt;sup&gt;ab&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**Note.** High and Low Chivalry refer to top and bottom third of the distribution of Chivalry Scale scores. Means in the same behavioral scenario (e.g., defending, helping, etc.) having the same superscript are not significantly different at $p < .05$ in the Tukey honestly significant difference comparison. <sup>†</sup>Value is significantly different from zero ($p < .05$).
Table 14

Mean Responses to High and Low Levels of Stimulus Person Traits by Female Participants of High and Low Levels of Chivalry in Study 2

<table>
<thead>
<tr>
<th></th>
<th>Aggression</th>
<th></th>
<th>Defending</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Competence</td>
<td>Moral Virtue</td>
<td>Power</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Chivalry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>0.33</td>
<td>-0.26</td>
<td>-0.90(^*$)</td>
<td>0.03</td>
</tr>
<tr>
<td>Low</td>
<td>-0.21</td>
<td>-0.16</td>
<td>-0.32(^*$)</td>
<td>-0.21</td>
</tr>
</tbody>
</table>

Note. High and Low Chivalry refer to top and bottom third of the distribution of Chivalry Scale scores. \(^*$\)Value is significantly different from zero (\(p < .05\)).
Table 15

Unstandardized Logistic Regression Coefficients of Competitive Responses in the Study 3
Prisoner’s Dilemma Game

<table>
<thead>
<tr>
<th></th>
<th>First Partner</th>
<th>Second Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.05</td>
<td>0.14</td>
</tr>
<tr>
<td>Chivalry</td>
<td>-0.01</td>
<td>0.03</td>
</tr>
<tr>
<td>Virtue</td>
<td>3.52</td>
<td>2.37</td>
</tr>
<tr>
<td>Agency</td>
<td>-0.55</td>
<td>-0.51</td>
</tr>
<tr>
<td>Chiv*Virtue</td>
<td>-0.08</td>
<td>-0.04</td>
</tr>
<tr>
<td>Chiv*Agency</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>df</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>p</td>
<td>0.71</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Note. P-values in the bottom row refer to the results of a goodness-of-fit likelihood-ratio test for the entire model. *p < .05. **p < .01.
Table 16

Mean Level of Helpful and Courteous Behavior Shown to Female Confederates in the Laboratory Experiment (Study 3)

<table>
<thead>
<tr>
<th>Virtue</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Chivalry</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>0.09&lt;sup&gt;ab&lt;/sup&gt;</td>
</tr>
<tr>
<td>Low</td>
<td>0.09&lt;sup&gt;ab&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note. Values represent the mean of four measures of helpful and courteous behavior that were each standardized to a (0,1) distribution before being averaged together. High and low chivalry refer to the top and bottom third of the distribution of Chivalry Scale scores. Means not sharing a superscript in common are significantly different at $p = .05$ after a Bonferroni correction for four comparisons. *Value is significantly different from zero ($p < .05$).
Table 17

Mean Level of Helpful and Courteous Behavior Shown to Male Confederates in the Laboratory. Experiment (Study 3)

<table>
<thead>
<tr>
<th></th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Virtue</td>
<td></td>
</tr>
<tr>
<td>Chivalry</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>-0.04</td>
</tr>
</tbody>
</table>

**Note.** Values represent the mean of four measures of helpful and courteous behavior that were each standardized to a (0,1) distribution before being averaged together. High and low chivalry refer to the top and bottom third of the distribution of Chivalry Scale scores.
Table 18

Mean Evaluations of Subtypes of Women by Male Participants in Study 4

<table>
<thead>
<tr>
<th>Subtype</th>
<th>Professional</th>
<th>Homemaker</th>
<th>Permissive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chivalry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>-0.32</td>
<td>0.36</td>
<td>-0.18</td>
</tr>
<tr>
<td>Low</td>
<td>0.06</td>
<td>-0.21</td>
<td>0.42</td>
</tr>
<tr>
<td>Difference</td>
<td>-0.38\textsuperscript{b}</td>
<td>0.57\textsuperscript{*}</td>
<td>-0.60\textsuperscript{b*}</td>
</tr>
</tbody>
</table>

Note. Values represent the mean of five evaluations of the subtypes that were each standardized to a (0,1) distribution before being averaged together. High and Low Chivalry refer to the top and bottom third of the distribution of Chivalry Scale scores. Row values not sharing the same superscript are significantly different from one another based on a repeated-measures contrast (\(p < .05\)). \(*\)Difference between high and low chivalry is significant (\(p < .05\)).
Table 19

Mean Evaluations of Subtypes of Women by Female Participants in Study 4

<table>
<thead>
<tr>
<th>Subtype</th>
<th>Professional</th>
<th>Homemaker</th>
<th>Permissive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chivalry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>-0.65</td>
<td>0.08</td>
<td>-0.75</td>
</tr>
<tr>
<td>Low</td>
<td>0.36</td>
<td>-0.13</td>
<td>-0.21</td>
</tr>
<tr>
<td>Difference</td>
<td>$-1.01^{*}$</td>
<td>$0.21^{b}$</td>
<td>$-0.96^{**}$</td>
</tr>
</tbody>
</table>

Note. Values represent the mean of five evaluations of the subtypes that were each standardized to a (0,1) distribution before being averaged together. High and Low Chivalry refer to the top and bottom third of the distribution of Chivalry Scale scores. Row values not sharing the same superscript are significantly different from one another based on a repeated-measures contrast ($p < .05$). *Difference between high and low chivalry is significant ($p < .05$).
Table 20

Correlations among Questionnaire Scales in Study 4 for Female Participants

<table>
<thead>
<tr>
<th></th>
<th>BSS</th>
<th>HSS</th>
<th>ASI</th>
<th>AWS</th>
<th>NSS</th>
<th>SDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chivalry</td>
<td>.64*</td>
<td>.24</td>
<td>.55*</td>
<td>.47*</td>
<td>.32*</td>
<td>-.02</td>
</tr>
<tr>
<td>BSS</td>
<td>.27*</td>
<td>.80*</td>
<td>.33*</td>
<td>.25</td>
<td>-.17</td>
<td></td>
</tr>
<tr>
<td>HSS</td>
<td>.80*</td>
<td>.35*</td>
<td>.53*</td>
<td>-.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASI</td>
<td>.43*</td>
<td>.49*</td>
<td>-.23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AWS</td>
<td>.68*</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.09</td>
<td></td>
</tr>
</tbody>
</table>

Note. BSS = Benevolent Sexism Scale, HSS = Hostile Sexism Scale, ASI = Ambivalent Sexism Inventory, AWS = Attitudes Toward Women Scale, NSS = Neo-Sexism Scale, SDS = Social Desirability Scale. N = 62, *p < .05.
Table 21

Correlations among Questionnaire Scales in Study 4 for Male Participants

<table>
<thead>
<tr>
<th></th>
<th>BSS</th>
<th>HSS</th>
<th>ASI</th>
<th>AWS</th>
<th>NSS</th>
<th>SDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chivalry</td>
<td>.58*</td>
<td>.24*</td>
<td>.51*</td>
<td>.46*</td>
<td>.17</td>
<td>.23*</td>
</tr>
<tr>
<td>BSS</td>
<td>.25*</td>
<td>.77*</td>
<td>.36*</td>
<td>.28*</td>
<td>.11</td>
<td>a</td>
</tr>
<tr>
<td>HSS</td>
<td>.81*</td>
<td>a</td>
<td>.65*</td>
<td>.59*</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>ASI</td>
<td>a</td>
<td>.64*</td>
<td>.56*</td>
<td>.15</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>AWS</td>
<td>a</td>
<td>a</td>
<td>a</td>
<td>a</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>NSS</td>
<td>a</td>
<td>a</td>
<td>a</td>
<td>a</td>
<td>a</td>
<td>a</td>
</tr>
</tbody>
</table>

Note. BSS = Benevolent Sexism Scale, HSS = Hostile Sexism Scale, ASI = Ambivalent Sexism Inventory, AWS = Attitudes Toward Women Scale, NSS = Neo-Sexism Scale, SDS = Social Desirability Scale. N = 102, *p < .05.
<table>
<thead>
<tr>
<th>Restaurant</th>
<th>Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Ladies first” to the table</td>
<td>Carries books</td>
</tr>
<tr>
<td>Holds chair</td>
<td>“Ladies first” out the elevator</td>
</tr>
<tr>
<td>“Ladies first” when ordering</td>
<td>Retrieves book on top shelf</td>
</tr>
<tr>
<td>Stands when she leaves &amp; returns</td>
<td>Buys Coke</td>
</tr>
<tr>
<td>Pays for lunch</td>
<td>Gives up jacket</td>
</tr>
<tr>
<td>Opens car door</td>
<td>Escorts to car at night</td>
</tr>
</tbody>
</table>
Table 23

Mean Ratings of Characters in Videotapes from Study 5 by Male and Female Participants

<table>
<thead>
<tr>
<th>Sex of participant</th>
<th>Female Character</th>
<th>Male Character</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agency</td>
<td>Independence</td>
</tr>
<tr>
<td>Restaurant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6.31&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.54&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Female</td>
<td>6.71&lt;sup&gt;b&lt;/sup&gt;</td>
<td>7.05&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Library</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6.60&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.68&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Female</td>
<td>7.21&lt;sup&gt;b&lt;/sup&gt;</td>
<td>7.28&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note. Values within a column and setting that do not share a common superscript are significantly different from one another (p < .05). 
Table 24

Hierarchical Linear Modeling of Responses to Male Characters in Study 5 Videos

<table>
<thead>
<tr>
<th></th>
<th>Agency</th>
<th>Moral Virtue</th>
<th>Sexual Virtue</th>
<th>Independence</th>
<th>Attractiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1: Unconditional model</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>6.00</td>
<td>6.64</td>
<td>4.43</td>
<td>6.10</td>
<td>3.76</td>
</tr>
<tr>
<td>Btw-subject $\sigma^2$</td>
<td>0.27</td>
<td>--</td>
<td>0.86</td>
<td>0.27</td>
<td>1.85</td>
</tr>
<tr>
<td>W/in-subject $\sigma^2$</td>
<td>1.46</td>
<td>3.11</td>
<td>1.83</td>
<td>2.81</td>
<td>1.42</td>
</tr>
<tr>
<td>Intraclass $\rho$</td>
<td>0.16</td>
<td>--</td>
<td>0.32</td>
<td>0.09</td>
<td>0.57</td>
</tr>
<tr>
<td><strong>Step 2: Chivalry of Video</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B$(Vid Chiv)</td>
<td>0.66**</td>
<td>1.74**</td>
<td>-0.20</td>
<td>-0.02</td>
<td>-0.49**</td>
</tr>
<tr>
<td>% Btw explained</td>
<td>--</td>
<td>--</td>
<td>n/a</td>
<td>n/a</td>
<td>0.02</td>
</tr>
<tr>
<td>% W/in explained</td>
<td>0.10</td>
<td>0.24</td>
<td>n/a</td>
<td>n/a</td>
<td>0.03</td>
</tr>
</tbody>
</table>

**Note:** $B$ is the unstandardized regression coefficient from a model including all terms in the current and previous steps. % explained refers to the proportion of explainable variance explained above and beyond models in previous steps, by a model that includes only those terms that had significant parameters. *$p < .05$. **$p < .01$. 
Table 25

Hierarchical Linear Modeling of Responses to Female Characters in Study 5 Videos

<table>
<thead>
<tr>
<th></th>
<th>Agency</th>
<th>Moral Virtue</th>
<th>Sexual Virtue</th>
<th>Independence</th>
<th>Attractiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1: Unconditional model</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>6.72</td>
<td>6.59</td>
<td>3.18</td>
<td>6.90</td>
<td>6.23</td>
</tr>
<tr>
<td>Btw-subject $\sigma^2$</td>
<td>0.37</td>
<td>--</td>
<td>0.99</td>
<td>0.48</td>
<td>0.52</td>
</tr>
<tr>
<td>W/in-subject $\sigma^2$</td>
<td>0.86</td>
<td>1.94</td>
<td>1.51</td>
<td>1.91</td>
<td>2.80</td>
</tr>
<tr>
<td>Intraclass $\rho$</td>
<td>0.30</td>
<td>--</td>
<td>0.40</td>
<td>0.20</td>
<td>0.16</td>
</tr>
<tr>
<td><strong>Step 2: Chivalry of Video</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B$(Vid Chiv)</td>
<td>-0.05</td>
<td>-0.14</td>
<td>0.12</td>
<td>0.35*</td>
<td>0.13</td>
</tr>
<tr>
<td>% Btw explained</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>0.11</td>
<td>n/a</td>
</tr>
<tr>
<td>% W/in explained</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>0.00</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Note:** $B$ is the unstandardized regression coefficient from a model including all terms in the current and previous steps. % explained refers to the proportion of explainable variance explained above and beyond models in previous steps, by a model that includes only those terms that had significant parameters. *$p < .05$. 
<table>
<thead>
<tr>
<th></th>
<th>Independent</th>
<th>Agentic</th>
<th>Morally Virtuous</th>
<th>Sexually Virtuous</th>
<th>Attractive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Chivalry Video</strong></td>
<td>6.10&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.32&lt;sup&gt;a&lt;/sup&gt;</td>
<td>7.51&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.54&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.00&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Low Chivalry Video</strong></td>
<td>6.08&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.66&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.78&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.33&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.52&lt;sup&gt;b*&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**Note.** Values in a column not sharing a common superscript are significantly different from one another at \( p < .05 \) in Tukey’s honestly significant difference comparison. *This effect was only observed among female participants.*
Table 27

Mean Moral Virtue Ratings of the Male Characters in the Restaurant and Library Videotapes (Combined) from Study 5 by Level of Chivalry

<table>
<thead>
<tr>
<th></th>
<th>Restaurant</th>
<th>Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Chivalry Video</td>
<td>7.02&lt;sup&gt;a&lt;/sup&gt;</td>
<td>8.00&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Low Chivalry Video</td>
<td>5.02&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.54&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note. Values not sharing a common superscript are significantly different from one another at p < .05 in Tukey’s honestly significant difference comparison.
Table 28

Mean Ratings of the Female Characters in the Restaurant and Library Videotapes (Combined) from Study 5 by Level of Chivalry

<table>
<thead>
<tr>
<th></th>
<th>Independent</th>
<th>Agentic</th>
<th>Morally Virtuous</th>
<th>Sexually Virtuous</th>
<th>Attractive</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Chivalry Video</td>
<td>6.72^a</td>
<td>6.75^a</td>
<td>6.66^a</td>
<td>3.12^a</td>
<td>6.16^a</td>
</tr>
<tr>
<td>Low Chivalry Video</td>
<td>7.07^b</td>
<td>6.69^a</td>
<td>6.52^a</td>
<td>3.23^a</td>
<td>6.30^a</td>
</tr>
</tbody>
</table>

Note. Values in a column not sharing a common superscript are significantly different from one another at $p < .05$ in Tukey’s honestly significant difference comparison.
Table 29

Mean Ratings of Characters in the Videotape by Participants’ Scores on the Chivalry Scale and Level of Chivalry in Study 5

<table>
<thead>
<tr>
<th></th>
<th>Male character</th>
<th>Female character</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agency</td>
<td>Moral Virtue</td>
</tr>
<tr>
<td>High-Chivalry Video</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chivalry Score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>6.27&lt;sup&gt;a&lt;/sup&gt;</td>
<td>7.61&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Low</td>
<td>6.34&lt;sup&gt;a&lt;/sup&gt;</td>
<td>7.24&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Low-Chivalry Video</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chivalry Score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>5.35&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.47&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Low</td>
<td>5.89&lt;sup&gt;ab&lt;/sup&gt;</td>
<td>6.01&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note. High and low chivalry scores refer to the top and bottom thirds of the distribution of chivalry scores. Values in a column that do not share the same superscript are significantly different from one another at $p < .05$ in the Tukey honestly significant difference comparison.
Table 30

Differences in the Mean Ratings of Male and Female Characters by Level of Chivalry in Study 5

<table>
<thead>
<tr>
<th></th>
<th>Agency</th>
<th>Moral Virtue</th>
<th>Sexual Virtue</th>
<th>Independence</th>
<th>Attractiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Chivalry Video</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male characters</td>
<td>6.34&lt;sup&gt;a&lt;/sup&gt;</td>
<td>7.52&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.53&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.12&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.03&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Female characters</td>
<td>6.73&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.66&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.12&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.71&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.16&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Low Chivalry Video</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male characters</td>
<td>5.65&lt;sup&gt;c&lt;/sup&gt;</td>
<td>5.78&lt;sup&gt;c&lt;/sup&gt;</td>
<td>4.33&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.08&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.48&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Female characters</td>
<td>6.70&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.52&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.23&lt;sup&gt;b&lt;/sup&gt;</td>
<td>7.09&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.31&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note. Within each column, values that do not share subscripts are significantly different from one another at $p < .05$ in the Tukey honestly significant difference comparison.
Table 31

Mean Ratings of the Independence of Female Characters in Study 5 by Participants’ Scores on the Attributional Complexity (AC) Scale

<table>
<thead>
<tr>
<th></th>
<th>High AC</th>
<th>Low AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Chivalry</td>
<td>6.66</td>
<td>6.87</td>
</tr>
<tr>
<td>Low Chivalry</td>
<td>7.21</td>
<td>6.62</td>
</tr>
</tbody>
</table>

Note. High and low attributional complexity (AC) refer to the top and bottom third of the distribution of attributional complexity scores. None of the values were significantly different from one another (p < .05) in the Tukey honestly significant difference comparison.
Table 32

Mean Ratings of Each Character’s Feelings Toward the Other Character in Study 5 by Level of Chivalry

<table>
<thead>
<tr>
<th></th>
<th>Respects</th>
<th>Is romantically attracted to</th>
<th>Belief in problem-solving ability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M→F</td>
<td>F→M</td>
<td>M→F</td>
</tr>
<tr>
<td>High Chivalry</td>
<td>8.19&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.67&lt;sup&gt;c&lt;/sup&gt;</td>
<td>7.55&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Low Chivalry</td>
<td>6.06&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.27&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.96&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**Note.** Low values for status indicate that the female was perceived as having higher status, while high values indicate that the male was perceived as having higher status and a value of 4 (the midpoint) indicates equal status. Values within each set of four ratings for the same relation (e.g., respects, is romantically attracted to, etc.) that do not share a superscript are significantly different from one another at $p < .05$ in the Tukey honestly significant difference comparison.
Table 33

Mean Ratings of Each Character’s Feelings Toward the Other Character in Study 5 by Participants’ Endorsement of the Chivalry Scale and Level of Chivalry

<table>
<thead>
<tr>
<th></th>
<th>Respects</th>
<th>Is romantically attracted to</th>
<th>Belief in problem-solving ability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M→F F→M</td>
<td>M→F F→M</td>
<td>M→F F→M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Status</td>
</tr>
<tr>
<td>High-Chivalry Video Chivalry Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>8.29 6.55</td>
<td>8.63&lt;sup&gt;a&lt;/sup&gt; 4.18</td>
<td>6.53 6.20</td>
</tr>
<tr>
<td>Low</td>
<td>8.10 6.78</td>
<td>6.99&lt;sup&gt;b&lt;/sup&gt; 4.23</td>
<td>6.60 6.36</td>
</tr>
<tr>
<td>Low-Chivalry Video Chivalry Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>5.54&lt;sup&gt;a&lt;/sup&gt; 6.06</td>
<td>3.83 3.19</td>
<td>6.09&lt;sup&gt;a&lt;/sup&gt; 5.63</td>
</tr>
<tr>
<td>Low</td>
<td>6.34&lt;sup&gt;b&lt;/sup&gt; 6.60</td>
<td>4.10 3.34</td>
<td>6.82&lt;sup&gt;b&lt;/sup&gt; 5.96</td>
</tr>
</tbody>
</table>

Note. Low values for status indicate that the female was perceived as having higher status, while high values indicate that the male was perceived as having higher status and a value of 4 (the midpoint) indicates equal status. Comparisons of high- and low-chivalry participants that are significantly different from one another at \( p < .05 \) after Bonferroni correction for four comparisons do not share a common superscript.
Table 34

Mean Ratings of the Relative Status of the Male and Female Characters in Study 5 by Participants’ Scores on the Attributional Complexity (AC) Scale

<table>
<thead>
<tr>
<th></th>
<th>High AC</th>
<th>Low AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Chivalry</td>
<td>4.42&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.46&lt;sup&gt;ab&lt;/sup&gt;</td>
</tr>
<tr>
<td>Low Chivalry</td>
<td>3.91&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.49&lt;sup&gt;ab&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note. Low values for status indicate that the female was perceived as having higher status, while high values indicate that the male was perceived as having higher status and a value of 4 (the midpoint) indicates equal status. High and low attributional complexity (AC) refer to the top and bottom third of the distribution of attributional complexity scores. Values not sharing a common superscript were significantly different from one another at p < .05 in Tukey’s honestly significant difference.
Table 35

Correlations among Questionnaire Scales in Study 5 for Female Participants

<table>
<thead>
<tr>
<th></th>
<th>BSS</th>
<th>HSS</th>
<th>ASI</th>
<th>AWS</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chivalry</td>
<td>.50*</td>
<td>.35*</td>
<td>.53*</td>
<td>.49*</td>
<td>.29*</td>
</tr>
<tr>
<td>BSS</td>
<td></td>
<td>.29*</td>
<td>.78*</td>
<td>.27*</td>
<td>.19*</td>
</tr>
<tr>
<td>HSS</td>
<td>.82*</td>
<td></td>
<td>.48*</td>
<td>.30*</td>
<td></td>
</tr>
<tr>
<td>ASI</td>
<td></td>
<td>.48*</td>
<td></td>
<td>.31*</td>
<td></td>
</tr>
<tr>
<td>AWS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.19*</td>
</tr>
</tbody>
</table>

Note. BSS = Benevolent Sexism Scale, HSS = Hostile Sexism Scale, ASI = Ambivalent Sexism Inventory, AWS = Attitudes Toward Women Scale, AC = Attributional Complexity Scale. N = 115, *p < .05.
Table 36

Correlations among Questionnaire Scales in Study 5 for Male Participants

<table>
<thead>
<tr>
<th></th>
<th>BSS</th>
<th>HSS</th>
<th>ASI</th>
<th>AWS</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chivalry</td>
<td>.57*</td>
<td>-.03</td>
<td>.38*</td>
<td>.45*</td>
<td>-.01</td>
</tr>
<tr>
<td>BSS</td>
<td>.04</td>
<td>.72*</td>
<td>.31*</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>HSS</td>
<td>.72*</td>
<td>.41*</td>
<td>.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASI</td>
<td>.50*</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AWS</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. BSS = Benevolent Sexism Scale, HSS = Hostile Sexism Scale, ASI = Ambivalent Sexism Inventory, AWS = Attitudes Toward Women Scale, AC = Attributional Complexity Scale. *The correlations for male participants differed significantly (p < .01) from the correlations for female participants. N = 106, *p <.05.
Figure 1

A Theoretical Model of Chivalry

Belief in preferential treatment of women (Chivalry Script)

"Deserve"

"Require"

[Eliciting conditions for chivalry]

Chivalrous Behavior

Beliefs about Women

High in virtue
- moral
- sexual

Low in agency
- competence
- power

Figure 1

FIGURES
[insert Figure 2 (contained in separate file) here]
[insert Figure 3 (contained in separate file) here]
APPENDIX A: A HISTORY OF CHIVALRY

Chivalry: Medieval Origins

The word chivalry often inspires thoughts of medieval knights, courage, gallantry, and courtesy. It is derived from the French chevalier, from which the word cavalier also comes. An interesting historical truth emerges from the multiple denotations of this root word. Cavalier means “a mounted soldier,” “showing arrogant or offhand disregard,” “a chivalrous man,” and “a gentleman” (Costello, 1993). These definitions reflect the historical evolution of chivalry and are essential to an understanding of the cultural legacy of chivalry.

The cavalier, or mounted soldier, rose in military effectiveness from the fourth to the fifteenth century. In A.D. 378, the imperial Roman infantry were utterly defeated by the cavalry of a Germanic tribe at Adrianople (Foss, 1975). The military superiority of the mounted knight lasted until the advent of the longbow, most prominently demonstrated at the Battle of Agincourt in 1415. In this battle, Henry V of England and 6,000 lightly armed archers defeated a 25,000-man French force that consisted largely of armored cavalry and infantry. Yet between these two points in time, the mounted soldier became so essential to European society that many historians of the time described them as one of the three essential elements of feudal society: the clergy, the knights, and the peasants: “The work of the clerk is to pray to God, and of the knight to do justice, while the laborer finds their bread” (Foss, 1975, p. 19).

The knight’s ascension to power was due mostly to the Viking invasions of the ninth and tenth centuries. The threat of annihilation at the hands of the Norsemen resulted in many privileges being given to the knights to secure their protection. First, knights became a noble class. While most knights were drawn from the aristocracy because the cost of their equipment was so great, there was a brief period of time when a peasant could achieve nobility through
knighthood. Second, the knights were given the endorsement of the Church, which attenuated its stance against violence out of a need for protection.

The second definition of cavalier becomes relevant next: “showing arrogance or offhand disregard.” During times of peace, many knights grew bored and restless. It was not uncommon for knights to resort to banditry and extortion among those whom they were charged with protecting. Indeed, the knights’ unruliness became such a threat to social stability that in 989 a council of bishops announced the Pax Dei, the “peace of God,” which stated the amount of violence that the Church would tolerate (Foss, 1975). Some elements of chivalry began here, for the Pax Dei prohibited stealing from peasants, vandalizing churches, and violence against unarmed priests. Still, many knights refused to abate the lifestyle of terrorism that brought them wealth and relief from boredom.

The third meaning of cavalier, that of a chivalrous man, was initiated at the Council of Clermont in 1095. This council was called in response to the fall of the holy city of Jerusalem to the Seljuq Turks in 1076. The Church saw the impending religious war as a perfect opportunity for it to bring the feudal knight under its control. At the Council of Clermont, Pope Urban II made two proclamations of great significance to the tradition of chivalry. First, he enjoined “every person of noble birth, on attaining the age of twelve” to “take a solemn oath before a bishop that ‘he would defend to the uttermost the oppressed, the widow and the orphan; and that women of noble birth should enjoy his special care’” (Hearnshaw, 1928, p. 8-9). Here we have the beginnings of two key components of chivalry: the defense of the weak and special courtesy toward women. Urban’s second proclamation was his announcement of the First Crusade to recover Jerusalem. In order to encourage participation, Urban announced that Crusaders would be granted absolution for their sins. To those knights who had preyed upon the inhabitants of
their lands, Urban delivered an ultimatum: recover Jerusalem from the infidels or suffer damnation for your crimes against God and man.

As the Crusades wore on, knighthood became firmly associated with a defense of the Christian faith. The ceremony where knighthood was conferred gradually accumulated more and more religious overtones until finally it was officiated by a priest and treated as a sacrament. Among the vows that the knight accepted were (a) “to protect the weak and defenseless,” (b) “to respect the honor of women,” (c) “to live for honor and glory, despising pecuniary reward,” and (d) “to fight for the general welfare of all” (Hearnshaw, 1928, p. 24). The knights began thinking of themselves as defenders of the faith, and the Church did everything it could to encourage this view. The successful eviction of the Turks from Jerusalem in 1099 reinforced the notion that the knights were, in the words of Pope Urban, the “true soldiery of Christ” (Foss, 1975, p. 34).

Chivalry: Renaissance to The Nineteenth Century

Although the practical need for the mounted knight waned in the 15th century, chivalry continued to be a part of the male gender role, encouraging “courtesy, elegance, and attainments judged necessary for the leaders of society” (Foss, 1975, p. 56). In the fourteenth century, knight became a hereditary title and fewer and fewer men had the right to claim it. Yet, those who did were generally powerful and influential so that the knightly code of chivalry continued to have a strong appeal.

The legacy of chivalry bestowed upon later generations was the idea of the gentleman, the fourth definition of the cavalier:

. . . the idea of the gentleman . . . enmeshing in a web of mental association his social accomplishments, his ‘courtliness’ (especially in regard to women) and his skills in
horsemanship, the hunting field and sword play, and the social virtues to be expected of him, his courage and his generosity, his loyalty to his plighted word, his independent spirit (what the old chivalrous authors had called his franchise). (Keen, 1984, p. 249)

Perhaps most influential to the Renaissance notion of the gentleman is Castiglione’s *The Courtier*, published in 1528. Although he was expected to share the martial skills of the knight, Castiglione’s gentleman sought more of a balance with learning and devoted less time to religious pursuits. An example of the ideal Renaissance gentleman is Sir Walter Raleigh (1554-1618), an Oxford-educated Englishman who fought in France on the side of the Huguenots, sailed the globe pirating treasure from the Spanish, and wrote a history of the world.

There is some evidence of an effort to transfer chivalric ideals from Europe to the New World by Sir William Berkeley (1606-1677), governor of Virginia (Fischer, 1989). Berkeley attempted to draw leaders for his burgeoning colony from Europe’s noble families by appealing to their younger sons, who would be denied inheritance due to the laws of primogeniture. “When they arrived, he promoted them to high office, granted them large estates and created the ruling oligarchy that ran the colony for many generations” (Fischer, 1989, p. 212). This strategy was immensely successful, with the result that “nearly all of Virginia’s ruling families were founded by younger sons of eminent English families during his governorship” (Fischer, 1989, p. 214). The French writer Durand de Dauphiné, who fled France in 1685, wrote of his travels through Virginia, “The gentlemen called cavaliers are greatly esteemed and respected, and are very courteous and honorable. They hold most of the offices in the country. . . . I saw there fine-looking men, sitting in judgment booted and with belted sword” (Fischer, 1989, p. 405).

Children were raised to “despise not thy inferiors,” to “be courteous to thy equals,” and to “boast
not in discourse of thy wit or doings,“ (Fischer, 1989, p. 315) all of which are part of the chivalric standard.

The 19th century featured a revival of chivalry that would last until the first World War (Fussell, 1988). This revival was accompanied by a romantic movement in literature that included books about knights and Crusaders such as Sir Walter Scott’s *Ivanhoe* (1819) and *The Talisman* (1825).
APPENDIX B: VIGNETTES AND TRAITS FROM STUDY 2

Vignettes

Aggression

A1 You’re late for a movie and are just about to pull into a parking space when a car coming from the other direction screeches past you into your spot, nearly causing an accident. You park your car nearby, and as you are walking toward the theater you see the driver of the other car getting out. 

A2 It’s Saturday night at a campus bar and you are in line to order a drink. It’s been 10 minutes and you are finally at the front of the line. When the bartender turns around to take your order, a woman quickly elbows her way in front of you at the last second and orders first.

A3 It’s noon and very crowded inside the Burger King on campus where you are waiting in line. You finally get your order and are about to put your tray down at one of the few empty tables when a woman throws her backpack on top of the table, almost knocking over your tray. She says, “Sorry! This table is taken.”

Defending

D1 You’re sitting at McDonald’s, trying to finish up your meal before you go to class. A woman getting her food catches your eye. On her way to a table, she trips and spills her food onto a man seated nearby. The man stands up abruptly, yelling “What the hell’s your problem?!” He throws his soggy sandwich on her tray and starts walking toward her, his face getting redder.

D2 You are studying at the Union when a female student walks past you and sits on the couch next to yours. When she goes over to the water fountain, a male student pushes her books onto the floor and takes over the couch. She comes back and says that she was sitting there, but the guy says, “So? I’m sitting here now.”

D3 As you round a corner at the Union, you run into the middle of an argument between two people. It seems a female student has just bumped into a cart filled with new computer equipment, spilling her drink all over it. The woman pushing the cart is almost delirious with rage. She screams, “I’m responsible for this equipment, you stupid bitch!” and begins walking around the cart toward her.

24 The symbol indicates the point at which traits were placed in the vignette
Helping

H1  You are walking down Green Street to meet a friend for coffee. By the side of the road, you see a woman from one of your classes. Her car is pulled over and the hood of the car is up.

H2  Your friends are in line for concert tickets and you are keeping them company. The woman in front of you turns out to be $35 short because someone had told her the wrong price for the tickets. You know that she is a friend of a friend and would probably pay you back.

H3  Your TA for Psych 100 has just divided you into groups and asked you to discuss Freud. You are taking turns at discussing when one of your group members says, “” As the class is leaving, she mentions that she is looking for people to study with for the next midterm.

Rewarding

R1  You are on the committee to assign camp counselors to different summer camps. As part of their training, counselors must give speeches on topics of personal interest. All the speeches are good, but a woman’s speech on [] attracts your attention. You know she has a clear preference for her assignment, but many others prefer it as well. In giving out assignments, how would you treat this person?

R2  It’s your third summer working in a very easy but well-paying job on campus. You are a senior and must decide who will fill your position when you leave. You’ve been asked to evaluate a female candidate who works in another division. How would you treat her in your evaluation, given that you expect her to be as qualified as any other candidate?

R3  You have the opportunity to nominate women for homecoming queen. A friend of yours brings to your attention one person who might qualify. She is just as attractive as any of the other women you were considering for the nomination. How will you evaluate her in comparison to the others?
Traits

Competence

High

C+1 You recognize her from her picture in the school paper, in which she received an award for academic excellence.
C+2 She used to be one of your friend’s roommates, and was really good at managing the bills and dividing up the chores fairly.
C+3 She used to work at the same campus office as your friend, and he said that she came up with several new ideas that saved everyone a lot of work.
C+4 I’ve written out definitions for all of Freud’s main ideas from the book and tallied our examples next to them to help. We’re 85% finished.
C+5 how she acquired her leadership skills

Low

C-1 You recognize her from the student affairs office, where you overheard her being put on academic probation.
C-2 She used to be one of your friend’s roommates, and apparently started a fire by trying to cook spaghetti without using any water.
C-3 She used to work at the same campus office as your friend, and he said that she messed up the computer system so bad that it took two months to fix it.
C-4 I never understand these theory things. Why doesn’t Freud just speak in plain English?
C-5 her experiences in the wild after forgetting to bring food

Moral Virtue

High

M+1 You think she is the same woman your friend told you about who did such a good job directing the local church youth group.
M+2 You have seen her at a couple of parties and she always drank bottled water instead of liquor or beer.
M+3 From what you have heard, she is a very kind and generous person.
M+4 Freud’s biggest problem was that he didn’t consider the power of moral principles. Those are what guide my life, not some ‘death instinct.’
M+5 her commitment to God

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C = Competence, M = Moral virtue, P = Power, S = Sexual virtue; + = high levels of the trait, - = low levels of the trait; C4, M4, P3, and S3 are comments about Freud made by the character in the H3 vignette; C5, M5, P4, and S4 are the topic of a speech given by the character in the R1 vignette.
Low

M-1 You think she is the woman from your dorm who had to leave school last semester after being busted for dealing drugs.
M-2 You have seen her at a couple of parties and she was always so drunk that she couldn’t talk.
M-3 From what you have heard, she is generally selfish and inconsiderate of others’ feelings.
M-4 Freud was such an asshole. I know from personal experience that the amount of cocaine he did would have messed up his head.
M-5 her support of drug legalization

Power

High

P+1 You remember her from class as being someone who is quick to interrupt and contribute her own views.
P+2 She was in a large group you went to the beach with, and you recall that she always controlled where the group went.
P+3 You have way too many examples for the superego. We’ll never get finished if you don’t think of some other examples. Hurry up and think.
P+4 her participation in martial arts competitions

Low

P-1 You remember her from class as being someone who doesn’t have much to say, even when called on.
P-2 She was in a large group you went to the beach with, and you recall her being very shy and reserved.
P-3 Do you think these are enough examples? I’m not sure. What should I be doing now?
P-4 how she deals with shyness

Sexual Virtue

High

S+1 She’s dressed conservatively in slacks and a sweater. You remember hearing that she has a steady boyfriend and doesn’t fool around.
S+2 You saw her in the bar the other night yelling at some guy who tried to feel her up while they were dancing.
S+3 I don’t see why we have to talk about S-e-x so much in this class. It makes me really uncomfortable.
S+4 her belief in monogamy
S-1 She’s dressed in a miniskirt and a tight blouse. You remember hearing that she sleeps around a lot.
S-2 You saw her in the bar the other night “dirty dancing” with several guys. She left with one of them around 2 a.m.
S-3 I don’t think I have any superego examples as far as sex is concerned. I sleep with whoever I want whenever I want. I sure don’t need Freud’s permission.
S-4 ways to heat up your sex life
REFERENCES


CURRICULUM VITAE

T. William Altermatt
Visiting Assistant Professor, St. Olaf College
April, 2001

PERSONAL INFORMATION

Office                  Home
Department of Psychology 1000 Ensley Avenue
St. Olaf College         Apartment #66
Northfield, MN  55057    Northfield, MN  55057
(507) 646-3141          (507) 664-0068
http://www.stolaf.edu/people/altermat/ email: altermat@stolaf.edu

EDUCATION

Ph.D.  Department of Psychology, University of Illinois at Urbana-Champaign
        Minor area: Quantitative Psychology
        Thesis: Chivalry: The Relation between a Cultural Script and Sex Stereotypes
                Chair: Dr. Joseph E. McGrath
        Research Advisor: Dr. Dov Cohen

M.A.  Department of Psychology, University of Illinois at Urbana-Champaign
        The Relation Between Leadership and Influence in Participation
        Chair: Dr. Joseph E. McGrath

B.A.  Millersville University of Pennsylvania
(1995) summa cum laude, departmental and university honors
        Major: Psychology
        Thesis: A Psychometric Analysis of Personal Religiosity
                Chair: Dr. G. Alfred Forsyth

RESEARCH INTERESTS

- The “chivalry” cultural script and its influence on individual experience and behavior
- The structure and perpetuation of sex stereotypes
- Small group decision-making, performance, and interaction
Awards and Honors

Scholarship
- Dissertation Completion Fellowship, 2000 (12 awarded annually across all graduate programs on campus)
- Higginson Summer Research Award, 2000
- National Science Foundation Graduate Fellowship, 1996 – 1998
- Department of Psychology First-Year Fellowship, University of Illinois at Urbana-Champaign, 1995
- Phi Kappa Phi National Honor Society Graduate Fellowship, 1995
- Psi Chi “Best Paper Award” at the Eastern Psychological Association’s 1995 Annual Meeting
- John K. Harley Award for scholarship and character, 1994
- APSCUF Scholarship (awarded annually to the two students with the highest academic and research records), 1993
- MEDAL Scholarship for academic excellence, 1991 – 1995

Teaching
- Campus Award for Excellence in Undergraduate Teaching by a Graduate Instructor, 2000
- College of Liberal Arts and Sciences Award for Excellence in Undergraduate Teaching by a Graduate Instructor, 2000
- Psychology Department Award for Excellence in Undergraduate Teaching by a Graduate Instructor, 2000
- Incomplete List of Teachers Ranked as Excellent (Student Evaluations in Top 10% of Instructors), 1995, 1998, 2000
- Incomplete List of Teachers Ranked as Excellent (Student Evaluations in Top 30% of Instructors), 1996, 1997, 1999
- Panhellenic Council Outstanding Staff Member (for teaching Introduction to Social Psychology), 1996

Publications


MANUSCRIPTS IN PREPARATION


PRESENTATIONS


RESEARCH EXPERIENCE

Research Assistant to Dr. Joseph E. McGrath
Department of Psychology
University of Illinois at Urbana-Champaign, Fall 1996 - Summer 1998
Analyzed longitudinal group data using time-series and sequential analysis methods to assess the relationship between influence and perceptions of leadership.

Statistical Consultant to Dr. Eva Pomerantz
Department of Psychology
University of Illinois at Urbana-Champaign, Summer 1999
SAS programming consultant on project investigating the degree of consistency in parenting styles.

Research Assistant to Dr. Patrick Laughlin
Department of Psychology
University of Illinois at Urbana-Champaign, Fall 1997 - Spring 1998
Assisted in two projects examining the role of inductive and deductive reasoning among group members and individuals.

Research Assistant to Dr. G. Alfred Forsyth
Department of Psychology
Millersville University, Millersville, PA, May 1994 - May 1995
Assisted in a project designed to assess students’ accuracy of interpreting research results.

Research Assistant to Dr. Alex Szollos
Department of Psychology
Millersville University, Millersville, PA, May 1994 - May 1995
Conducted literature reviews and data analysis for a project evaluating the relationship of chronic worry to physiological indicators of anxiety.

Statistical Consultant to Dr. Maryan McCormick
Program Director, Interagency Support Project
Central Instructional Support Center, Harrisburg, PA, May 1993 - August 1993
Conducted statistical analyses for Dr. McCormick’s dissertation in Education Administration.
Teaching Experience

Instructor for Junior Research Methods in Psychology (St. Olaf College)  
(Spring 2001)

Instructor for Psychology of Personality (St. Olaf College)  
(Spring 2001)

Instructor for Psychology of Altruism (St. Olaf College)  
(Winter 2001)

Instructor for Social Psychology (St. Olaf College)  
(Fall 2000)

Instructor for Introduction to Social Psychology (University of Illinois at Urbana-Champaign)  

Instructor for Introduction to Psychology (University of Illinois at Urbana-Champaign)  
(Fall 1998)

Teaching Assistant for Graduate Course in Psychological Statistics and Research Methodology  
(Dr. G. Alfred Forsyth)  
Millersville University, Millersville, PA  
*Led biweekly discussions on course concepts.*  
(Fall 1994)

Teaching Assistant for Undergraduate Course in Psychological Statistics and Research Methodology (Dr. G. Alfred Forsyth)  
Millersville University, Millersville, PA  
*Led biweekly discussions on course concepts.*  
(Spring 1994)
TEACHING INTERESTS

- Social Psychology
- Personality
- Research Methods and Statistics
- Introductory Psychology
- Stereotypes
- Prosocial Behavior and Altruism
- Psychology of Gender
- Cultural and Cross-cultural Psychology
- Small Groups
- Attitudes and Persuasion

PROFESSIONAL SERVICE

- Faculty Advisor for Psi Chi, the National Honors Society in Psychology
- Initiated and organized the first annual Undergraduate Psychology Research Symposium at the University of Illinois, 2000
- Member, Society for Personality and Social Psychology, 2000

REFERENCES

Dr. Joseph E. McGrath
Professor Emeritus
Department of Psychology
University of Illinois at Urbana-Champaign
Champaign, IL  61820
jm McGrath@s.psych.uiuc.edu
(217) 333-4921

Dr. Patrick Laughlin
Professor
Department of Psychology
University of Illinois at Urbana-Champaign
Champaign, IL  61820
plauhli@s.psych.uiuc.edu
(217) 333-4296

Dr. Dov J. Cohen
Assistant Professor
Department of Psychology
University of Waterloo
Waterloo, Ontario, Canada N2L 3G1
dcohen@watarts.uwaterloo.ca
(519) 888-4567

Dr. Janet Sniezek
Professor
Department of Psychology
University of Illinois at Urbana-Champaign
Champaign, IL  61820
jsniezek@s.psych.uiuc.edu
(217) 244-6640

Dr. Chuck Huff
Associate Professor and Chair
Department of Psychology
St. Olaf College
Northfield, MN  55057
huff@stolaf.edu
(507) 646-3169