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It's Not What Was Said but Who Said It to Whom: Interactant Sex Affects Attributions of Sexism in Ambiguous Situations

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Abstract

Building on error management theory and heuristic decision making, we conducted three studies manipulating the sex of the sender and receiver of messages and asked observers to rate the sender's sexism (Studies 1-3), pleasantness, and professionalism (Studies 2-3). We also examined concern for political correctness (CPC) and social justice attitudes (Study 1), ambivalence toward men (Study 2), and neosexism (Study 3) as moderators of respondent ratings. Across all studies, we found that when the receiver was female, the sender was rated as significantly more sexist, especially when the sender was male. Although CPC, social justice attitudes, and ambivalence toward men failed to interact with scenario conditions, there was suggestive evidence that neosexism levels resulted in stronger sexism ratings in the male sender-female receiver condition.

Keywords: Sexism Attributions; Sex Differences; Sex-Based Attitudes; Heuristics; Neosexism

Introduction

When interacting with or observing others (e.g., in social situations), people regularly encounter situations where others' language or behavior lacks clear intent. Whether in the context of video snippets shown on social media, stories that prematurely assign culpability to individuals, interactions with strangers or acquaintances, or observations of others' interactions, people often make split-second judgments about ambiguous situations based on limited information. This can lead to conclusions misaligned with others' actual intent: people may sometimes infer intent where no intent is obvious or existent. How individuals resolve this ambiguity and the judgments they draw in such situations influence their response (Bach & Schenke, 2017; Vives & Feldman, 2018). When these judgments result in negative attributions about the intent of others, they may pose well-being consequences for both parties (Eccleston & Major, 2006; Major & Dover, 2016). While the need to fill in the gaps often exists, individuals may do so through the lens of their own direct or vicarious past experiences, leaving open the potential for error (Bach & Schenke, 2017; Kahneman & Klein, 2009).

One context in which judgments may vary involves attributions made about sexist intent in ambiguous situations. Sex-based prototypes about likely perpetrators and victims could influence attributions made in ambiguous situations, as such prototypes have been shown to influence attributions made in more obviously sexist situations (Baron et al., 1991). The current paper presents three studies that examined whether the sex of communication partners (i.e., message sender and receiver) affects the attributions of sexist intent. We also examined whether pre-existing assumptions, operationalized as individual differences in sexism-related attitudes, would explain any variance associated with these perceptions. Before proposing our specific hypotheses, though, it is important to discuss how people make inferences in ambiguous situations.

Social Prediction in Ambiguous Situations

Much of human judgment is influenced by the a priori predictions people make within a given situation (Bach & Schenke, 2017; Gigerenzer & Gaissmaier, 2011). These predictions often occur due to the recognition of salient situational cues present within that situation. When the current situation possesses salient cues that match patterns from prior learning, they initiate a default heuristic response (Haselton et al., 2009; Klein, 2015; Pennycook et al., 2015), which, if not refuted by new information, will tend to also serve as the final judgment that guides action.

Altering the salient situational cues may result in different judgments. For example, Sher and McKenzie (2006) asked participants to take a full cup of water and pour half into a second cup, creating equally full cups. When they asked participants to select the half-full cup, they were more likely to choose the one that was originally empty, but when they were asked to choose the half-empty cup, they were more likely to choose the one that had originally been full. Hence, even though the situations were logically the same, a slight alteration to the salient situational cues (i.e., the framing of the instructions) resulted in a different pattern of responding. The situation described by Sher and McKenzie (2006) is a type of ambiguous situation. In such situations, there is often no judgment that is obvious based strictly on the available information (i.e., the cues do not overwhelmingly suggest a particular judgment). However, subtle differences, such as whether the goal is to choose the half-full versus half-empty cup, can alter the reference point used to make inferences, essentially altering which heuristic judgment is made. Alterations to salient

situational cues can lead to differences in actual or perceived base rates (Manis et al., 1980), increased or decreased representativeness of a given prototype (Tversky & Kahneman, 1974), or differences in the consequences of making an erroneous judgment (Haselton & Buss, 2000), all of which can affect the resulting inferences. This may especially be the case when it comes to social prediction in ambiguous situations, where subtle differences in salient cues could lead to very different judgments (e.g., as when interacting with strangers vs. friends; Savitsky et al., 2011). One particular area in which this phenomenon may be observed concerns that attributions of sexism when the intent of communication is ambiguous.

Sex of Interactants and Attributions of Sexism

An attribution of discrimination is a judgment that unfair treatment of an individual has occurred because of that individual's group membership, typically membership within a disadvantaged group (Major et al., 2002). Affirmative attributions can occur in the absence of a discriminatory act, and negative attributions can occur in the presence of a discriminatory act. These subjective judgments of discrimination may be instrumental in predicting attitudinal, well-being, and behavioral outcomes (Major & Dover, 2016; McDonald, 2012; Schilpzand et al., 2016). Likewise, attributions of discrimination can be distinguished from perceptions of discrimination: attributions are concerned with inferring *why* a behavior occurs (i.e., group membership), whereas perceptions are focused on the occurrence, severity, or frequency of discrimination experiences (wherein the attribution is a necessary prerequisite).

Attributions of discrimination may be more likely to occur when the event being evaluated contains characteristics prototypical of discrimination, such as when group membership of target and actor differ, when status-asymmetry exists, or when stereotype-asymmetry exists (Baron et al., 1991; Major & Dover, 2016). In the specific context of sexism, popular consensus, the plethora of studies examining femaletargeted sexism (Jones et al., 2017; Sibley et al., 2007), and the scarcity of studies examining both male and female sexism (e.g., Allen et al., 2009) all tend to suggest a strong male actor (or sender)-female target (or receiver) prototype (Baron et al., 1991; Carlsson & Sinclair, 2018).

Researchers even tend to conform to this prototype in their conceptualizations and measurements of sexism (e.g., Radke et al., 2016; Wilson et al., 2016). For example, in their study of overt sexism, Baron et al. (1991) included only females as the target of overtly sexism behavior, varying only the sex of the actor of the sexist behavior. In support of the male actor-female target prototype, they found that both men and women were more likely to identify an interaction as sexist when the man was the actor than when the woman was the actor. If the generally accepted prototype of sexism involves a male actor and a female target, it subsequently makes sense that such situations will be more readily recognized as being sexist when such pairings are present as opposed to situations in which other sex pairings are present (e.g., female actor/male target, female actor/female target). Additionally, if overt sexism directed toward women may be subject to differential attributions based on the sex of the perpetrator, then subtle forms of sexism (e.g., making assignments based on gender stereotypes; Basford et al., 2014) may also be prone to differential attributions because they are more difficult to identify (Mallett et al., 2016). Subtlety also creates ambiguity in terms of inferring intentionality, leading to potentially different interpretations of the same behavior.

When judging behaviors that could be subtle forms of sexism, such as when the actor's intent is

not evident, the perceiver's heuristic responses are often based on information accessibility (Huntsinger et al., 2010), which is aided when a situation is more representative of an existing prototype (Tversky & Kahneman, 1974). There is also evidence suggesting that inferences people make about the same phenomena can differ as a function of changes in situational cues; such changes can result in differences in cue weighting, which may alter the consistency between the situation and an existing prototype. For example, Riemer et al. (2014) found that when comments were attributed to their boyfriends, women rated them as less sexist than when those same comments were attributed to managers or strangers. Additionally, Strain et al. (2015) found that sexist humor is viewed most negatively when there is a male actor and a female target compared with other sex combinations.

Contemporary examples in the popular press and published research point to the notion that, in the context of sexist behavior, prototypes are important sources of information that guide how individuals weight cues (Carlsson & Sinclair, 2018). The more a given situation appears to match a prototype, the more likely that situation is to elicit heuristic responses consistent with it. Given media attention to the prevalence of sexual harassment and sexist behavior directed toward women by men in power positions and the media's ability to prime heuristic responses (Fink et al., 2018; Stack, 2003; Towers et al., 2015), such attributions may be more salient in opposite-sex interactions and especially in scenarios in which the man occupies a higher power position (perceived or actual) than the woman. However, very little research has studied systematically situations in which the content of communication between two people remains constant, while only the sex of the interaction partners is manipulated. The current research provided such a manipulation and proposed:

H1: When a man is the sender of the message and a woman is the receiver, the sender will be rated as more sexist than when other sex combinations are present.

Attitudes and Attributions of Sexism

While assumptions made about a message sender's intent may be affected by the sex of the interactants, one would not expect such effects to be uniform across all people. Although the assumptions individuals make in ambiguous situations may be affected by the sex of the individual making the attribution (Basford et al., 2014), there is no evidence suggesting women are naturally hypersensitive to sexism or men are naturally hyposensitive to it. Instead, it is likely that individual attitudes related to sexism affect sensitization to its perception because those attitudes may influence information accessibility (Brinol, 2019; Katz, 1960). That is, those who have stronger views about the prevalence of sexism may be primed to infer sexist intent in an ambiguous situation.

Many sexism-related attitudinal constructs relate to the degree to which individuals hold sexist attitudes, perceive sexist acts, and/or differ in the attributions they make in situations in which sexist behavior may occur (e.g., Moradi & Subich, 2002; Strain et al., 2015). For example, hostile and benevolent sexist attitudes involve general valuations of a target in interpersonal interactions (Glick & Fiske, 1996; 1999). More neglected sex-related attitudes pertaining to proactive measures to address sexism (e.g., societal policies and proactive behaviors) may also contribute to sexism attributions, such as social justice attitudes (i.e., attitudes related to equitable resource sharing and equal treatment; e.g., Torres-Harding et al., 2012), neosexism (i.e., resistant attitudes about the need for continued equality-based interventions to benefit women; Tougas et al.,

1995), and concern for political correctness (i.e., attitudes about general emotional and behavioral responses to politically incorrect behavior; Strauts & Blanton, 2015).

In the context of ambiguous situations, recent research also suggests that holding strong attitudes about a group (especially a perceived ingroup or outgroup) can create a perceptual lens that biases intentional attributions (Eccleston & Major, 2006; Schori-Eyal et al., 2017). Though the context of both Eccleston and Major (2018) and Schori-Eyal et al. (2017) were more culture-based than sex-based, other studies have found the same effect based on sex (Elkins & Phillips, 1999; Elkins et al., 2002). We proposed that strong attitudes about sexism-related issues (i.e., concern for political correctness, social justice attitudes, hostility toward men, neosexism) may have similar effects in ambiguous situations:

H2: There will be a significant sender sex × receiver sex × respondent attitudes interaction such that those with stronger attitudes favoring the identification of sexism will rate the sender in the male sender-female receiver interaction as more sexist than will those with weaker such attitudes.

In Study 1, we employed two measures of general attitudes concerning perceived inequity and inappropriate behavior (i.e., social justice attitudes, concern for political correctness). Similar socially oriented attitudinal constructs have been shown to influence assessments of culpability (e.g., social dominance orientation; Kemmelmeier, 2005). Social justice attitudes and political correctness tend to focus on minimizing inequity and shielding low-status groups, potentially influencing sexism attributions by making status cues more salient for those holding stronger attitudes.

Studies 2 and 3 focused on attitudes specific to sexism. In Study 2, we employed a measure of attitudes toward men (i.e., hostility and benevolence toward men) given that the (prototypically male) actor role was the role toward which higher sexism attributions were expected to be made. In contrast, measures of sexism, which fail to capture attitudes towards men, may be more relevant for research questions examining evaluator-target relations (e.g., traits predicting discrimination, victim blaming). In Study 3, we employed a measure of resistant attitudes about the need for continued equality-based interventions to benefit women (i.e., neosexism).

The use of different types of measures across the three studies allowed us to assess the degree to which attitudes with different categorical content (i.e., general attitudes about equity/behavior, positive/negative stereotypes of men, attitudes about modern male/female equality) varied in terms of their impact on attributions. None of the three studies were pre-registered before execution, and all studies relied on the scenario described for Study 1[1]. In Study 1, we report how we determined minimum sample size and the criteria on which data was excluded (adapting from Simmons et al.'s, 2012, 21-word solution).

Study 1[2]

Study 1 was designed as an initial test of H1 and H2. Participants were randomly assigned to one of the scenario conditions described below and asked to evaluate the sexism of the message sender. As specified in H1, we expected that sexism ratings would be higher in the male

[1] This allowed us to compare the specific results observed using different constructs. While this decision ultimately limited generalizability, it allowed us to assess a broader number of constructs.

[2] All materials, data, and code for all 3 studies are made publicly available through the OSF repository (see "Open Practices" section below for URL). This study was not preregistered. The 1stauthor was the primary author of the manuscript, contributing to the literature review, study design, analyses, and write-up. The 2ndand 3rdauthors contributed to the study design and write-up.

sender/female receiver condition than in the other sex pairing conditions. For testing H2 we employed two measures of general attitudes concerning perceived inequity and inappropriate behavior, focusing specifically on social justice attitudes and concern for political correctness (CPC). We expected that those higher in social justice attitudes or CPC would be more likely to report greater sexism in the male-sender/female receiver condition than in other conditions.

Methods

Participants and Procedure

Participants were recruited to complete a survey from Amazon's Mechanical Turk (MTurk), which has demonstrated comparable reliability and validity to that of traditional sampling methods (Barger et al., 2011; Buhrmester et al., 2011). All participants were (1) over 18 years old, (2) employed in the United States, and (3) working a paid job for at least 30 hours per week. Informed consent was obtained from all participants prior to study participation. Upon survey completion, which took approximately 10 minutes, participants were paid $0.25.

Power analyses (conducted using G*Power), calculated using alpha of .005 (discussed below), indicated that for the use of analysis of variance (ANOVA) or multiple regression with a medium effect size (.15 for regression or .25 for ANOVA) at power of .80 required between 218 and 227 respondents. All three studies exceeded this threshold. Initially, 916 respondents agreed to complete Study 1. However, 129 participants (14.1%) did not complete all relevant parts of the survey and were excluded. Of the 786 remaining respondents, 78 of them (9.9%) failed one or more of the three attention check items embedded in the survey[3], leaving a final sample of 707 respondents (77.2% of the original). The sample included slightly more women (51.1%) than men (48.9%), with average age being 36.3 years (*SD* = 11.72).

The survey consisted of three parts: (1) demographic items, (2) the Concern for Political Correctness and the Social Justice Attitudes scales, and (3) the scenario activity. Demographic items were collected first to allow for equal collection of male and female respondents in each scenario condition. Respondents were then randomly assigned to either complete the scenario activity or the self-report measures first. The scenario activity (adapted from Brant et al., 1999) involved a banker and a customer looking to make investments. A 2 (male/female banker) x 2 (male/female customer) x 2 (individual differences: high vs. low) between-subjects design (controlling for participant sex) was adopted for the scenario activity, with respondents randomly assigned to one of the four banker/customer (message sender/receiver) conditions. Banker and customer sex were manipulated by using sex-specific names (i.e., Anna/Bob as banker, and Julie/Tim as customer). All scenario conditions were otherwise identical. The scenario read:

[Julie/Tim] walks into the local bank and is greeted by [Anna/Bob], the assistant manager of the bank, whom [she/he] has dealt with before. They walk into [Anna/Bob]'s office to discuss what the bank can do to help [Julie/Tim] invest some money. As [Julie/Tim] walks in [Anna/Bob] says: "Hello [Julie/Tim]. That's a very nice suit you're wearing. You look great."

[Julie/Tim] explains that [she/he] is interested in investing $30,000. As they are talking [Anna/Bob] notes that [Julie/Tim] has quite a bit of money that [she/he] wants to invest.

[3] 51.3% of excluded respondents were male (compared to 48.9% of the final sample). They did not differ in age from the final sample. They showed higher levels of attitudes toward political correctness and lower levels of social justice attitudes based on bootstrapped ttests than did the final sample, but they did not differ in sexism ratings in any condition.

[Anna/Bob] then goes on to say: "You're lucky to have so much money to invest." [Julie/Tim] then begins to present [his/her] ideas concerning how [she/he] would like to invest [her/his] money. [She/He] explains that [she's/he's] worried about the stock market and that [she/he] is considering buying tax-free bonds. [Anna/Bob] responds by saying: "No, that's a bad idea. Tax-free bonds have a very low yield. You're better off investing in a mutual stock fund."

At the end of the meeting. [Anna/Bob] gets up from behind her desk and puts [his/her] arm around [Julie/Tim]'s shoulders and says, "We will do all we can here to help you anytime you need us. Thanks for banking with us."

Measures

Concern for Political Correctness. Respondents completed the four-item Concern for Political Correctness (CPC) Scale (Strauts & Blanton, 2015), which includes five items measuring respondents' emotional reactions to politically incorrect language and five items measuring respondents' activism in the face of politically incorrect language or behavior all scored using a 1 ("Disagree Extremely") to 7 ("Agree Extremely") scale. Average scores were created for each subscale. Example items are "I get mad when I hear someone use politically incorrect language" (emotion; α=.93) and "I try to educate people around me about the political meaning of their words" (activism; α=.94).

Social Justice Attitudes. Respondents completed the social justice attitudes (SJA) subscale from the Social Justice Scale (SJS; Torres-Harding et al., 2012). The SJA includes 11 items scored on a 1 ("Strongly Disagree") to 7 ("Strongly Agree") scale. An example item is, "I believe that it is important to talk to others about societal systems of power, privilege, and oppression" (α=.95).

Sexism Ratings. After reading the scenario, respondents reported the degree to which they evaluated the sender as sexist using a 7-point scale ranging from 1 ("Not at all sexist") to 7 ("Definitely sexist"). Though single-item measures are often not preferred, they are particularly common in studies examining sexism attributions (Kirkman & Oswald, 2019). A clear construct in the mind of the respondent may be best represented by a singular item as it will measure the construct with less extraneous variance than a multiitem scale (Bergkvist & Rossiter, 2007).

Results

Due to the number of analyses, the relative sample sizes, and recent calls by scholars (Benjamin et al., 2017), we chose more conservative estimates for statistical significance testing for all three studies. We set α of .005 as the threshold for statistical significance and .01 as the threshold for suggestive results, with results above α of .01 deemed non-significant. Furthermore, we interpret our results within the context of both their effect size and confidence intervals to provide more accurate interpretation.

Descriptive statistics for Study 1 variables can be found in Table 1. Because CPC and social justice attitudes were continuous, we chose to utilize linear regression techniques for hypothesis testing[4]. We standardized CPC and social justice attitudes to aid in interpretation and utilized the PROCESS 3.3 script for SPSS developed by Hayes (2019).

[4] Analyses were also conducted using Analysis of Variance procedures, with the continuous variables transformed via median split into dichotomous variables. These analyses can be found here: https://osf.io/6kvyh/

Our first analysis used Model 3 from PROCESS (which analyzes a model with 2 interaction variables) to test whether (a) the male sender would be rated as more sexist (H1) and (b) respondent attitudes, sender sex, and receiver sex would interact to predict sexism ratings (H2). We ran the same analysis three times, once for each attitude variable (CPC-emotion, CPC-activism, social justice attitudes), specifying sender sex as the predictor (X), receiver sex as moderator 1 (W), the relevant standardized attitudes variable as moderator 2 (Z), respondent sex as a covariate, and sexism scores as the outcome (Y; Table 2, Models 1, 2, and 3). Overall, the various models accounted for 17.1% to 17.5% of the variance in sexism ratings.

H1 was supported for all three models, with the interaction explaining 9.9% -10.3% of the variance. The interaction mapped for Model 1 (Figure 1a) indicated that in the male sender/female receiver condition, sexism ratings averaged a full point higher (*M*=3.74, 99.5% CI: 3.39, 4.08) than the next closest condition (i.e., female sender/male receiver: *M*=2.71, 99.5% CI: 2.37, 3.05).

H2 was not supported for any attitude variable. Both CPC variables demonstrated only a weak significant direct association. In contrast, we found a significant negative direct association between social justice attitudes and sexism ratings (Model 3), though once again this relationship was weak. We also found a suggestive receiver sex × social justice attitudes interaction (plotted in Figure 1b), indicating generally consistent sexism ratings at all levels of social justice attitudes when the receiver was female, but a downward trend in sexism ratings as social justice attitudes increased when the receiver was male.

Since there was no significant sender × receiver sex interaction with any of the attitude variables, we sought to rule out the possibility that respondent sex might be interacting with the sender sex × receiver sex interaction. We also wanted to determine whether controlling for CPC-emotion (we excluded CPC-activism due to its strong association with CPC-emotion) and social justice attitudes would explain the observed sender sex × receiver sex interaction. Adding the additional 3-way interaction and controlling for the attitude variables (Table 2, Model 4) had no meaningful impact on either the receiver sex main effect or the sender sex × receiver sex interaction. Additionally, no 3-way interaction was observed between sender sex, receiver sex, and respondent sex, indicating that the effects observed in Study 1 were not a function of respondent sex differences. Finally, both CPC-emotion and social justice attitudes maintained their significant associations with sexism ratings.

Study 1 Discussion

Study 1 results suggested that even though the situation, behavior, and dialogue were the same across conditions and no overt sexist language/behavior was present, when the message receiver was female, the message sender was perceived to be more sexist, especially with a male sender. While the male sender in the male-female condition was rated as most sexist, the male sender in the male-male condition was rated as least sexist. When the message sender was female, there were no significant differences between the male and female receivers. The results were consistent across respondent sex, level of CPC, and level of social justice attitudes. Yet, at higher levels of social justice, average sexism ratings were higher when the receiver was female (regardless of the sender). Taken together, these results suggest that slight variations in details, even holding other elements constant, can affect attributions made about others' intentions in ambiguous situations. Additionally, some attitudes may alter the general likelihood of making

certain types of attributions about others' behavior in such situations. The lack of explanatory and/or interaction effects in terms of general attitudes, though, suggests that they may be too general to have much impact on sexism-specific attributions (beyond either suppressing or enhancing general sexism attributions).

Study 2

Study 2 was designed to replicate the sender sex × receiver sex interaction effect and to extend findings from Study 1. The same scenario was used, but the general attitudes measures were replaced with a measure focused on attitudes toward men: the Ambivalence toward Men Scale (Glick & Fiske, 1999). It assesses the degree to which people hold hostile and/or benevolent attitudes toward men. It was expected that these attitudes might alter the sender sex × receiver sex interaction. Additionally, items were added to assess perceptions of the degree to which the social interaction should have pleased the customer and the degree to which the banker's behavior was professional to better understand how respondents perceived the situation. In addition to the primary study hypotheses, we added the following:

Research Question 1: Is there an interaction between sender sex and receiver sex on the degree to which the sender's behavior is perceived to be professional and the interaction pleasant for the customer? Do sexism ratings mediate this relationship?

Methods

Participants and Procedure

Participants were recruited from Amazon's MTurk to complete a survey with the same requirements as in Study 1. Informed consent was obtained from all participants prior to study participation. Upon completion of the survey, which took approximately 10 minutes, participants were paid $0.25.

Initially, 502 respondents agreed to complete the study. After removing respondents who failed to complete the entire survey or failed attention checks, 438 fully completed responses remained (87.2% of the original). The sample included more men (59.4%) than women (40.6%), with average age of 34.5 years (*SD* = 10.13).

The survey consisted of three parts: (1) demographic items; (2) the Ambivalence toward Men Scale; and (3) the scenario activity, which was followed by three rating items directly related to the scenario. Demographic items were collected first to allow for equal collection of male and female respondents in each scenario condition. Respondents were then randomly assigned to either complete the scenario activity (and corresponding items) first or to respond to the Ambivalence toward Men Scale first.

Measures

Ambivalence toward Men Scale. Attitudes toward men were measured with the hostility and benevolence subscales of the Ambivalence toward Men Scale (Glick & Fiske, 1999). Respondents rated their agreement with 20 items using a 1 ("Disagree Extremely") to 7 ("Agree Extremely") scale, with 10 items measuring hostility (e.g., "Men will always fight to have greater control in society"; α=.93) and 10 measuring benevolence (e.g., "Every woman needs a partner who will cherish her"; α=.90). Consistent with Glick and Fiske (1999), we calculated the overall

ambivalence score by subtracting hostility scores from benevolence scores.

Scenario Rating items. After reading the scenario, participants were asked to respond to three items: "If you were (----), how pleased would you be with your interaction with (----)?" (ranging from 1 = "Not at all pleased" to 7 = "Very pleased"), "To what degree was (----)'s behavior professional?" (ranging from 1 = "Not at all professional" to 7 = "Very professional"), and "Based on this interaction, to what extent do you think (----) is sexist?" (ranging from 1 = "Not at all sexist" to 7 = "Definitely sexist").

Results

Descriptive statistics can be found in Table 3. Pleasantness and professionalism ratings were highly correlated (r=.72, p<.005) but only moderately correlated with sexism ratings (r=-.34 and -.39, respectively, p<.005). We created an average interaction favorability score using pleasantness and professionalism (α=.84), which was negatively correlated with sexism (r=-.40, p<.005). As in Study 1, we utilized linear regression techniques to analyze our hypotheses. We standardized the hostility, benevolence, and ambivalence scores to aid interpretation, and we dummy coded the sender, receiver, and respondent sexes.

Our first analysis (using Model 3 from Hayes, 2019, PROCESS as we did in Study 1) tested the hypotheses that the male sender would be rated as more sexist regardless of the observer's sex (H1) and that respondent attitudes, sender sex, and receiver sex would interact to predict sexism ratings (H2). We conducted three tests, each time specifying the following: predictor (X) = sender sex, moderator 1 (W)= receiver sex, moderator 2 (Z) = relevant attitudes variable (i.e., hostility, benevolence, or ambivalence), covariate = respondent sex, and outcome (Y) = sexism scores (Table 4, Models 1, 2, and 3). Overall, the various models explained 17.8% to 21.3% of the variance in sexism ratings.

H1 was supported for all three models, with the interaction accounting for 10.7% -11.5% of the variance (Figure 2 maps the interaction for Model 1). Scenario conditions with opposite-sex interactions were rated as more sexist than those with same-sex interactions. Among the opposite-sex interactions, sexism ratings averaged almost a full point higher in the male sender-female receiver condition (M=4.41, 99.5% CI: 3.954.88) than in the female sender-male receiver condition (M=3.57, 99% CI: 3.11-4.03). H2 was not supported for any attitude variable (Table 4, Models 1-3). Instead, all three variables showed only direct associations with sexism ratings, with hostility demonstrating the strongest association.

Since there were no significant interactions between any of the attitude variables and the sender sex × receiver sex interaction, we sought to rule out the possibility that respondent sex might be interacting with the sender sex × receiver sex interaction. Furthermore, we wanted to determine whether controlling for Hostility toward Men (which had the strongest observed regression weight) would explain the sender sex × receiver sex interaction. Adding the additional 3-way interaction and controlling for the attitude variables (Table 4, Model 4) had no meaningful impact on either the receiver sex main effect or the sender sex × receiver sex interaction. Additionally, no 3-way interaction was observed, indicating that the observed effects again were not a function of respondent sex.

We then sought to test whether the sender sex × receiver sex interaction explained differences in favorability ratings (professionalism and pleasantness) directly (i.e., as a direct effect) and/or

whether a sender sex × receiver sex interaction effect on favorability ratings occurred via sexism ratings (i.e., as an indirect effect through sexism ratings; RQ1). For this test, we used Model 8 of PROCESS 3.3 (Hayes, 2019), which permits a test of moderated mediation. The following were specified as relevant variables: outcome (Y) = interaction favorability; predictor (X) = sender sex; interaction term (W) = receiver sex (which was tested as a moderator of the sex of sender direct effect on both the outcome and the mediator); mediator (M) = sexism ratings; covariates = respondent sex and hostility toward men.

Table 5, Model 1 presents the results for the test of the sender sex × receiver sex effects on sexism ratings. The interaction accounted for 10.7% of the variance in sexism ratings ($F(1, 432)=58.73$, $p<.001$; as reported for H1). Table 5, Model 2, then presents the results for the test of sender sex × receiver sex interaction direct effects on favorability ratings, but the interaction accounted for no meaningful direct variance in interaction favorability ($F(1, 431)=0.84$, $p=.361$). The test, however, suggested a significant moderated indirect effect of sender sex, via sexism scores, on favorability ratings for both female ($B=-.36$, $SE=.07$, 99% CI: -.55, -.21) and male ($B=.25$, $SE=.06$, 99% CI: .09, .43) receivers. When the receiver was female, having a male sender resulted in higher sexism ratings, which led to lower interaction favorability ratings. When the receiver was male, having a male sender resulted in lower sexism ratings, which led to higher interaction favorability ratings. The difference between these effects (.613, $SE=.10$) was significant (99% CI = .37, .90).

Study 2 Discussion

Study 2 results largely mirrored those of Study 1. Although attitudes toward men failed to advance understanding of sexism attributions, the results suggested that some of the observed effects may be driven by situations of opposite-sex (i.e., male-female and female-male) interactions. Specifically, stronger effects were present with the male sender-female receiver than vice versa. Finally, higher sexism attributions were associated with diminished evaluations of interaction favorability.

Study 3

Tougas et al. (1995) defined neosexism as a "manifestation of a conflict between egalitarian values and residual negative feelings toward women" (p. 843) and claimed that "those who are prejudiced couch their negatively charged beliefs about women in the language of equality rather than the language of inferiority" (p. 847). Whereas hostile/benevolent sexist attitudes are more overt, neosexist attitudes are more covert and manifest in the views that the balance has shifted to benefit women too much, disadvantaging men. Masser and Abrams (1999) found that neosexism was strongly associated with hostile and benevolent sexism, though their observed correlations varied widely as a function of sample and sex. Becker and Swim (2011) found that when people were encouraged to look for researcher-specified sexist behaviors toward women, they reported less neosexism and observed more sexist behaviors after one week than did people who were not provided this sensitization manipulation. While it does not negate the presence or absence of actual overt forms of sexist behavior, the sensitization associated with lower levels of neosexism could potentially cause individuals to conclude sexist intent when that is not necessarily the case. Therefore, in addition to H1 and H2, we also proposed:

Research Question 1: Does the sender sex × receiver sex interaction show an indirect effect (via sexism ratings) on ratings of interaction favorability (RQ1)?

Research Question 2: Does neosexism further moderate any observed indirect effect of the sender sex × receiver sex interaction on ratings of interaction favorability (RQ2)?

Research Question 3: What is the average sender sex × receiver sex effect across all three studies (RQ3)?

Methods

Participants and Procedure

Participants were recruited from Amazon's MTurk using the same criteria as in Study 1. All participants gave informed consent prior to survey administration. Upon survey completion, which took approximately 15 minutes, participants were paid $0.90. Initially, 426 respondents agreed to complete the study. After removing respondents who failed to complete the entire survey or failed attention checks, a total of 387 responses (90.8% retention) remained. The sample included more men (55.6%) than women (44.4%), with average age being 36.2 years (*SD* = 10.50).

The survey consisted of three parts: (1) demographic items; (2) Neosexism scale; and (3) the scenario activity (the same as in Studies 1 and 2) and four rating items about the scenario. Demographic items were collected first, and respondents were then randomly assigned to complete either the scenario activity (and corresponding items) or the Neosexism scale first.

Measures

Neosexism. Respondents completed the Neosexism Scale (Tougas et al., 1995), which contains 11 items scored on a 5-point scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). Higher scores indicate resistance toward continued sex-based equality interventions that benefit women. An example item is, "In order not to appear sexist, many men are inclined to overcompensate women" (α=.90).

Scenario Rating items. After reading the scenario, participants were asked to rate the scenario on sexism, pleasantness, and professionalism using the same items as in Study 2. They were also asked, "If you were (----), how likely would you be to accept (----)'s advice?" (ranging from 1 = "Not at all likely" to 7 = "Very likely").

Results

Table 6 presents descriptive statistics for Study 3 variables. Ratings of pleasantness, professionalism, and acceptance of advice were highly correlated (r=.70, .77, and .81, p<.005), though they were only moderately correlated with sexism ratings (r= -.34, -.31, and -.35, respectively, p<.005). Given their strong correlations, we aggregated the pleasantness, professionalism, and advice acceptance items into one interaction favorability score (α=.91), which was negatively correlated with ratings of sexism (r=-.36, p<.005).

We utilized linear regression techniques to analyze our hypotheses. We first standardized neosexism to aid in interpretation and utilized Model 3 from PROCESS 3.3 (Hayes, 2019) to test H1 and H2 (as in previous studies). We specified sender sex as the predictor (X), receiver sex as moderator 1 (W), neosexism as moderator 2 (Z), respondent sex as the covariate, and sexism ratings as the outcome (Y) variable.

The model accounted for 15.6% of the variance in sexism ratings (Table 7, top panel), with the sender sex × receiver sex interaction explaining 6% of the variance. The presence of the receiver sex and the sender sex × receiver sex effects were consistent with the prior two studies (Figure 3a), but there was also a significant sender sex effect, with sexism ratings higher when the sender was male as opposed to female. Finally, there was a sender sex × receiver sex × neosexism suggestive effect that accounted for 2.2% of the variance.

The sender sex × neosexism component of the 3-way interaction was subsequently tested separately in the two receiver sex conditions. When the receiver was male, the predictor set explained only 6.3% of the variance in sexism ratings (F(4, 184)=3.09, p=.017), with the sender sex × neosexism interaction explaining only 1.6% of the variance (Figure 3b). None of the predictor variables explained significant variance in sexism ratings, with the closest to significance being neosexism (B=.33, SE=.13, t=2.57, p=.011). However, when the receiver was female, the predictor set explained 20.6% of the variance (R=.454, F(4, 193)=12.51, p<.001). Sender sex explained significant variance (B=.79, SE=.13, t=6.08, p<.001), but neosexism (B=.08, SE=.07, t=1.14, p=.256) and respondent sex (B=-.33, SE=.14, t=-2.43, p=.016) did not. There was also a suggestive sender sex × neosexism interaction accounting for 2.8% of the variance (F(1, 193)=6.85, p<.01; B=-.35, SE=.13, t=-2.62, p<.01; Figure 3c). When neosexism was at the mean or below, the effect of sender sex was significant (-1SD: B=1.13, SE=.18, t=6.14, p<.001, 99% CI: .65,1.61; Mean: B=.79, SE=.13, t=6.08, p<.001, 99% CI: .45,1.13). When neosexism was +1SD or above, the effect was not significant (B=.45, SE=.18, t=2.43, p=.016, 99% CI: -.03,.92).

To test RQ1 and RQ2, we applied Models 12 (for primary analyses; Table 7, Model 1) and 8 (to compare three-way and two-way interaction results; Table 7, Model 2). Higher neosexism scores were associated with higher favorability ratings, and higher sexism ratings were associated with lower favorability ratings. There was also a suggestive receiver effect: favorability ratings for the male receiver were .25 SD higher than for the female receiver. No other effects were significant. Overall, the model accounted for 22.1% of the variance in favorability ratings.

In comparing direct and indirect effects, when the receiver was female, sexism ratings were higher when the sender was male, which resulted in lower favorability ratings (i.e., a significant negative indirect effect of sender sex; B=-.27, SE=.06, 99% CI: -.46, -.13). The result partly addressed RQ1, but the indirect effect was further moderated by neosexism (addressing RQ2). When the sender was male and the receiver was female, increased sexism ratings led to decreased favorability ratings only when neosexism was low (i.e., -1SD; B=-.39, SE=.09, 99% CI: -.64, .17) or moderate (i.e., at the mean; B=-.27, SE=.06, 99% CI: -.44, -.13), but there was no significant indirect effect when neosexism was high (i.e., +1SD; B=-.15, SE=.07, 99% CI: -.34, .02). There was no evidence of any further moderated effects. Hence, the presence of moderated indirect effects only occurred with a male sender, a female receiver, and moderate to low respondent neosexism.

A final analysis was focused on an aggregation of the sender sex × receiver sex interaction effects across the three studies (RQ3). To accomplish this, the sender sex, receiver sex, and sexism scores from across all three studies were merged into one datafile in SPSS. The separate sender sex and receiver sex variables were then used to compute one 4-level variable (1 = male sender/male receiver, 2 = male sender/female receiver, 3 = female sender/male receiver, 4 = female sender/female receiver) to aid in comparison of mean scores. A univariate analysis of variance (ANOVA) was then conducted entering the sender/receiver sex variable as a fixed effect factor

and sexism scores as the dependent variable. Unsurprisingly, the overall effect was significant, $F(3, 1528)=76.90$, $p<.001$, accounting for 13.1% of the variance.

Comparisons of the means for each sender sex/receiver sex condition can be found in Table 8. The results suggested that across the three studies, the same-sex conditions produced the lowest sexism ratings. The female sender/male receiver condition produced significantly higher sexism ratings than did the same-sex conditions. Finally, the male sender/female receiver condition produced significantly higher sexism ratings than did all other conditions.

General Discussion

Our three studies were designed to examine whether sender sex and receiver sex interact to affect people's attributions about others' intentions in ambiguous situations. However, we also wanted to determine whether these effects were moderated by an observer's sexism-related attitudes. In the second and third studies, we also examined whether the sender sex × receiver sex interaction effect on sexism ratings was related to interaction favorability. Overall, we found support for H1 in all three studies and support for H2 in Study 3. There was a significant sender sex × receiver sex interaction, explaining between 6% and 11.5% of the variance in sexism ratings. In all studies, the male sender/female receiver combination resulted in the highest sexism ratings, with the male sender/male receiver condition receiving the lowest sexism ratings. In aggregate, the results indicated that sex pairings explained about 13% of the variance in sexism ratings. Results indicated that (1) opposite-sex sender/receiver conditions (i.e., male/female, female/male) were rated as significantly more sexist than same-sex conditions and (2) the male sender/female receiver condition was rated as significantly more sexist than the female sender/male receiver condition.

Neither general attitudes about inequality and justice nor attitudes toward men affected the observed interaction effect. In Study 3, there was suggestive evidence that the effects of sender sex and receiver sex on attributions differed as a function of people's level of neosexism. When respondents were low to moderate in neosexism, the sender sex × receiver sex interaction effect was much more pronounced than when neosexism was high.

In addition, in Studies 2 and 3 respondent attributions about the sender's sexist intent served as a possible linking mechanism between interactant sex composition and ratings of interaction favorability. The indirect effects of the sender sex × receiver sex interaction demonstrated consistency between Studies 2 and 3 when the receiver was female but not when the receiver was male. In both studies, when the receiver was female, sender sex had an indirect negative effect on evaluations of the interaction via increased sexism ratings. That is, when the receiver was female, sexism ratings were higher when the sender was male as opposed to female, which then resulted in lower ratings of interaction favorability. In Study 2, when the receiver was male, sender sex had an indirect positive effect on interaction evaluations via decreased sexism ratings, but in Study 3, no effect was observed.

Overall, our study results suggest that slight variations in situational cues may alter attributions people make about others when intentions are ambiguous, even if those cues do not provide any overt evidence for those attributions. In terms of the current study, a possible reason for this is that the cues present were more aligned with existing sexism prototypes when the interactants were of the opposite sex, which could increase the accessibility of those prototypes (Huntsinger

et al., 2010; Tversky & Kahneman, 1974). If the generally accepted prototype of sexism involves a male actor and a female target, with the opposite being a weaker prototype or one that is less universally present, this would explain the significant differences between the two opposite-sex conditions.

In terms of the hierarchy of social prediction (Bach & Schenke, 2017), the presence of these prototypes could lead to different expectations based on the sex composition of dyadic communication. It is plausible that the variation in situational cues (i.e., sender and receiver sex) led to a stronger match between the cues present within the situation and existing sexism prototypes, leading to heuristic responses based on those prototypes. As such, individuals may be more likely to enter opposite-sex interactions with a bias toward sexism, especially when situational cues match the predominant sexism prototype. Because the cues themselves match that prototype and there is no information to suggest the prototype is inapplicable, people are more likely to conclude sexist intent (or at least be unsure whether to reject that conclusion). Social prediction theory could also explain why opposite sex pairings (i.e., a sender of one sex and a receiver of the opposite sex) were rated as more sexist than were same-sex pairings in Studies 2 and 3. If the sexism prototype strongly favors opposite-sex interactions (and even more strongly the male aggressor/female target), then fewer obvious cues would need to be present in order to draw stronger sexism inferences.

How one learns the heuristic responses that underlie social prediction hypotheses is another matter entirely. Bach and Schenke (2017) suggested they can occur through direct or vicarious experience. These experiences form the basis for both the initial hypothesis and people's attempts to apply Bayesian reasoning to reach a given conclusion, either confirming or rejecting their hypotheses. However, vicarious learning can also occur due to the influence of societal conversations (especially by broadcast, print, and social media reports, art), which could affect the assumptions and predictions that are primed when various situational cues are present. There is evidence, for example, that media coverage of suicides, especially of -profile individuals (e.g., celebrities), can lead to increases in the number of suicides (Fink et al., 2018; Stack, 2003), and other evidence suggests the same may occur for media coverage of mass shootings (Towers et al., 2015). Hence, media coverage may prime various heuristic responses in ways that are consistent with that coverage. The suggestive evidence regarding neosexism from Study 3 further suggests that attitudes people possess about issues like sexism can potentially affect the likelihood that situational cues, when they align with a prototype, will be interpreted as evidence to support the prototypical conclusion.

This explanation is also consistent with evidence of a confirmation bias (Nickerson, 1998), which occurs when individuals seek out information that confirms a prior hypothesis or belief. In the context of Bayesian reasoning and social prediction, if one's primed heuristic response is the assumption that the sender is sexist and the prior probability of that exceeds some threshold, then evidence that supports this prediction may be given more weight than evidence that contradicts it. In ambiguous situations, where evidence to contradict a starting assumption or prediction may be lacking, individuals may (rightly or not) decide their prediction is confirmed.

This may also explain why people reach different conclusions when only situational cues differ, even if only slightly. Consider, for example, the work of Riemer et al. (2014), who found that when comments were attributed to their boyfriends, women rated them as less sexist than when those same comments were attributed to managers and strangers; the work of Sirin et al. (2004), who

found that men who engage in sexist behavior are viewed more negatively than women who engage in the same behavior; or the work of Strain et al. (2015), who found that sexist humor is viewed most negatively when there is a male actor and a female target compared with other sex combinations. All these effects can be interpreted through the lens of prior probability and primed heuristic responding, in which people adjust their prior probabilities based on salient situational cues and, thus, reach different conclusions based on those cues. Because we did not manipulate the primed heuristic, future research should more thoroughly explore whether people's attributions can be manipulated based on the degree to which a particular heuristic response is primed a priori.

Of course, the results also stimulate a question regarding how many cues are necessary to reinforce/refute a given heuristic response, as well as how various cues are weighted by the decision maker or observer. As both Shah and Oppenheimer (2007) and Newell and Shanks (2017) observed, differences in situational cues may result in variations in how those cues are weighted and combined to reach a given conclusion. Although theories of social prediction argue that people have an initial prediction that is refined based on situational cues, we could locate no research regarding how many cues are needed to trigger a given heuristic response (especially in the context of sexist behavior), how past experience may affect the weighting that is provided to various types of cues, or how the quantity or consistency of cues influences the final judgment. Clearly, this is an area ripe for future research, and the results of that research may help to provide deeper insight into the various individual and situational factors that may lead to different conclusions.

Limitations and Future Directions

While these studies provided an experimental approach to the study of sexism attributions, future research may want to address various limitations inherent in them. First, while participants were provided a specific set of cues that only slightly varied (i.e., in terms of sender/receiver sex), we did not manipulate the number of cues available in the scenario. Across all three studies, situational cues were held constant and only the cues related to sender/receiver sex were varied. Hence, we cannot draw conclusions about how many cues are required to increase/decrease the likelihood of a given conclusion in an ambiguous situation nor how cues were weighted. Moreover, although the study prioritized direct replication over generalizability, the nature of the relationships may have been different had a wider range of scenarios been used in which factors such as the type of setting (e.g., bank), sender-receiver relationship (e.g., personal, professional), and behavior type (e.g., verbal, physical) were varied.

Second, given that men and women likely experience sexism quite differently, some scenarios may be more capable of capturing perceptions of male-experienced sexism whereas others, such as the one employed here, may be better for detecting perceptions of female-experienced sexism. This might suggest that some situational cues are more universally suggestive of sexism whereas others are only suggestive when specific sex and power cues are present (e.g., what is suggestive of sexism in male-to-female interactions may not be suggestive in female-to-male interaction). The current study could not address this issue, but it is an area that may warrant future consideration.

Third, our samples were selected from MTurk, which may or may not generalize. Though previous research has concluded that MTurk samples produce results just as valid as those from other

sources (e.g., Barger et al., 2011; Buhrmester et al., 2011), it still represents more of a convenience sample. As such, future research may want to utilize other sampling techniques to determine the full generalizability of the results obtained here.

Finally, the current studies utilized scenarios. Although these can be effective tools for experimental manipulation, they do not necessarily capture in-situ perceptions, heuristics, biases, or emotional reactions. During real-time events, individuals are required to make snap judgments and draw conclusions without the ability to read or re-read a particular scenario. As such, more heuristic processing may come into play, potentially increasing (1) over-reliance on assumptions and biases as the basis for drawing conclusions, (2) the use of more context-specific information (e.g., one's past experiences with a particular individual), and (3) the emotions elicited within the real-time interaction as the basis for drawing conclusions. As such, how people interpret behavior in a real-time situation may differ from how such behavior is interpreted in more fictitious scenarios that lack the same contextual underpinnings.

Conclusion

Sexism is a problem with which society continues to wrestle. Much of the previous research on the topic has focused more on the prevalence of sexism, the factors that promote or inhibit sexist behavior, and other factors that either focus predominantly on overt sexist behavior or confound the sender-receiver dyad with message content. Our research suggests that when situations are ambiguous in nature, what is perceived to be sexist may be based more on heuristic responses primed by interactant sex composition than by actual message content. This effect was more prominent when people possessed less resistant attitudes toward the continued need for sex-based equality interventions (i.e., people scoring low on the neosexism scale). This may present some problems for society because it creates a context in which message meaning exists somewhat independently of content. This may result in attributions that are only "evident" due to the sex of the interactants, potentially leading to misinterpretations with serious consequences (e.g., employment, friendships) for both the message sender and receiver. Therefore, more research is necessary to better understand the factors that contribute to higher/lower perceptions of sexism within ambiguous situations.

Open Practices

Data, code, and materials for all studies are made publicly available on the OSF data repository at the following URL: https://osf.io/v9knh/?view_only=1e38a16fc09c4e73a0bfe68ad0a2324b

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TABLE 1. CORRELATION MATRIX FROM STUDY 1

Variable	Mean	SD	1	2	3	4	5	6
1. Respondent Sex	0.49	0.50						
2. CPC-Emotion	3.54	1.62	-.22*					
3. CPC-Activism	3.34	1.55	-.14*	.67*				
4. Social Justice Attitudes	5.58	1.10	-.29*	.20*	.20*			
5. Sender	0.50	0.50	.05	.00	-.01	-.01		
6. Receiver	0.51	0.50	-.04	.03	.07	.07	.00	
7. Sexism Rating	2.66	1.76	-.06	.14*	-.09	-.10†	.07	-.21*

Note: * p < .005; † < .01; Respondent Sex, Sender, and Receiver were all coded as 1=Male, 0=Female, CPC, Social Justice Attitudes, and Sexism scores could range from 1-7, with observed scores for all falling between 1 and 7; *N*=707

TABLE 2. REGRESSION RESULTS PREDICTING STANDARDIZED SEXISM SCORES IN STUDY 1

Variable	B	CI	SE	t	p
Model 1					
Sex of Sender	.15	-.02, .33	.07	2.23	.026
Sex of Receiver	**-.43**	**-.60, -.25**	**.07**	**-6.19**	**.000**
Sex of Respondent	-.07	-.26, .11	.07	-1.03	.305
CPC-Emotion (z)	**.13**	**.04, .22**	**.03**	**3.67**	**.000**
Sender x Receiver	**-1.27**	**-1.62, -0.91**	**.14**	**-9.21**	**.000**
Sender x CPC-Emotion	.04	-.14, .22	.07	0.57	.571
Receiver x CPC-Emotion	-.11	-.29, .07	.07	-1.61	.107
Sender x Receiver x CPC-Emotion	.07	-.11, .26	.14	-0.69	.488
Model 2					
Sex of Sender	.16	-.01, .34	.07	2.39	.017
Sex of Receiver	**-.44**	**-.61, -.26**	**.07**	**-6.35**	**.000**
Sex of Respondent	-.10	-.28, .08	.07	-1.48	.139
CPC-Activism (z)	**.11**	**.02, .20**	**.03**	**3.26**	**.001**
Sender x Receiver	**-1.30**	**-1.65, -0.94**	**.14**	**-9.39**	**.000**
Sender x CPC-Activism	.07	-.10, .25	.07	1.01	.312
Receiver x CPC-Activism	-.07	-.25, .11	.07	-1.04	.296
Sender x Receiver x CPC-Activism	-.14	-.50, .21	.14	-1.03	.302
Model 3					
Sex of Sender	.16	-.01, .34	.07	2.39	.017
Sex of Receiver	**-.41**	**-.59, -.23**	**.07**	**-5.96**	**.000**
Sex of Respondent	-.19	-.37, .00	.07	-2.58	.010
Social Justice Attitudes (z)	**-.11**	**-.20, -.01**	**.04**	**-2.96**	**.003**
Sender x Receiver	**-1.27**	**-1.63, -0.92**	**.14**	**-9.25**	**.000**
Sender x Social Justice Attitudes	.07	-.11, .25	.07	1.03	.305
Receiver x Social Justice Attitudes	*-.18*	*-.36, -.02*	*.07*	*-2.61*	*.009*
Sender x Receiver x Social Justice Attitudes	-.10	-.45, .26	.14	-0.71	.477
Model 4					
Sex of Sender	.28	-.03, .59	.12	2.35	.019
Sex of Receiver	**-.73**	**-1.04, -.42**	**.12**	**-6.12**	**.000**
Sex of Respondent	-.25	-.58, .08	.12	-1.95	.051
CPC-Emotion (z)	**.27**	**.11, .43**	**.06**	**4.31**	**.000**
Social Justice Attitudes (z)	**-.23**	**-.39, -.06**	**.06**	**-3.57**	**.000**
Sender x Receiver	**-2.21**	**-2.83, -1.59**	**.24**	**-9.22**	**.000**
Sender x Respondent Sex	-.10	-.72, .52	.24	-0.42	.671
Receiver x Respondent Sex	.21	-.41, .83	.24	0.86	.388
Sender x Receiver x Respondent	.97	-.27, 2.21	.48	2.01	.044

Model 1: R = .419, R^2 =.175, $F(8, 698)$ = 18.53, p<.001
Model 2: R = .413, R^2 =.171, $F(8, 698)$ = 17.97, p<.001
Model 3: R = .418, R^2 =.175, $F(8, 698)$ = 18.52, p<.001
Model 4: R = .438, R^2 =.192, $F(9, 697)$ = 18.36, p<.001

Note: All sex variables were coded as 1=Male, 0=Female; values in bold are significant at .005 level; values in italics are significant at the suggestive level (p<.01); n for each condition: Male Sender/Female Receiver: 176 (93 males/83 females), Female Sender/Male Receiver: 177 (78 males/98 females), Male Sender/Male Receiver: 181 (90 males/91 females), Female Sender/Female Receiver: 173 (85 males, 88 females).

TABLE 3. CORRELATION MATRIX FROM STUDY 2

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Respondent Sex	0.59	0.49									
2. Hostility Toward Men	3.23	1.16	.03								
3. Benevolence Toward Men	3.23	1.29	.17*	.73*							
4. Ambivalence Toward Men	-0.01	0.92	.20*	-.25*	.49*						
5. Sender	0.49	0.50	-.01	-.06	-.06	-.01					
6. Receiver	0.50	0.50	.02	-.08	-.09	-.02	.03				
7. Pleasantness Ratings	4.22	1.68	.12	.12	.20*	.13†	-.04	.00			
8. Professionalism Ratings	4.03	1.81	.06	.15*	.19*	.08	-.01	.02	.72*		
9. Ave Interaction Rating	4.12	1.62	.10	.15*	.21*	.11	-.03	.01	.92*	.93*	
10. Sexism Rating	3.36	1.88	.00	.27*	.15*	-.13†	.04	-.18*	-.34*	-.39*	-.40*

Note: * p < .005; † < .01; Respondent Sex, Sender, and Receiver were all coded as 1=Male, 0=Female, Ave Interaction Rating is the average of the pleasantness and professionalism items; all continuous variables could were scored 1 to 7 with the exception of Ambivalence Toward Men (-6 to 6); observed scores ranged from 1-7 for Sexism and Ave. Interaction Ratings, from 1-6 for Hostility Toward Men and Benevolence Toward Men, and from -3.80 to 2.80 for Ambivalence Toward Men; *N*=438

TABLE 4. REGRESSION RESULTS TESTING H1 AND H2 IN STUDY 2

Variable	B	CI	SE	t	p
Model 1: Y = Sexism Scores (z)					
Sex of Sender	.12	-.10, .34	.09	1.38	.167
Sex of Receiver	**-.32**	**-.54, -.10**	**.09**	**-3.74**	**.000**
Hostility (z)	**.25**	**.14, .36**	**.04**	**5.77**	**.000**
Sex of Respondent	.01	-.22, .23	.09	0.11	.916
Sender x Receiver	**-1.31**	**-1.76, -0.87**	**.17**	**-7.63**	**.000**
Sender x Hostility	.01	-.21, .23	.09	-0.10	.920
Receiver x Hostility	-.06	-.28, .17	.09	-0.66	.512
Sender x Receiver x Hostility	-.01	-.46, .44	.17	-0.06	.948
Model 2: Y = Sexism Scores (z)					
Sex of Sender	.11	-.12, .34	.09	1.20	.229
Sex of Receiver	**-.34**	**-.57, -.11**	**.09**	**-3.86**	**.000**
Benevolence (z)	**.13**	**.01, .25**	**.04**	**2.91**	**.004**
Sex of Respondent	-.03	-.26, .21	.09	-0.29	.773
Sender x Receiver	**-1.34**	**-1.80, -.88**	**.18**	**-7.56**	**.000**
Sender x Benevolence	-.04	-.27, .20	.09	-0.41	.684
Receiver x Benevolence	.01	-.22, .25	.09	0.17	.863
Sender x Receiver x Benevolence	-.04	-.51, .42	.18	-0.23	.815
Model 3: Y = Sexism Scores (z)					
Sex of Sender	.09	-.13, .32	.09	1.05	.293
Sex of Receiver	**-.37**	**-.60, -.14**	**.09**	**-4.22**	**.000**
Ambivalence (z)	**-.16**	**-.28, -.04**	**.05**	**-3.50**	**.000**
Sex of Respondent	.07	-.16, .31	.09	0.79	.430
Sender x Receiver	**-1.36**	**-1.81, -.91**	**.17**	**-7.76**	**.000**
Sender x Ambivalence	-.14	-.38, .09	.09	-1.59	.112
Receiver x Ambivalence	.13	-.11, .36	.09	1.42	.155
Sender x Receiver x Ambivalence	.08	-.39, .55	.18	0.44	.657
Model 4: Y = Sexism Scores (z)					
Sex of Sender	.12	-.10, .34	.08	1.39	.164
Sex of Receiver	**-.32**	**-.54, -.10**	**.09**	**-3.74**	**.000**
Sex of Respondent	.00	-.22, .23	.09	0.05	.957
Hostility (z)	**.25**	**.14, .36**	**.04**	**5.77**	**.000**
Sender x Receiver	**-1.31**	**-1.75, -0.86**	**.17**	**-7.65**	**.000**
Sender x Respondent	-.23	-.68, .22	.17	-1.30	.193
Receiver x Respondent	.04	-.40, .49	.17	0.25	.800
Sender x Receiver x Respondent	.53	-.37, 1.43	.35	1.53	.126

Model 1: R = .461, R^2 =.213, $F(8, 429)$ = 14.49, p<.001
Model 2: R = .409, R^2 =.167, $F(8, 429)$ = 10.74, p<.001
Model 3: R = .420, R^2 =.177, $F(8, 429)$ = 11.55, p<.001
Model 4: R = .468, R^2 =.2195, $F(8, 429)$ = 15.08, p<.001

Note: All sex variables were coded as 1=Male, 0=Female; values in bold are significant at .005 level; values in italics are significant at the suggestive level (p<.01); n for each condition: Male Sender/Female Receiver: 105 (60 males/45 females), Female Sender/Male Receiver: 107 (64 males/43 females), Male Sender/Male Receiver: 112 (68 males/44 females), Female Sender/Female Receiver: 114 (68 males, 46 females).

TABLE 5. TEST OF RQ1

Variable	B	CI	SE	t	p
Model 1: Y = Sexism Ratings (z)					
Sex of Sender	.12	-.10, .34	.08	1.43	.153
Sex of Receiver	**-.32**	**-.54, -.10**	**.09**	**-3.76**	**.000**
Sex of Respondent	.01	-.22, .23	.09	0.09	.931
Hostility Toward Men (z)	**.25**	**.14, .36**	**.04**	**5.83**	**.000**
Sender x Receiver	**-1.31**	**-1.75, -.87**	**.17**	**-7.66**	**.000**
Model 2: Y = Ave. Interaction (z)					
Sex of Sender	.02	-.20, .24	.08	0.23	.820
Sex of Receiver	-.11	-.33, .11	.08	-1.24	.215
Sexism Ratings (z)	**-.47**	**-.59, -.35**	**.05**	**-9.90**	**.000**
Hostility (z)	**.27**	**-.16, .38**	**.04**	**6.16**	**.000**
Sex of Respondent	.19	-.03, .41	.08	2.23	.026
Sender x Receiver	.16	-.30, .63	.18	0.91	.361

Model 1: $R = .460$, $R^2 = .212$, $F(5, 432) = 23.24$, $p < .001$
Model 2: $R = .491$, $R^2 = .241$, $F(6, 431) = 22.86$, $p < .001$

Note: All sex variables were coded as 1=Male, 0=Female; values in bold are significant at .005 level; values in italics are significant at the suggestive level ($p < .01$).

TABLE 6. CORRELATION MATRIX FROM STUDY 3

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Respondent Sex	0.55	0.50								
2. Neosexism	2.38	0.80	.26*							
3. Sender Sex	0.48	0.50	.01	-.01						
4. Receiver Sex	0.49	0.50	-.04	-.04	.00					
5. Pleasantness Ratings	4.36	1.77	.11	.19*	-.05	.17*				
6. Professionalism Ratings	3.94	1.79	.12	.22*	-.03	.11	.77*			
7. Accept Advice	4.18	1.74	.12	.16*	-.04	.16*	.81*	.70*		
8. Ave Interaction Rating	4.16	1.62	.13†	.21*	-.04	.16*	.94*	.90*	.91*	
9. Sexism Rating	3.21	1.84	-.09	.10	.15*	-.14†	-.34*	-.31*	-.35*	-.36*

Note: * p < .005; † < .01; Respondent Sex, Sender, and Receiver were all coded as 1=Male, 0=Female, Ave Interaction Rating is the average of the pleasantness, professionalism, and accept advice items; Neosexism scores range from 1-5 with observed scores falling between 1 and 4.73; Sexism and Ave Interaction Ratings could range from 1-7 with observed scores falling between 1 and 7 for both scales. *N*=387

TABLE 7. REGRESSION RESULTS TESTING H1 AND H2 IN STUDY 3

Variable	B	CI	SE	t	p
Model 1: Y = Sexism Scores (z)					
Sex of Sender	**.31**	**.07, .56**	**.09**	**3.30**	**.001**
Sex of Receiver	**-.29**	**-.53, -.04**	**.09**	**-3.03**	**.003**
Neosexism (z)	.13	.00, .25	.05	2.60	.010
Sex of Respondent	*-.26*	*-.52, -.01*	*.10*	*-2.65*	*.008*
Sender x Receiver	**-1.00**	**-1.49, -.51**	**.19**	**-5.28**	**.000**
Sender x Neosexism	-.06	-.31, .18	.09	-0.64	.520
Receiver x Neosexism	.12	-.13, .36	.09	1.25	.211
Sender x Receiver x Neosexism	*.59*	*.11, 1.08*	*.10*	*-2.65*	*.008*
Model 2: Y = Ave. Interaction (z)					
Sex of Sender	.01	-.23, .25	.09	0.13	.895
Sex of Receiver	*.25*	*.01, .48*	*.09*	*2.68*	*.008*
Neosexism (z)	**.23**	**.11, .36**	**.05**	**4.91**	**.000**
Sex of Respondent	.08	-.16, .33	.10	0.88	.378
Sexism Ratings (z)	**-.34**	**-.46, -.21**	**.05**	**-6.80**	**.000**
Sender x Receiver	.37	-.12, .86	.19	1.95	.052
Sender x Neosexism	.11	-.13, .34	.09	1.16	.248
Receiver x Neosexism	.02	-.22, .25	.09	0.19	.850
Sender x Receiver x Neosexism	-.22	-.70, .26	.18	-1.19	.234

Model 1: R = .395, R^2 =.156, $F(8, 378) = 8.74$, p<.001

Model 2: R = .470, R^2 =.221. $F(9, 377) = 11.86$, p<.001

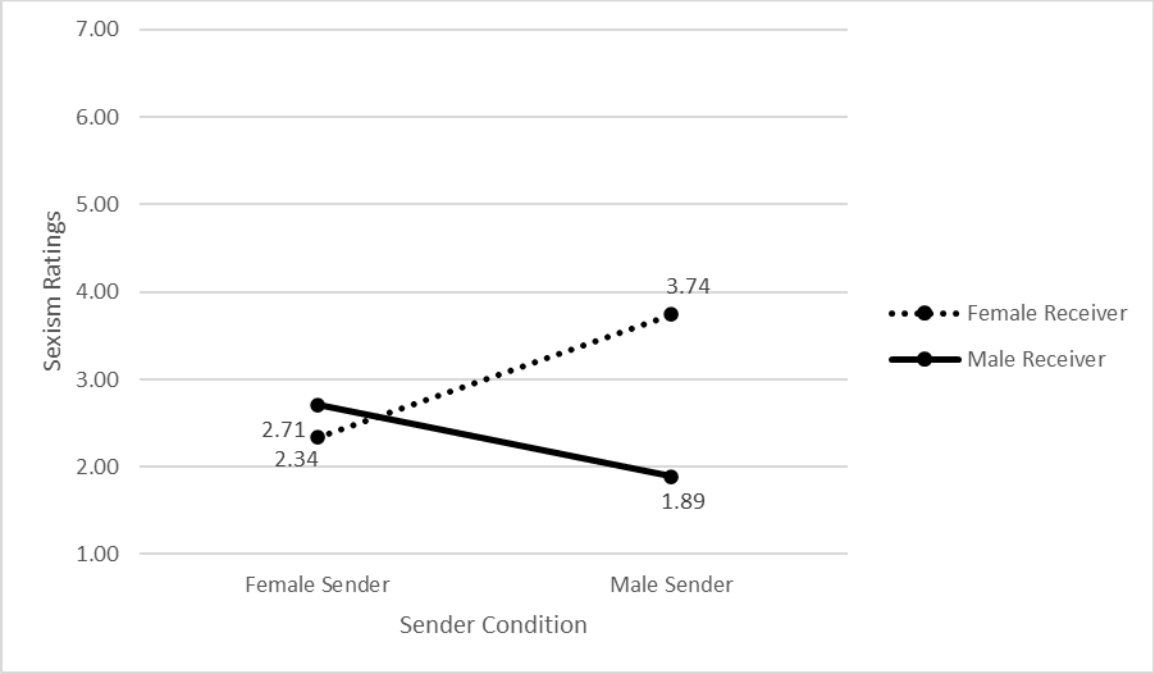
Note: All sex variables were coded as 1=Male, 0=Female; values in bold are significant at .005 level; values in italics are significant at the suggestive level (p<.01).

TABLE 8. DESCRIPTIVE STATISTICS FOR THE AGGREGATE ANALYSIS

Condition	*n*	*M*	*SD*	*SE*	99.5% CI
Male Sender/Male Receiver (MSMR)	384	2.26	1.50	.089	2.01; 2.51[a]
Male Sender/Female Receiver (MSFR)	377	4.05	1.83	.089	3.80; 4.30[b]
Female Sender/Male Receiver (FSMR)	382	3.07	1.78	.089	2.82; 3.32[c]
Female Sender/Female Receiver (FSFR)	389	2.64	1.73	.089	2.40; 2.88[a]

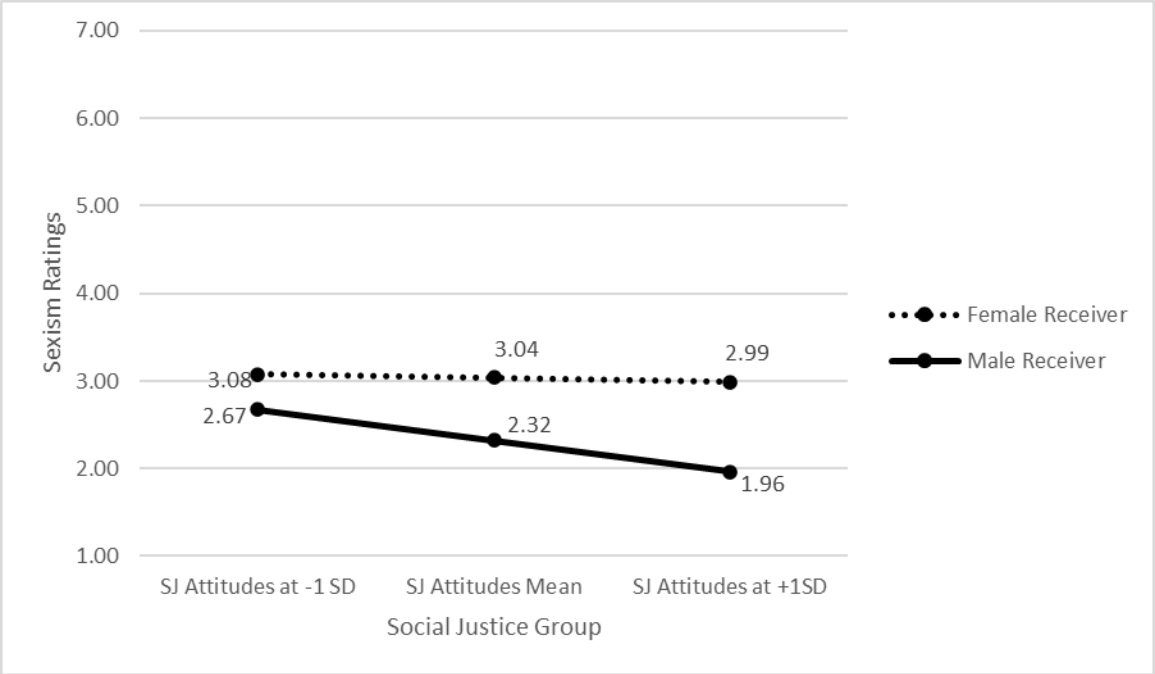
Note: Differences in superscripts denote significance at the .005 level or better; the MSMR and FSFR conditions were not statistically significant (p=.013); the FSMR condition was significantly higher than MSMR and FSFR conditions (both p<.001); the MSFR condition was significantly higher than the FSMR, MSMR, and FSFR conditions (all p<.001)

FIGURE 1A. MAPPING INTERACTION EFFECTS OF SENDER SEX × RECEIVER SEX IN STUDY 1



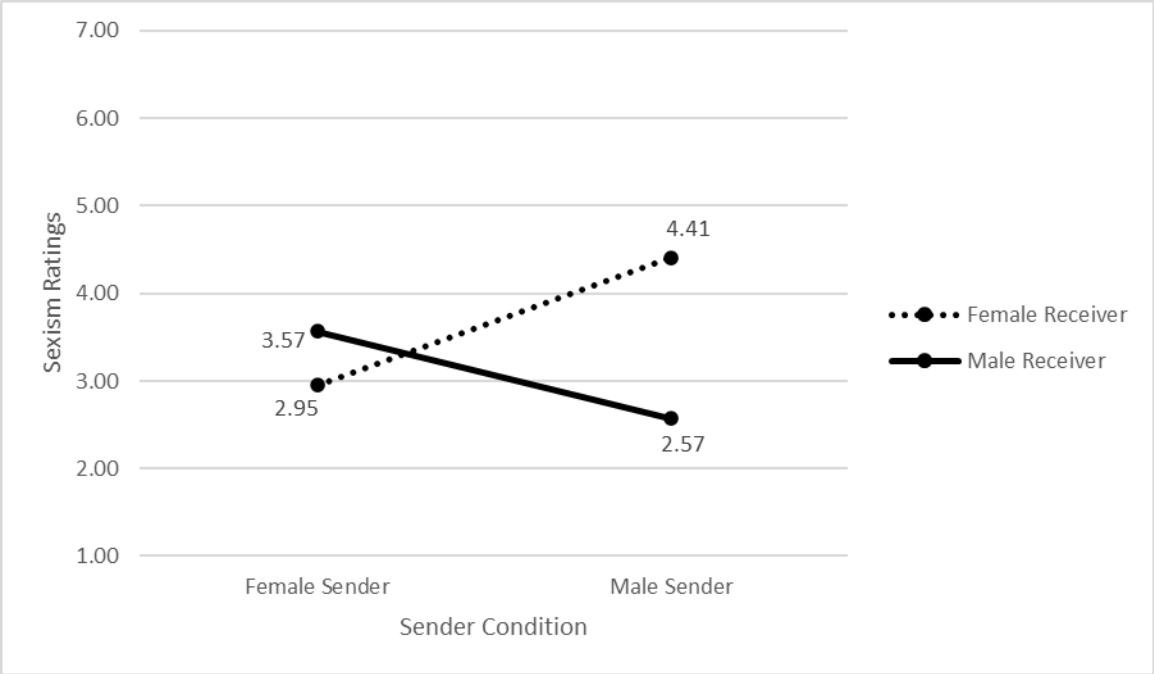
DV = Sexism Ratings, IV = Sender Condition; N=707

FIGURE 1B. MAPPING INTERACTION EFFECTS OF RECEIVER SEX × STANDARDIZED SOCIAL JUSTICE ATTITUDES IN STUDY 1



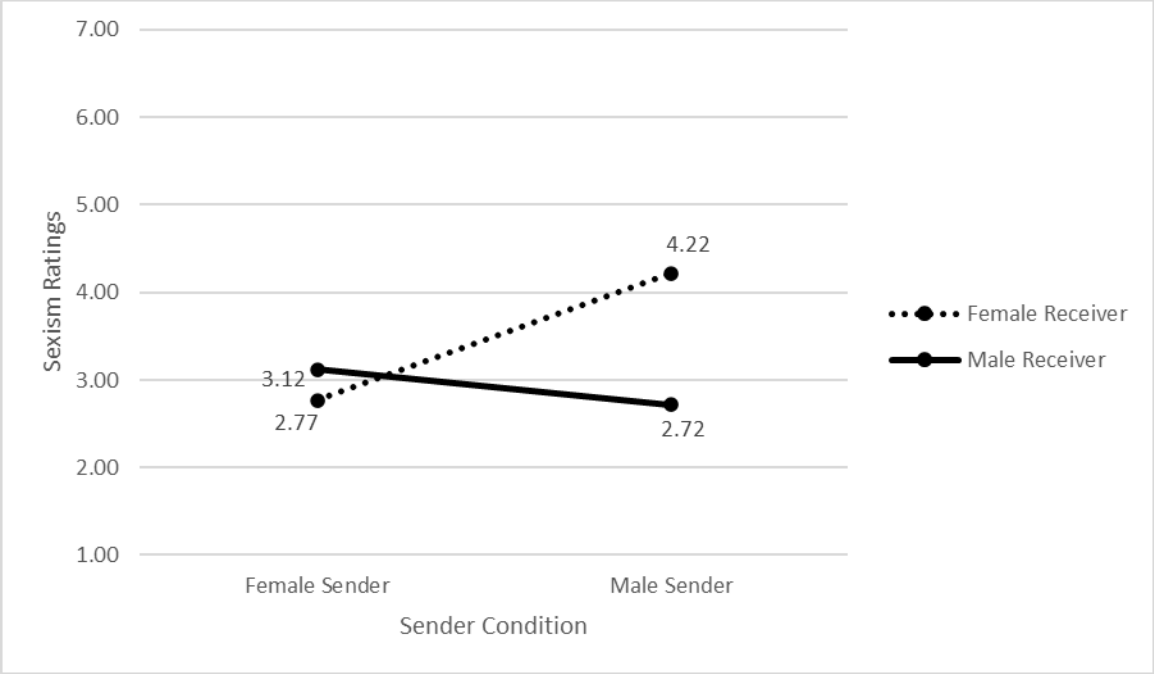
DV = Sexism Ratings, IV = Social Justice (SJ) Attitudes; *N*=707

FIGURE 2. MAPPING SENDER SEX × RECEIVER SEX INTERACTION EFFECT ON SEXISM IN STUDY 2



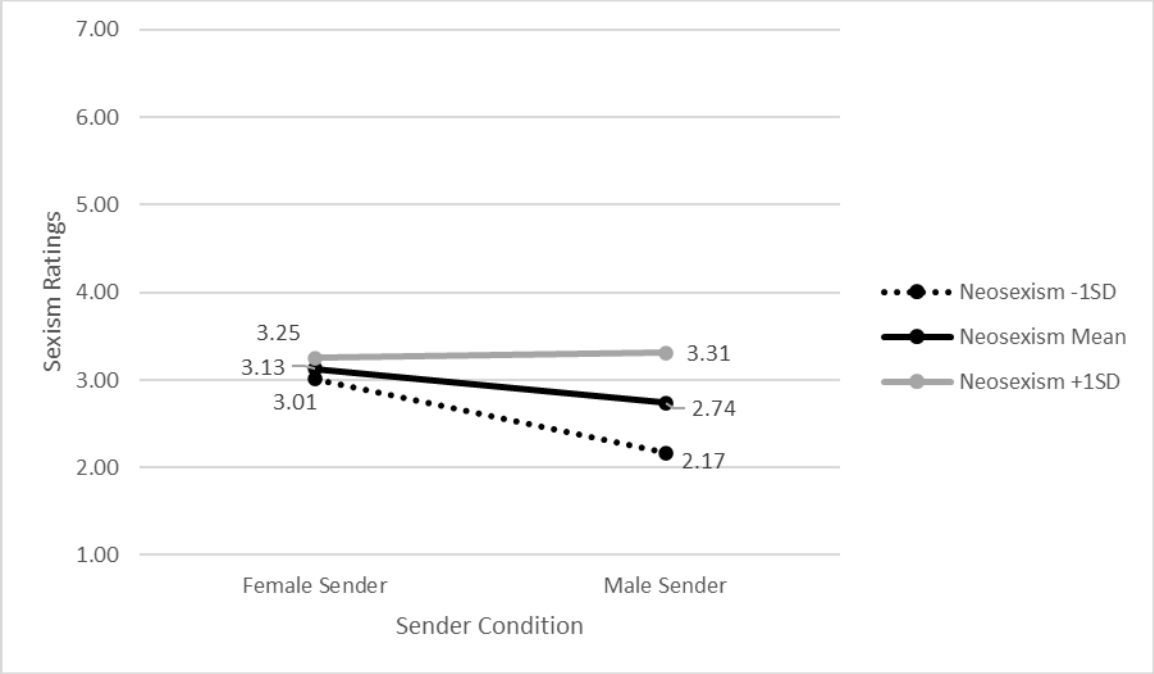
DV = Sexism Ratings, IV = Sender Condition; N=438

FIGURE 3A. MAPPING SENDER SEX × RECEIVER SEX INTERACTION ON SEXISM IN STUDY 3



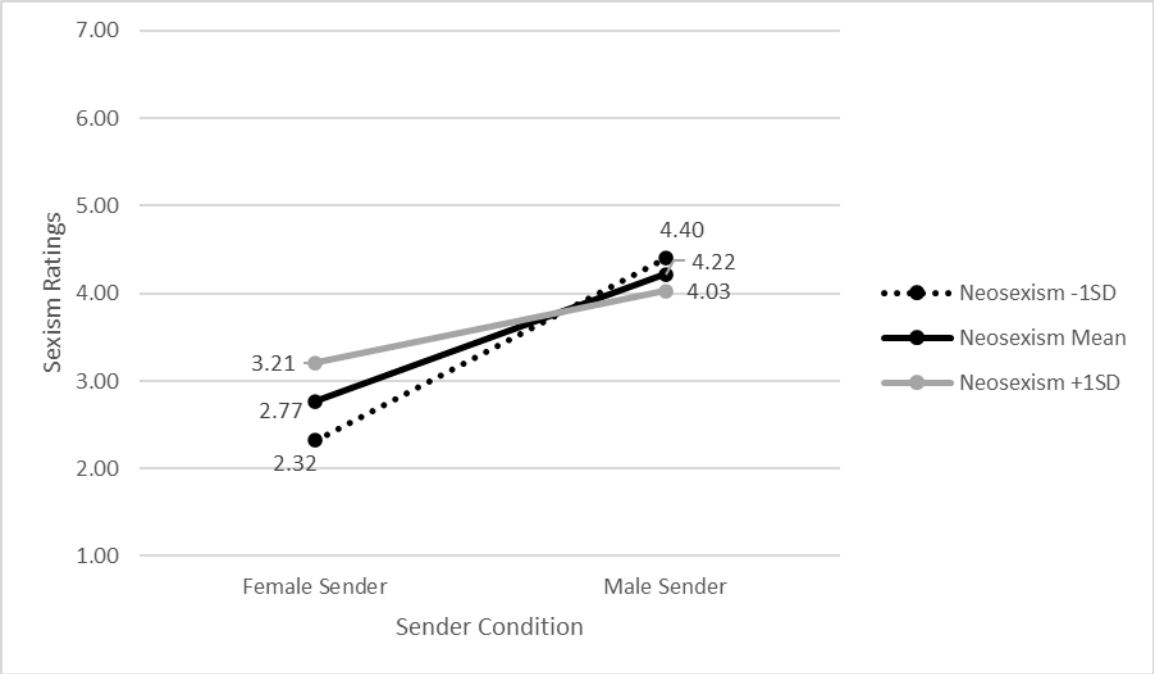
DV = Sexism Ratings, IV = Sender Condition; N=387

FIGURE 3B. MAPPING SENDER SEX × NEOSEXISM INTERACTION ON SEXISM WHEN RECEIVER SEX IS MALE



DV = Sexism Ratings, IV = Sender Condition; N=189

FIGURE 3C. MAPPING SENDER SEX × NEOSEXISM INTERACTION ON SEXISM WHEN RECEIVER SEX IS FEMALE



DV = Sexism Ratings, IV = Sender Condition; N=198