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Accuracy and Bias in Perceptions of Conflict Style Among Same-Sex and Heterosexual Couples

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Abstract

Intimates form stable impressions of their romantic partner's conflict style, which may influence interactions during conflicts and shape expectancies regarding future disagreements. Despite a large body of work comparing relationship outcomes among heterosexual and same-sex couples, research has yet to examine how the validity of these perceptions vary as a function of gender and sexual orientation. The present study examines perceptual accuracy and bias in perceptions of conflict style among same-sex female ($N_{\text{dyads}}=215$), same-sex male ($N_{\text{dyads}}=113$), and heterosexual ($N_{\text{dyads}}=93$) couples. Although members of same-sex and heterosexual couples exhibited some similarity in accuracy and bias in perceptions, a number of compelling differences suggest that the gender and the sexual orientation of a couple shape perceptions of partner conflict style.

1. Introduction

Conflict resolution styles play a critical role in shaping relationship maintenance behaviors and ultimately relationship satisfaction (Gottman, 2014). The manner in which each partner engages in resolving conflicts has been shown to be a stronger predictor of relationship

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outcomes than type or the overall frequency of conflict (Noller & Feeney, 1998) and has been linked to both physical and psychological well-being (Whitson & El-Sheikh, 2003). Longitudinal studies incorporating behavioral observation techniques have identified distinct behavioral response patterns (e.g., demand-withdraw) that are strongly associated with relationship dissatisfaction and dissolution over the first decade of marriage (Gottman & Levenson, 2000; Heavy, Christensen, & Malamuth, 1995). Moreover, a compelling body of work has emerged examining how individuals' *perceptions* of the conflict styles used by their romantic partner are associated with relationship satisfaction and dissolution (Kurdek, 1994, 1995).

More generally, the perception of partner traits and behaviors is a core area of interest within relationship science, and a number of research programs have focused on the content of these perceptions and their association with relationship outcomes (Collins & Feeney, 2000; Gable, Reis, & Downey, 2003; Murray, Holmes, & Griffin, 1996; Wickham, 2013; Wickham, Reed, & Williamson, 2015). Since the early 2000s a notable portion of this research has focused on the validity of partner perceptions. Systematic reviews of this literature grounded in theoretical (Gange & Lydon, 2004), empirical (Fletcher & Kerr, 2010), and methodological (Kenny & Acitelli, 2001; West & Kenny, 2011) perspectives provide convergent evidence that partner perceptions are based on both truth (accuracy) and bias. The meta-analysis conducted by Fletcher and Kerr (2010) found significant differences in the degree of perceptual bias exhibited by male and female partners, suggesting that the processes and motives that underlie partner perceptions depend in part on gender role socialization. However, all of the studies included in Fletcher and Kerr's (2010) analysis involved heterosexual dyads, and as a result the observed differences may be attributed to the gender of the perceiver, the gender of the target, or the unique combination of both partners' gender role orientations (West, Popp, & Kenny, 2008). Thus, the stronger mean-positivity bias for women in Fletcher and Kerr's (2010) analysis may arise because the perceiver is female, or because female perceivers were evaluating male targets. Alternatively, this perceptual bias might be a consequence of the interaction of having a female perceiver and a male target. The only way to test the relative influence of both members' gender in shaping accuracy and bias of partner perceptions is to compare partner perceptions in heterosexual dyads to partner perceptions in male and female same-sex dyads (West, et al. 2008).

Several studies have explored similarities and differences between same-sex and heterosexual couples in relationship processes and outcomes (see Rothblum, 2008 for a review). However, differences in the perceptual accuracy and bias of interpersonal perceptions in close relationships (conflict or otherwise) across same-sex and heterosexual couples has yet to be examined in published research. The present study addresses this critical gap in the literature by combining advances in analytic methods for examining the validity of interpersonal perceptions (West & Kenny, 2011) with procedures designed to disentangle the role of gender and sexual orientation (West et al., 2008) in order to compare levels of accuracy and bias of conflict resolution strategies among same-sex male, same-sex female, and heterosexual couples.

1.1. Conflict in Close Relationships

The management of interpersonal conflict in intimate relationships plays an important role in shaping relationship outcomes (Gottman, 2014), as well as overall physical and psychological well-being (Robles & Kiecolt-Glaser, 2003; Whitson & El-Sheikh, 2003). Considerable evidence has emerged in support of the argument that the manner in which partners manage conflict is a more important predictor of relationship outcomes than the absolute frequency of conflict (Noller & Feeney, 1998; Prado & Markman, 1999; Stanley, Markman, & Whitton, 2002). The present study focuses on four distinct conflict resolution strategies identified by prior observational and self-report studies. *Positive problem solving* strategies are characterized by compromise and negotiation in resolving conflicts. Partners may also approach relationship discourse in a more confrontational manner through the use of *conflict engagement* behaviors, which are typically exemplified by hostility and aggression in the content and tone of verbal exchanges during disagreements. *Withdrawal* behaviors are less confrontational but constitute the most destructive approach to conflict and are characterized by one partner “tuning out” or ignoring the other in order to avoid conflict (Gottman & Krokoff, 1989; Kurdek, 1994). Finally, *compliance* behaviors occur when one partner abandons his or her position or point of contention in order to acquiesce and discontinue an argument, often leaving the initial source of conflict unresolved.

A person’s construal of his or her partner’s conflict style may be just as important of a predictor of relationship functioning as the actual frequency with which their partner engages in a given conflict style. Indeed, a number of studies provide evidence that a perceiver’s idiosyncratic construal of his or her partner’s supportiveness (Collins & Feeney, 2000; Gable, et al., 2003; Sarason, Sarason, & Gurung, 2001), or an individual’s perception that their partner is responsive to his or her most fundamental needs (Reis, Clark & Holmes, 2004; Reis, 2007), may be more strongly related to relationship outcomes than the partner’s actual response. Multiple studies comprised of same-sex, heterosexual, married, and unmarried couples confirm that intimates form impressions of their romantic partner’s conflict style that remain stable over the course of the relationship (Noller, Feeney, Bonnell, & Callan, 1994; Schneewind & Gerhard, 2002). Other research suggests that the perceptions that individuals form about their partner’s conflict resolution style may influence the course of conflicts and shape expectancies regarding future disagreements (Kurdek, 1994, 1995, 1998; Prado & Markman, 1999; Stanley, et al., 2002). However, the process of impression formation is inferential and subject to inaccuracies, which means that partners’ perceptions of one another are often characterized by both truth (accuracy) and bias.

1.2. Truth and Bias in Partner Perceptions

The Truth and Bias (T&B) model described by West and Kenny (2011) provides a theoretical and methodological framework for examining the basis of partner perceptions in dyadic relationships. According to this framework, interpersonal judgments are driven by three distinct, but inter-related factors. *Accuracy* in partner perceptions, also known as the “truth force” in the formal T&B model, refers to the strength of the relationship between a person’s perception of their partner’s attributes and the partner’s actual self-reported standing on the attribute. In contrast, the *bias of assumed similarity*, termed the “bias force” in the T&B, reflects the extent to which a person’s own standing on the attribute of interest

influences their perception of the partner's attributes. Finally, the degree to which perceivers consistently over- or under-estimates the level of the attribute in question, relative to their partner's self-report, is known as *directional bias*.

Figure 1 illustrates the primary components of the T&B statistical model for a hypothetical couple, comprised of persons A and B. In this model, one person's perception of their partner's conflict resolution style (e.g., A's Perception of B) is regressed on his or her own self-reported standing on the attribute (e.g., A's Self Rating), as well as his or her partner's self-reported standing on the attribute (e.g., B's Self Rating). The coefficient linking a person's self rating to his or her perception represents the bias of assumed similarity ($\gamma_{\text{Similarity Bias } A}$), whereas the coefficient linking the person's partner's self rating to his or her perception represents accuracy ($\gamma_{\text{Accuracy } A}$). Finally, if all variables have been properly centered, the regression intercept represents directional bias (e.g., $\nu_{\text{Direct. Bias } A}$).

Past research has focused solely on heterosexual dyads when examining gender as a moderator of perceptual accuracy and bias. This was accomplished by allowing the magnitude of the similarity bias, accuracy, and directional bias coefficients to differ for male and female partners. However, these prior studies are limited by the fact that male perceivers rated only female targets, and female perceivers rated only male targets, which introduces uncertainty regarding the underlying cause of any observed gender differences in the magnitude of accuracy or bias coefficients. For example, a stronger accuracy coefficient for female perceivers may arise because they are better attuned to their partner's behavior, but it may also be the case that male partners are easier to judge. Fully disentangling the effects of perceiver and target gender requires dyads in which male perceivers rate male targets, as well as dyads in which female perceivers rate female targets. In order to accomplish this, the basic T&B framework must be adapted to accommodate both heterosexual and same-sex (female and male) couples. The technical aspects of analysis are provided in subsequent sections, but from a conceptual standpoint, this amounts to estimating separate $\gamma_{\text{Similarity Bias}}$, γ_{Accuracy} , and $\nu_{\text{Direct. Bias}}$ coefficients for same-sex female, heterosexual female, heterosexual male, and same-sex male participants. Moreover, the model should be specified in such a way that allows one to determine whether the differences in the magnitude of coefficients across these participant types are driven by the gender of the perceiver, the gender of the target, or the specific combination of perceiver and target gender (i.e., sexual orientation).

1.3. The Present Study

To date, no research has examined the accuracy and bias of partner perceptions among same-sex couples, or examined how these processes are similar or different from those of heterosexual couples. Moreover, the only published study investigating accuracy and bias in conflict resolution styles (Segrin, Hanzal, & Domschke, 2009) sampled recently married heterosexual couples, and also failed to provide a valid comparison of accuracy and bias coefficients as a function of gender. The present study is unique in its inclusion of both same-sex and heterosexual couples, which allows us to fully disentangle the effects of gender and sexual orientation in shaping individuals' perceptions of their partner's conflict resolution style.

The preliminary nature of the present investigation complicates the process of making very specific predictions. However, feminist models of intimate relationships suggest that due to gender role expectancies, and relative power and privilege differences, heterosexual women should be more likely than all other respondents (same-sex women, same-sex men, and heterosexual men) to under-estimate the extent to which their partners utilize problem solving strategies (Bem, 1993). This line of reasoning is also consistent with Fletcher and Kerr's (2010) prediction that heterosexual women would exhibit a stronger negative directional bias in their judgment of the partner on interaction variables (e.g., love, conflict, forgiveness), due to perceived danger in over-estimating their partner's relationship investment. Additionally, heterosexual men may also internalize the privilege and power afforded to them by gender role norms, which may lead them to be more likely to assume that their partners possess their same attributes. Other work (Acitelli, 1992; Acitelli, Wickham, Brunson, & Steers, 2015; Acitelli & Young, 1996) suggests that heterosexual men tend to spend less time and devote less cognitive effort to thinking about their romantic relationships, and therefore may be less motivated to form accurate impressions of their partners' conflict style, leading them to draw on their own self-reported conflict style when prompted to form an impression of their romantic partner. As a result, we expect heterosexual males to exhibit the strongest assumed-similarity bias, relative to all other participant types.

Although they share a similar gender-based status with their partner, LGB people individually and as couples have experienced prejudice, discrimination, and lack of legal recognition and protections in society. These factors have created unique barriers to overcome, and as such, relationship investment includes deliberate efforts to create, define, and achieve shared long-term relationship goals (Reczek, Elliott, & Umberson, 2009; Rostosky, Riggle, Dudley, & Comer Wright, 2006). Without structural barriers to dissolution, same-sex partners may have been compelled to invest more time and effort in maintaining the relationship (Green, Bettinger, & Zacks, 1996; Kurdek, 2005), practices which perhaps led to more accurately perceiving their partner's styles. Therefore, we expect differences in accuracy based on sexual orientation, with fewer assumed-similarity and directional biases and better perception of their partner's true conflict-resolution strategies among same-sex partners.

2. Method

2.1. Design and Participants

Data used in the present study were collected in a larger project that employed a population-based sampling method to recruit same-sex couples who had obtained civil unions, their same-sex couple friends without civil unions, and heterosexual (married) siblings ([redacted for blind review]). Participants' responses from the third wave of the longitudinal study were used in the present analysis. An online survey link was provided to a total of 890 participants who received reminder emails at 5, 10, and 15 days after receiving the link if they had not completed the survey. All participants received an automated email thanking them for their participation and were mailed a \$50 gift card after the completion of the survey. Participants were also given the option to complete the survey through traditional mail and, in the case of

one participant who was visually impaired, via telephone with a research assistant entering information into the database. For the purposes of the current analysis, all same-sex couples were included regardless of legal status. The final sample used in the current analysis included members of 215 female same-sex dyads, 113 male same-sex dyads and 93 heterosexual dyads.¹

Table 1 presents demographic characteristics of the present sample, including age, educational level, length of relationship, income, race/ethnicity, and parenting status. Reflecting the overall population from which they were originally sampled, participants in all four respondent types were on average in their fifties, predominately white, and reported higher levels of education than the general population.

2.2. Materials

Conflict resolution styles were assessed using the CRSI, a 16-item measure of the frequency with which respondents used certain styles to resolve conflicts in their relationship (Kurdek, 1994). Respondents were asked to rate the items in response to their own and their partner's conflict-resolution style (Kurdek, 1994). The CRSI includes four four-item subscales. Withdrawal refers to the extent to which a person perceived themselves or their partner to "tune out" or refuse to discuss a problem (e.g., "Remaining silent for long periods of time"), whereas the positive problem solving subscale includes items related to compromise and negotiation (e.g., "Focusing on the problem at hand"). The engagement dimension describes engaging in personal attacks or losing control in an argument (e.g., "Throwing insults and digs"), whereas compliance is comprised of items in which the person gives in, or abandons their position in an argument (e.g., "Giving in with little attempt to present my side of the issue"). Participants responded using a 5-point Likert scale ranging from 1 (never) to 5 (always). Internal consistency estimates for each self- and perceived-partner subscale are provided in Table 2.

3. Results

3.1. Descriptive Statistics

3.1.1. Missing Data Handling—Of the 421 dyads measured in the present wave of the project, complete responses were available from 306 dyads (612 persons), representing 72.7% of the total sample. Responses were available from only one member of the remaining 115 couples (27.3%). Observed missingness rates did not differ across couple type ($\chi^2(2) = 0.90, p = .64$), with lesbian women (29.3%), gay men (25.7%), and heterosexual couples (24.7%) exhibiting similar rates of missingness. The regression model used in the primary analysis requires responses from both members of the dyad, necessitating the use of missing-data handling techniques to avoid the parameter bias associated with listwise deletion (Little & Rubin, 2002).

¹Thirty-nine of the 421 dyads (9.2%) were involved in a romantic relationship at the previous assessment, but had dissolved their relationship in the intervening 8 years and were no longer together when completing the present wave of the study. These participants were retained in the present analysis in order to increase power and generalizability. Sensitivity analysis (excluding these couples) revealed a nearly identical pattern of results.

The full-information maximum likelihood (FIML) estimator provided by structural equations modeling (SEM) software platforms (e.g., *Mplus*, AMOS, LISREL) is capable of handling missing responses while providing unbiased parameter estimates under the MAR assumption (Enders, 2010). Unfortunately, due to the manner in which tests of discrete moderators are parameterized, the SEM specification framework is incapable of providing a direct examination of gender and sexual orientation differences that are of central interest in the present work. Specifically, the cross-group constraints and corresponding χ^2 Difference tests needed to examine differences in accuracy and/or bias across same-sex and heterosexual couples, cannot be specified in a manner that distinguishes differences attributable to gender vs. sexual orientation. In contrast, mixed-effects modeling software platforms (e.g., SAS PROC MIXED, HLM) allow the analyst to specify the model in a manner that directly examines these critical differences (West et al., 2008). However, the FIML capabilities of mixed-effects platforms applies only to outcome responses, so the missing predictor responses in the present data would still result in listwise deletion of approximately one-fourth of the present sample.

As a result, a multiple-imputation (MI) approach to missing-data handling was used in the present analysis (Enders, 2010). MI also provides unbiased estimates of population parameters and is asymptotically equivalent to FIML, with comparable efficiency (Rubin & Little, 2002). Due to the complex nesting structure of the present data, and the presence of discrete groups, the multiple imputation function provided by *Mplus* version 7.3 (Muthén & Muthén, 2014) was used to generate 20 imputed datasets via Bayesian estimation. Specifically, the TYPE = COMPLEX option was used to account for the non-independent sampling strategy in conjunction with the multi-group feature which allowed for separate imputation models to be specified for each couple type (i.e., same-sex women, same-sex men, heterosexual). Following the recommendations of Olsen and Kenny (2006), the necessary identification constraints (mean and covariance) were imposed for members of indistinguishable dyads (i.e., same-sex men and women).

3.1.2. Means, Standard Deviations, and Reliabilities—Table 2 contains estimated means, standard deviations, and reliabilities for self- and perceived-partner conflict resolution styles. Mean levels of self- and perceived-partner conflict were similar across all strategy types, though heterosexual women tended to see their partners as somewhat more likely to utilize withdraw, and less likely to use positive problem solving strategies. Scale reliability estimates were high and comparable across respondent type, ranging from .76 for heterosexual women on the withdraw scale, to .92 for heterosexual women on the engagement scale.

3.2. Analysis Strategy

The accuracy and bias analysis illustrated in Figure 1 is a special case of the more general actor-partner interdependence model (APIM; Kenny, 1996; Kenny & Acitelli, 2001; West & Kenny, 2011), and the foundational knowledge needed to test gender and sexual orientation as moderators of accuracy and bias was established by West and colleagues (2008), who describe a procedure for examining mean differences in the context of the APIM. The APIM may be specified as either a multivariate regression model using structural equation

modeling software (e.g., *Mplus*), or as a repeated measures regression model using mixed-effects modeling (e.g., SAS PROC MIXED). However, the mixed-effects approach is needed to examine the gender-by-sexual orientation moderation effects that are of interest in the present study. Under the mixed-effects specification, the gender of the perceiver (i.e., actor), the gender of the target (i.e., partner), and the interaction between both members' genders, are included as observed predictor variables in the regression model. Although they are not illustrated in the path diagram (Figure 1), including the gender of the actor and partner as explicit predictors allows these effects to be crossed with both members' self ratings to test for moderation of accuracy and bias in perceptions. For example, the level 1 model specification for person A is expressed in the following equation:

$$\begin{aligned} A's \text{ Perc. of } B_{ijk} = & \beta_{0k} + \beta_1 * A's \text{ Self Rating} + \beta_2 * B's \text{ Self Rating} \\ & + \beta_3 * A's \text{ Gender} + \beta_4 * B's \text{ Gender} \\ & + \beta_5 * A's \text{ Self Rating} \times A's \text{ Gender} + \beta_6 * A's \text{ Self Rating} \times B's \text{ Gender} \\ & + \beta_7 * B's \text{ Self Rating} \times A's \text{ Gender} + \beta_8 * B's \text{ Self Rating} \times B's \text{ Gender} + r_{ijk} \end{aligned} \quad (1)$$

where $A's \text{ Perc. of } B_{ijk}$ represents the perceived-partner conflict resolution strategy rating for the i^{th} participant in dyad j belonging to family k . β_{0k} is the regression intercept, which is allowed to vary freely across k families, β_1 – β_8 represent regression coefficients linking partners' gender and self rated conflict strategy to person A's perception of person B, and r_{ijk} represents the level 1 (person-specific) residual. Following the slopes-as-outcomes formulation, each term in the Level 1 equation is represented as an outcome in a series of level 2 equations:

$$\beta_{0k} = \nu_{00} + \gamma_{01} * A's \text{ Gender} \times B's \text{ Gender} + u_{0k} \quad (2)$$

$$\beta_1 = \gamma_{10} + \gamma_{11} * A's \text{ Gender} \times B's \text{ Gender} \quad (3)$$

$$\beta_2 = \gamma_{20} + \gamma_{21} * A's \text{ Gender} \times B's \text{ Gender} \quad (4)$$

$$\beta_3 - \beta_8 = \gamma_{30} - \gamma_{80} \quad (5-10)$$

Each level 1 coefficient is comprised of a fixed component ν_{00} , γ_{10} – γ_{80} , and the intercept (β_{0k}) also contains a family-level random effect (u_{0k}) to account for non-independence resulting from the snowball sampling strategy. The first three level 1 coefficients (β_{0k} – β_2) also contain terms describing the cross-level interaction of actor- and partner-gender (γ_{01} , γ_{11} , γ_{21}). These coefficients represent cross-level interactions because the product terms

(i.e., A 's Gender $\times$ B 's Gender) reflect an attribute of a dyad j , rather than a person i (i.e., sexual orientation). Non-independence among persons i within dyad j were accounted for by specifying a group-specific residual covariance structure. More specifically, the *group* option within the REPEATED statement of SAS PROC MIXED was used to estimate separate Level 1 residual variances (σ_i^2) and intra-dyadic covariances (σ^2) for each couple type (i.e., same-sex women, heterosexual, same-sex men).

Consistent with West and Kenny's (2008) recommendations, both gender predictors were effect-coded (women = +1, men = -1) in the initial analysis, and the centering strategy described by West and Kenny (2011) was implemented to examine differences in absolute (mean-level) bias as a function of respondent type. As a result, the first-order coefficients (γ_{00} , γ_{10} , γ_{20}) represent pooled effects, or the average similarity bias or accuracy coefficient across all respondent types (i.e., same-sex women, same-sex women, heterosexual women, and heterosexual men). The first-order coefficients for actor (γ_{30}) and partner (γ_{40}) gender describe the expected change of directional bias as a function of the respondent's gender, and his/her dyadic partner's gender (respectively), whereas the two-way interaction (γ_{01}) reflects differences in directional bias as a function of sexual orientation. Collectively, these terms test the moderation effect of respondent type for the directional bias coefficient.

The two-way interactions involving the A 's *Self Rating* describe the expected change in the magnitude of the similarity bias coefficient (γ_{10}) as a function of the respondent's gender (γ_{50} ; e.g., are male respondents more likely to assume similarity?), and their partner's gender (γ_{60} ; e.g., does having a male partner make one more likely to assume similarity?), and the three-way interaction describes differences in bias force as a function of sexual orientation (γ_{11} ; e.g., do heterosexual and same-sex partnered respondents differ in their tendency to assume similarity?). Similarly, the two-way interaction terms involving the B 's *Self Rating* terms describe the expected change in the magnitude of the truth force coefficient (γ_{20}) as a function of the respondent's gender (γ_{70}), and their partner's gender (γ_{80}), and sexual orientation (γ_{21}) of the dyad. In summary, the presence of a significant interaction suggests that respondents exhibit differences in their directional bias (γ_{30} , γ_{40} , γ_{01}), the strength of the similarity bias coefficient (γ_{50} , γ_{60} , γ_{11}), or the strength of the accuracy coefficient (γ_{70} , γ_{80} , γ_{21}), as a function of gender (respondent or partner) and sexual orientation.

The presence of moderation effects demands estimates of accuracy and bias coefficients that are specific to each respondent type. When converted to a simple dummy-codes (e.g., women = 1, men = 0), the contrast matrix produces person-specific estimates of the corresponding accuracy or bias coefficients, and provides a direct test of actor and partner gender *across* dyads characterized by different sexual orientation (i.e., same-sex women vs. heterosexual women and heterosexual men; same-sex men vs. heterosexual women and heterosexual men). However, this coding scheme does not allow for a direct examination of gender differences *within* a given sexual orientation group (i.e., same-sex women vs. same-sex men, heterosexual women vs. heterosexual men). To obtain these contrasts, an alternative coding scheme was implemented (see Appendix A). Finally, the relative strength of the resulting pooled and group-specific coefficients was evaluated by examining the ratio of accuracy to bias force coefficients as a function of gender and sexual orientation.

3.3. Primary Analysis

For each outcome variable, the model described in equations 1–10 was estimated using SAS PROC MIXED version 9.4 (SAS Institute, 2013) with restricted maximum likelihood estimation. Parameter estimates from each of the 20 imputed datasets were saved, and SAS PROC MIANALYZE was used to obtain final pooled coefficient estimates and 95% confidence intervals, which are provided in Table 3. The first three rows of Table 3 correspond to the pooled estimates for the directional bias (γ_{00}), similarity bias (γ_{10}), and accuracy (γ_{20}) coefficients. The remaining coefficients provide tests for the moderating effect of gender and sexual orientation. The absence of any moderation effects means that the corresponding pooled coefficient should be interpreted, whereas the presence of a significant moderation coefficient suggests that the magnitude of the directional bias, similarity bias, or truth coefficient depends on the respondent's gender, the gender of their partner and/or their sexual orientation. To better understand the moderation effects, follow-up analyses will be conducted in order to obtain coefficients that are specific to each respondent type using the procedure described in Appendix A.

3.3.1. Withdraw—For conflict withdraw, significant first-order effects emerged for similarity bias ($\gamma_{10} = .41$, 95%CI: [.35, .47], $t(172) = 13.41$, $p < .01$) and accuracy ($\gamma_{20} = .36$, 95%CI: [.29, .43], $t(76) = 10.44$, $p < .01$), but not directional bias ($\gamma_{00} = .06$, 95%CI: [−.15, .27], $t(187) = 0.56$, $p < .01$). However, the presence of significant first-order actor gender ($\gamma_{30} = .18$, 95%CI: [.02, .34], $t(222) = 2.16$, $p = .03$) and partner gender ($\gamma_{40} = -.26$, 95%CI: [−.44, −.09], $t(126) = -2.96$, $p < .01$) terms suggest that the magnitude of the directional bias for withdraw depends on the perceiver's gender, as well as the target's gender. Moreover, the first-order similarity bias effect was qualified by a significant three-way interaction ($\gamma_{11} = -.10$, 95%CI: [−.16, −.04], $t(136) = -3.07$, $p < .01$), suggesting that the strength of the similarity bias coefficient varies as a function of sexual orientation. The absence of any moderation effects involving the accuracy term means that it is appropriate to interpret the pooled coefficient ($\gamma_{20} = .36$) as representing the degree of perceptual accuracy across all respondent types.

The follow-up analyses, provided in Table 3, revealed significant simple slopes for the similarity bias coefficient among all respondent types (all p 's $< .05$). Heterosexual men ($\gamma_{\text{Sim. Bias-HM}} = .50$, 95%CI: [.37, .66], $t(274) = 7.57$, $p < .01$) and women ($\gamma_{\text{Sim. Bias-HW}} = .50$, 95%CI: [.34, .67], $t(166) = 6.09$, $p < .01$) exhibited the strongest similarity bias coefficients, whereas same-sex women demonstrated the weakest ($\gamma_{\text{Sim. Bias-SSW}} = .26$, 95%CI: [.18, .35], $t(69) = 6.33$, $p < .01$), and the magnitude of the similarity bias coefficient for same-sex men ($\gamma_{\text{Sim. Bias-SSM}} = .36$, 95%CI: [.25, .46], $t(105) = 6.76$, $p < .01$) was stronger than that of same-sex women and weaker than the coefficient for heterosexual men and women. Contrasts comparing the respondent-specific simple slopes listed in Table 4 revealed that the similarity bias coefficient for same-sex women was significantly different from the coefficient for heterosexual men ($\gamma_{\text{Sim. Bias-SSWvs.HM}} = .24$, 95%CI: [.06, .42], $t(133) = 2.57$, $p = .01$) and women ($\gamma_{\text{Sim. Bias-SSWvs.HW}} = .19$, 95%CI: [−.03, .41], $t(195) = 1.72$, $p = .09$). Finally, the coefficient for same-sex men was stronger than same-sex women, but weaker than heterosexual respondents ($\gamma_{\text{Sim. Bias-SSM}} = .36$, 95%CI: [.25, .46], $t(105) = 6.76$, $p < .01$), and did not differ significantly from any other respondent type (all p 's $> .08$).

Turning to the directional bias coefficient, follow-up analyses revealed that only heterosexual women exhibited a significant directional bias ($\nu_{\text{Dir. Bias-HW}} = .64$, 95%CI: [.20, 1.09], $t(140) = 2.84$, $p < .01$), with all other respondent types exhibiting directional bias coefficients that did not differ from zero (all p 's $> .20$). The sign of the directional bias for heterosexual women suggests that they consistently over-estimated the degree to which their partner utilizes withdraw strategies. Finally, follow-up contrasts revealed that this coefficient for heterosexual women was significantly different from heterosexual men ($\nu_{\text{Dir. Bias-HWvs.HM}} = -.88$, 95%CI: [-1.41, -.35], $t(135) = -3.26$, $p < .01$), same-sex men ($\nu_{\text{Dir. Bias-HWvs.SSM}} = -.64$, 95%CI: [-1.20, -.09], $t(174) = -2.30$, $p = .02$), and same-sex women ($\nu_{\text{Dir. Bias-HWvs.SSW}} = -.82$, 95%CI: [-1.35, -.28], $t(106) = -3.03$, $p < .01$).

3.3.2. Positive Problem Solving—Turning to the positive problem solving behaviors, significant first-order effects emerged for the directional bias ($\nu_{00} = -.66$, 95%CI: [-.86, -.45], $t(329) = -6.31$, $p < .01$), similarity bias ($\gamma_{10} = .76$, 95%CI: [.68, .85], $t(88) = 17.47$, $p < .01$), and accuracy ($\gamma_{20} = .20$, 95%CI: [.10, .31], $t(49) = 4.02$, $p < .01$) coefficients. The absence of any interactions involving the similarity bias coefficient (all p 's $> .35$) suggests that the pooled estimate ($\gamma_{10} = .76$) should be interpreted. However, the significant three-way interaction involving the accuracy coefficient ($\gamma_{21} = .09$, 95%CI: [.00, .19], $t(64) = 2.03$, $p < .05$) suggests that respondents vary in their ability to accurately perceive their partner's usage of positive problem solving strategies. Additionally, marginally significant partner gender ($\gamma_{40} = .14$, 95%CI: [-.01, .29], $t(87) = -1.91$, $p = .06$) and actor-by-partner gender interactions ($\gamma_{01} = .19$, 95%CI: [-.01, .40], $t(307) = 1.86$, $p = .06$), led us to also examine differences in the directional bias coefficient as a function of respondent type.

Follow-up analyses revealed significant simple slopes for accuracy among same-sex women ($\gamma_{\text{Accuracy-SSW}} = .28$, 95%CI: [.16, .39], $t(40) = 4.84$, $p < .01$) and men ($\gamma_{\text{Accuracy-SSM}} = .32$, 95%CI: [.22, .43], $t(71) = 6.10$, $p < .01$), but not heterosexual men ($\gamma_{\text{Accuracy-HM}} = -.03$, 95%CI: [-.30, .24], $t(124) = -0.23$, $p = .82$) and women ($\gamma_{\text{Accuracy-HW}} = .25$, 95%CI: [-.03, .53], $t(71) = 1.76$, $p = .08$). Contrasts comparing the respondent-specific simple slopes listed revealed that the accuracy coefficient for heterosexual men was significantly different from same-sex women ($\gamma_{\text{Accuracy-HMvs.SSW}} = .31$, 95%CI: [.02, .60], $t(109) = 2.10$, $p = .04$) and same-sex men ($\gamma_{\text{Accuracy-HMvs.SSM}} = .35$, 95%CI: [.07, .64], $t(123) = 2.43$, $p = .02$), but not heterosexual women ($p = .19$).

Turning to the directional bias coefficient, analyses revealed that all respondent types exhibited a significant directional bias (all p 's $< .01$), suggesting that they consistently underestimated the degree to which their partner utilizes positive problem solving strategies. However, heterosexual women ($\nu_{\text{Dir. Bias-HW}} = -1.09$, 95%CI: [-.65, -1.52], $t(263) = -4.94$, $p < .01$) exhibited a much stronger directional bias than heterosexual men ($\nu_{\text{Dir. Bias-HW}} = -0.62$, 95%CI: [-.16, -1.07], $t(188) = -2.68$, $p < .01$), men in same-sex relationships ($\nu_{\text{Dir. Bias-SSM}} = -0.52$, 95%CI: [-.27, -.76], $t(231) = -4.10$, $p < .01$), and same-sex women ($\nu_{\text{Dir. Bias-SSW}} = -0.41$, 95%CI: [-.20, -.63], $t(187) = -3.80$, $p < .01$). Follow-up contrasts revealed that this coefficient for heterosexual women was significantly different from heterosexual men ($\nu_{\text{Dir. Bias-HWvs.HM}} = .47$, 95%CI: [-.00, .95], $t(76) = 1.98$, $p = .05$), same-sex men ($\nu_{\text{Dir. Bias-HWvs.SSM}} = .57$, 95%CI: [.08, 1.06], $t(284) = 2.29$, $p = .02$), and same-sex women ($\nu_{\text{Dir. Bias-HWvs.SSW}} = .64$, 95%CI: [.15, 1.13], $t(106) = 3.03$, $p < .01$).

02), and same-sex women ($\nu_{\text{Dir. Bias-HW vs. SSW}} = .67$, 95%CI: [.20, 1.15], $t(266) = 2.78$, $p < .01$).

3.3.3. Engagement—For conflict engagement, significant first-order effects emerged for the similarity bias ($\gamma_{10} = .48$, 95%CI: [.42, .54], $t(140) = 16.37$, $p < .01$) and accuracy ($\gamma_{20} = .46$, 95%CI: [.40, .52], $t(110) = 15.28$, $p < .01$), but not the directional bias coefficient ($\nu_{00} = .11$, 95%CI: [−.08, .32], $t(329) = 1.12$, $p = .26$). The first-order similarity bias effect was qualified by a significant three-way interaction ($\gamma_{21} = -.13$, 95%CI: [−.18, −.08], $t(207) = -4.70$, $p < .01$), suggesting that the strength of the similarity bias coefficient differed as a function of sexual orientation. As before, the absence of moderation effects for the directional bias and accuracy effects means that the pooled (i.e., first-order) versions of these coefficients may be interpreted; however, the presence of a significant interaction involving the similarity bias requires the estimation of coefficients for each respondent type.

Follow-up analyses revealed much weaker similarity bias coefficients for same-sex women ($\gamma_{\text{Sim. Bias-SSW}} = .36$, 95%CI: [.29, .44], $t(86) = 10.01$, $p < .01$) and same-sex men ($\gamma_{\text{Sim. Bias-SSM}} = .33$, 95%CI: [.23, .43], $t(194) = 6.47$, $p < .01$), relative to heterosexual women ($\gamma_{\text{Sim. Bias-HW}} = .54$, 95%CI: [.39, .69], $t(214) = 6.98$, $p < .01$) and men ($\gamma_{\text{Sim. Bias-HM}} = .68$, 95%CI: [.52, .84], $t(182) = 8.57$, $p < .01$). Specifically, simple slope contrasts revealed that the coefficient for same-sex women was significantly different from those for heterosexual women ($\gamma_{\text{Sim. Bias-SSW vs. HW}} = .17$, 95%CI: [.00, .34], $t(170) = 2.01$, $p < .05$) and men ($\gamma_{\text{Sim. Bias-SSW vs. HM}} = .35$, 95%CI: [.15, .48], $t(186) = 3.70$, $p < .01$). An identical pattern of findings emerged when comparing same-sex men to heterosexual women ($\gamma_{\text{Sim. Bias-SSM vs. HW}} = .20$, 95%CI: [.02, .39], $t(219) = 2.23$, $p = .03$) and heterosexual men ($\gamma_{\text{Sim. Bias-SSM vs. HM}} = .35$, 95%CI: [.17, .53], $t(217) = 3.76$, $p < .01$). However, the slopes for individuals of the same sexual orientation (same-sex women vs. same-sex men, heterosexual women vs. heterosexual men) did not differ from one another (both p 's $> .25$).

3.3.4. Compliance—For the compliance conflict tactic subscale, significant first-order effects emerged for directional bias ($\nu_{00} = -.79$, 95%CI: [−1.01, −.58], $t(96) = -7.26$, $p < .01$), similarity bias ($\gamma_{10} = .07$, 95%CI: [.01, .85], $t(173) = 2.23$, $p = .03$), and perceptual accuracy ($\gamma_{20} = .31$, 95%CI: [.24, .37], $t(106) = 9.39$, $p < .01$). However, the similarity bias effect was qualified by a significant two-way interaction involving actor gender ($\gamma_{50} = -.06$, 95%CI: [−.13, −.00], $t(124) = -1.99$, $p < .05$), suggesting that perceptions of partner compliance during conflict depends on the gender of the perceiver. The absence of any significant interactions involving the directional bias or accuracy coefficients (all p 's $> .17$) suggests that the pooled estimates may be interpreted for these effects.

Closer examination of the similarity bias coefficients for each respondent type revealed a significant effect for heterosexual men ($\gamma_{\text{Sim. Bias-HM}} = .19$, 95%CI: [.02, .35], $t(149) = 2.25$, $p = .03$) and a marginally significant effect for same-sex women ($\gamma_{\text{Sim. Bias-SSW}} = .06$, 95%CI: [−.00, .13], $t(186) = 1.88$, $p = .06$). However, the coefficients for heterosexual women ($\gamma_{\text{Sim. Bias-HW}} = -.06$, 95%CI: [−.19, .08], $t(225) = -0.84$, $p = .40$), and same-sex men ($\gamma_{\text{Sim. Bias-SSM}} = .08$, 95%CI: [−.02, .17], $t(116) = 1.59$, $p = .12$) failed to reach significance. Follow-up contrasts revealed that the similarity bias coefficient for heterosexual

men differed from heterosexual women ($\gamma_{\text{Sim. Bias-HMvs.HW}} = -.25$, 95% CI: $[-0.47, -.02]$, $t(137) = -2.17$, $p = .03$), but not same-sex men and women (both p 's $> .16$).

3.3.5. Accuracy and Bias Coefficient Ratios—The ratio of accuracy to similarity bias (i.e., $\gamma_{\text{Accuracy}} : \gamma_{\text{Sim. Bias}}$; Kenny & Ledermann, 2010; Wickham & Knee, 2012) coefficients was computed to quantify the relative strength of these perceptual forces. Although the overall $\gamma_{\text{Accuracy}} : \gamma_{\text{Sim. Bias}}$ ratio for withdraw was near 1, the significant moderation effect for the bias coefficient resulted in a great deal of heterogeneity in the corresponding ratios. Members of heterosexual dyads exhibited stronger similarity bias coefficients, leading to ratios less than 1, which suggests that the bias of assumed similarity played a larger role in shaping partner perceptions for these participants. In contrast, same-sex women exhibited the opposite pattern of coefficients, with an accuracy coefficient more than three times stronger than their similarity bias coefficient. Finally, the partner withdraw perceptions formed by same-sex men were comprised of equal parts accuracy and assumed similarity bias. A similar pattern of findings emerged for conflict engagement, with members of same-sex couples exhibiting significantly weaker similarity bias coefficients than members of heterosexual couples. As such, same-sex women and men had coefficients ratios greater than 1, whereas the ratios for heterosexual women and men were less than 1.

A very different pattern of findings emerged for perceptions of positive problem solving. The absence of any moderation effects on the accuracy or similarity bias coefficients led to a common ratio for all participants. The ratio for positive problem solving was much more extreme than those observed for withdraw, with the similarity bias coefficient nearly four times larger than the accuracy coefficient. The opposite pattern of findings was observed for compliance behaviors, with all participant types exhibiting an accuracy coefficient more than four times larger than the similarity bias coefficient.

3.4. Power Analysis

The data used in the present study were drawn from a larger project investigating relationship and mental health outcomes among members of same-sex couples. As a result, statistical power to detect pooled accuracy and bias effects, or gender and sexual orientation moderation of these effects, was not considered when determining sample size. Given the limitations of computing post-hoc power based on the observed sample effects (Hoenig & Heisey, 2001), a compromise power analysis was conducted, based on the effective sample size, along with effect sizes derived from prior meta-analytic and methodological benchmarks (Cohen, 1988). It should be noted that the effective sample size for heterosexual ($N_{\text{dyads}} = 93$) and same-sex men ($N_{\text{dyads}} = 113$) in the present study was comparable to the typical sample reported in Fletcher and Kerr's (2010) meta-analysis (Median $N_{\text{dyads}} = 88$, Mean $N_{\text{dyads}} = 153$), and the number of same-sex women dyads ($N_{\text{dyads}} = 215$) was larger than the typical study. Additionally, Fletcher and Kerr (2010) found omnibus effect sizes of $r = .46$ for perceptual accuracy, and $r = .18$ for direction bias (absolute), but did not examine assumed similarity bias, though a number of prior studies (e.g., Acitelli & Kenny, 2001; Kenny, 1994, Ch. 9; Segrin et al., 2009) suggest that the strength of the similarity bias is comparable to that of the accuracy. To best approximate the significance tests for the pooled accuracy and bias coefficients (γ_{00} , γ_{10} , γ_{20}) in our primary analysis (i.e., Table 3), the

single regression coefficient test for the linear multiple regression model was specified in G*Power (Faul, Erdfelder, Buchner, & Lang, 2009) using the aforementioned effect size and overall sample size. Given our rather large sample and the small-to-moderate effect sizes reported in prior studies, expected power to detect the pooled accuracy and bias effects exceeded .99. To provide a more thorough evaluation of the range of detectable effects, we conducted additional power analyses based on what Cohen (1988) would characterize as a very small effect size ($r = .1$, $f^2 = .01$), and obtained an estimated power of .83.

This initial analysis suggests that the present study was adequately powered to detect accuracy and bias effects are “small” in magnitude. However, the central questions addressed by the present work involved moderation of these accuracy and bias coefficients. Estimating power for these interactions is complicated by the fact that the gender and sexual orientation moderation effects are captured by three distinct predictors (i.e., *A's Gender*, *B's Gender*, and *A's Gender × B's Gender*), which were entered as first-order effects to examine moderation in directional bias, and crossed with the *Self Ratings* to assess moderation of the accuracy and similarity bias coefficients. Because each of these interaction effects is represented as an individual coefficient in the overall regression model, it could be argued that the estimate of .83 to detect a small effect may also apply to these tests. However, this method of estimating power for discrete-by-continuous interactions is limited because it ignores inequities in the number of individuals in each of the discrete categories captured by the moderators. These relative sample size differences mean that the estimates for same-sex women participants are likely to be more reliable, and the power to detect differences between same-sex men and heterosexual participants is lower, relative to contrasts comparing same-sex women to same-sex men (Cohen, Cohen, West, & Aiken, 2003).

Although G*Power does not provide a custom procedure to calculate power for the follow-up contrasts provided in Table 4, the two-group difference between slope/intercept function was used to provide a conservative approximation. Fletcher and Kerr (2010, pp. 664) reported a very small gender difference in the magnitude of directional bias ($|r| = .1$), and no difference in the magnitude of the accuracy coefficient. Given the relative scarcity of information on which to base expected effect sizes for gender differences in conflict perceptions, a sensitivity power analysis was performed to determine the smallest between-group difference in accuracy or similarity bias coefficients (slopes), and directional bias coefficients (intercepts), detectable at a power level of .80. As expected, contrasts comparing heterosexual male and female respondents (e.g., $\nu_{\text{Dir. Bias-HW vs. HM}}$, $\gamma_{\text{Sim. Bias-HW vs. HM}}$) required much larger differences in slope ($\gamma_{\text{min.}} = .207$) and intercept ($\nu_{\text{min.}} = .620$) coefficients to achieve power of .80, relative to contrasts comparing same-sex male vs. same-sex female respondents ($\gamma_{\text{min.}} = .115$; $\nu_{\text{min.}} = .346$). Minimum detectable differences for contrasts comparing heterosexuals (men or women) to same-sex men were slightly larger ($\gamma_{\text{min.}} = .179$; $\nu_{\text{min.}} = .519$) than those comparing heterosexuals to same-sex women ($\gamma_{\text{min.}} = .160$; $\nu_{\text{min.}} = .481$).

Given the average standard deviation of conflict style in the present sample ($SD \approx 3$), the standardized effect size difference ($r = .1$) for directional bias corresponds to an intercept difference of approximately .6 raw units, suggesting adequate power to detect small differences in directional bias coefficients in our lowest-powered contrast (i.e., heterosexual

women vs. men). Similarly, because the SD of the predictor and criterion are virtually equal, the coefficient differences approximate the standardized effect size benchmarks, suggesting that our study was also adequately powered to detect small slope differences in the lowest-powered contrast. Although this approach likely under-estimates true power (i.e., over-estimates the minimum difference needed) because it does not consider the observations not involved in the contrast of interest, results suggest that our moderation tests appear to be adequately powered to detect the moderation effects typically found in accuracy and bias research.

4. Discussion

The present study examined the accuracy and bias in perceptions of conflict resolution styles among members of same-sex and heterosexual couples. The only prior work investigating accuracy and bias of conflict styles (Segrin et al., 2008) sampled newlywed heterosexual couples, and was limited by a number of analytic shortcomings that restrict the interpretability of the findings. Given the critical role that conflict resolution plays in the maintenance of intimacy and satisfaction in close relationships (Gottman, 2014), it is important to understand the degree to which individuals' perceptions of their partners' conflict resolution styles are based on reality vs. projection. Further, research on similarities and differences in relationship conflict and resolution among members of same-sex and heterosexual couples highlights the importance of considering gender and sexual orientation when examining perceptions.

The present study is the first to test gender and sexual orientation as moderators of the truth and bias coefficients, for any partner attribute. Obtaining formal tests of moderation required the integration of two dyadic analytic techniques (West et al., 2008; West & Kenny, 2011) that were previously unconnected. This adaptation is noteworthy because the approach generalizes to any form of actor-partner analysis examining same-sex and heterosexual dyads. As a result, future studies now have a roadmap for examining gender and sexual orientation differences in actor and partner effects for any set of relationship variables.

4.1. Summary of Findings

Results of this study provide mixed support for Gottman and colleagues' (Gottman, Levenson, Swanson, Swanson, Tyson, & Yoshimoto, 2003) description of same-sex relationships as "fundamentally different" from heterosexual couples in terms of conflict resolution. In the present study, members of heterosexual and same-sex couples did not differ in the degree of perceptual accuracy in their perceptions of conflict withdraw, engagement, or compliance. Additionally, same-sex and heterosexual couples did not differ in their tendency to assume similarity their positive problem solving behaviors, or the extent to which they over- or under-estimate their partner's use of conflict engagement or compliance strategies. However, it should be noted that couples in this sample were, on average, together more than two decades. It may be that among long-term, stable relationships, sexual orientation differences lessen over time and couples look more similar than different.

Despite the homogeneity of the sample, a number of theoretically compelling differences did emerge. Specifically, heterosexual women exhibited a strong directional bias for conflict withdraw and positive problem solving, suggesting that relative to heterosexual men, and members of same-sex couples, they tended to over-estimate their partner's withdraw behaviors, and under-estimate their partner's use of positive problem solving strategies. Given historical and contemporary power differentials between men and women in society, as well as gender role socialization and gender roles in relationships (e.g., Bem, 1993, Brown, 1994; Sprecher & Felmlee, 1997), it makes sense that women in heterosexual relationships, but not same-sex relationships, might be particularly sensitized to their partner's negative behaviors and thus overestimate the extent to which their partner engages in poor conflict management. In their examination of the demand-withdraw pattern, Holley and colleagues (Holley, Strum, & Levenson, 2010) concluded that power imbalance within heterosexual couples, rather than "innate" gender differences better explain heterosexual women's tendencies to demand a response from their partners, thereby undermining the essentialist argument that men and women approach conflict in stereotypic ways. Along the same line, researchers have posed that differences in relational patterns, such as lesbian partners working more "harmoniously" in observational research, might be attributable to basic differences in same-sex versus different-sex interactions rather than orientation (Roisman Clausell, Holland, Fortuna, & Elieff, 2008; Umberson, Thomer, & Lodge, 2015). Additional studies revealed no difference between couple type and demand-withdraw engagement, however small sample sizes and methodological limitations have limited the generalizability of these results (Baucom, McFarland, & Christenson, 2010).

Stronger similarity bias coefficients among members of heterosexual couples, relative to women in same-sex relationships, suggests that they were much more likely to use their own prior withdraw behavior as a referent when reporting on their partner's withdraw behavior.

Heterosexual men and women were also more likely to assume similarity for conflict engagement, compared to both members of same-sex couples. Moreover, heterosexual men were more likely to assume similarity of compliance behaviors relative to heterosexual women, but not same-sex men and women. No gender or sexual orientation differences emerged for accuracy in perceptions of conflict withdraw, engagement, or compliance. However, the accuracy coefficient for positive problem solving was significantly stronger for members of same-sex couples, relative to heterosexual men, but not women. To the extent that accurate perceptions promote greater effectiveness in conflict management, these findings are consistent with prior interpretations of previous findings favoring same-sex couples (Gottman, 2003; Kurdek, 2005; Rothblum, 2008).

4.2. Limitations and Future Directions

The present work has several limitations, and raises a number of interesting questions for further study.

4.2.1. Establishing the Truth Criterion—The primary analysis conducted here relies on the target's self-reported standing on the attribute of interest as the truth criterion. As a result, the accuracy coefficient may only be interpreted as the absolute, objective "truth" if

individuals are capable of reporting their own self-rated attributes accurately. This limitation is not specific to the present study, as it is a natural consequence of the dyadic design. Inaccuracies in self-reporting could have a number of downstream effects on the coefficients estimated in the T&B analysis. For example, the significantly stronger directional bias for conflict withdraw among heterosexual women may be driven by perceivers' tendencies to view their targets in a stereotyped manner (i.e., seeing their partners as behaving like the "typical" heterosexual male), but it would also arise if these men underreported their usage of a withdraw behaviors either unconsciously or as a form of self-esteem maintenance. It is also likely that both processes are operating, depending on the social desirability of the behavior in question. However, an objective assessment of the truth criterion could be obtained by modifying behavioral observation paradigm developed by Gottman and colleagues (1989) to include either real-time or retrospective ratings of self and perceived-partner usage of the various conflict strategies. Since the correspondence between target's self-reports and their objective behaviors cannot be determined in the present study, the accuracy coefficients may simply be interpreted as representing "truth in perceptions" rather than objective accuracy.

4.2.2. Generalizability—Participants in the present study were predominately white, older, and highly educated. It is unknown how well these results would generalize to couples with more diverse identities and backgrounds. For example, couples in which one or more partner is an ethnic or racial minority may experience additional challenges related to power and privilege within and outside of the relationship. In addition, couples in the current study had been together for over 20 years, which may have affected results and may limit generalizability to newer relationships (for example, see Roisman et al., 2008). Moreover, these data were collected in the United States prior to the landmark Obergefell v. Hodges Supreme Court decision legalizing same-sex marriage in June 2015. The removal of legal barriers to marriage may influence the goal structure of same-sex relationships, which may have downstream implications for how partners approach and respond to conflict. Moreover, the social cognitive mechanisms responsible for the development of accuracy and bias in partner perceptions are likely to be culturally contingent, so these findings may not generalize to populations outside of North America.

4.3. Conclusion

The present study provides an initial investigation into a previously unaddressed area of study by examining the validity of romantic partners' perceptions of conflict resolution styles among same-sex and heterosexual couples. Moderated Truth-and-Bias analysis revealed compelling gender and sexual orientation differences in truth (accuracy), as well as the bias of assumed similarity, and directional bias, which were generally consistent with prior research and theory.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Highlights

- Perceptions of partner conflict style may shape conflict interactions and expectancies
- The validity of conflict perceptions may vary across gender and sexual orientation
- The present study examined accuracy and bias in perceptions of conflict style
- A large sample of heterosexual, same-sex female and male dyads (N=421) was analyzed
- Gender and sexual orientation differences in accuracy and bias were found

Figure 1.
Truth and Bias analysis diagram

Table 1

Demographic Characteristics.

	Same-sex Women	Heterosexual Women	Heterosexual Men	Same-sex Men
Observed N	375	84	80	198
Age	55.05 (8.1)	53.41 (9.4)	56.29 (9.6)	55.34 (9.2)
% B.A. or Higher	83.2	67.9	68.8	83.3
Income	90.8 (184.5)	55.8 (53.2)	113.2 (135.9)	94.6 (106.5)
% Caucasian	96.27	95.24	93.75	93.94
% Have Children	47.73	88.09	93.75	20.20

Note. Income is expressed in thousands of dollars.

Table 2

Descriptive Statistics.

	Self		Perc. Partner		
	M (SD)	α	M (SD)	α	
Withdraw	Same-sex Women	8.65 (3.0)	.85	8.48 (3.1)	.82
	Hetero. Women	8.77 (2.7)	.76	9.45 (3.4)	.85
	Hetero. Men	8.88 (3.2)	.89	8.58 (2.7)	.80
	Same-sex Men	8.72 (3.1)	.87	8.72 (3.1)	.85
Pos. Prob. Solve	Same-sex Women	11.72 (2.2)	.86	11.31 (2.8)	.86
	Hetero. Women	11.32 (2.2)	.81	10.26 (3.2)	.88
	Hetero. Men	11.48 (2.3)	.83	10.83 (3.0)	.84
	Same-sex Men	11.77 (2.4)	.87	11.25 (2.8)	.82
Engagement	Same-sex Women	7.76 (2.9)	.88	7.73 (3.1)	.86
	Hetero. Women	7.87 (3.0)	.90	8.26 (3.5)	.92
	Hetero. Men	7.98 (3.0)	.91	8.03 (3.2)	.90
	Same-sex Men	7.89 (3.0)	.87	7.95 (3.2)	.88
Compliance	Same-sex Women	8.16 (3.1)	.89	7.24 (2.7)	.84
	Hetero. Women	7.99 (3.0)	.89	7.15 (2.8)	.87
	Hetero. Men	7.77 (2.6)	.85	7.25 (2.3)	.79
	Same-sex Men	8.18 (3.1)	.87	7.23 (2.5)	.82

Note.

Table 3
Gender vs. Sexual Orientation APIM Testing Differences in Accuracy and Bias Coefficients.

	Withdraw		Pos. Prob. Solving		Engagement		Compliance	
	Est. [95% CI]		Est. [95% CI]		Est. [95% CI]		Est. [95% CI]	
<i>Pooled</i>	ν_{00} —Directional Bias	0.06 [−0.15, 0.27]	−0.66 [−0.86, −0.45]		0.11 [−0.09, 0.32]		−0.79 [−1.01, −0.58]	
	γ_{10} —Similarity Bias	0.41 [0.35, 0.47]	0.76 [0.68, 0.85]		0.48 [0.42, 0.54]		0.07 [0.01, 0.13]	
	γ_{20} —Accuracy	0.36 [0.29, 0.43]	0.20 [0.10, 0.31]		0.46 [0.40, 0.52]		0.31 [0.24, 0.37]	
<i>Dir. Bias Mod.</i>	γ_{30} —Actor Gender	0.18 [0.02, 0.34]	−0.09 [−0.23, 0.05]		−0.07 [−0.21, 0.07]		0.03 [−0.17, 0.24]	
	γ_{40} —Partner Gender	−0.26 [−0.35, −0.09]	0.14 [−0.01, 0.29]		0.03 [−0.11, 0.16]		−0.02 [−0.22, 0.18]	
	γ_{01} —Actor Gender×Partner Gender	−0.14 [−0.35, 0.06]	0.19 [−0.01, 0.40]		−0.10 [−0.31, 0.11]		−0.14 [−0.34, 0.06]	
<i>Sim. Bias Mod.</i>	γ_{50} —Sim. Bias×Actor Gender	−0.02 [−0.09, 0.04]	0.04 [−0.06, 0.15]		−0.03 [−0.10, 0.04]		−0.06 [−0.13, −0.00]	
	γ_{60} —Sim. Bias×Partner Gender	−0.02 [−0.08, 0.03]	−0.02 [−0.12, 0.09]		0.04 [−0.03, 0.11]		0.06 [−0.00, 0.12]	
	γ_{11} —Sim. Bias×Act. Gen.×Part. Gen.	−0.10 [−0.16, −0.03]	−0.04 [−0.14, 0.05]		−0.13 [−0.18, −0.08]		0.00 [−0.05, 0.06]	
<i>Accur. Mod.</i>	γ_{70} —Accuracy×Actor Gender	0.03 [−0.04, 0.11]	0.06 [−0.05, 0.17]		0.06 [−0.01, 0.13]		0.04 [−0.02, 0.10]	
	γ_{80} —Accuracy×Partner Gender	−0.03 [−0.11, 0.04]	−0.08 [−0.20, 0.03]		−0.05 [−0.12, 0.03]		0.00 [−0.06, 0.07]	
	γ_{21} —Accur.×Act. Gen.×Part. Gen.	0.05 [−0.01, 0.12]	0.10 [0.00, 0.19]		0.04 [−0.03, 0.10]		−0.05 [−0.12, 0.02]	
	τ^2_{00} —Family Var.	0.19 [−0.22, 0.60]	0.09 [−0.26, 0.45]		0.07 [−0.30, 0.44]		...	^a
	σ^2_{1-} Dyad Cov. Same-sex Women	1.05 [0.19, 1.91]	1.23 [0.56, 1.90]		−0.91 [−1.82, 0.00]		1.06 [0.43, 1.71]	
	σ^2_{-} Res. Var. Same-sex Women	5.28 [4.38, 6.19]	2.75 [2.16, 3.34]		5.91 [4.50, 7.32]		5.33 [4.48, 6.17]	
	σ^2_{1-} Dyad Cov. Same-sex Men	1.22 [0.21, 2.23]	0.74 [0.22, 1.26]		0.05 [−1.47, 1.58]		1.15 [0.43, 1.88]	
	σ^2_{-} Res. Var. Same-sex Men	5.32 [4.29, 6.36]	2.67 [2.14, 3.20]		6.45 [4.58, 8.31]		6.90 [4.93, 8.87]	
	σ^2_{1-} Dyad Cov. Heterosexual	0.87 [−0.00, 1.74]	2.29 [1.13, 3.44]		0.78 [−0.31, 1.86]		1.00 [0.15, 1.85]	
	σ^2_{-} Res. Var. Heterosexual	4.86 [3.77, 5.95]	3.03 [2.20, 3.87]		3.60 [2.36, 4.85]		4.46 [3.35, 5.57]	

Note. Estimates in bold are significant at p .05 level.

^aThe family-level variance component failed to estimate for compliance.

Table 4

Unstandardized Accuracy and Bias Coefficients for Conflict Perceptions.

	Withdraw			Positive Problem Solving			Engagement			Compliance		
	$\nu_{Dir. Bias}$	$\gamma_{Sim. Bias}$	$\gamma_{Accuracy}$	$\nu_{Dir. Bias}$	$\gamma_{Sim. Bias}$	$\gamma_{Accuracy}$	$\nu_{Dir. Bias}$	$\gamma_{Sim. Bias}$	$\gamma_{Accuracy}$	$\nu_{Dir. Bias}$	$\gamma_{Sim. Bias}$	$\gamma_{Accuracy}$
Same-sex Women	-0.17 _c	0.26 _{ab}		-0.41 _c		0.28 _b		0.36 _{cd}			0.06	
Hetero. Women	0.64 _{abc}	0.50 _b		-1.09 _{abc}		0.25		0.54 _{ad}		-0.06 _a		
Hetero. Men	-0.24 _b	0.50 _a	0.36	-0.62 _b	0.76	-0.03 _{ab}	0.11	0.68 _{bc}	0.46	-0.79	0.19 _a	0.31
Same-sex Men	-0.00 _a	0.36		-0.52 _a		0.32 _a		0.33 _{ab}			0.08	

Note. $\nu_{Dir. Bias}$ = directional bias coefficient, $\gamma_{Sim. Bias}$ = assumed-similarity bias coefficient, $\gamma_{Accuracy}$ = perceptual accuracy coefficient. Estimates in bold font are significantly different from zero at $p < .05$, and those with common subscripts in the same column differ from one another at $p < .05$.