tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

Journal of Personality and Social Psychology

0022-3514/17/$12.00 http://dx.doi.org/10.1037/pspi0000105

Decomposing the Cross-Sex Misprediction Bias of Dating Behaviors: Do Men Overestimate or Women Underreport Their Sexual Intentions?

AQ: au
AQ: 1

Isabelle Engeler
IESE Business School

Priya Raghubir
New York University

Men typically predict women's sexual intentions to be higher than women say they are (Haselton & Buss, 2000). It is debated whether this cross-sex bias is because of men overestimating women's intentions (Murray et al., 2017), women underreporting their own intentions (Perilloux & Kurzban, 2015, 2017), or both. To unify the current debate, we decompose the part of the bias attributable to women underreporting versus men overestimating by using a survey method intervention to reduce underreporting of sensitive information: eliciting estimates about others *before* sensitive self-reports. First, we calibrate the current measurement instrument to assess the overall size of the misprediction bias (Study 1). Then, we manipulate the order-of-elicitation of self- and other-reports (Studies 2 and 3): Women report significantly higher own sexual intentions when they are asked about other targets' intentions *before* their own, suggesting that 48 to 69% of the overestimation bias is attributable to women underreporting their own sexual intentions. Analogous analyses for the misprediction bias about men suggest that women's overestimation bias of men's sexual intentions is entirely because of men underreporting their own sexual intentions. The findings have important implications for the current debate in the literature on cross-sex misprediction biases and the literature on asking sensitive survey questions.

Keywords: sexual misperception, mating, gender differences, sensitive survey questions, underreporting

AQ: 2 *Supplemental materials:* http://dx.doi.org/10.1037/pspi0000105.supp

Past research has reliably demonstrated that men predict that women are more sexually interested than women say they are (e.g., Abbey, 1982; Haselton & Buss, 2000; Perilloux, Easton, & Buss, 2012; Perilloux, Muñoz-Reyes, Turiegano, Kurzban, & Pita, 2015). A current debate questions whether this effect is because of men overestimating women's intentions (Murray, Murphy, von Hippel, Trivers, & Haselton, 2017) or because of women underreporting their own intentions (Perilloux & Kurzban, 2015, 2017). This article aims to reconcile the debate by decomposing the part of the overall cross-sex misprediction bias that is attributable to an underreporting artifact from the part that remains, and is, hence, attributable to a misprediction bias. We do so by introducing a methodological intervention that aims at reducing underreporting in sensitive self-reports. We next review the underreport debate on the cross-sex bias about women's and men's sexual intentions separately.

Isabelle Engeler, Marketing Department, IESE Business School; Priya Raghubir, Marketing Department, Stern School of Business, New York University.

This research was supported in part by a postdoctoral fellowship from the University of St. Gallen, Switzerland awarded to the first author. Part of this research has been presented as a poster at the 2016 conference of the Society for Judgment and Decision Making in Boston.

Correspondence concerning this article should be addressed to Isabelle Engeler, IESE Business School, Av. Pearson 21, 08034 Barcelona, Spain. E-mail: iengeler@iese.edu

Do Men Overestimate or Women Underreport Women's Sexual Intentions (or Both)?

The cross-sex misprediction bias about women manifests itself in men's reports about women's sexual intentions being higher than women's self-reported sexual intentions. Given the absence of a nonintrusive objective criterion to assess sexual intentions, women's self-reports commonly serve as the criterion measure to assess whether men's predictions differ (e.g., Perilloux et al., 2015). Cross-sex differences are typically interpreted as men *overestimating* women's intentions. However, as women are asked to report their *own* sexual intentions—a highly sensitive question compared to men who are asked to predict for another person—the difference could be because of women underreporting their true sexual intentions and could, hence, be a survey response artifact (Perilloux & Kurzban, 2015, 2017).

Haselton and Buss (2000) argue that self-reports may be underestimated for self-enhancement reasons and same-sex reports overestimated for derogation reasons. Supporting this idea, they found that women report higher estimates for other women than for themselves. Their assumption was that, if men's estimates of women are bracketed between the two criteria—women's self-report and women's reports about other women—then that suggests that men may be accurate. If they are higher than both, then it suggests men overestimate women's sexual intentions. They found evidence consistent with an *overestimation* bias.

Perilloux and Kurzban (2015), on the other hand, argue that the bias may be an *underreport* artifact. They found that women's

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

self-reported sexual intentions were lower than their prediction of what other women *say they want*, which, in turn, was lower than their prediction of what other women *actually want*. While the first two estimates ("self" and "say") were lower than men's estimates of women's intentions (replicating Haselton & Buss, 2000), women's estimates of what other women "actually want" ("want") appeared as high as men's estimates. They concluded that the higher "want" than "say" estimates suggest that women are underreporting.

Murray et al. (2017) argue that conversation norms (Grice, 1975) could explain Perilloux and Kurzban's (2015) results, given that women were first asked what women *say they want* and then what they think women *actually want*. Murray et al. (2017) present results showing no difference in the "say" and "want" estimates when those questions are asked first (and, are, therefore, uncontaminated by conversation norms) and conclude that Perilloux and Kurzban's (2015) underreporting conclusion is premature. Murray et al. (2017) do, however, replicate that estimates of "want" are higher than those of "say" irrespective of which question comes first when both questions are asked. More important, Murray et al. (2017) underline the importance of examining question order given that it can lead to carryover effects based on Gricean conversation norms (Grice, 1975; Menon, Raghubir, & Schwarz, 1997; Raghubir & Johar, 1999; Schwarz, 1999).

Building on this debate, we apply question order as a survey method intervention to answer Perilloux and Kurzban's (2017) still unresolved question "Is the difference between men's and women's answers on these scales caused by men's overestimation, women's underreporting, or both?" (p. 256, see also Perilloux & Kurzban, 2015). As it is nearly impossible to *directly* test women's true intentions, the classic criterion measure used in such cases is estimates of an average other person. This goes back to the robust finding that the majority of people judge themselves more favorably than they judge others in various domains ("*better-than-average effect*," e.g., Alicke et al., 1995). As the majority cannot be better than its average, systematic self-other differences reflect biased reporting (e.g., Taylor & Brown, 1988). Thus, an intervention's effectiveness in reducing biased reporting (i.e., increasing validity) is typically tested by whether it is able to reduce self-other differences (e.g., Paulhus & Trapnell, 2008; Tanner & Carlson, 2009). In the domain of sexual intentions, both Haselton and Buss' (2000) and Perilloux and Kurzban's (2015) data suggest that there are systematic self-other differences: women report higher sexual intentions for other women than for themselves, an effect we refer to as "*purer-than-thou.*" Based on the literature on self-other differences, this pattern indeed suggests that women's reports are biased. The question is, by how much.

To answer this question, the present article builds on the latter finding, with an important twist. Drawing on the cognitive aspects of survey methodology, we propose that asking women to report about other women *before* reporting their own intentions leads to more valid self-reports, attenuating self-other differences. Our proposition builds on the inclusion-exclusion model (Bless & Schwarz, 2010). When people report about themselves first (*self-other order*), they are more likely to give egocentrically biased responses (e.g., Kruger, 1999) and, hence, construe themselves as the "holy" standard against which a target other is contrasted, *increasing* self-other differences. On the other hand, if people respond about another person first (*other-self order*), they base this judgment typically on information about themselves as it is more easily accessible and habitually used when information about others is absent. This leads to the self being *included* in the representation of the target other (Bless & Schwarz, 2010; Schwarz, 1999; Schwarz, Strack, & Mai, 1991; Srull & Gaelick, 1983). This greater inclusion of one's own information in responses about others should lead people to reveal more of their own information in their subsequent self-report, resulting in more valid (higher) self-reports and *attenuated* (lower) self-other differences. We will test our proposition by assessing whether eliciting other targets *before* self-reports (vs. self-reports first) attenuates self-other differences—that is, reduces biased responding—and, importantly, does so (at least partially) by increasing self-reported sexual intentions. Note, prior research has elicited self-reports as in the self-other order of elicitation (e.g., Perilloux & Kurzban, 2015), where we expect self-other biases to be larger. When question order was counterbalanced, order effects were not reported (e.g., Haselton & Buss, 2000).

Taken together, we use this order-of-elicitation intervention to *directly* debias women's self-reports with the goal of partialing out what proportion of the cross-sex misprediction bias is because of women underreporting. We predict that answering about other women before eliciting self-reports increases women's self-reports (if they are biased downward). This increase in women's self-report is attributable to underreporting. Any cross-sex misprediction bias that remains in the other-self order, where underreporting is accounted for, could be attributable to men overestimating women's intentions. How effective the intervention is in debiasing women's responses can be tested by whether it attenuates intrasex self-other differences, that is, the difference between women's reports for themselves and for the average woman (*purer-than-thou effect*).

Although past research has focused on underreporting in the bias about women, men may also be underreporting their own sexual intentions. We turn to this next.

Do Women Over-(Under-)Estimate or Men Underreport Men's Sexual Intentions (or Both)?

There is less agreement on the strength and direction of the misprediction bias about men than there is about women (e.g., Lindgren, Parkhill, George, & Hendershot, 2008). Investigating dating scenarios, Haselton and Buss (2000) findings suggest that women also predict *higher* sexual intentions in men than men report for themselves, but that the size of this effect is lower than the misprediction bias about women. Consistent with the idea that this overestimation bias could be driven by men underreporting their true intentions, Fisher and Walters (2003) find that men who are more prone to social desirability response tendencies reported lower own sexual intentions. In a similar vein, Perilloux et al. (2012)—who use a more realistic speed-dating situation that is arguably less prone to desirable responding than hypothetical scenarios—found that women *under-* rather than *over*-estimated men's sexual intentions.

Analogous to the bias about women, we add to this literature by decomposing the extent to which reports about men are because of men underreporting, or women over-(under-)estimating. We assess whether men's self-reports vary as a function of whether they are elicited before or after men's reports of other targets and examine

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

how effective the intervention is at attenuating differences between men's reports for themselves versus for other men.

Summary

This article investigates to what extent own sexual intention reports vary as a function of their order-of-elicitation to decompose the part of the cross-sex misprediction bias that is an underreporting artifact versus a substantive over-(under-)estimation of the dating partner's intentions. To accurately assess the size of underreporting versus over-(under-)estimation, Study 1 first calibrates the original measurement instrument to establish cross-sex misprediction biases. We find that the original measure includes dating behaviors that are perceived to be uncommon for women and that excluding those behaviors (as well as one behavior inconsistent with the scenario) reduces the size of the cross-sex misprediction bias about women by 9 to 23% (Studies 1 and 3). Studies 2 and 3 then manipulate the order-of-elicitation of self-reports to assess the level of underreporting. Responding about others (vs. self) first increased both women's and men's self-reports, suggesting that 48 to 69% of the overall overestimation bias about women is attributable to underreporting. The overestimation bias about men was entirely eliminated, suggesting it is entirely attributable to men underreporting (Studies 2 and 3). Study 3 demonstrates that these findings are robust when using a younger student sample and to beliefs in the differential base rates associated with how many dates men and women go on, on average, before having sex. We report all measures, manipulations, and exclusions in these studies or in the Supplementary Material available online. The article concludes with the implications of our findings for the cross-sex misprediction bias and the cognitive aspects of survey methodology.

Study 1: Overestimation Because of the Measurement Instrument

Before starting to decompose the misprediction bias, it is important to establish its overall size. Much of the past research has relied on Haselton and Buss' (2000) dating behavior inventory to assess sexual intentions (e.g., Murray et al., 2017; Perilloux et al., 2015; Perilloux & Kurzban, 2015). Study 1 addresses two methodological issues that could lead to an artificial inflation of the overall size of the misprediction bias.

First, some of the dating behaviors in this inventory appear relatively less common for women versus men to perform on a date. These are "buying expensive jewelry," "treating to expensive dinner," or "sending a dozen red roses." Notably, these three behaviors have shown among the highest effect sizes on the misprediction bias about women (η_p^2 = .16, .12, and .12, respectively; Perilloux & Kurzban, 2015). In fact, in a cross-national survey, Perilloux et al. (2015) note that the overall misprediction bias about women's sexual intentions in their French sample was entirely driven by buying jewelry, "a behavior that is extremely rare, and even counter-normative" (p. 152). Note, the idea that these uncommon behaviors may inflate the bias about women is not at odds with the robust finding that cross-sex differences are larger for more *mundane* behaviors (e.g., Fisher & Walters, 2003; Kowalski, 1993). Whether behaviors are more or less mundane (e.g., eye contact vs. touching leg), if they are less common for women than for men to perform, they may inflate cross-sex differences about women. As they seem common for men, cross-sex differences about men should not be affected.

Second, picking up on Perilloux and Kurzban's (2015) distinction of asking what other women "say" and "want," a potential concern is that the inventory elicits self-reports by asking whether one "wants" to have sex, but elicits same- and cross-sex reports by asking about the other targets' "interest" in having sex (Haselton & Buss, 2000). As "want" is potentially stronger than "interest," reports of one's own "wanting" to have sex may, legitimately, be lower than estimates of the other gender's "interest" in having sex, implying that the difference in predictions and self-reports may reflect neither underestimates about oneself or overestimates about the other gender. Thus, Study 1 examines to what extent the choice of dating behaviors and question wording affect the size of the cross-sex misprediction bias.

Method

Sample. Overall, 406 MTurk participants completed our survey. We targeted $n > 50$ for each sex (Simmons, Nelson, & Simonsohn, 2013). In fact, a review of prior demonstrations of cross-sex differences in sexual intentions suggests that these should be visible from $n = 45$ per sex (Farris, Treat, Viken, & McFall, 2008, mean effect size $d = .63$). We excluded 30 respondents who did not categorize themselves as heterosexual, leaving 376 observations for analysis (123 men/original wording, 122 men/new wording, 63 women/original wording, and 68 women/new wording). For all studies, other demographics, exclusions per condition, means and *SD*s per condition, correlations between the within-subjects measures, complete instructions, and additional measures elicited are in the supplemental material available online.

Procedure. We followed Haselton and Buss' (2000) procedure: Participants were asked to imagine that they (a man, a woman) had been out on a few casual dates but had not yet had sex. Then, they were given 15 dating behaviors and, for each of them, rated their own (*self-rating*, $\alpha = .94$), a cross-sex other's (*cross-sex-rating*, $\alpha = .92$), and a same-sex other's sexual intention (*same-sex-rating*, $\alpha = .95$) contingent on performing each dating behavior (± 3 = *extremely (un)likely*, ± 2 = *moderately (un)likely*, ± 1 = *somewhat (un)likely*, 0 = *neutral*).

Half of the participants received the *original question wording*: They rated how likely it is that they "would *want* to have sex" (*self-rating*) and, on the next two pages, rated the other two targets' "*interest in* having sex" given that they engaged in each behavior (*cross-sex-, same-sex-rating*; Haselton & Buss, 2000). The other half received the *new question wording* where "*interest in*" was replaced with "*want to*" for the cross- and same-sex-ratings, making them identical to the self-rating question, such that all three ratings were assessed identically.

To test how common the dating behaviors are for men versus women, participants rated how common it would be to engage in each of the 15 behaviors after a few dates for a man and, separately, for a woman (1 = *not at all common* and 7 = *very common*).

Analysis plan. The following method of analysis is used in all studies. Judgments by both sexes (women and men) were made either for themselves (i.e., women's and men's self-reports), a same-sex other (i.e., women's reports of other women, men's

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

reports of other men), or a cross-sex other (i.e., men's reports of women, women's reports of men). The critical target variable is the comparison of self- versus cross-sex-reports *across* sex. Thus, to assess the misprediction bias about women, we computed a variable "*ratings about women*" that, for female respondents, was their self-report and, for male respondents, their cross-sex predictions about women. Analogously, we computed a variable "*ratings about men*" that, for male respondents, was their self-report and, for female respondents, their cross-sex predictions about men.

Thus, in Study 1, the key analysis is a 2 Target (ratings about women vs. men) × 2 Sex (male vs. female) × 2 Question wording (original vs. new) repeated measure analysis of variance (ANOVA), where target is a within-factor, question wording a between-factor, and sex measured. A main effect of sex would imply that sexual intention ratings about men and women differ *across* sex, establishing the core cross-sex misprediction bias. A Sex × Target interaction would imply that the size or direction is different for the misprediction bias about women versus men. If question wording does not moderate these effects, it implies that the cross-sex biases are robust to question wording; otherwise, they are not.

The cross-sex misprediction bias would predict cross-sex reports to be *higher* than both (a) self-reports (because of a possible combination of underreporting and overestimation) and (2) same-sex-reports (because of overestimation), (3) with same-sex reports being higher than self-reports (because of self-enhancement and/or same-sex derogation; Haselton & Buss, 2000). Each of the three comparisons are separately examined next.

Results

Self- versus cross-sex difference (cross-sex misprediction bias). A 2 Target (ratings about women vs. men) × 2 Sex × 2 Question wording repeated measure ANOVA showed a main effect of target, $F(1, 372) = 207.26$, $p < .001$, $\eta_p^2 = .36$. Sexual intention ratings about men ($M = 1.35$, $SD = 1.00$) were higher than ratings about women ($M = .85$, $SD = 1.07$). There was a significant Target × Sex interaction, $F(1, 372) = 127.87$, $p < .001$, $\eta_p^2 = .26$, reflecting a stronger main effect of sex on intention ratings about women than about men (see Table 1). T1, AQ:3

That is, men predicted higher sexual intention *ratings about women* ($M = 1.08$, $SD = .89$) than women reported for themselves ($M = .41$, $SD = 1.23$), $F(1, 374) = 36.47$, $p < .001$, $\eta_p^2 = .09$, which equals a cross-sex difference of $\Delta M = .67$, 95% confidence interval (CI) [.45, .89], or 20% (.67/[.41 + 3] = 20%; 3 is added to the mean for % calculation as the scale starts at −3).

Women likewise predicted higher sexual intention *ratings about men* ($M = 1.60$, $SD = .93$) than men reported for themselves ($M = 1.22$, $SD = 1.02$), $F(1, 374) = 12.41$, $p < .001$, $\eta_p^2 = .03$, but to a lesser degree, with a cross-sex difference of $\Delta M = .38$, 95% CI [.17, .59] or 9% (.38/[1.22 + 3] = 9%).

These results replicate Haselton and Buss' findings (2000, Study 2). Tables 4 and 6 in the supplemental material available online present means and cross-sex comparisons for each of the 15 behaviors individually.

Question wording did not significantly moderate the Sex × Target interaction, $F(1, 372) = .34$, $p = .562$, $\eta_p^2 = .001$. Thus, the revised question wording (identical question for all three ratings) is subsequently used for Studies 2 and 3.

To examine the robustness of these cross-sex misprediction biases to choice of behaviors, we first calculated a Commonness Index (= Δ[Common for men − Common for women]), where higher values mean a behavior is perceived to be more common for men than women. Descriptive results show that three dating behaviors were over 1.5 scale points more common for men than for women: buying jewelry ($M = 1.63$, $SD = 1.75$, 95% CI [1.45, 1.81]), treating to dinner ($M = 2.31$, $SD = 1.86$, 95% CI [2.12, 2.50]), and sending red roses ($M = 2.85$, $SD = 1.90$, 95% CI [2.65, 3.04]). All other behaviors fell between 1.16 and −.54 scale points.

These are the same three behaviors that yielded the strongest cross-sex effect about women in Perilloux and Kurzban's (2015) study (η_p^2s = .16, .12, and .12, respectively). Replicating their results, these three behaviors showed similarly strong effects in our Study 1 (η_p^2s = .10, .11, and .07, respectively, see Tables 4 and 6 in the supplemental material available online for effect sizes for each of the 15 behaviors). Therefore, we next examined whether excluding these three behaviors, as well as one behavior ("having had sex") that is inconsistent with a scenario asking a respondent to imagine that one has *not* yet had sex, would significantly reduce the cross-sex misprediction bias. For this, we computed the "ratings about women [men]" variable twice: once as the mean sexual intention across all 15 behaviors, and once as the mean sexual intention across only the subset of the 11 behaviors.

A Target (rating about women vs. men) × Sex × Question wording × Inventory (mean across 15 vs. 11 behaviors) ANOVA revealed a significant Target × Sex × Inventory interaction, $F(1, 372) = 5.92$, $p = .015$, $\eta_p^2 = .02$. Follow-up analyses showed that the *bias about women* was reduced by 9% in the shorter inventory ($\Delta M_{15beaviors} = .67$ to $\Delta M_{11beaviors} = .61$), Sex × Inventory interaction: $F(1, 374) = 7.51$, $p = .006$, $\eta_p^2 = .02$, $\Delta M = -.06$, 95% CI [−.10, −.02] (reduction of .06/.67 = 9%). The *bias about men* was not ($\Delta M_{15beaviors} = \Delta M_{11beaviors} = .38$), Sex × Inventory interaction: $F(1, 374) = .01$, $p = .909$, $\eta_p^2 < .001$, $\Delta M = .002$, 95% CI [−.03, .03]. This is as expected, as the excluded behaviors are only uncommon for women. The bias reduction of excluding these four behaviors was robust to question wording (four-way interaction: $F(1, 372) < 1$). Figures 1 and 2 graph the commonness ratings and the misprediction bias for each of the 15 behaviors across Studies 1 and 2 (Panel A) and Study 3 (Panel B). F1-2

Self- versus same-sex difference (*purer-than-thou effect*). We next tested whether respondents judged their own sexual intentions lower than a same-sex other's sexual intentions. Thus, we ran a 2 Target (self- vs. same-sex-report) × 2 Sex × 2 Question Wording ANOVA. There was a main effect of sex showing that men ($M = 1.47$, $SD = .90$) give higher sexual intention ratings than women ($M = .65$, $SD = 1.09$), $F(1, 372) = 59.36$, $p < .001$, $\eta_p^2 = .14$. More important, there was a main effect of target. Respondents judged same-sex others' sexual intentions ($M = 1.42$, $SD = 1.06$) significantly higher than their own sexual intentions ($M = .94$, $SD = 1.16$), $F(1, 372) = 142.68$, $p < .001$, $\eta_p^2 = .28$, $\Delta M = .48$, 95% CI [.41, .56]. There was no other significant effect, suggesting that this *purer-than-thou* effect is robust for both men and women as well as both question wording conditions. Substantively, the existence of systematic self-/same-sex differences suggest that both women and men provide biased responses.

Cross- versus same-sex difference (same-sex criterion). Next, we compare cross-sex-reports against *same-sex*-reports as an

Table 1
Decomposing the Cross-Sex Bias About Women and Men (Studies 1 to 3)

	M Self-rating				*M* Cross-sex-rating			Bias = $\Delta M_{sex(cross\ vs.\ self)}$			
Rating	S-O order	O-S order	ΔM_{order} (= underreport)	Underreport in % of bias at S-O order	S-O order	O-S order	ΔM_{order}	S-O order	O-S order (= remaining bias)	ΔM_{order}	Bias ↓ because of order (%)
Rating about women											
Study 1											
11 behaviors	.47				1.08			.61***			
15 behaviors	.41				1.08			.67***			
Study 2											
11 behaviors	.30	.66	.36*	48% (.36/.76)	1.06	.97	−.09	.76***	.31*	−.45*	−60% (−.45/.76)
Study 3											
11 behaviors	.53	.90	.37*	69% (.37/.54)	1.07	1.05	−.02	.54**	.15	−.39†	−72% (−.39/.54)
15 behaviors	.44	.78	.34*	54% (.34/.62)	1.07	1.05	−.02	.62***	.27†	−.35[a]	−56% (−.35/.62)
Rating about men											
Study 1											
11 behaviors	1.18				1.56			.38***			
15 behaviors	1.22				1.60			.38***			
Study 2											
11 behaviors	1.20	1.50	.30*	>100% (.30/.20)	1.40	1.08	−.32*	.20[b]	−.42**	−.62**	>−100% (−.62/.20)
Study 3											
11 behaviors	.84	1.43	.58**	100% (.58/.58)	1.43	1.24	−.19	.58***	−.19[c]	−.77***	>−100% (−.77/.58)
15 behaviors	.83	1.42	.59**	96% (.59/.62)	1.44	1.24	−.21†	.62***	−.18[d]	−.80***	>−100% (−.80/.62)

Note. S-O = self-other; O-S = other-self.
[a] $p = .133$. [b] $p = .147$. [c] $p = .206$. [d] $p = .227$.
† $p <= .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

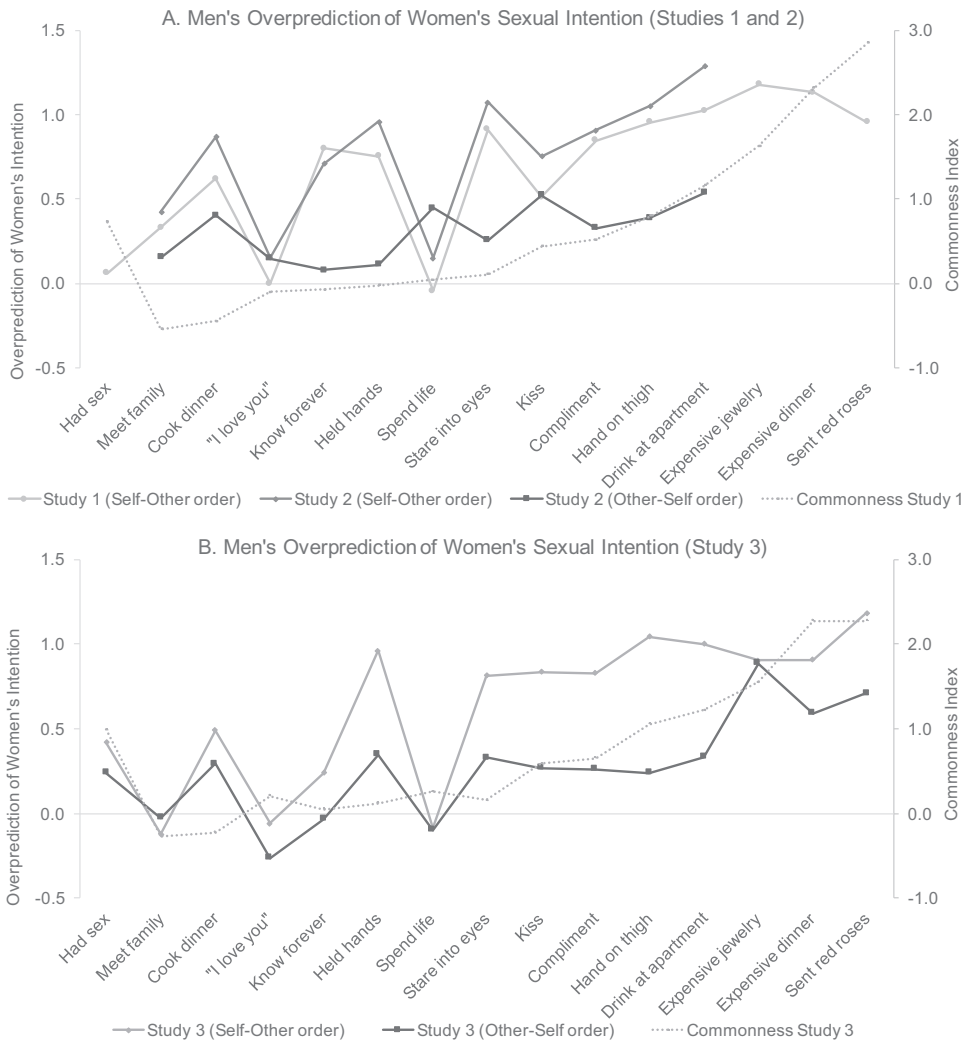

Figure 1. Men's Overprediction of women's sexual intention (Panel A, Studies 1 and 2; Panel B, Study 3). X-Axis denotes the dating behaviors; primary *y*-axis denotes the difference between men's cross-sex and women's self-reported sexual intentions (positive [negative] values = men overestimate [underestimate] women's intention); secondary *y*-axis denotes the difference between how common a dating behavior is perceived for men versus women (positive [negative] values = more common for men than women [for women than men]).

alternative criterion, that is, what both sexes *predict* about women [men]. For this, we computed a variable "*predictions about women*" containing females' same-sex report about other women and males' cross-sex report about women. Analogously, we computed a variable "*predictions about men*" containing males' same-sex report about other men and females' cross-sex report about men.

We ran a 2 Target (predictions about women vs. men) × 2 Sex × 2 Question Wording repeated measure ANOVA. There was a significant main effect of target showing that sexual intention predictions about men ($M = 1.67$, $SD = .93$) were higher than those about women ($M = 1.01$, $SD = .97$), $F(1, 372) = 246.61$, $p < .001$, $\eta_p^2 = .40$, $\Delta M = .66$, 95% CI [.58, .74]. All other effects were $p > .05$. While the Target × Sex interaction effect was not significant, $F(1, 372) = .88$, $p = .349$, $\eta_p^2 = .002$, planned contrasts showed that, for *predictions about women*, men ($M = 1.08$, $SD = .89$) predicted marginally higher sexual intentions for women than women predicted for other women ($M = .89$, $SD = 1.08$), $F(1, 374) = 3.35$, $p = .068$, $\eta_p^2 = .01$, $\Delta M = .19$, 95% CI [−.01, .40], suggesting men may overpredict women's intentions (Haselton & Buss, 2000). For *predictions about men*, women's predictions for men ($M = 1.60$, $SD = .93$) were no different from men's predictions for other men ($M = 1.71$, $SD = .93$), $F(1, 374) = 1.24$, $p = .267$, $\eta_p^2 = .003$, $\Delta M = -.11$, 95% CI [−.31, .09], suggesting that there may not be a misprediction bias in women's predictions about men (replicating Haselton & Buss, 2000, Study 2). We will follow-up on these tentative conclusions (bias about women, no bias about men) in Studies 2 and 3, where we aim to decompose the cross-sex differences.

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

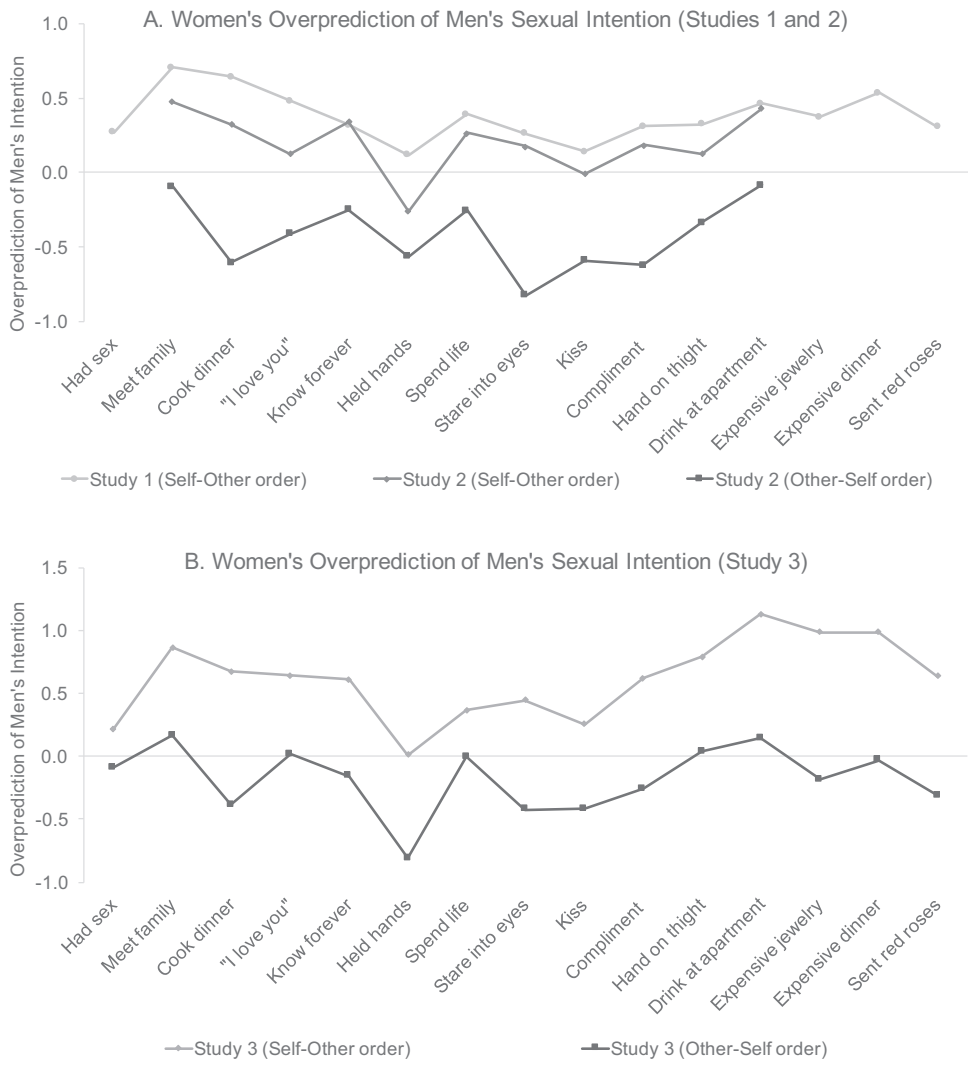

Figure 2. Women's overprediction of men's sexual intention (Panel A, Studies 1 and 2; Panel B, Study 3). X-Axis denotes the dating behaviors; *y*-axis denotes the difference between women's cross-sex and men's self-reported sexual intentions (positive [negative] values = women overestimate [underestimate] men's intention).

Discussion

The results in Study 1 replicated the findings from previous research (Haselton & Buss, 2000, Study 2): (a) Men overestimated women's sexual intentions whether using women's self-reports or women's same-sex predictions as criteria to establish the bias; (b) Men overestimated women's intentions to a greater extent than women overestimated men's intentions; and (c) Women only overestimated men's self-reported sexual intention, but not men's predictions about other men, the latter suggesting that women may actually not overestimate men's sexual intentions. The replication of Haselton and Buss' findings (2000) is noteworthy as our Study 1 uses a different sample (MTurk vs. students in the former), suggesting these results are robust to an older population.

Beyond prior research, Study 1 demonstrated that excluding the three artificial dating behaviors that are uncommon for women (buying jewelry, dinner, and roses) as well as the inconsistent behavior (had sex), deflated the cross-sex misprediction bias about women by 9%. Thus, in Study 2, we use the reduced inventory to establish the size of the bias as a conservative test.

More important, Study 1 confirmed that both men and women report same-sex others to be more sexually interested than they themselves are (*purer-than-thou* effect). This suggests that responses by both men and women appear to be biased. In Studies 2 and 3 we introduce the survey method intervention—order-of-elicitation of self-reports—to examine by how much women's and men's reports are biased to understand the extent to which the misprediction biases are because of underreporting artifacts versus substantive miscalibration.

Study 2: Order-of-Elicitation of Self-Reports

Study 2 tests the prediction that asking about other targets *before* eliciting self-reports attenuates the cross-sex misprediction

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

bias. Any reduction in the bias that is because of an increase in self-reported sexual intentions is attributable to underreporting; the remaining cross-sex difference (if any) may be attributable to miscalibrated predictions by the other sex.

Method

Procedure. As in Study 1, women and men gave self- (α = .93), cross-sex- (α = .91), and same-sex-ratings (α = .92). Based on the results of Study 1, we used the reduced inventory of 11 behaviors (excluding sending roses, buying dinner, buying jewelry, and having sex) and the identical question wording for all three ratings.

Unlike in Study 1, we manipulated the order in which the respondents reported about themselves versus the other two targets between subjects. Either they reported their own rating first followed by the ratings for cross- and same-sex others, as they did in Study 1 (*self-other order*), or they rated the cross- and same-sex others *before* their own ratings (*other-self order*). The sequence of ratings for cross-sex and same-sex others was counterbalanced within each order condition. We predicted a Target × Sex × Order interaction, that is, a replication of the Target × Sex interaction in the self-other order (as in Study 1) and an attenuation of it in the other-self order. There was no significant main or interaction effect of counterbalancing same-/cross-sex other-reports for either the bias about women or the bias about men (all *p*s ≥ .149), and this factor is subsequently ignored.

Sample. Overall, 605 MTurk participants completed our survey. We targeted 600 observations for our four between participant cells ($n > 50$ per sex cell) to detect any additional effects because of counterbalancing the sequence of the two "other" questions (eight between participant cells). We excluded 50 respondents who did not categorize themselves as heterosexual, leaving 555 observations for analysis (82 men/self-other order/cross-sex first, 82 men/self-other order/same-sex first, 82 men/other-self order/cross-sex first, 84 men/other-self order/same-sex first, 57 women/self-other order/cross-sex first, 54 women/self-other order/same-sex first, 58 women/other-self order/cross-sex first, 56 women/other-self order/same-sex first).

Results

Self- versus cross-sex difference (cross-sex misprediction bias). A 2 Target (ratings about women vs. men) × 2 Sex (male vs. female) × 2 Order (self-other vs. other-self) repeated measure ANOVA replicated the Target × Sex interaction as in Study 1, $F(1, 551) = 29.13$, $p < .001$, $\eta_p^2 = .05$, which was moderated by order, $F(1, 551) = 46.85$, $p < .001$, $\eta_p^2 = .08$). We examined the Sex × Order interaction separately for each target:

Ratings about women. There was a significant Sex × Order interaction for ratings about women, $F(1, 551) = 5.68$, $p = .017$, $\eta_p^2 = .01$. In the self-other order, replicating Study 1's design and results, men predicted higher sexual intentions among women ($M = 1.06$, $SD = .90$) than women reported for themselves ($M = .30$, $SD = 1.39$), $F(1, 273) = 30.32$, $p < .001$, $\eta_p^2 = .10$, a cross-sex difference of 23%, $\Delta M = .76$, 95% CI [.49, 1.03] (.76/[.30 + 3] = 23%). In the other-self order, the cross-sex difference was reduced to 8% ($M_{\text{men\_cross-sex}} = .97$, $SD = .84$ vs. $M_{\text{women\_self}} = .66$, $SD = 1.34$), $\Delta M = .31$, 95% CI [.05, .56] (.31/[.66 + 3] = 8%), but remained significant, $F(1, 278) = 5.54$, $p = .019$, $\eta_p^2 = .02$. In other words, the cross-sex misprediction bias was reduced from $\Delta M_{\text{self-other}} = .76$ to $\Delta M_{\text{other-self}} = .31$, that is, by 60% (.45/.76 = 60%, see Figures 1 and 3). This reduction in the bias was *not* because of variations in men's estimates about women ($M_{\text{self-other}} = 1.06$ vs. $M_{\text{other-self}} = .97$), $F(1, 328) = .84$, $p = .359$, $\eta_p^2 = .003$, $\Delta M = -.09$, 95% CI [−.28, .10]. More important, it was because of an increase in women's self-reports in the other-self ($M = .66$, $SD = 1.34$) versus self-other order ($M = .30$, $SD = 1.39$), $F(1, 223) = 4.01$, $p = .046$, $\eta_p^2 = .02$. This increase in women's self-reports of $\Delta M = .36$, 95% CI [.01, .72] equals 48% of the misprediction bias in the self-other order (.36/.76 = 48%) and reflects the part of the misprediction bias about women that is attributable to women *underreporting* their sexual intentions. The remaining cross-sex difference in the other-self order of $\Delta M = .31$, 95% CI [.05, .56], may reflect overestimation.

Ratings about men. There was also a Sex × Order interaction for ratings about men, $F(1, 551) = 10.66$, $p = .001$, $\eta_p^2 = .02$. In the self-other order, women rated men's sexual intentions directionally higher ($M = 1.40$, $SD = 1.21$) than men rated their own sexual intentions ($M = 1.20$, $SD = 1.05$), $F(1, 273) = 2.12$, $p = .147$, $\eta_p^2 = .01$, $\Delta M = .20$, 95% CI [−.07, .47], a cross-sex difference of 5% (.20/[1.20 + 3] = 5%). In the other-self order, however, the direction of the effect reversed: Women rated men's sexual intentions significantly *lower* ($M = 1.08$, $SD = 1.17$) than men rated their own sexual intentions ($M = 1.50$, $SD = 1.01$), $F(1, 278) = 10.23$, $p = .002$, $\eta_p^2 = .04$, $\Delta M = -.42$, 95% CI [−.68, −.16], a cross-sex difference of 9% (.42/[1.50 + 3] = 9%, see Figures 2 and 3). The reversal was because men's self-reports increased ($M_{\text{self-other}} = 1.20$ vs. $M_{\text{other-self}} = 1.50$, $F(1, 328) = 6.80$, $p = .010$, $\eta_p^2 = .02$, $\Delta M = .30$, 95% CI [.07, .52], and women's reports about men decreased ($M_{\text{self-other}} = 1.40$ vs. $M_{\text{other-self}} = 1.08$, $F(1, 223) = 4.16$, $p = .043$, $\eta_p^2 = .02$, $\Delta M = -.32$, 95% CI [−.64, −.01]. Note, the decrease in women's judgments about men needs replication before drawing conclusions about it (see Study 3). More important, the increase in men's self-reports of $\Delta M = .30$ is larger than the overestimation bias about men in the self-other order of $\Delta M = .20$, implying that the *over*estimation bias about men is entirely (100%) attributable to men underreporting their sexual intentions. In fact, the significant reversal of $\Delta M = -.42$ suggests that women may actually be *under*estimating men's sexual intentions, after accounting for men's underreporting.

Figure 3 (top row) portrays the cross-sex difference on the ratings about women (Panel A) and men (Panel B), with higher values indicating a higher intention to want to have sex. The two leftmost bars (Panel A) reflect a replication of the overestimation bias of women's sexual intention by men when, as is conventional, respondents are asked about themselves first; the second set of bars shows an attenuation of the bias by 60% when, instead, responses for the other targets are elicited first. The third set of bars (Panel B) reflects a directional replication of the overestimation effect of men's sexual intention by women in the conventional question order, but a reversal of the effect when, instead, other targets' reports are elicited first (see also Table 1).

Self- versus same-sex difference (*purer-than-thou* effect). We tested whether the order-of-elicitation method is effective in debiasing by testing whether the intrasex *purer-than-thou* difference, which indicates biased reporting, is reduced in the other-self

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

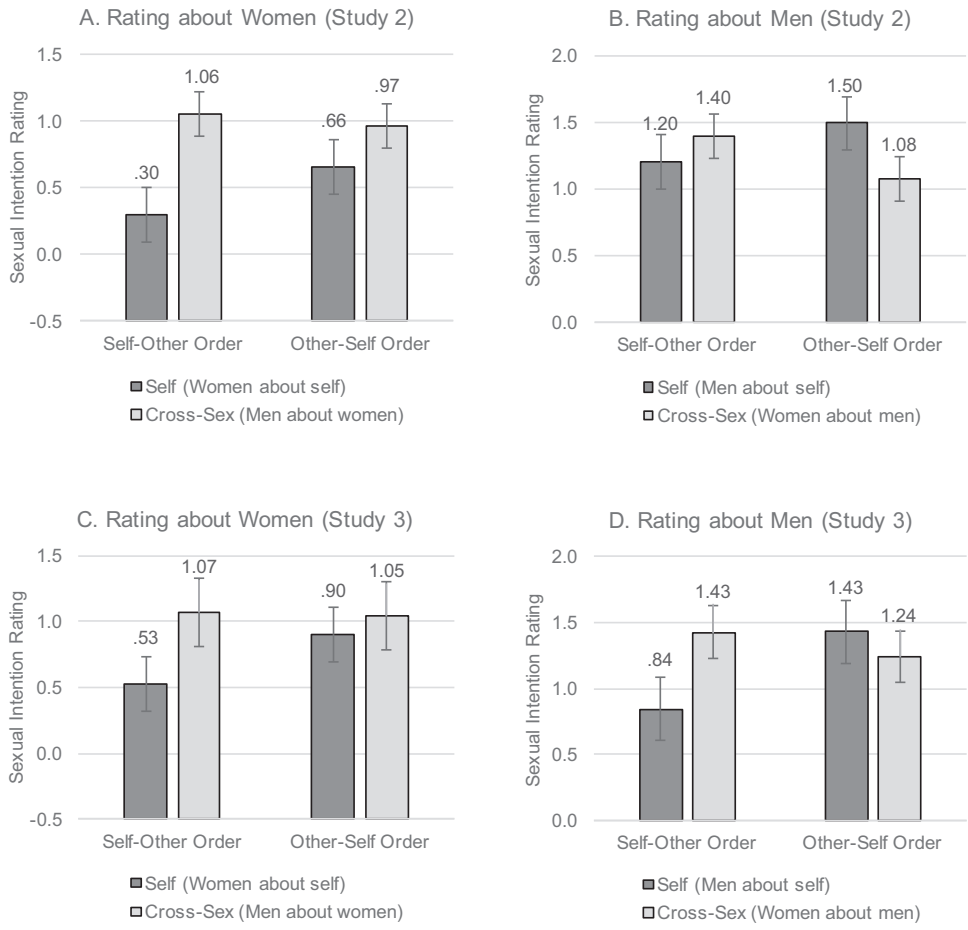

Figure 3. Cross-sex misprediction bias about women (left, Panels A and C) and about men (right, Panels B and D) in Study 2 (top, Panels A and B) and Study 3 (bottom, Panels C and D). X-axis denotes the two order conditions; *y*-axis denotes the likelihood of wanting to have sex (−3 = *extremely unlikely* to 3 = *extremely likely*). Error bars represent the 95% confidence intervals.

(vs. self-other) order. A 2 Target (self- vs. same-sex-report) × 2 Sex × 2 Order ANOVA showed the expected Target × Order interaction, $F(1, 551) = 23.52$, $p < .001$, $\eta_p^2 = .04$, which was qualified by a Target × Order × Sex interaction, $F(1, 551) = 4.31$, $p = .038$, $\eta_p^2 = .01$.

Follow-up analysis revealed that the Target × Order interaction is robust for both sexes, while stronger for women, $F(1, 223) = 16.27$, $p < .001$, $\eta_p^2 = .07$, than for men, $F(1, 328) = 5.67$, $p = .018$, $\eta_p^2 = .02$. That is, in the *self-other order*, female respondents judged other women's sexual intentions ($M = .76$, $SD = 1.08$) significantly higher than their own sexual intentions ($M = .30$, $SD = 1.39$), $F(1, 110) = 23.44$, $p < .001$, $\eta_p^2 = .18$, $\Delta M = .46$, 95% CI [.27, .65], and male respondents judged other men's sexual intentions ($M = 1.57$, $SD = .93$) significantly higher than their own sexual intentions ($M = 1.20$, $SD = 1.05$), $F(1, 163) = 32.57$, $p < .001$, $\eta_p^2 = .17$, $\Delta M = .37$, 95% CI [.24, .49]. In the *other-self order*, however, this *purer-than-thou* difference was eliminated for women ($M_{self} = .66$, $SD = 1.34$ vs. $M_{same\text{-}sex} = .63$, $SD = 1.05$), $F(1, 113) = .19$, $p = .667$, $\eta_p^2 = .002$, $\Delta M = -.03$, 95% CI [−.19, .12,], and reduced for men ($M_{self} = 1.50$, $SD = 1.01$ vs. $M_{same\text{-}sex} = 1.66$, $SD = .91$), $F(1, 165) = 10.07$, $p = .002$, $\eta_p^2 = .06$, $\Delta M = .17$, 95% CI [.06, .27]. More important, for both women and men, the attenuation was entirely because of the increase in self-reports in the other-self order (women: $M_{self\text{-}other} = .30$ vs. $M_{other\text{-}self} = .66$, $F(1, 223) = 4.01$, $p = .046$, $\eta_p^2 = .02$, $\Delta M = .36$, 95% CI [.01, .72]; men: $M_{self\text{-}other} = 1.20$ vs. $M_{other\text{-}self} = 1.50$, $F(1, 328) = 6.80$, $p = .010$, $\eta_p^2 = .02$, $\Delta M = .30$, 95% CI [.07, .52]). Same-sex reports did not significantly differ between order conditions (women: $M_{self\text{-}other} = .76$ vs. $M_{other\text{-}self} = .63$, $F(1, 223) = .84$, $p = .360$, $\eta_p^2 = .004$, $\Delta M = -.13$, 95% CI [−.41, .15]; men: $M_{self\text{-}other} = 1.57$ vs. $M_{other\text{-}self} = 1.66$, $F(1, 328) = .93$, $p = .336$, $\eta_p^2 = .003$, $\Delta M = .10$, 95% CI [−.10, .30].

Substantively, the existence of systematic self-/same-sex differences in the self-other order replicates Study 1's results and suggests that both women and men provide biased responses. Its attenuation in the other-self order, however, suggests that asking about other targets before eliciting self-reports is effective in reducing biased responding for both women and men. For women, biased responding was entirely eliminated; for men, it was substantially reduced, notably, in both cases because *self-reports increased* in the other-self order (no movement in same-sex-

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

reports). This corroborates the conclusion from above that self-reports asked first are biased and that asking them *after* reports about others increases their validity and, hence, is effective in assessing them as being underreported.

Cross- versus same-sex difference (same-sex criterion). Next, we pit cross-sex-reports against *same-sex*-reports as an alternative criterion like in Study 1 to understand what both sexes predict about women [men]. A Target (predictions about women vs. men) × 2 Sex × 2 Order ANOVA revealed a significant three-way interaction, $F(1, 551) = 6.78$, $p = .009$, $\eta_p^2 = .01$. Thus, we ran Sex × Order ANOVAs for predictions about women and about men separately.

For *predictions about women*, there was a significant main effect of sex, $F(1, 551) = 15.03$, $p < .001$, $\eta_p^2 = .03$, which was *not* significantly moderated by order, $F(1, 551) = .07$, $p = .798$, $\eta_p^2 < .001$. That is, across *both* order conditions, men's predictions about women's sexual intentions ($M = 1.01$, $SD = .87$) were higher than women's predictions about women ($M = .69$, $SD = 1.06$), $\Delta M = .32$, 95% CI [.16, .48]. This replicates Study 1's result (akin to Haselton & Buss, 2000) and corroborates the above conclusion that men continue to *over*estimate women's sexual intentions.

For *predictions about men*, there was also a main effect of sex, $F(1, 551) = 17.63$, $p < .001$, $\eta_p^2 = .03$, which *was* moderated by order, $F(1, 551) = 5.51$, $p = .019$, $\eta_p^2 = .01$. In the self-other order, men's ($M = 1.57$, $SD = .93$) and women's predictions ($M = 1.40$, $SD = 1.21$) about men did not significantly differ, $F(1, 273) = 1.66$, $p = .199$, $\eta_p^2 = .01$, $\Delta M = -.17$, 95% CI [−.42, .09]. This replicates Study 1's result and confirms the conclusion that there may not be an *over*estimation bias about men's sexual intention (akin to Haselton & Buss, 2000). In the other-self order, men's predictions about men ($M = 1.66$, $SD = .91$) were *higher* than women's predictions about men ($M = 1.08$, $SD = 1.17$), $F(1, 278) = 22.18$, $p < .001$, $\eta_p^2 = .07$, $\Delta M = -.59$, 95% CI [−.83, −.34]. This corroborates the conclusion that women may actually *under*estimate men's sexual intention.

Discussion

Study 2's self-other order replicates the pattern of results of Study 1 (akin to Haselton & Buss, 2000). Beyond that, it showed that asking about other targets first reduced the cross-sex misprediction effect about women's sexual intentions by 60% and reversed the one about men. More important, this was because both women and men reported higher own sexual intentions, suggesting that both biases may have been, in part, because of underreporting. Specifically, about half (48%) of the overall overestimation bias about women was found to be because of women underreporting their own sexual intention, but that men continued to significantly *over*estimate women's sexual intentions after accounting for underreporting. Women's overestimation of men's sexual intentions, on the other hand, was entirely (100%) attributable to underreporting and even reversed when accounting for underreporting: women significantly *under*estimated men's sexual intentions.

Comparisons of self-/same-sex differences between the two order conditions attest that the method of asking about others before eliciting the sensitive self-report was effective in reducing biased responding for both men and women. The *purer-than-thou* reporting by women was eliminated and the one by men was significantly reduced, notably, entirely because of the increase in their self-reports (same-sex reports did not vary by order).

Finally, using same-sex-reports (instead of self-reports) as an alternative criterion to establish misprediction biases corroborated the conclusion that men *over*estimate women's sexual intention and women *under*estimate men's sexual intention.

An important limitation of Studies 1 and 2 is that they use an older adult sample (MTurk participants, e.g., Murray et al., 2017; Perilloux & Kurzban, 2015), while earlier research has typically used a younger student sample (e.g., Haselton & Buss, 2000). Another limitation is that the misprediction bias could be driven by differential base rate expectations of men's and women's sexual behavior. Thus, Study 3 aims to test the robustness of the above results with a younger population as well as to base rate expectations before drawing conclusions.

Study 3: Overestimation Because of Underestimation of Base Rates?

One effect that emerged in both Studies 1 and 2 was that both men and women estimate men's sexual *intentions* to be higher than those of women. This could be driven by beliefs about stereotypical sexual *behavior* reflected in the estimated overall number of dates a man or a woman go on before having sex. Specifically, if men believe that women have fewer dates until they have sex than women report that they have for themselves, this could drive men's overestimation of women's sexual intentions. Vice versa, if women believe that men have fewer dates until they have sex than men report that they have, this would lead them to overestimate men's sexual intentions. Thus, we test whether the misprediction biases are robust when controlling for these base rate beliefs.

Method

Sample. Overall, 397 participants completed our survey: 213 participated for course credit, 184 were paid ($10 for a 30-min session). All were from the same North American university and completed this study among other unrelated studies. We targeted 400 observations for our four between participant cells ($n > 50$ per sex cell). We excluded 33 respondents who did not categorize themselves as heterosexual, leaving 364 observations for analysis (37 men/self-other order/cross-sex first, 35 men/self-other order/same-sex first, 36 men/other-self order/cross-sex first, 35 men/other-self order/same-sex first, 53 women/self-other order/cross-sex first, 56 women/self-other order/same-sex first, 57 women/other-self order/cross-sex first, 55 women/other-self order/same-sex first).

Procedure. The procedure was as in Study 2. We elicited the same three ratings, self-, cross-sex-, and same-sex-reports ($\alpha = .94$, $\alpha = .93$, and $\alpha = .94$, respectively). Self-reports were elicited before or after other-reports, with the sequence of the two other-reports counterbalanced. We elicited judgments for the complete Haselton and Buss (2000) inventory (i.e., 15 behaviors as in Study 1) and used Study 2's question wording (i.e., identical questions for all three ratings).

Subsequently, we asked respondents to report the average number of dates after which a woman, a man, and they themselves, would be typically likely to have sex using an open-ended question (four outliers who reported 100+ dates were excluded from the

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

respective analysis). The order of the three base rate questions was the same as the order in which respondents indicated the three sets of sexual intention ratings. As in Study 1, we also measured how common the dating behaviors were perceived for men versus women.

Results and Discussion

Commonness of dating behaviors. Replicating Study 1's results, the three dating behaviors that were over 1.5 scale points more common for men than for women were sending red roses ($M = 2.27$, $SD = 1.81$, 95% CI [2.09, 2.46]), buying dinner ($M = 2.27$, $SD = 1.89$, 95% CI [2.08, 2.47]), and buying jewelry ($M = 1.55$, $SD = 1.57$, 95% CI [1.39, 1.72]). All other behaviors fell between 1.22 and −.27 scale points. As in Study 1, these three behaviors had comparatively high effect sizes (self-other order, Study's 1 design: η_p^2s = .12, .06, and .06, respectively; other-self order: η_p^2s = .04, .03, and .06, respectively). Tables 5 and 7 in the supplemental material available online show commonness ratings as well as means and effect sizes for each behavior.

As in Study 1, to assess whether the cross-sex misprediction biases significantly decreased when these three behaviors as well as the inconsistent behavior (*had sex*) were excluded, we ran a Target (rating about women vs. men) × Sex (male vs. female) × Inventory (mean across 15 vs. 11 behaviors) × Order (self-other vs. other-self order) ANOVA. The Target × Sex × Inventory interaction of Study 1 replicated, $F(1, 360) = 26.56$, $p < .001$, $\eta_p^2 = .07$. Follow-up analyses showed that, as in Study 1, the cross-sex misprediction *bias about women* was significantly reduced by 23% in the reduced inventory ($\Delta M_{15beaviors} = .45$ to $\Delta M_{11beaviors} = .34$, reduction = .10/.45 = 23%), Sex × Inventory interaction: $F(1, 362) = 21.87$, $p < .001$, $\eta_p^2 = .06$, $\Delta M = -.10$, 95% CI [−.15, −.06], while the *bias about men* was not ($\Delta M_{15beaviors} = .22$ to $\Delta M_{11beaviors} = .20$), Sex × Inventory interaction: $F(1, 362) = 1.34$, $p = .248$, $\eta_p^2 = .004$, $\Delta M = -.02$, 95% CI [−.06, .01]. The attenuating effect of using the reduced inventory to assess the bias about women was robust in both order conditions (four-way interaction: $F(1, 360) < 1$).

Next, we analyzed whether the sexual intention misprediction bias was moderated by order as in Study 2. We report the result for the 11-behavior inventory because it is a more conservative estimate of the bias and because of comparability with the results of Study 2 that assessed the 11 behaviors only. Individual results for each of the 15 behaviors per order condition are in Tables 5 and 7 in the supplemental material available online and overall results are in Table 1.

Self- versus cross-sex difference (cross-sex misprediction bias). The 2 Target (ratings about women vs. men) × 2 Sex × 2 Order ANOVA replicated the three-way interaction of Study 2, $F(1, 360) = 46.60$, $p < .001$, $\eta_p^2 = .11$. We examined ratings about women and men separately.

Ratings about women. There was a marginal Sex × Order interaction for the bias about women, $F(1, 360) = 2.68$, $p = .102$, $\eta_p^2 = .01$. In the self-other order, men predicted significantly higher sexual intentions among women ($M = 1.07$, $SD = 1.06$) than women reported for themselves ($M = .53$, $SD = 1.24$), $F(1, 179) = 9.23$, $p = .003$, $\eta_p^2 = .05$, $\Delta M = .54$, 95% CI [.19, .89], an overestimation bias of 15% (.54/[.53 + 3] = 15%). In the other-self order, the cross-sex difference was not significant ($M_{men\_cross\text{-}sex} = 1.05$, $SD = .91$ vs. $M_{women\_self} = .90$, $SD = 1.12$), $F(1, 181) = .91$, $p = .343$, $\eta_p^2 = .005$, $\Delta M = .15$, 95% CI [−.16, .46], and reduced to 4% (.15/[.90 + 3] = 4%). In other words, the overestimation bias about women was reduced from $\Delta M_{self\text{-}other\text{-}order} = .54$ to $\Delta M_{other\text{-}self\text{-}order} = .15$ or 72% (.39/.54 = 72%). Again, the reduction in the bias about women was entirely because of an increase in women's self-reports in the other-self order by $\Delta M = .37$, 95% CI [.06, .69], ($M_{self\text{-}other} = .53$ vs. $M_{other\text{-}self} = .90$), $F(1, 219) = 5.56$, $p = .019$, $\eta_p^2 = .02$. Men's reports about women did not significantly vary by question order ($M_{self\text{-}other} = 1.07$ vs. $M_{other\text{-}self} = 1.05$), $F(1, 141) = .01$, $p = .924$, $\eta_p^2 < .001$, $\Delta M = -.02$, 95% CI [−.34, .31]. The increase in women's self-report of $\Delta M = .37$ equals 69% of the overall cross-sex misprediction bias about women in the self-other order of $\Delta M = .54$ (.37/.54 = 69%) and can be attributed to women underreporting their own intentions. The remaining overestimation bias in the other-self order condition was no longer significant $\Delta M = .15$. In Study 2 the remaining overestimation bias was significant; else, all results from Study 2 are replicated in this younger sample (see Figures 1 and 3; Table 1).

Ratings about men. Replicating the results of Study 2, there was also a Sex × Order interaction for judgments about men, $F(1, 360) = 11.78$, $p < .001$, $\eta_p^2 = .03$. In the self-other order, women rated men's sexual intention higher ($M = 1.43$, $SD = .90$) than men rated their own sexual intention ($M = .84$, $SD = 1.36$), $F(1, 179) = 12.02$, $p < .001$, $\eta_p^2 = .06$, $\Delta M = .58$, 95% CI [.25, .91], an overestimation bias of 15% (.58/[.84 + 3] = 15%). In the other-self order, it was eliminated. As in Study 2, the pattern of means showed a reversal: Women rated men's sexual intentions directionally *lower* ($M = 1.24$, $SD = .96$) than men rated their own sexual intentions ($M = 1.43$, $SD = 1.03$), $F(1, 181) = 1.61$, $p = .206$, $\eta_p^2 = .01$, $\Delta M = -.19$, 95% CI [−.49, .11], a difference of 4% (.19/[1.43 + 3] = 4%), albeit not significant as it was in Study 2. More important, the bias reduction is because men's self-reports increased in the other-self order ($M_{self\text{-}other} = .84$ vs. $M_{other\text{-}self} = 1.43$), $F(1, 141) = 8.40$, $p = .004$, $\eta_p^2 = .06$, $\Delta M = .58$, 95% CI [.19, .98]. Women's reports about men did not significantly vary by order ($M_{self\text{-}other} = 1.43$ vs. $M_{other\text{-}self} = 1.24$), $F(1, 219) = 2.25$, $p = .135$, $\eta_p^2 = .01$, $\Delta M = -.19$, 95% CI [−.44, .06]. This increase in men's self-reports of $\Delta M = .58$ is equivalent to the overestimation bias about men in the self-other order of $\Delta M = .58$, implying that the *over*estimation bias about men is entirely (100%) attributable to men underreporting their sexual intentions. Although only directional in Study 3 (significant in Study 2), the remaining reversal suggests that women may actually be *under*estimating men's sexual intentions ($\Delta M = -.19$) when biased responding is accounted for (see Figures 2 and 3; Table 1).

Robustness to base rate estimates. To examine whether the above effects were robust to base rate beliefs, we computed the base rate bias about women (for females, contains their self-reported base rate and, for males, their base rate estimates for women) and about men (for males, contains their self-reported base rate and, for females, their base rate estimates for men). The results show that the Sex x Order interaction for the sexual intention ratings about both targets women, $F(1, 355) = 3.81$, $p = .052$, $\eta_p^2 = .01$, and men, $F(1, 355) = 6.58$, $p = .011$, $\eta_p^2 = .02$, remain robust when controlling for the respective base rate bias.

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

Self- versus same-sex difference (*purer-than-thou* effect). To assess the effectiveness of the order-of-elicitation of self-reports in reducing underreporting, we ran a 2 Target (self- vs. same-sex-report) × 2 Sex × 2 Order ANOVA. It yielded a significant Target × Order interaction, $F(1, 360) = 60.88$, $p < .001$, $\eta_p^2 = .14$, that was not moderated by sex, three-way: $F(1, 360) = .14$, $p = .705$, $\eta_p^2 < .001$, suggesting that the Target × Order interaction was robust for both sexes: women, $F(1, 219) = 33.41$, $p < .001$, $\eta_p^2 = .13$, and men, $F(1, 141) = 29.87$, $p < .001$, $\eta_p^2 = .17$, as it was in Study 2.

That is, in the *self-other order*, women judged other women's sexual intentions ($M = 1.11$, $SD = .94$) significantly higher than their own ($M = .53$, $SD = 1.24$), $F(1, 108) = 50.49$, $p < .001$, $\eta_p^2 = .32$, $\Delta M = .58$, 95% CI [.42, .74], and men judged other men's sexual intentions ($M = 1.55$, $SD = .95$) significantly higher than their own ($M = .84$, $SD = 1.36$), $F(1, 71) = 46.26$, $p < .001$, $\eta_p^2 = .39$, $\Delta M = .70$, 95% CI [.50, .91]. In the *other-self order*, this *purer-than-thou effect* was eliminated both for women ($M_{self} = .90$, $SD = 1.12$ vs. $M_{same\text{-}sex} = .89$, $SD = 1.09$), $F(1, 111) = .05$, $p = .827$, $\eta_p^2 < .001$, $\Delta M = -.01$, 95% CI [−.14, .11], and for men ($M_{self} = 1.43$, $SD = 1.03$ vs. $M_{same\text{-}sex} = 1.48$, $SD = .93$), $F(1, 70) = .58$, $p = .448$, $\eta_p^2 = .01$, $\Delta M = .05$, 95% CI [−.07, .17]. As in Study 2, for both women and men, the attenuation was entirely because of the increase in self-reports in the other-self order (women: $M_{self\text{-}other} = .53$ vs. $M_{other\text{-}self} = .90$, $F(1, 219) = 5.56$, $p = .019$, $\eta_p^2 = .02$, $\Delta M = .37$, 95% CI [.06, .69]; men: $M_{self\text{-}other} = .84$ vs. $M_{other\text{-}self} = 1.43$, $F(1, 141) = 8.40$, $p = .004$, $\eta_p^2 = .06$, $\Delta M = .58$, 95% CI [.19, .98]). Same-sex reports did not significantly differ between order conditions (women: $M_{self\text{-}other} = 1.11$ vs. $M_{other\text{-}self} = .89$, $F(1, 219) = 2.60$, $p = .109$, $\eta_p^2 = .01$, $\Delta M = -.22$, 95% CI [−.49, .05]; men: $M_{self\text{-}other} = 1.55$ vs. $M_{other\text{-}self} = 1.48$, $F(1, 141) = .21$, $p = .649$, $\eta_p^2 = .001$, $\Delta M = -.07$, 95% CI [−.38, .24].

Replicating Studies' 1 and 2 results, the existence of systematic self-/same-sex differences in the self-other order suggest that both women and men provide biased responses. The elimination of these differences in the other-self order suggests that eliciting self-reports after reports about other targets is effective at reducing biased reporting for both women and men.

Cross- versus same-sex difference (same-sex criterion). Next, we pit cross-sex-reports against *same-sex*-reports as an alternative criterion as in Studies 1 and 2. A 2 Target (predictions about women vs. men) × 2 Sex × 2 Order repeated measure ANOVA revealed a significant main effect of target, $F(1, 360) = 98.95$, $p < .001$, $\eta_p^2 = .22$, showing that sexual intentions about men ($M = 1.40$, $SD = .94$) were judged higher than about women ($M = 1.02$, $SD = 1.01$). Although no other effects were significant, we examined cross-/same-sex differences for each target to compare the pattern of means with Studies' 1 and 2 results. For *predictions about women*, men ($M = 1.06$, $SD = .99$) predicted directionally *higher* sexual intentions than women predicted for other women ($M = .99$, $SD = 1.02$), $F(1, 362) = .34$, $p = .560$, $\eta_p^2 = .001$, $\Delta M = .06$, 95% CI [−.15, .28]. This pattern is consistent with the results from Studies 1 and 2 and corroborates the above conclusion that men may *over*estimate women's sexual intentions (akin to Haselton & Buss, 2000). For *predictions about men*, women ($M = 1.33$, $SD = .94$) predicted marginally *lower* sexual intentions than men predicted for other men ($M = 1.51$, $SD = .94$), $F(1, 362) = 3.19$, $p = .075$, $\eta_p^2 = .01$, $\Delta M = -.18$, 95% CI [−.38, .02]. Similarly to Study 2, it suggests that women may *under*estimate men's sexual intentions. These two effects were not moderated by order, Sex × Order: Fs$(1, 360) < 1$.

Taken together, Study 3 replicates the pattern of results of Study 2 for a younger sample and shows it is robust to stereotypic base rate beliefs. The overall findings are discussed next.

General Discussion

This research examined what part of the cross-sex misprediction bias about women and men is attributable to underreporting artifacts of the target's own sexual intention (criterion variable) and what part of it, if any, is robust to methodological artifacts. For this, we first calibrated the overall *size* of the misprediction bias. The size of the bias about women may have been inflated in previous research because some dating behaviors used to elicit sexual intention ratings seem less common for women than men (e.g., sending red roses); the bias about both women and men may have been inflated because the question wording to elicit self-reports ("want" to have sex) differed from the question used to elicit cross-sex-reports ("interest" in having sex). The present results showed that question wording (identical "want" vs. different "want"/"interest") did not moderate the size of the cross-sex misprediction biases (Study 1). Thus, in Studies 2 and 3 we used an identical question wording instead of the differential wording of the original instrument (Haselton & Buss, 2000). The choice of dating behaviors, however, *did* moderate the size of the misprediction bias about women (Studies 1 and 3). Three behaviors of Haselton and Buss' (2000) original dating behavior inventory were perceived substantially less common for women than for men to perform on a date (buying jewelry, treating to dinner, or sending red roses). Excluding these three uncommon behaviors for women as well as one behavior that is difficult to interpret given the scenario (had sex) significantly *reduced* the misprediction bias about women by 9% to 23% (Studies 1 and 3). The misprediction bias about men was, as expected, unaffected as these behaviors are only uncommon for women. Thus, in Studies 2 and 3 we used the calibrated 11-dating-behavior inventory to assess the bias.

Next, we examined what part of the calibrated misprediction bias about women may be because of women *underreporting* their own sexual intentions versus men *over*estimating them. For this, we manipulated the order of elicitation of self-reports as it should attenuate self-other differences (Bless & Schwarz, 2010; Schwarz, Strack, & Mai, 1991) and, hence, attenuate biased responding when asking about other targets *before* eliciting the sensitive self-reports. Indeed, the results showed that when women were asked about others' sexual intentions before their own (vs. own first), they reported significantly higher own sexual intentions (Studies 2 and 3). As a result, this order intervention substantially reduced the overall misprediction bias about women, purely because of a significant increase in women's self-reports; men's estimates about women did not vary significantly. At least half of the size of the misprediction bias about women that occurred when, as is typical, women were asked about themselves first, was attributable to women underreporting their own sexual intention (48% in Study 2 and 69% in Study 3). Nevertheless, even when underreport artifacts were accounted for by asking about other

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

targets first, men continued to overestimate women's sexual intentions. In Study 2 this overestimation bias was significant (p = .019) and in Study 3 directional (p = .343). A meta-analysis of adding t-values across both studies following Rosenthal (1978; $Z = \frac{\sum t}{\sqrt{\sum \frac{df}{(df-2)}}}$) suggests that men's overestimation of women's sexual intentions is indeed significant (Z = 2.33, p = .020, two-tailed). As Figure 4 portrays, it is, however, likely to be less strong than earlier believed: Cohen's d decreased from an average overestimation effect of d = .60 (across Studies 1–3, self-other order)—which is consistent with the average effect size of d = .63 in past research (see review article by Farris et al., 2008)—to d = .22 (across Studies 2 and 3, other-self order).

Similar findings occurred for the bias about men. When men were asked about others' sexual intentions before their own (vs. own first), they reported significantly higher own sexual intentions (Studies 2 and 3). As a result of the order intervention, the overprediction bias about men was *eliminated*. Note that there was also variation in women's estimates about men's sexual intentions in the two order conditions. However, as this variation was not consistent across the two studies (significant in Study 2, directional in Study 3) and not expected on theoretical grounds, it requires further replication before conclusions can be drawn. What is theoretically more important is that in both Studies 2 and 3, the increase in men's own sexual intention report was *larger* than (Study 2) or as large as (Study 3) the size of the original overestimation bias about men that occurred when, as is typical, men were asked about themselves first. This suggests that the overestimation bias was *entirely* attributable to men underreporting their own sexual intention. Indeed, the pattern of results suggests that women may actually be *under*estimating men's sexual intentions. That is, in the condition where underreporting artifacts were accounted for by asking about other targets first, men reported they had higher sexual intentions than women predicted for them. In Study 2 this difference was significant (p = .002), whereas in Study 3 it was directional (p = .206). A meta-analysis of adding t-values across both studies suggest that the *under*estimation bias about men is significant (Z = 3.14, p = .002, two-tailed). As depicted in Figure 4, Cohen's d reversed from an average *over*estimation effect of .36 (across Studies 1–3, self-other order) to an average *under*estimation effect of −.29 (across Studies 2 and 3, other-self order).

More important, these findings—that both women and men underreport, but men continue to overestimate women's intentions, while women do not and may actually underestimate men's intentions—were found to generalize to samples of different ages (adults in Study 2 and students in Study 3), to be robust to controlling for base rate beliefs about the number of dates that men and women go on, on average, before engaging in sex (Study 3), and, notably, to be robust to using *same-sex*-reports, instead of

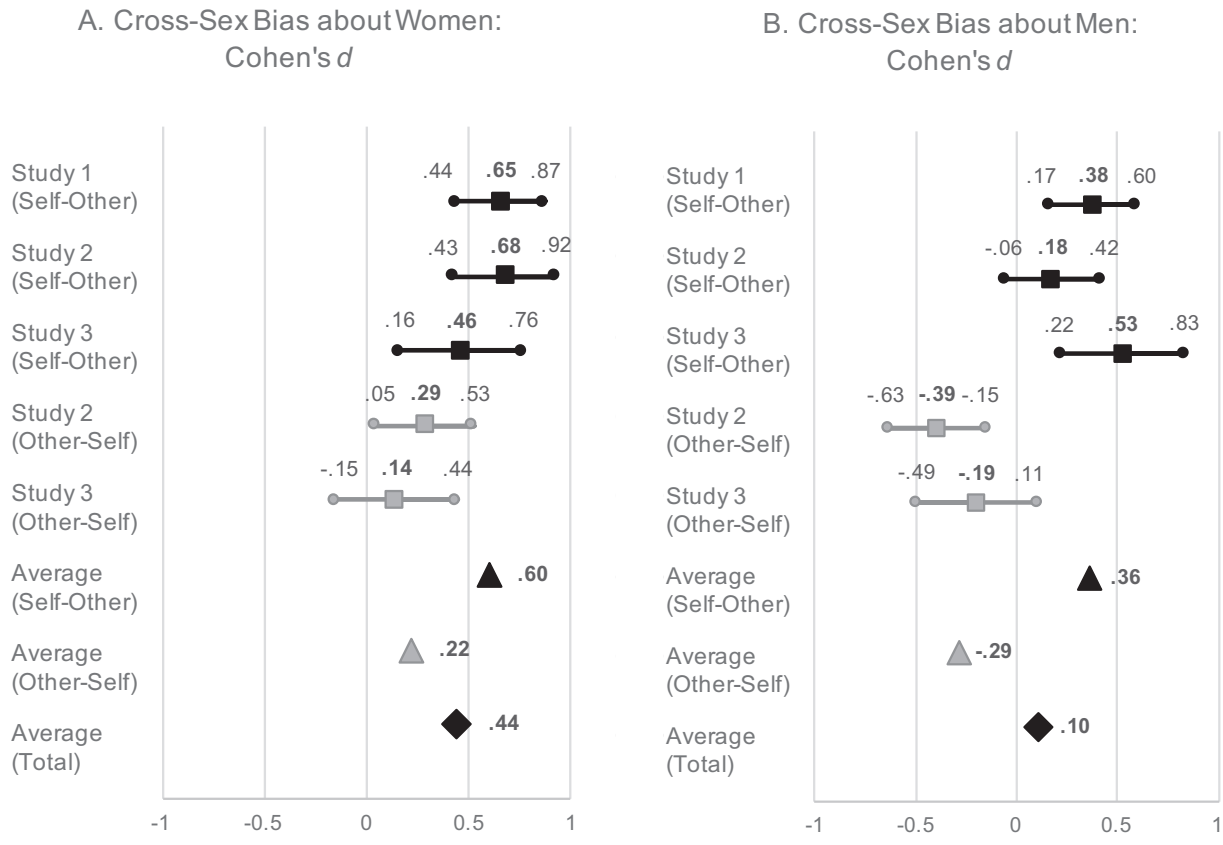

Figure 4. Cohen's d of Cross-sex misprediction bias about women (Panels A) and men (Panel B) by order (Black: Self-Other Order; Gray: Other-Self Order). Cohen's d was adjusted for the different cross-sex sample sizes using Hedges' g (according to Hedges & Olkin, 1985). Error bars represent the 95% confidence intervals.

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

self-reports, as an alternative criterion to establish cross-sex misprediction biases (Studies 2 and 3). The latter finding is notable, as comparing cross- to same-sex-reports, per definition, eliminates the issue of self-reports being underreported. If anything, it has been suggested that same-sex reports are overreported for derogation reasons (Haselton & Buss, 2000), which would, in fact, make them (and the present findings) a more conservative criterion.

Theoretical Contribution

Taken together, these findings contribute by reconciling the current debate in the literature on the cross-sex misprediction bias about women on the key question of whether women underreport and/or men overestimate women's intentions. The findings suggest that women substantially underreport their own sexual intentions and that this makes for a substantial part of the misprediction bias (in line with Perilloux & Kurzban, 2015, 2017). However, even when accounting for underreporting artifacts, we find that men continue to *over*estimate women's sexual intentions (in line with Haselton & Buss, 2000; Murray et al., 2017).

Beyond this debate, this research elucidates the misprediction bias about men. Men were found to *under*report their own sexual intentions. Women's overestimation of men's sexual intentions was entirely eliminated when accounting for men's underreporting. If anything, women were found to *under*estimate men's intention. This reversal can help reconcile conflicting past findings: Women have been reported to *over*estimate men's sexual intention in studies where hypothetical dating scenarios were used to elicit sexual intentions (Haselton & Buss, 2000), but to *under*estimate them when more realistic scenarios were used such as when students were asked to speed-meet (Perilloux et al., 2012). Our results suggest that it is possible that when response artifacts are reduced, either through more realistic settings (as in Perilloux et al., 2012) or through varying order-of-elicitation (as in our Studies 2 and 3 vs. Study 1), women may actually *under*estimate men's sexual intentions. Overall, our findings lend support to error management theory (Haselton & Buss, 2000), which suggests that natural selection biases men to overestimate sexual intentions (as it is less costly than omitting a reproductive chance), but not women (as the heavy investment in each child makes them value the quality over quantity of partners; Haselton, Nettle, & Murray, 2016).

Taken together, to our knowledge, the present research is the first to provide evidence that sexual intention self-reports of both women and men are susceptible to underreporting, by showing that self-reports are malleable and that they increase when response artifacts are reduced. Thus far, Perilloux and Kurzban (2015) have shown that women's reports increase when they report for other women versus themselves (not that self-reports increase) and they did not investigate underreporting issues in the bias about men.

Additionally, the findings suggest methodological adaptations in assessing cross-sex misprediction biases as these biases proved to be prone to methodological variations in the choice of dating behaviors and the order-of-elicitation of the sexual intention self-reports. In prior research, self-reported sexual intentions were typically elicited first (e.g., Perilloux & Kurzban, 2015) or, if counterbalanced, order effects were not reported (e.g., Haselton & Buss, 2000). The present results showed that the overestimation bias about women was attenuated and the overestimation bias about men eliminated when the questions about other targets were elicited first. More important, the reduction was because of an increase in self-reports, not because of systematic variations in cross-sex predictions. Attesting to the validity of the order-of-elicitation method to decompose misprediction biases, the results further showed that it substantially attenuated classic, intrasex self-other differences (*purer-than-thou* effect), which are said to reflect biased responding (e.g., Taylor & Brown, 1988). This is noteworthy because it is typically difficult to eliminate this type of idealistic self-view (e.g., Kruger & Gilovich, 2004; Tanner & Carlson, 2009). The systematic *purer-than-thou* effect, which occurred when women were asked about themselves first (Studies 1 to 3) and which suggests women give biased responses, was entirely eliminated: When asked about other targets first, women's self-reports increased such that they were no different from their prediction about other women's sexual intention (Studies 2 and 3). In identical fashion, for men the *purer-than-thou* effect that systematically occurred (Studies 1 to 3), was reduced in Study 2 and eliminated in Study 3 when men were asked about other targets first. Notably, the reduction of the *purer-than-thou* effect for both women and men was entirely driven by their self-report increasing to the level of same-sex reports, while same-sex reports did not vary significantly.

Implications

The findings have several methodological and substantive implications. Methodologically, they recommend (a) excluding dating behaviors that are uncommon for the target person to perform, (b) eliciting all ratings, cross- and self-sex, with an identical question wording (i.e., "want" to have sex), and, importantly (c) eliciting responses about other targets before the self-report to reduce the risk of artificial inflation and understand the direction of cross-sex misprediction biases.

After accounting for these methodological concerns, the present findings suggest that when men and women are dating, men may still overestimate women's sexual intentions, while women may not. Women could actually be at risk of underestimating men's sexual intentions. Taking these two effects together (men's overestimation and women's underestimation) exacerbates the gap between dating partners' interpretation of dating behaviors. It suggests that, even if we account for methodological artifacts that indeed may have given an inflated impression of misprediction biases in the previous literature, there seems to remain a substantial gap in how women and men interpret dating situations, which could lead to problematic misunderstandings between dating partners' intentions in actually wanting to have sex.

Limitations and Avenues for Future Research

Because the overprediction bias about women remained, future research could investigate to what extent other contextual methods that aim to reduce biases through educating men and women would help eliminate the bias. Would, for example, educating people about population base rates of a phenomenon before asking questions about it (e.g., *everybody approach*; Barton, 1958) help to reduce the bias and effectively reduce men's perceptions of women's sexual intentions after dating to bring it in line with women's report of their own intentions?

tapraid5/z2g-perpsy/z2g-perpsy/z2g99917/z2g4598d17z | xppws | S=1 | 6/23/17 | 7:58 | Art: I-2017-0965

For the order-of-elicitation intervention to be effective, the prior question about the other target is typically a peer, which, in the present case, would reflect a same-sex other. Thus, future research could investigate whether it is worthwhile to not only assess the two key data points of cross-sex- and self-reports, as is typical, but additionally collect same-sex reports to reduce underreporting artifacts in subsequent self-reports.

Investigating reasons for underreporting artifacts for men and women ~~are~~ is another avenue for future research. Are women and men aware that they underreport, and do they do so for self-enhancement reasons as suggested by Haselton and Buss (2000)? We hope our research spurs further investigations in these areas.

References

Abbey, A. (1982). Sex differences in attributions for friendly behavior: Do males misperceive females' friendliness? *Journal of Personality and Social Psychology, 42,* 830–838. http://dx.doi.org/10.1037/0022-3514.42.5.830

Alicke, M. D., Klotz, M. L., Breitenbecher, D. L., Yurak, T. J., & Vredenburg, D. S. (1995). Personal contact, individuation, and the better-than-average effect. *Journal of Personality and Social Psychology, 68,* 804–825. http://dx.doi.org/10.1037/0022-3514.68.5.804

Barton, A. H. (1958). Asking the embarrassing question. *Public Opinion Quarterly, 22,* 67–68. http://dx.doi.org/10.1086/266761

Bless, H., & Schwarz, N. (2010). Mental construal and the emergence of assimilation and contrast effects: The inclusion/exclusion model. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 42, pp. 319–373). San Diego, CA: Elsevier Academic Press. http://dx.doi.org/10.1016/S0065-2601(10)42006-7

Farris, C., Treat, T. A., Viken, R. J., & McFall, R. M. (2008). Sexual coercion and the misperception of sexual intent. *Clinical Psychology Review, 28,* 48–66. http://dx.doi.org/10.1016/j.cpr.2007.03.002

Fisher, T. D., & Walters, A. S. (2003). Variables in addition to gender that help to explain differences in perceived sexual interest. *Psychology of Men & Masculinity, 4,* 154–162. http://dx.doi.org/10.1037/1524-9220.4.2.154

Grice, P. (1975). Logic and conversation. In P. Cole & J. Morgan (Eds.), *Syntax and semantics* (pp. 41–58). New York, NY: Academic Press.

Haselton, M. G., & Buss, D. M. (2000). Error management theory: A new perspective on biases in cross-sex mind reading. *Journal of Personality and Social Psychology, 78,* 81–91. http://dx.doi.org/10.1037/0022-3514.78.1.81

Haselton, M. G., Nettle, D., & Murray, D. (2016). The evolution of cognitive bias. In D. M. Buss (Ed.), *The evolutionary psychology handbook* (2nd ed., pp. 968–987). Hoboken, NJ: Wiley.

Hedges, L. V., & Olkin, I. (1985). *Statistical methods for meta-analysis*. San Diego, CA: Academic Press.

Kowalski, R. M. (1993). Inferring sexual interest from behavioral cues: Effects of gender and sexually relevant attitudes. *Sex Roles, 29,* 13–36. http://dx.doi.org/10.1007/BF00289994

Kruger, J. (1999). Lake Wobegon be gone! The "below-average effect" and the egocentric nature of comparative ability judgments. *Journal of Personality and Social Psychology, 77,* 221–232. http://dx.doi.org/10.1037/0022-3514.77.2.221

Kruger, J., & Gilovich, T. (2004). Actions, intentions, and self-assessment: The road to self-enhancement is paved with good intentions. *Personality and Social Psychology Bulletin, 30,* 328–339. http://dx.doi.org/10.1177/0146167203259932

Lindgren, K. P., Parkhill, M. R., George, W. H., & Hendershot, C. S. (2008). Gender differences in perceptions of sexual intent: A qualitative review and integration. *Psychology of Women Quarterly, 32,* 423–439. http://dx.doi.org/10.1111/j.1471-6402.2008.00456.x

Menon, G., Raghubir, P., & Schwarz, N. (1997). How much will I spend? Factors affecting consumers' estimates of future expense. *Journal of Consumer Psychology, 6,* 141–164. http://dx.doi.org/10.1207/s15327663jcp0602_02

Murray, D. R., Murphy, S. C., von Hippel, W., Trivers, R., & Haselton, M. G. (2017). A preregistered study of competing predictions suggests that men do overestimate women's sexual intent. *Psychological Science, 28,* 253–255. http://dx.doi.org/10.1177/0956797616675474

Paulhus, D. L. (1991). Measurement and control of response bias. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 17–59). San Diego, CA: Academic Press. http://dx.doi.org/10.1016/B978-0-12-590241-0.50006-X AQ: 4

Paulhus, D. L., & Trapnell, P. D. (2008). Self-presentation of personality: An agency-communion framework. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (Vol. 3, pp. 492–517). New York, NY: Guilford Press.

Perilloux, C., Easton, J. A., & Buss, D. M. (2012). The misperception of sexual interest. *Psychological Science, 23,* 146–151. http://dx.doi.org/10.1177/0956797611424162

Perilloux, C., & Kurzban, R. (2015). Do men overperceive women's sexual interest? *Psychological Science, 26,* 70–77. http://dx.doi.org/10.1177/0956797614555727

Perilloux, C., & Kurzban, R. (2017). Reply to "A preregistered study of competing predictions suggests that men do overestimate women's sexual intent." *Psychological Science, 28,* 256–257. http://dx.doi.org/10.1177/0956797616684001

Perilloux, C., Muñoz-Reyes, J. A., Turiegano, E., Kurzban, R., & Pita, M. (2015). Do (non-American) men overestimate women's sexual intentions? *Evolutionary Psychological Science, 1,* 150–154. http://dx.doi.org/10.1007/s40806-015-0017-5

Raghubir, P., & Johar, G. V. (1999). Hong Kong 1997 in context. *Public Opinion Quarterly, 63,* 543–565. http://dx.doi.org/10.1086/297870

Reynolds, W. M. (1982). Development of reliable and valid short forms of the Marlowe-Crowne social desirability scale. *Journal of Clinical Psychology, 38,* 119–125. http://dx.doi.org/10.1002/1097-4679(198201)38:1<119::AID-JCLP2270380118>3.0.CO;2-I AQ: 5

Rosenthal, R. (1978). Combining results of independent studies. *Psychological Bulletin, 85,* 185–193. http://dx.doi.org/10.1037/0033-2909.85.1.185

Schwarz, N. (1999). Self-reports: How the questions shape the answers. *American Psychologist, 54,* 93–105. http://dx.doi.org/10.1037/0003-066X.54.2.93

Schwarz, N., Strack, F., & Mai, H.-P. (1991). Assimilation and contrast effects in part-whole question sequences: A conversational logic analysis. *Public Opinion Quarterly, 55,* 3–23. http://dx.doi.org/10.1086/269239

Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2013, January 17–19). *Life after p-hacking*. Paper presented at the Meeting of the Society for Personality and Social Psychology, New Orleans, LA.

Srull, T. K., & Gaelick, L. (1983). General principles and individual differences in the self as a habitual reference point: An examination of self-other judgments of similarity. *Social Cognition, 2,* 108–121. http://dx.doi.org/10.1521/soco.1983.2.2.108

Tanner, R. J., & Carlson, K. A. (2009). Unrealistically optimistic consumers: A selective hypothesis testing account for optimism in predictions of future behavior. *Journal of Consumer Research, 35,* 810–822. http://dx.doi.org/10.1086/593690

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103,* 193–210. http://dx.doi.org/10.1037/0033-2909.103.2.193

Received March 16, 2017
Revision received April 26, 2017 ■