Accuracy and Biases in Newlyweds’ Perceptions of Each Other
Not Mutually Exclusive but Mutually Beneficial
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ABSTRACT—There has been a long-standing debate about whether having accurate self-perceptions or holding positive illusions of self is more adaptive. This debate has recently expanded to consider the role of accuracy and bias of partner perceptions in romantic relationships. In the present study, we hypothesized that because accuracy, positivity bias, and similarity bias are likely to serve distinct functions in relationships, they should all make independent contributions to the prediction of marital satisfaction. In a sample of 288 newlywed couples, we tested this hypothesis by simultaneously modeling the actor effects and partner effects of accuracy, positivity bias, and similarity bias in predicting husbands’ and wives’ satisfaction. Findings across several perceptual domains suggest that all three perceptual indices independently predicted the perceiver’s satisfaction. Accuracy and similarity bias, but not positivity bias, made unique contributions to the target’s satisfaction. No sex differences were found.

There has been a long-standing debate about whether having accurate self-perceptions or holding positive illusions of self is more adaptive (e.g., Colvin, Block, & Funder, 1995; Taylor & Brown, 1988). Accuracy and bias are considered mutually exclusive perceptual properties, such that a person can be either accurate or biased, but cannot be both. Additionally, it has been assumed that only one property can have adaptive value: If accuracy is beneficial, then bias is not, and vice versa. In the past two decades, this debate has expanded to consider the role of accuracy and bias of partner perceptions (one’s perception of one’s partner) in romantic relationships, with a focus on perceptions of personality (for reviews, see Fletcher, Simpson, & Boyes, 2006; Gagne & Lydon, 2004). Some researchers argue that maintaining accurate perceptions of the partner is critical to both the perceiver’s (Kobak & Hazan, 1991) and the target’s (Swann, De La Ronde, & Hixon, 1994) satisfaction, whereas others reason that engaging in a leap of faith regarding a partner by seeing the partner in a positive light is important for relationship functioning (e.g., Murray, Griffin, & Holmes, 1996; Murray, Holmes, Bellavia, Griffin, & Dolderman, 2002).

Recent theorizing regarding the role of accuracy and bias in partner perceptions includes a fundamental shift from the simplified either-or approach to a more integrative, dialectical approach. Specifically, it has been suggested that accuracy and bias in partner perceptions are not necessarily mutually exclusive, but can coexist (e.g., Kenny & Acitelli, 2001; Murray et al., 1996). Moreover, accuracy and bias can both be beneficial, although in different ways, because they are subject to different motives, goals, and situations. For example, Gagne and Lydon (2004) argued that accuracy is more relevant in information-driven relationship judgments, whereas positivity bias is more important in esteem-related judgments. Fletcher et al. (2006) took an evolutionary approach to delineate under what conditions (e.g., short- vs. long-term relationships) and for what attributes (e.g., attractiveness vs. status) people are motivated to be accurate or positively biased. Finally, Neff and Karney (2005) proposed that partners involved in happier relationships tend to hold more positive biases on global characteristics, but to perceive specific attributes accurately.

According to these proposals, accuracy and bias each benefit relationships by playing a leading role in different kinds of
perceptions (i.e., perceiving different attributes or making different judgments). However, previous research has shown that accuracy and biases coexist in the same set of perceptions of partner personality traits (e.g., Kenny & Acitelli, 2001; Murray et al., 1996). Taking advantage of new methodologies, the current research disentangled accuracy and biases in the same set of perceptions and directly evaluated their relative contributions in the prediction of a satisfying relationship. Because accuracy and biases are likely to be driven by different motives and to serve different functions in relationships, we hypothesized that they would make independent contributions to marital satisfaction.

The current research was also designed to extend previous work by overcoming two other limitations. First, previous discussions and examinations of bias effects on relationship outcomes have primarily focused on positivity bias and largely ignored the role of similarity bias—the belief that a partner is more similar to oneself than is true. Second, most research in this area has focused on actor effects and has not rigorously considered partner effects. In other words, satisfaction is typically predicted by the perceiver's own perceptions (actor effects) rather than his or her spouse's perceptions (partner effects). In the current research, we proposed a general model to simultaneously model the actor effects and partner effects of all three perceptual processes (i.e., accuracy, positivity bias, and similarity bias) in predicting husbands' and wives' satisfaction. We tested this general model in several personality domains in a sample of 288 newlywed couples.

ACCURACY, POSITIVITY BIAS, AND SIMILARITY BIAS IN PARTNER PERCEPTIONS

Accuracy
There are several reasons why obtaining accurate perceptions of each other is likely to be beneficial to both parties in a relationship. An accurate assessment of partner attributes (a) enables perceivers to correctly evaluate their partners' needs and anticipate their behaviors, thus fostering a sense of control, predictability, and security on the part of the perceivers (e.g., Kenny & Acitelli, 2001; Swann et al., 1994); (b) helps partners coordinate activities and reconcile conflicting goals, thereby leading to more harmonious interactions (e.g., Kobak & Hazan, 1991; Neff & Karney, 2005); and (c) is important to targets because accurate perceptions provide a feeling of being validated, which is a crucial requirement for intimacy (Reis & Shaver, 1988). Indeed, previous research has found consistent evidence that individuals' ratings of their partners show substantial agreement with their partners' self-ratings (e.g., Kenny & Acitelli, 2001; Watson, Hubbard, & Wiese, 2000b). Moreover, accuracy in perceptions, in general, is associated with positive relationship outcomes (Kobak & Hazan, 1991; Murray et al., 1996; Neff & Karney, 2005; for an exception, see Murray et al., 2002).

Positivity Bias
The perception of one's partner in an overly positive light has been documented as one of the most pervasive biases in romantic relationships (e.g., Murray et al., 1996; Rusbult, Van Lange, Wildschut, Yovetich, & Verette, 2000). These positive illusions may be driven by the fundamental need to feel good about the self, which, by extension, includes one's immediate network, such as romantic partners (see Taylor & Brown, 1988). Moderately positively skewed partner perceptions are thought to be adaptive because they enable perceivers to justify the belief that their partner is the "right" one and to counteract the attractiveness of potential alternative partners (e.g., Murray et al., 1996). A positivity bias is also likely to make targets feel valued and trusted, particularly when their partners give them the benefit of the doubt in stressful or uncertain situations (e.g., Brickman, 1987; Rusbult et al., 2000). Previous research has provided robust support that individuals who perceive their partners and relationships positively tend to be more satisfied in their relationships (e.g., Fowers, Lyons, & Montel, 1996; Murray et al., 1996; Rusbult et al., 2000).

Similarity Bias
The tendency for romantic partners to perceive each other as more similar than they actually are is another pervasive bias in romantic relationships (e.g., Kenny & Acitelli, 2001; Watson, Hubbard, & Wiese, 2000). Perceptions of exaggerated similarity can benefit perceivers by fostering feelings of closeness and intimacy (Aron, Aron, Tudor, & Nelson, 1991). A similarity bias is likely to lead targets to feel understood (e.g., Murray et al., 2002), and to help targets feel more confident of their partner's love (Byrne & Blaylock, 1963; Condon & Crano, 1988). Indeed, recent research has shown that similarity bias concerning values, personality attributes, and day-to-day feelings is associated with greater marital satisfaction (Murray et al., 2002).

CONSIDERING ACCURACY, POSITIVITY BIAS, AND SIMILARITY BIAS SIMULTANEOUSLY

Given that each of the three perceptual processes is likely to bring distinct benefits to perceivers and targets, we hypothesized that accurate perceptions, positivity bias, and similarity bias would all make independent contributions to perceivers' and targets' satisfaction. Because we simultaneously modeled the actor and partner effects of all three perceptual processes, the current research is well poised to answer several questions that previous research has been unable to address:

- Do accuracy, positivity bias, and similarity bias have beneficial effects independently of each other, or are their effects mutually exclusive?
- How do accurate and biased perceptions impact perceivers' and targets' satisfaction?
- Are there any sex differences in these effects?
We followed Kenny and his colleagues’ actor-partner interdependence model (APIM; see Kenny, 1996; Kenny, Kashy, & Cook, 2006) to design the general model. As demonstrated in Figure 1, three actor effects predict husbands’ satisfaction—husbands’ own accuracy (path a), similarity bias (path b), and positivity bias (path c). Three partner effects also predict husbands’ satisfaction—their wives’ accuracy (path x), similarity bias (path y), and positivity bias (path z). The corresponding paths for wives’ satisfaction are marked as a’, b’, c’, x’, y’, and z’. The predictors were allowed to correlate with each other. We also allowed the error terms (i.e., residuals) of husbands’ and wives’ satisfaction to be correlated with each other because there is consistent evidence in the literature that one spouse’s satisfaction is strongly related to the other’s (e.g., Watson, Hubbard, & Wiese, 2000a). Given that very few systematic, replicable gender differences have been identified for relationship processes (see Karney & Bradbury, 1995), we did not hypothesize any gender differences. We tested the general model in several domains, including Big Five personality traits, attachment, affectivity, and emotional expressivity, because each captures different central aspects of personality. In addition, self and partner perceptions in these domains have been shown to have important implications for relationship functioning (e.g., Luo & Klomnen, 2005; Watson et al., 2000).

**METHOD**

**Participants and Procedure**

The sample consisted of 288 newlywed couples recruited through mail in two Midwestern cities (mean age = 27.8 years, SD = 6.2). The couples had been married an average of 154 days (range = 25–452 days). The majority of the participants were Caucasian (90.9%) and had a college education or more advanced degree (83%). Most participants (82%) reported this was their first marriage, and 75% had no children. All participants completed questionnaires in small-group sessions comprising a maximum of 3 couples each. Participants rated themselves and their spouses on all key measures. The couples were compensated $120 each for their participation.

**Measures**

**Demographic Questionnaire**

The demographic questionnaire included questions about gender, age, ethnicity, education, length of acquaintance with the partner, and duration of the marriage.

**Big Five Inventory**

The Big Five Inventory contains five subscales: Neuroticism (8 items), Extraversion (8 items), Agreeableness (9 items), Conscientiousness (9 items), and Openness (10 items; John & Srivastava, 1999). Participants responded to each item using a 5-point scale ranging from disagree strongly to strongly agree. Alpha reliabilities in this sample ranged from .79 to .88 for the subscales.

**The Positive and Negative Affect Schedule (PANAS)**

Participants completed the trait form of the PANAS (Watson, Clark, & Tellegen, 1988). The PANAS has two 10-item subscales assessing positive affect (e.g., enthusiastic, active, interested) and...
negative affect (e.g., nervous, upset, irritable), respectively. For each item, participants were asked to indicate “to what extent you generally feel this way” and “to what extent your spouse generally feels this way,” using a 5-point scale ranging from very slightly or not at all to extremely. Alpha reliabilities in this sample were .86 and .89 for the two subscales.

**Emotional Expressivity**
Participants used a 5-point scale (ranging from not at all to very strongly) to indicate the extent to which they and their spouse typically expressed 15 emotions (Gross & John, 1998), including 6 positive emotions (e.g., joy, love, excitement) and 9 negative emotions (e.g., anger, fear, sadness, shame). Alpha reliabilities in this sample were .83 and .89 for the two subscales.

**Adult Attachment**
Participants completed a 16-item short version of Brennan, Clark, and Shaver’s (1998) 36-item attachment measure, which yields scores on the dimensions of anxiety and avoidance. Participants used a 7-point scale (ranging from strongly disagree to strongly agree) to indicate how they and their spouse typically felt and acted in their relationship. Alpha reliabilities in this sample were .75 and .85 for the two subscales.

**Marital Satisfaction**
We used three measures that assessed different aspects of relationship satisfaction. Participants completed the Locke-Wallace Marital Adjustment Test (Locke & Wallace, 1959), which is a 15-item self-report measure of marital satisfaction and couple agreement on a number of issues (e.g., finances, recreation, affection, friends, sex, and conflict resolution). The rating scales varied across items. Sexual satisfaction was assessed using 10 items from the Pinney Sexual Satisfaction Inventory (Pinney, Gerrard, & Denney, 1987). Participants responded using a 5-point scale ranging from strongly disagree to strongly agree. Finally, participants completed the 3-item Conflict subscale from the Relationship Assessment Questionnaire (Simms & Watson, 2006), which measures the frequency of conflict in the relationship (e.g., “How often do you and your spouse quarrel?”). Items were rated on a 5-point scale ranging from never to once or more a day. A composite index of relationship satisfaction was created by averaging the three standardized measures. Alpha reliability for the composite satisfaction score in this sample was .70 for both husbands and wives.

**Computing Accuracy and Bias Indices**

**Accuracy**
We followed the procedure used by Murray et al. (2002) to compute the person-centered indices. We use a fictional couple—Jason and Mary—to illustrate the computational procedure. To obtain the accuracy index for Jason, we computed the profile correlation between Jason’s perceptions of Mary and Mary’s self-ratings across all items for each of the four domains (Big Five, PANAS, emotional expressivity, and attachment). Profile correlations can range from −1.0 to 1.0, and higher correlations indicate greater accuracy.

**Similarity Bias**
To obtain an index of similarity bias for Jason, we computed a regular partial correlation. Specifically, we correlated Jason’s self-ratings with his perceptions of Mary and then partialed out Mary’s self-ratings. This partial correlation captured the degree to which Jason’s perception of Mary as similar to himself exceeded their actual similarity.

**Positivity Bias**
To index the portion of positivity of partner perceptions that went beyond the actual positivity of the partner’s self-ratings, we first needed to establish the positivity of each item on the measures we used. To accomplish this, we followed Block’s (1961/1978) expert-based prototype approach. The first author and seven advanced research assistants judged the social desirability of each item on a 6-point scale ranging from very socially undesirable to very socially desirable. Average interrater agreement was .87. We averaged the ratings for each item across all eight judges and used these averages as a positivity prototype. We computed the correlation between Jason’s perceptions of Mary and the positivity prototype, with Mary’s self-ratings being partialed out. This index thus captured the extent to which Jason’s positivity in his perceptions of Mary went beyond the actual positivity of Mary’s self-ratings.

**RESULTS**

**Preliminary Analyses**
Before conducting our primary analyses, we examined husbands’ and wives’ mean scores on the three perceptual indices. Table 1 shows the means and standard deviations for the three indices for spouses in the four domains. Wives consistently had higher scores in almost every domain for every perceptual index, although not all gender differences reached statistical significance. These results indicate that wives tended to be both more accurate and more biased in their perceptions of their spouses than husbands were.

**Model Fit for the Proposed Model**
We used a structural equation modeling program in LISREL (Joreskog & Sorbom, 1993) to test the proposed model (Fig. 1). The proposed model simultaneously tested the unique contributions of the actor and partner effects of accuracy, similarity bias, and positivity bias to marital satisfaction for both husbands and wives. We allowed all six predictors to be correlated with each other and the two error terms of satisfaction to be correlated. Because no substantial gender difference was expected, equality constraints were imposed on all paths concerning
gender (i.e., a = a′, b = b′, c = c′, and so on). Lack of statistical significance in the constrained model would suggest that these constraints did not significantly worsen model fit—in other words, that there was no significant difference between the model with and without gender difference. If that was the case, then the model without gender difference would be preferable for its parsimoniousness.

To evaluate the goodness of fit of the constrained model, we considered four fit indices: chi-square, the goodness-of-fit index (GFI), the comparative fit index (CFI), and the point estimate and 90% confidence interval of the root-mean-square error of approximation (RMSEA). Among these four indices, chi-square and GFI are more affected by sample size, whereas CFI and RMSEA are less affected by sample size (Fan, Thompson, & Wang, 1999). We tested this model separately in each of the four domains. Table 2 reports the four fit indices for all four domains. The chi-square values ranged from 1.43 to 7.49, with none being statistically significant despite the large sample size (N = 288), suggesting that forcing the paths to be equal across gender did not significantly worsen the model fit. All GFIIs and CFIs were equal to or above .99, indicating an excellent fit. The point estimates of RMSEAs ranged from .00 to .03, which meets the criterion for a good model fit (RMSEA ≤ .06; Hu & Bentler, 1999). The lower limit of the 90% confidence interval of RMSEAs was .00 for all domains, and the upper limit ranged from .00 to .09. These intervals all fell within the range for a well-fitting model (Hu & Bentler, 1999). Taken together, these results provide consistent and strong evidence for an excellent model fit, suggesting that there was no substantial gender difference.

### Predicting Marital Satisfaction From Accuracy, Similarity Bias, and Positivity Bias

Next, we examined whether the path coefficients were consistent with our predictions. Table 3 provides a summary of standardized path coefficients for actor and partner effects. Husbands and wives had the same path coefficients because no significant gender difference was detected. For actor effects, all three perceptual indices made independent contributions to the prediction of satisfaction; the only exception was that similarity bias did not contribute to the prediction of affectivity. Positivity bias consistently had the strongest path coefficients. This pattern was well replicated across the four domains. In terms of partner effects, accuracy was the most robust predictor of satisfaction; it was consistently significant and had the strongest path coefficients. Similarity bias made independent contributions to satisfaction in all domains except for affectivity. Positivity bias, however, reached statistical significance only in the case of the Big Five. Accuracy and similarity bias seem to be uniquely important to both the self’s and the spouse’s marital satisfaction, whereas positivity bias is important to the self’s but not to the partner’s marital satisfaction.

Finally, we examined the percentage of variance in satisfaction that could be accounted for by the predictors. Table 4 shows squared multiple correlations between satisfaction and the set of the six predictors (individual and spousal accuracy, similarity bias, and positivity bias). These predictors accounted for 24% to 37% of the variance in husbands’ satisfaction, explaining an average of 29% of the variance. For wives, the explained variance ranged from 22% to 31%, with an average of 27%. These percentages are highly impressive considering the fact that we only used partner perceptions in one personality domain to predict overall marital satisfaction, which can be affected by thousands of factors.

### DISCUSSION

The current findings shed new light on the long-standing debate concerning whether accurate or biased perceptions are more
adaptive. For a long time, this basic question has been framed in an either-or fashion; that is, either accurate or biased perceptions was considered to be adaptive (e.g., Colvin et al., 1995; Taylor & Brown, 1988). Recently, relationship researchers have started to reconcile these two seemingly contradictory views and to accept the notion that both perspectives may be correct—that both accurate and positively biased perceptions have adaptive consequences (e.g., Gagne & Lydon, 2004). However, empirical testing of this important theoretical development has been very limited. The current study is the first to examine accuracy, positivity bias, and similarity bias in the same study and to show that they all make independent contributions to predicting husbands’ and wives’ satisfaction, and particularly to predicting perceivers’ own satisfaction. This suggests that individuals tend to have a happier marriage if they perceive their spouse with a combination of accuracy, positivity bias, and similarity bias than if they are only accurate or only biased.

When the three perceptual indices were used simultaneously to predict targets’ satisfaction, accuracy and similarity bias continued to make independent contributions, whereas positivity bias failed to be a significant predictor. This finding suggests that individuals function better when the feedback they receive from their spouse is consistent with their own self-perceptions, and when their spouses overestimate how much they have in common. Positive spousal feedback that goes beyond one’s self-ratings does not seem to make one feel better about one’s marriage. It seems that, at least in this particular context (i.e., newlyweds’ partner perceptions in the domains we investigated), our finding is more consistent with the verification theory (e.g., Swann et al., 1994). It is important to note that positivity bias is not destructive—we did not find any significant negative link between positivity bias and target satisfaction—and may not show its beneficial effects on the target until later in the marriage.

These findings strongly suggest that accuracy and biases should not be deemed as mutually exclusive. Instead, they are likely to complement each other by serving uniquely adaptive functions in relationships. Previous research has shown that accuracy and positivity bias can have independent beneficial effects only by working on different types of perceptions (see Fletcher et al., 2006; Gagne & Lydon, 2004; Neff & Karney, 2005). The current findings constitute an important extension by highlighting the fact that accurate perceptions and different biases can coexist in the same set of perceptions, and that it is possible to tease them apart. In other words, an individual’s perception of his or her partner is a mixture of at least three components: accuracy, positivity bias, and similarity bias. (There are likely other biases and random errors.) In the current research, these components all made independent contributions to predicting marital satisfaction.

Although our study was not designed to test the unique functions of each perceptual process, we use a hypothetical case to illustrate how the three perceptions could work independently and simultaneously to enhance relationship satisfaction. Jason and Mary are a newlywed couple, and recently Jason lost his job due to the global economic recession. It is likely that Mary’s accurate perceptions of Jason would be beneficial to his job search because such perceptions may help Jason reevaluate himself and assess the situation more correctly. Additionally, her positivity bias for Jason would enable her to continue or even strengthen her faith in love despite the apparent temporary

### TABLE 3

<table>
<thead>
<tr>
<th>Domain</th>
<th>Actor effects</th>
<th>Partner effects</th>
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<tbody>
<tr>
<td></td>
<td>Accuracy</td>
<td>Similarity bias</td>
</tr>
<tr>
<td>Big Five</td>
<td>.12**</td>
<td>.10*</td>
</tr>
<tr>
<td>Attachment</td>
<td>.10**</td>
<td>.19**</td>
</tr>
<tr>
<td>Affectivity</td>
<td>.10**</td>
<td>.07</td>
</tr>
<tr>
<td>Emotional expressivity</td>
<td>.16**</td>
<td>.14**</td>
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<tr>
<td>Average</td>
<td>.14</td>
<td>.13</td>
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</tbody>
</table>

Note. N = 288.

*p < .05 (two-tailed). **p < .01 (two-tailed).

### TABLE 4

<table>
<thead>
<tr>
<th>Domain</th>
<th>Husband’s satisfaction</th>
<th>Wife’s satisfaction</th>
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</thead>
<tbody>
<tr>
<td>Big Five</td>
<td>.37**</td>
<td>.31**</td>
</tr>
<tr>
<td>Attachment</td>
<td>.23**</td>
<td>.30**</td>
</tr>
<tr>
<td>Affectivity</td>
<td>.21**</td>
<td>.23**</td>
</tr>
<tr>
<td>Emotional expressivity</td>
<td>.26**</td>
<td>.22**</td>
</tr>
<tr>
<td>Average</td>
<td>.20</td>
<td>.27</td>
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Note. N = 288.

**p < .01 (two-tailed).
difficulties Jason is facing. Finally, believing that she and her spouse are similar to each other should allow Mary to better appreciate Jason’s frustrations, and this empathy would be extremely helpful to him. Although this example is fictitious, it illustrates how accuracy, positivity bias, and similarity bias can all play a distinct adaptive role in relationship maintenance.

An important next step would be to specify and test the functions of each process and how these processes work in concert to enhance perceivers’ and targets’ satisfaction. It is crucial to examine the extent to which the findings generalize to different stages of relationship development (other than the newlywed stage), samples of different ages and regions, and other dimensions (e.g., perceived abilities). It is highly possible that in different specific circumstances, different perceptual processes play a leading role in relationship functioning. For example, when an individual is initially attracted to someone, positivity bias may be the driving force underlying the individual’s relationship behaviors, but as a relationship continues to develop and moves into the more stable and committed phase, accuracy may become increasingly important. Finally, although we hypothesized that accuracy and the two biases have unique benefits, and that all three processes help enhance relationship satisfaction, it is possible that marital satisfaction drives perception rather than the other way around. It will be very important for future research to give more attention to the directionality of the causal link between perceptions and relationship outcomes.

Acknowledgments—The authors would like to thank David Watson, Diane Berry, and Eva Klohnen for their collaboration on the Iowa Marital Assessment Project (IMAP) and all of the IMAP staff for their help in the data collection for this project. This research was supported by National Institute of Mental Health Grant 1-R01-MH61804-01 to Diane Berry and by National Institute of Mental Health Grant 1-R03-MH068395-01 to Eva C. Klohnen.

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(Received 11/7/08; Revision accepted 2/16/09)