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# Accuracy and Bias in Perceptions of Relationship Interest for Intergroup and Intragroup Roommates

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Tessa V. West<sup>1</sup>, John F. Dovidio<sup>2</sup>, and Adam R. Pearson<sup>3</sup>

## Abstract

Previous research suggests that the perception of anxiety in intergroup interactions can be detrimental to relationship formation. However, the underlying processes through which this occurs remain unclear. The present longitudinal study, which studied same- and different-race/ethnicity roommates over 6 weeks, investigated whether perceived partner anxiety moderates two types of processes previously shown to facilitate relationship development: (a) tracking accuracy, the relationship between perceivers' assessments of their partner's interest in remaining roommates and the partner's stated interest and (b) positive directional bias, representing overestimation of partners' relationship interest. Under high levels of perceived anxiety, both accuracy and directional bias were generally low, independent of the dyad type. In contrast, when perceived anxiety was relatively low, Whites and minorities in cross-race dyads and Whites in same-race dyads showed a positive directional bias in their evaluations; Whites in cross-race relationships also achieved tracking accuracy. Implications of perceived anxiety for perceptual dynamics in cross-group friendships are discussed.

## Keywords

interpersonal accuracy, intergroup anxiety, interpersonal perception, race relations

Developing a friendship with a member of another group is one of the most effective ways of improving one's own intergroup attitudes (Pettigrew & Tropp, 2008, 2011), and influences the attitudes of other in-group members, as they become aware of this friendship (Davies, Wright, Aron, & Comeau, 2013). Nevertheless, there are substantial obstacles to forming cross-group friendships. Individuals perceive out-group members as disinterested in forming relationships with them (Shelton & Richeson, 2005). Furthermore, merely perceiving anxiety in an out-group partner can fuel negative attributions that interfere with the initiation and development dyadic cross-group relationships (Pearson et al., 2008; West, 2011). However, research on accuracy and bias in perceptions of relationship interest within the intergroup context, particularly within the context of actual developing relationships, is rare. The present research examined racial/ethnic majority- and minority-group roommates' perceptions of their roommates' interest in living together over a 6-week period, and the moderating role of perceived anxiety on accuracy and bias in perceptions of relationship interest. We focused on the moderating role of anxiety given its generally detrimental effects on newly forming friendships (Kashdan & Roberts, 2006), and intergroup relationships in particular (Trawalter & Richeson, 2008).

To examine relationship perceptions, we drew upon recent distinctions between two types of accuracy shown to impact relationship development—*tracking accuracy* and *directional*

*bias* (Fletcher & Kerr, 2010; West & Kenny, 2011). Tracking accuracy indexes the degree to which people accurately detect changes in a "truth benchmark," such as tracking when a partner's interest in remaining roommates (the benchmark) changes over the course of several weeks; it is typically measured as a correlation. Directional bias reflects the degree to which judgments systematically overestimate or underestimate that benchmark, such as judging a partner's desire to remain roommates as more positive than the partner's actual desire over the course of several weeks; it is typically measured as the mean difference between the judgment and the truth benchmark (Fletcher & Kerr, 2010). Notably, tracking accuracy and directional bias are statistically and theoretically independent and can operate simultaneously (see Fletcher & Kerr, 2010; West & Kenny, 2011). For example, Jim may consistently overestimate Tom's interest in being roommates (a positive

<sup>1</sup> New York University, New York, NY, USA

<sup>2</sup> Yale University, New Haven, CT, USA

<sup>3</sup> Pomona College, Claremont, CA, USA

## Corresponding Author:

Tessa V. West, New York University, 6 Washington Place, New York, NY 10003, USA.

Email: tessa.west@nyu.edu

directional bias), but accurately track changes in Tom's interest over time.

A large body of research on close relationships suggests that positive directional bias and tracking accuracy both contribute to relationship development. Tracking accuracy fosters relationship satisfaction and commitment by enhancing understanding and attention to relationship partners' needs and feelings of validation by relationship partners (De La Ronde & Swann, 1998; Gagne & Lydon, 2004; Luo & Snider, 2009; Neff & Karney, 2002). The tendency to see a partner in an overly positive light—positive directional bias—is also a predictor of relationship satisfaction and longevity. Individuals who idealize their partners early in a relationship (i.e., see partners more positive than partners see themselves) report greater satisfaction and commitment to their relationships, less conflict, and greater trust over time (Murray & Holmes, 1997), and particularly under conditions of heightened uncertainty and doubt (Murray, 1999).

Moreover, research by Fletcher and colleagues (Fletcher & Kerr, 2010; Fletcher & Simpson, 2000; Fletcher & Thomas, 1996) suggests that tracking accuracy and positive directional bias reflect different underlying relationship motives. Specifically, tracking accuracy emerges when perceivers are motivated by epistemic needs, such as the need to learn about and understand one's partner, whereas positive directional bias arises when perceivers are motivated to feel good about their relationships. They further propose that these two fundamental motives can operate independently, in which case partner perceptions may be both accurate and biased.

The present research integrates close relationships work on tracking accuracy and directional bias with emerging research on *intergroup* relationship development. We proposed that, because majority- and minority-group members have different motivations and needs in intergroup interactions (Bergsieker, Shelton, & Richeson, 2010; Shnabel, Nadler, Ullrich, Dovidio, & Carmi, 2009), they may also demonstrate different patterns of tracking accuracy and directional bias within intergroup relative to intragroup interactions.

In particular, there is considerable evidence suggesting that whereas majority-group members (e.g., Whites) tend to focus on individuating aspects of intergroup interaction and attempt to be "colorblind" (Apfelbaum, Sommers, & Norton, 2008; Ryan, Hunt, Weible, Peterson, & Casas, 2007), minority-group members focus on group differences in these interactions, even when interactions are positive and cooperative (Dovidio, Gaertner, & Saguy, 2009; Jones, Engelman, Turner, & Campbell, 2009).

Having an interpersonal orientation leads perceivers to focus on epistemic needs, including individuating their partners (Brewer, 1988; Neuberg & Fiske, 1987), attending to their partners' specific behaviors, and being attuned to the meaning of those behaviors (Fletcher & Kerr, 2010; Kenny & Acitelli, 2001; Wilhelm & Perrez, 2004)—processes essential to tracking accuracy. In contrast, having an intergroup orientation, such as focusing on group differences, may interfere with tracking accuracy because it leads individuals to rely on

group-based expectancies when attending to their partners (Shelton & Richeson, 2005; Vorauer, 2006), which may inhibit the ability to accurately infer partners' feelings. Moreover, given their generally greater experience with intergroup contact relative to Whites, minorities may feel greater familiarity with an intergroup context and may therefore generally have weaker epistemic motives to learn about their White roommate, thereby leading to weaker tracking accuracy (Kenny, 1994). Differences in interpersonal and intergroup orientations may also influence directional bias. Bergsieker, Shelton, and Richeson (2010) demonstrated that majority-group members are particularly motivated to be liked by minority partners in intergroup interaction, more so than minorities, who are motivated to be liked by majority partners. These findings suggest that Whites will show greater levels of directional bias than minorities.

Utilizing past research on the fundamentally different motives of majority and minority group members as a guiding principle, we hypothesized that Whites would show greater levels of tracking accuracy and positive directional bias than minorities in intergroup interactions. However, we further hypothesized that racial differences in tracking accuracy and directional bias would not always emerge—they would differ as a function of the level of perceived anxiety in one's roommate.

Within the context of roommate relations, individuals typically are highly motivated to develop positive relationships and generally experience low levels of anxiety and perceive their partners as low in anxiety (Trail, Shelton, & West, 2009). As such, perceiving a roommate as anxious may be generally detrimental to relationship assessments, across all types of roommate relationships. Moreover, the same ambiguous cues that signal anxiety (e.g., fidgeting, averted gaze) are also those that communicate disinterest (Dovidio & LaFrance, 2013); yet, self-reported anxiety is often not related to actual interest in one's partner or the relationship (Kashdan & Roberts, 2006; Kashdan & Wenzel, 2005; Peters, 1978). These findings suggest that perceiving one's partner as anxious can interfere with forming accurate impressions of one's partner's actual relationship interest.

We hypothesized that under high levels of perceived anxiety, perceivers would demonstrate low tracking accuracy because perceived anxiety would interfere with the ability to track one's partner's true relationship intentions; this would be the case for all types of roommate relationships. Perceiving one's partner as anxious can also interfere with the motivation to see one's partner positively, particularly during the initial stage of relationships (Dovidio, West, Pearson, Gaertner, & Kawakami, 2007; Kashdan & Wenzel, 2005; Vorauer, 2006). Thus, we hypothesized that perceivers would also demonstrate less positive directional bias in their perceptions of their partners' interest in the relationship under relatively high levels of perceived anxiety; this would generally be the case for all types of roommate relationships.

However, we further hypothesized that differences between Whites' and minorities' levels of tracking accuracy and positive directional bias within cross-race relationships would

emerge primarily under low levels of perceived anxiety. Specifically, we expected that when perceived anxiety was low and therefore could not “interfere with” tracking accuracy and positive directional bias, Whites in cross-race relationships would display more positive tracking accuracy and a stronger positive directional bias than minorities would. This prediction is based on evidence that Whites have a stronger interpersonal than intergroup orientation than minorities do in between-group interactions (Apfelbaum et al., 2008; Jones et al., 2009; Ryan et al., 2007).

Finally, we hypothesized that Whites in same-race relationships would also demonstrate positive tracking accuracy and positive directional bias, but also primarily when perceived anxiety is relatively low. This hypothesis is based on prior research demonstrating that individuals are generally motivated to understand their partners and feel positively about their relationships when their partners are similar to themselves, particularly during the initial stages of relationship development (Murray, Holmes, Bellavia, Griffin, & Dolderman, 2002; Lemay & Clark, 2008; Selfhout, Denissen, Branje, & Meeus, 2009; Tidwell, Eastwick, & Finkel, 2012). Race serves as a strong basis of similarity that from the outset (Frey & Tropp, 2006), which can enhance communication processes, which should enhance tracking accuracy, and the motivation to see one’s partner positively (West & Magee, 2011).

## Method

### Participants

Participants were 134 first-year college students at a large northeastern university in the United States who identified themselves as White, Black, Latino/Latina, or Asian, representing 67 same-sex (45 female) roommate pairs. There were 20 minority–majority dyads (5 Black–White, 6 Latino–White, 9 Asian–White), and 47 same-race (45 White–White, 1 Black–Black, and 1 Latino–Latino) dyads. Because of a limited number of randomly assigned same-group minority roommate pairs ( $n = 2$ ), compared to White–White dyads, we limited our analyses of same-group dyads to White–White roommate pairs (dyad  $n = 45$ ; see West, Pearson, Dovidio, Shelton, & Trail, 2009, which reported different data and analyses of this sample). Roommates were assigned randomly to live together, and initially, roommates (random with respect to the variables in the study) were recruited through the psychology department participant pool and by e-mails sent to a random selection of first-year students. Approximately 50% of participants agreed to participate who were initially contacted. Participants received either partial course credit or \$20 and entry in a lottery for \$100 dollars if they completed all of the surveys. To minimize selection effects, roommates were recruited individually. All roommate pairs who began the study completed it.

### Procedure

Participants, in a study described as investigating “college roommate relationships,” first individually completed an

online questionnaire during the second week of the fall semester that contained several demographic questions, including race/ethnicity and gender. Starting at the beginning of the semester and for 6 weeks, roommates reported, twice per week, how anxious they felt during their interactions together and how anxious they believed their roommate felt (Pearson et al., 2008; Stephan et al., 2002; West et al., 2009). The measure of anxiety was a composite of the items (scored on 1 = *not at all* to 7 = *very much* scales) anxious, uncertain, tense, and uncomfortable. The measure was reliable across time points ( $\alpha$  for self-anxiety across time points = .88;  $M = 1.66$ ,  $SD = 1.04$ ;  $\alpha$  for perceived partner anxiety across time points = .91;  $M = 1.58$ ,  $SD = 1.00$ ). Participants also indicated their desire to remain roommates and their judgment of their partner’s interest in remaining roommates with the items: “I wish I had [my roommate wishes he/she had] a new roommate.” These items, also assessed with 1 = *not at all* to 7 = *very much* scales, were measured at 11 times across the period of the study ( $M_{\text{self}} = 1.70$ ,  $SD = 1.42$ ;  $M_{\text{perceived partner}} = 1.55$ ,  $SD = 1.12$ ). Responses on these measures were reverse-scored such that greater values indicate greater interest in remaining roommates.

## Results

### Analysis Strategy

Participants provided data 11 times over the 6-week period, yielding 1,474 data points for each measure. Data were analyzed using the PROC MIXED procedure in SAS to account for nonindependence in participants’ judgments within-dyad and within-person across time (see Kenny & Kashy, 2011, for a full description of the method). Because both same-race and different-race roommates were included, dyad members were treated as indistinguishable (Kenny, Kashy, & Cook, 2006). Degrees of freedom are computed using the Satterthwaite approximation, which involves a weighted average of the between and within degrees of freedom (see Fitzmaurice, Laird, & Ware, 2004; Kenny, Kashy, & Cook, 2006; West, in press). Degrees of freedom in this method, which can be fractional, are based on the total number of data points considered adjusted for the nonindependence of ratings (in dyadic analysis, within person within time, between partners within time, and between partners across time). Because effects of nonindependence are considered by the Satterthwaite approximation, the degrees of freedom for different effects will also vary across different tests. All tests of simple effects were conducted, in accordance with the recommendations of Aiken and West (1991), using models in which the group of interest is recoded to be zero in the analysis, so that all other effects in the model refer to that group.

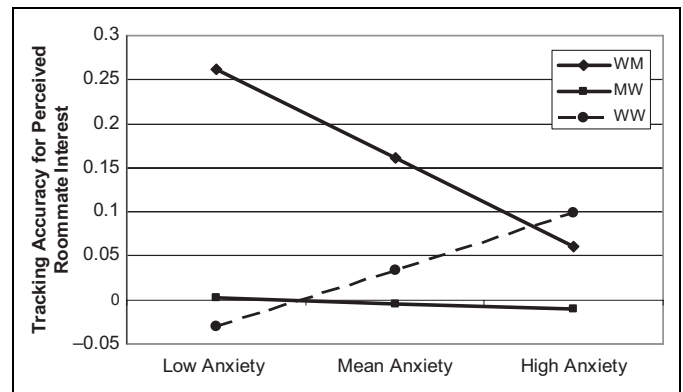
We analyzed tracking accuracy and directional bias simultaneously following the procedures outlined by West and Kenny (2011, Truth and Bias model; note that in West & Kenny, tracking accuracy is referred to as the *truth force*). Recall that tracking accuracy represents the degree to which participants’

judgments of their roommate's interest paralleled the roommate's actual stated interest, and directional bias reflects systematic inaccuracy in one direction or the other reflected in mean differences (i.e., a positive directional bias reflects overestimation of the partner's interest in remaining roommates). In the Truth and Bias model, the perception of the partner's interest in contact is treated as the outcome variable (centered on the grand mean of partner's actual interest in contact), and the partner's actual interest in contact is treated as the predictor (grand mean centered). The effect (slope) of the partner's interest in contact on the other partner's perception of that interest is the measure of *tracking accuracy*, and the intercept in the model measures *directional bias*. The model also includes the moderating effects of perceived partner anxiety and the racial composition variables on tracking accuracy and directional bias (see equation 3 in West & Kenny, 2011). Finally, to account for the possibility that participants were accurate by assuming similarity in their judgments of their roommate's responses, we adjusted for the effect of participants' stated desire to remain roommates on their judgment of their roommate's desire (referred to as the *bias force* in West & Kenny, 2011).<sup>1</sup>

There were three types of participants in the data: Whites with Whites, Whites with minorities, and minorities with Whites. To examine differences between them, two contrast codes were created. Dyad Race compares same-race to cross-race dyads, and Perceiver Race compares Whites to minorities within cross-race dyads.

**Tracking Accuracy.** Adjusting for assumed similarity, the main effect of tracking accuracy was positive and significant,  $t(21.20) = 2.48, p = .022$ : In general, perceivers were accurate in tracking the judgments of their roommates' interest in continuing to be roommates<sup>2</sup>. In addition, tracking accuracy was moderated by a significant Perceived Roommate Anxiety  $\times$  Dyad Race interaction,  $t(85.7) = -2.36, p < .001$ , and a marginal Perceived Roommate Anxiety  $\times$  Perceiver Race interaction,  $t(53.2) = -1.72, p = .091$ . We next examined tracking accuracy as a function of perceived anxiety separately for the three-types of roommate pairs.

Figure 1 displays tracking accuracy (as unstandardized coefficients) at three predicted levels of perceived roommate anxiety (1 SD below the mean, the mean, 1 SD above the mean). For minorities with Whites roommates, perceived anxiety did not moderate tracking accuracy,  $t(59.6) = -0.18, p = .855$ . As hypothesized and as seen in Figure 1, tracking accuracy was not significantly different from zero at all levels of perceived anxiety (i.e., the main effect of tracking accuracy;  $t(21.2) = -.09, p = .930$ ) indicating that minorities were inaccurate in judging their White roommate's level of interest in remaining roommates, regardless of how anxious they perceived him or her to be. Also as hypothesized, for Whites in the cross-race relationships, perceiving the roommate as greater in anxiety was associated with weaker tracking accuracy,  $t(50.1) = -2.29, p = .026$ . Whites with minority roommates achieved positive tracking accuracy when perceived anxiety was low (i.e., 1 SD below the mean),  $t(20.5) = 3.03, p = .006$ . Not as hypothesized, however, for



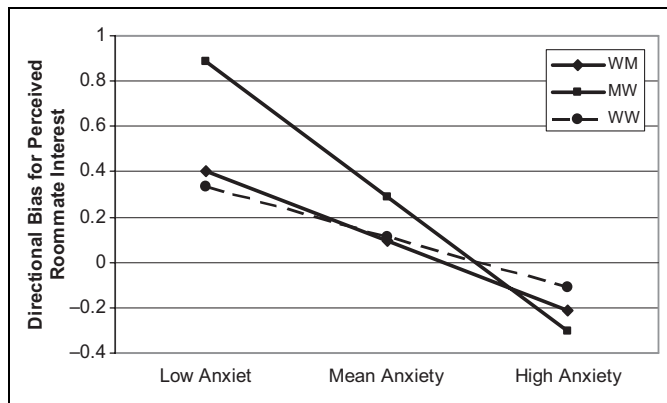
**Figure 1.** Tracking accuracy as a function of perceived roommate anxiety for WM (Whites with minorities), MW (minorities with Whites), and WW (Whites with Whites). Greater values indicate greater accuracy tracking a roommate's interest in living together.

Whites with White roommates, perceived roommate anxiety moderated tracking accuracy,  $t(355) = 3.74, p < .002$ , but in a way opposite of the effect for Whites with racial/ethnic minority roommates. For White-White roommates, perceiving the roommate as greater in anxiety was associated with stronger tracking accuracy (see Figure 1). However, we note that for Whites with White roommates, tracking accuracy was quite low and not different from zero across all levels of perceived roommate anxiety (i.e., the main effect of tracking accuracy,  $t(27.5) = 1.21, p = .234$ )—an issue we return to in the general discussion.

**Directional Bias.** Directional bias represents mean overestimation or underestimation of the roommate's interest in living together. A main effect of positive directional bias was found,  $t(88.1) = 3.23, p = .002$ , indicating that, on average, participants overestimated how much their roommates were interested in living with them. However, as expected, this general effect was moderated by the racial/ethnic composition of the roommate dyad and the level of anxiety that participants perceived in their roommate: the Perceived Roommate Anxiety  $\times$  Perceiver Race interaction,  $t(1135) = 2.49, p = .013$ , and the Perceived Roommate Anxiety  $\times$  Dyad Race interaction,  $t(1078) = -3.30, p = .001$ , were significant.

We next examined directional bias for judgments of interest in contact as a function of perceived anxiety separately for the three types of roommate pairs. These effects are illustrated in Figure 2, where a score of 0 on the Y-axis means no directional bias, a positive score indicates an overestimation of the roommate's interest, and a negative score indicates an underestimation of the partner's interest, at three predicted levels of perceived anxiety (the mean, and 1 SD above and below the mean).

As illustrated in Figure 2, for minorities in cross-race dyads, there was a negative effect of perceived roommate anxiety on directional bias  $t(1158) = -12.10, p < .001$ : Only under low levels of perceived anxiety (i.e., 1 SD below the mean on perceived anxiety) did minority participants demonstrate a



**Figure 2.** Directional bias as a function of perceived roommate anxiety for WM (Whites with minorities), MW (minorities with Whites), and WW (Whites with Whites). Positive values indicate overestimation of interest in remaining roommates; negative values indicate underestimation of interest in remaining roommates.

positive directional bias (i.e., overestimate their roommates' actual interest in maintaining a relationship),  $t(79.2) = 3.10$ ,  $p = .003$ . For Whites with minority roommates, there was also a negative effect of perceived roommate anxiety on directional bias,  $t(1116) = -2.99$ ,  $p = .003$ . Consistent with the effect for minorities, Whites engaged in a stronger positive directional bias under low levels of perceived anxiety, although we note that under low perceived anxiety (1 *SD* below the mean) directional bias was not statistically different from zero,  $t(90.3) = 1.20$ ,  $p = .230$ . However, note that the moderating effect of Perceiver race (which compares Whites to minorities in cross-race dyads) indicates that the effect of perceived anxiety was stronger for minorities than for Whites—this effect was not hypothesized. Finally, for Whites with Whites, consistent with hypotheses, there was also a negative effect of perceived roommate anxiety on directional bias,  $t(1171) = -4.80$ ,  $p < .001$ . We note that under relatively low perceived roommate anxiety (i.e., 1 *SD* below the mean), directional bias is positive and significant for Whites with Whites,  $t(71.3) = 2.63$ ,  $p = .011$ .

Generally consistent with our hypotheses, we found that under high levels of perceived anxiety, perceivers across all dyad types were generally inaccurate in terms of tracking accuracy and did not demonstrate a positive directional bias—two effects that are generally symptomatic of poorly functioning relationships (see Gagne & Lydon, 2004). Differences in levels of tracking accuracy and directional bias for the three types of participants only emerged under low levels of perceived anxiety.

## Discussion

The present work examined how different aspects of accuracy (tracking accuracy and directional bias) are moderated by the roommate's perceived level of anxiety. When perceived anxiety was high, tracking accuracy was low and nonsignificant, across all types of dyads. Thus, perceiving high levels of anxiety in a roommate not only led to more negative perceptions of

the roommate's interest in maintaining a relationship but also eroded the accuracy of those perceptions and prevented partners from engaging in the relationship enhancement motive of seeing their partner in positive light.

In addition, consistent with work suggesting that Whites typically adopt an interpersonal framework within interactions with minority-group members, whereas minorities adopt a more intergroup perspective in their interactions with Whites (Jones et al., 2009; Ryan et al., 2007), Whites displayed greater tracking accuracy when perceived anxiety was relatively low, and minorities were generally inaccurate in their perceptions of their White roommates' daily feelings of interest in contact, across all levels of perceived anxiety. These findings support the notion that so long as Whites do not perceive cues of anxiety in their minority partners—cues that are often ambiguous in meaning and generally communicate feelings of disinterest—they attend to and understand their minority partners' behaviors and are able to track their partners' variations in interest in contact.

One reason for the particularly high level of tracking accuracy for Whites with minority partners might be that Whites generally have more limited experience interacting with minorities, compared to Whites with Whites roommates and minorities with White roommates, which enhances their interest in learning about (and thus attending to) their minority roommate. Minorities, who may view their interactions with Whites more in terms of intergroup relations (Jones et al., 2009), appear to be less attuned to their White roommates' interest in their relationship more generally and less effectively track changes in their roommates' interest in continuing their relationship.

However, an alternative explanation for the finding that minorities are inaccurate in terms of tracking accuracy is that Whites are "poor targets" (Funder, 1995) within intergroup relationships, displaying mixed nonverbal and verbal signals in their interactions with minorities that are difficult to decode (Dovidio, Kawakami, & Gaertner, 2002). For example, Whites' verbal behaviors may communicate interest in forming a friendship (i.e., what they say), whereas their paraverbal and nonverbal cues may communicate disinterest or discomfort (i.e., how they say it; Dovidio et al., 2002). Unfortunately, the context in which we studied these processes—in college dormitories over an extended period—did not allow us to measure the specific nonverbal, paraverbal, and verbal cues that participants relied on in perceiving partner anxiety or inferring a partner's interest in the relationship. Research along these lines would help isolate the ways people interpret those cues to determine whether minorities' low tracking accuracy differed as a function of the behaviors expressed by their White partners.

Unexpectedly, we found that Whites with White roommates also had poor tracking accuracy overall, across all levels of perceived roommate anxiety. It may be the case that Whites are generally poor communicators of their relationship intentions. However, an alternative explanation is that Whites achieve accuracy mostly indirectly via correctly assumed similarity. Given that assumed similarity was included in our model, any

tracking accuracy achieved through correctly assumed similarity (i.e., *indirect accuracy*; West & Kenny, 2011) was removed. To the extent that roommates are actually similar, tracking accuracy will decrease once assumed similarity is adjusted for (West & Kenny, 2011). Given that Whites assumed that their White roommates were more similar to them than did either Whites or minorities in cross-race relationships (see Note 2), it may be the case that Whites were not actually low overall in tracking accuracy, but that they achieved accuracy mostly by assuming similarity. We reran our analyses removing assumed similarity. Consistent with the previously reported results, Whites showed significant tracking accuracy with minority roommates,  $t(52.6) = 3.60, p < .001$ . For minorities with Whites, also consistent with the main analyses, tracking accuracy was not different from zero,  $t(52.2) = -.26, p = .800$ . Importantly, Whites *did* display significant tracking accuracy overall with White roommates,  $t(74.1) = 2.28, p = .030$ . It appears that Whites do accurately track their White roommates' relationship intentions, but that accuracy is achieved primarily through correctly assumed similarity.

There was one other finding for White–White roommate dyads that was unanticipated: Tracking accuracy *increased* as perceived anxiety increased, an effect that occurred whether or not assumed similarity was in the model. While our interpretation is admittedly speculative, it may be the case that when anxiety is perceived in a same-race partner, it enhances motivation to accurately understand the partner. That is, Whites engage in relationship maintenance behaviors in order to quell the potentially negative effect that anxiety can have on the relationship. In support of this notion, West (2010) found that in same-race interactions, when Whites were told that their partner had a reason to feel anxious, they self-disclosed *more* to that White partner than when they were told nothing about anxiety. Similarly, Pearson et al. (2008) found that a manipulation that subtly disrupted conversation (i.e., a brief delay in audiovisual feedback) negatively affected rapport for Whites and minorities in cross-race dyads, but produced greater rapport in White–White dyads. It may be the case that perceived anxiety or other negative cues prompts Whites to engage in relationship-enhancing behaviors, such as self-disclosure or prompting disclosure by their partners, which in turn enhances tracking accuracy.

With respect to directional bias, as hypothesized, Whites in same-race and cross-race roommate relationships engaged in the strongest positivity bias when they perceived a low level of anxiety in their roommate. Minorities, like Whites, also showed no positivity bias when they perceived high anxiety in their partner, but showed positivity bias when they perceived their White partner as low in anxiety. These findings suggest that perceived partner anxiety influences the *motivational* component of accuracy (Neff & Karney, 2002), and particularly so for minorities. This result is consistent with Apfelbaum and Sommers' (2009) finding that Blacks perceived a White person who did not appear anxious as having more positive racial attitudes and that Blacks are more sensitive to cues relating to anxiety than were Whites in assessing the intergroup attitudes

of Whites. Given that intergroup relations are typically characterized by high levels of anxiety (Plant, 2004; Stephan & Stephan, 2000), the distinctiveness of perceiving a White roommate as low in anxiety may have led to the particularly strong overestimation of those roommates' relationship interest in the present study. Thus, to the extent that minorities have negative expectations about how Whites think and feel about them—a consequence of a strong intergroup focus—they may respond particularly positively, in terms of overperceiving White roommates' interest in maintaining a relationship with them—when that expectation is not supported.

We note three productive avenues suggested by the current research. First, research might systematically examine the behaviors displayed by targets. Accuracy is a function of “good perceivers” and “good targets” (Funder, 1995), and only by examining behaviors can we know the extent to which inaccuracy is attributable to perception. Second, experimental tests would offer more direct causal insights into the conditions under which anxiety is particularly detrimental for accuracy in intergroup relationships. For example, future research might test whether increasing the salience of anxiety in intergroup relative to intragroup interactions leads to different engagement and avoidance-related behaviors, which in turn influence tracking accuracy and directional bias. Such research could explain the process by which tracking accuracy increases as perceived anxiety increases for Whites with White partners, but decreases as perceived anxiety increases for Whites with minority partners. Third, researchers could vary the degree to which it is appropriate to express anxiety within different social contexts by having participants engage in an anxiety-inducing interaction (e.g., the Trier Social Stress test; Kirschbaum, Karl-Martin, & Hellhammer, 1993) or a less anxiety-inducing interaction (e.g., playing a game; Page-Gould, Mendoza-Denton, & Tropp, 2008). This research would test whether perceived anxiety leads to low tracking accuracy and positivity bias in social contexts for which it is not normative to express anxiety.

In conclusion, studying the dynamics of intergroup relations in naturalistic contexts, such as roommate settings, is valuable not only for testing relationships observed in the laboratory in more ecologically valid settings but also for identifying new relationships that may inform future laboratory research (Lewin & Gold, 1948). The formation of personal relationships across group boundaries is one of the most potent influences for improving intergroup attitudes (Dovidio, Eller, & Hewstone, 2011; Pettigrew & Tropp, 2011). Yet, the formation of intergroup relationships is often impeded by concerns—potentially erroneous—that friendly overtures will be rejected by members of the other group (Shelton & Richeson, 2005). Understanding the accuracy of these perceptions within interpersonal contexts is an important first step toward improving the quality of long-term intergroup relations.

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## Notes

1. Although not the focus of the present research, in a preliminary analysis we found, consistent with previous research, that participants' anxiety and their own interest in the relationship were significantly negatively correlated,  $r = -.62, p < .01$ .
2. Participants assumed similarity with their roommates,  $t(289) = 4.64, p < .001$ , and Whites with White roommates assumed more similarity than did Whites and minorities in different-race dyads,  $t(291) = -4.11, p < .001$ . In addition, because we were interested in the unique effects of *perceived* anxiety on accuracy, we initially included the main effects of perceiver anxiety and partner anxiety in the model, neither of which were significant predictors ( $ps = .43$  and  $.91$ , respectively), and so they were removed from the models. Neither perceiver nor partner anxiety moderated accuracy.

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### Author Biographies

**Tessa West** completed her PhD in social psychology at the University of Connecticut. She is currently an assistant professor of Psychology at New York University. Her research examines dyadic and group-level interactions, with a focus on intergroup relations.

**John Dovidio** completed his PhD in social psychology from the University of Delaware. He is currently a professor of psychology at Yale University. His research examines issues of social power and social relations, both between groups and between individuals.

**Adam Pearson** completed his PhD in social psychology from Yale University. He is currently an assistant professor of Psychology at Pomona College. His research examines the role that everyday interactions play in shaping intergroup relations.