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Perceptions of a Romantic Partner's Approach and Avoidance Motives: Accuracy, Bias, and Emotional Cues

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We examined tracking accuracy and bias (mean-level and projection) in people's perceptions of their romantic partner's relationship approach and avoidance motives, similarity in partners' motives, and positive and negative emotions as potential cues used to make judgments about a partner's daily motives and motives during shared activities. Using data from 2 studies, 1 using daily diaries ($N = 2,158$ daily reports), the other using reports of shared activities ($N = 1,228$ activity reports), we found evidence of tracking accuracy and projection across samples; we also found evidence of mean-level bias such that people underperceived their partner's approach (daily) and avoidance motives (daily and in shared activities). Partners had similar daily approach and avoidance motives but were not similar in their motives during shared activities. Further, our studies indicated that emotions often serve as relevant, available, and detectable cues for judging a partner's motives. The results demonstrate that accuracy and bias are both present in judgments of a romantic partner's approach and avoidance motives, and that people often, but not always, use their partner's emotions to make such judgments.

Keywords: accuracy and bias, approach and avoidance motivation, emotions, person perception, romantic relationships

Peter and Laura are out on a hiking trip. Up on the top of a beautiful mountain peak as Laura contemplates Peter's typical aversion to spending extended time outdoors, she asks herself why he is doing this with her. She might think that he is motivated to pursue positive outcomes (i.e., approach motives): Perhaps he wants to make her happy and share intimate moments together (Gable, 2006). Or she might think that he is motivated to avoid negative outcomes in the relationship (i.e., avoidance goals): Perhaps he feels obligated, wants to avoid conflict, or is worried that she will ultimately withdraw from the relationship given their differing interests (Gable, 2006). According to interdependence theory, a prominent theory in relationship science, we act like naïve scientists in our relationships, trying to figure out why our partners engage in various actions, including activities that we share together as a couple (Kelley & Thibaut, 1978; Rusbult & Van Lange, 2003, 2008). Prior research has demonstrated that our partner's motives for engaging in various behaviors—either for or with us—have important consequences for the well-being of the relationship and both partners (Gable, 2006; Gable & Impett,

2012; Impett et al., 2010). However, no existing studies have examined people's ability to accurately perceive their romantic partner's approach and avoidance motives. In the current research, we examined the degree of accuracy and bias in people's judgments of their romantic partner's relationship approach and avoidance motives in daily reports and during shared activities, and the level of similarity between partners' motives. Furthermore, based on the Realistic Accuracy Model of perception (Funder, 1995), we tested whether positive and negative emotions are valid cues to indicate motives, and whether people successfully detect and use them to make judgments about their partner's motives.

Relationships and Well-Being

People have a fundamental need to develop and cultivate long-lasting, close interpersonal relationships that are vital to their sense of well-being (Baumeister & Leary, 1995; Gable & Impett, 2012; Gere & MacDonald, 2010). For most people, their closest relationship is an intimate romantic relationship, on which they rely heavily to meet many of their needs (Finkel, Hui, Carswell, & Larson, 2014). In fact, in recent years, people have come to rely more heavily on their intimate relationships as a source of individual fulfillment, and expect their romantic partner to understand their dreams, goals, and personalities such that the partner deeply understands them, can be their best friend, and facilitates their self-growth (Finkel, 2017; Finkel, Cheung, Emery, Carswell, & Larson, 2015). The establishment and maintenance of such a relationship requires that partners have intimate knowledge of one another, for which accurate perceptions of one another's goals and motives are essential.

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Romantic relationship partners are also interdependent (Rusbult & Van Lange, 2003, 2008), which means the partners have a strong influence on each other's daily activities and interactions. Because of this interdependence, partners have to coordinate their daily actions, which can be challenging because what one partner wants or needs in a given situation does not always coincide with what the other partner wants or needs (Rusbult & Van Lange, 2003, 2008). Coordination between partners, the partners' ability to meet each other's needs, and developing a deep understanding of the partner's motives can be considerably enhanced if the partners have an accurate knowledge of each other's goals and motives in a variety of situations. Furthermore, partners' reactions to one another are based on their perceptions of one another's motives and desires. Thus, it is important for partners to have accurate perceptions of one another on a day-to-day basis to allow effective coordination and enable partners to better meet one other's needs.

Approach and Avoidance Motives in Romantic Relationships

Romantic partners' ability to coordinate their activities and meet one another's needs can be enhanced if they understand what motivates their partner—that is, the specific types of goals that underlie their partner's behavior. Previous work has shown that one way to describe motives is on the dimensions of approach and avoidance (Elliot, 1999; Gable, 2006; Gable & Berkman, 2008; Higgins, 1998). In a relationship context, approach motives direct individuals toward obtaining positive relationship outcomes, such as increasing relationship satisfaction, intimacy, and closeness to a partner (Gable, 2006; Gable & Gosnell, 2013; Gable & Impett, 2012; Impett et al., 2010). In contrast, avoidance relationship motives direct people away from potentially negative relationship outcomes, such as being left out or rejected, getting hurt, or having a conflict (Gable, 2006; Gable & Gosnell, 2013; Gable & Impett, 2012; Impett et al., 2010). Romantic relationships simultaneously offer potential rewards (e.g., intimacy) and potential threats (e.g., rejection; Gere, MacDonald, Joel, Spielmann, & Impett, 2013), and people use approach and avoidance motives to regulate their behaviors based on their experiences of these benefits and risks and their relative motivational value (Gable, 2006; Gable & Impett, 2012).

Approach and avoidance motives have important implications for relationship outcomes. For example, approach motives are associated with increased relationship satisfaction on a daily and long-term basis (Elliot, Gable, & Mapes, 2006; Gable, 2006; Impett, Gable, & Peplau, 2005; Impett et al., 2010; Impett, Peplau, & Gable, 2005), greater subjective well-being; (Elliot et al., 2006; Gable, 2006; Muise, Impett, & Desmarais, 2013), less loneliness (Elliot et al., 2006; Gable, 2006), greater responsiveness (Impett, Strachman, Finkel, & Gable, 2008), higher positive emotions for both the self and partner (Impett, Gere, Kogan, Gordon, & Keltner, 2014; Impett et al., 2008), higher relationship quality (Impett et al., 2014), and increased sexual desire (Impett, Peplau, et al., 2005; Impett et al., 2008; Muise et al., 2013). In contrast, avoidance motives are associated with decreased relationship satisfaction over time for both the self and partner (Impett et al., 2010, 2008), increased anxiety (Elliot & Sheldon, 1997; Gable, 2006; Higgins, 1998), negative social attitudes (Elliot & Sheldon, 1997; Gable,

2006), relationship insecurity (Gable, 2006; Gable & Impett, 2012), and greater long-term physical symptoms (Elliot et al., 2006). Further, people are more likely to experience fear and try to protect themselves when they are motivated to avoid undesirable interactions and focus on negative outcomes and risks in their romantic relationship (Elliot & Sheldon, 1997).

People make an effort to try to understand their partner's motives and figure out why their partner is doing what they do (Kelley & Thibaut, 1978; Rusbult & Van Lange, 2003, 2008). Given the consequences of approach and avoidance motives to the self, partner, and relationship, and the insight they provide into the partner, it is important to understand such motives. Knowing that a partner is approach motivated might enhance the benefits of these motives, whereas knowledge of avoidance motives—although perhaps momentarily unpleasant—may allow partners to address these types of motives directly either to reduce or mitigate potential negative effects of avoidance motives. Furthermore, existing work shows that people's *perceptions* of their partner's motives also have consequences for their well-being and relationship quality (Impett, Peplau, et al., 2005; Muise et al., 2013; Visserman, Righetti, Impett, Keltner, & Van Lange, 2018); thus, inaccurate perceptions can have serious consequences. However, currently, no existing studies have examined the extent to which people are able to accurately perceive their partner's relationship approach and avoidance motives.

Accuracy and Bias in Perceptions

Although researchers have not examined accuracy and bias in people's judgments of others' approach and avoidance motives, prior research has examined accuracy and bias in many other contexts including self-perceptions of responsive behavior (Lemay, 2014), personality traits (Funder, 1995; Gallrein, Carlson, Holstein, & Leising, 2013; Gallrein, Weßels, Carlson, & Leising, 2016; Vazire & Carlson, 2010; Watson, Hubbard, & Wiese, 2000), global adoration and specific accuracy (Neff & Karney, 2005), partner's regard toward the self (Overall, Fletcher, & Kenny, 2012), emotional experiences (Clark, Von Culin, Clark-Polner, & Lemay, 2017), the degree to which one meets the partner's ideal standards (Campbell, Overall, Rubin, & Lackenbauer, 2013), partner sexual desire (Muise et al., 2013), and commitment and relationship history (Gagné & Lydon, 2004; Overall & Hammond, 2013). Findings of these studies show that people's perceptions of their partner contain some degree of bias but also contain accuracy and correspond to reality (Fletcher & Kerr, 2010; West & Kenny, 2011). It is important that these perceptions are based on accuracy rather than bias because people make continuous judgments about their partner's feelings, motives, and behaviors—in part based on previous interactions and experiences with their partner (Gagné & Lydon, 2004; Rusbult & Van Lange, 2003)—and use these perceptions to make behavioral predictions and communicate with the partner (Funder, 1995, 2012; Gagné & Lydon, 2004). The perceptions people have of their partner also influence their own relationship outcomes and well-being (Impett, Peplau, et al., 2005; Muise et al., 2013; Neff & Karney, 2005).

Accurate perceptions are typically conceptualized as self-informant agreement or tracking accuracy (Fletcher, 2015; West & Kenny, 2011). Tracking accuracy occurs when there is an association (i.e., correlation) between a person's judgment and an appli-

cable benchmark (Fletcher, 2015; West & Kenny, 2011). For example, an individual's perception of their partner's avoidance motives is the judgment, which is measured against the partner's self-report of their own avoidance motives, which is the benchmark. Close others can accurately perceive a person's emotions and personality, as their reports of these characteristics are significantly associated (Vazire & Carlson, 2010; Watson et al., 2000). Furthermore, romantic partners are relatively accurate in evaluating interpersonal qualities such as trait-perceptions, thoughts and feelings about commitment and values, and relationship history (Gagné & Lydon, 2004). Thus, there is evidence that people's perceptions of their partner contain some degree of tracking accuracy and are based on reality.

Accuracy is important because it predicts a multitude of important well-being outcomes (Clark et al., 2017; Gagné & Lydon, 2004; Lemay, 2014; Neff & Karney, 2005). For instance, accurate self-perception of responsive behavior toward a partner has been shown to enhance relationship security (Lemay, 2014). Research with newlywed couples shows that partners (despite having very positive global perceptions of each other) who use accuracy as their foundation for drawing positive perceptions rather than inaccurate perceptions are less likely to divorce and more likely to have effective marital interactions (Neff & Karney, 2005). Furthermore, couples who have accurate perceptions of their partner's specific traits may be more resilient to problems over time and have greater marital stability (Neff & Karney, 2005). Thus, accurate perceptions of a partner's approach or avoidance motives could be beneficial to aid communication and promote a better understanding of the partner.

Despite considerable evidence that people are accurate in their perceptions, research also shows evidence of bias (Fletcher & Kerr, 2010; Gagné & Lydon, 2004; Gallrein et al., 2013, 2016; West & Kenny, 2011). Two types of bias—mean-level bias and projection—are examined in the current studies. Mean-level bias is evidenced by people rating their partners more positively or negatively than the partners rate themselves, which can be conceptualized as exaggeration, usually assessed via a difference score (Fletcher, 2015; Fletcher & Kerr, 2010; Gagné & Lydon, 2004; West & Kenny, 2011). For example, partners often perceive their relationship as more positive than reality (Gagné & Lydon, 2004). Such positive mean-level bias is associated with more optimism about the fate of the relationship compared with outside observers' views of the relationship (Gagné & Lydon, 2004) and more positive mean-level bias in relationship judgments is associated with higher relationship quality (Fletcher & Kerr, 2010). In contrast, having a negative mean-level bias, such as underestimating a partner's commitment and overestimating partner negative behaviors results in lower satisfaction and well-being (Overall & Hammond, 2013). In a health context, there is evidence of partners overestimating osteoarthritis patients' pain (Creameans-Smith et al., 2003), and diabetics overestimating their partner's attempts to regulate their diet (Stephens, Rook, Franks, Khan, & Iida, 2010).

Projection is another form of bias that occurs when people project their own experiences or characteristics onto their partner, which is also referred to as assumed similarity (Fletcher & Kerr, 2010; Kenny & Acitelli, 2001; West & Kenny, 2011). Such projections are evidenced by high correlations between people's own feelings and their perceptions of their partners' feelings (Kenny & Acitelli, 2001). Projection has been found in

people's perceptions of their partner's personal values (Murray, Holmes, Bellavia, Griffin, & Dolderman, 2002), thoughts and feelings about relationship problems (Thomas & Fletcher, 2003), relationship commitment (Adams & Jones, 1997), sexual desire (Muise et al., 2013), feelings of closeness and enjoyment of sex (Kenny & Acitelli, 2001), and responsiveness (Lemay, Clark, & Feeney, 2007). These findings suggest that people's projection of their own states and characteristics function as way to maintain positive and satisfying views of themselves, their partner, and their relationship (Gagné & Lydon, 2004; Kenny & Acitelli, 2001; Lemay et al., 2007). For instance, people who view their partner as similar to themselves report greater satisfaction and less conflict (Murray, Holmes, & Collins, 2006). It is important to note that although projection is a bias, it does not always lead to less accurate perceptions and can instead serve to increase the accuracy of people's judgments (West & Kenny, 2011). More specifically, when the partner is in fact similar to the self, projecting oneself onto the partner is a useful strategy in better understanding one's partner. An interesting finding, in many domains, is that this assumed similarity is often found in the absence of actual similarity between partners (Clark et al., 2017; Fletcher & Kerr, 2010; Watson et al., 2000). When similarity between partners is only assumed and is not actually present, projection leads to less accurate perceptions of the partner (West & Kenny, 2011).

Accuracy and the different forms of bias can be simultaneously present in people's judgments of others (Clark et al., 2017; Fletcher & Kerr, 2010; Gagné & Lydon, 2004; West & Kenny, 2011). For example, when trying to judge a partner's enjoyment of a shared activity, people may in part be accurate about their partner's enjoyment (tracking accuracy) based on observing their partner's behaviors but may also assume that the partner's enjoyment is similar to their own level of enjoyment (projection). At the same time, they may also over- or underestimate their partner's level of enjoyment of the activity (mean-level bias). Because people seek to understand romantic partners, want to see them in a positive light, and assume them to be like themselves, they may be motivated to be biased and accurate simultaneously (Gagné & Lydon, 2004). Thus, accuracy and the different forms of bias should be examined together to better understand their simultaneous presence in people's judgments (West & Kenny, 2011).

In the current set of studies, we examined the degree of accuracy and bias (mean-level bias and projection) in people's judgments of their romantic partner's approach and avoidance relationship motives, and the degree of similarity between partners' relationship motives. We expected that people's perceptions of their partner's approach and avoidance motives would contain both tracking accuracy and projection. Further, because romantic partners tend to see each other through rose-colored glasses and want to preserve positive views of their partner (Murray & Holmes, 1997; Murray, Holmes, & Griffin, 1996), we expected that people would show mean-level bias, such that they would overperceive their partner's approach motives and underperceive their avoidance motives. We also explored whether partners' relationship approach and avoidance motives would be similar but did not make any specific predictions concerning similarity between partners' approach and avoidance motives.

Accuracy and Behavioral Cues

Although accuracy in judgments is important, achieving high levels of accuracy is difficult for perceivers. According to the Realistic Accuracy Model, four conditions must be met to judge a person with accuracy (Funder, 1995). First, the target of judgment must behave in a manner *relevant* to the characteristic in question. For example, Peter could display his approach motivation by displaying his excitement, making his behavior consistent with his motives. Second, this behavioral output must be *available* to the perceiver. For example, Laura would have to be around Peter and able to see his expression of excitement. Third, the relevant and available information needs to be *detected* by the perceiver. In other words, Laura would have to be able to detect Peter's expression of excitement. Lastly, the perceiver must *use* the successfully detected available and relevant information. For example, Laura would have to use her perception of Peter's excitement to make a judgment about Peter's approach motives. Thus, perceivers must rely on relevant and available behavioral cues that they can detect and use to make their judgments. Successfully executing every step is difficult, indicating the complexity of making accurate partner judgments.

Reliance on appropriate behavioral cues to make judgments is important, as these cues lead to a more accurate perception of the partner's motives. One potential set of cues that people could use to make judgments about their partner's motives is their partner's emotions. Research has consistently shown that approach motives are associated with more positive and less negative emotions, while avoidance motives are associated with more negative and less positive emotions (Elliot et al., 2006; Gable, 2006; Gable & Impett, 2012; Updegraff, Gable, & Taylor, 2004). Thus, emotions can serve as relevant cues to indicate approach and avoidance motives. For example, if Peter is smiling and excited when reaching the top of the mountain, Laura may conclude that Peter is approach motivated. If, however, Peter is frustrated and tired by the time they reach the top of the mountain, Laura may conclude that Peter is primarily avoidance motivated. Furthermore, emotions are often available and can be detected by perceivers, indicated by research showing that people can pick up on others' emotions and have significant tracking accuracy (Clark et al., 2017; Overall, Fletcher, Simpson, & Fillo, 2015; Watson et al., 2000). In turn, people may use these cues to inform their judgments of their partner's motives. In other words, Laura will be able to pick up on the emotions Peter is feeling with some level of accuracy and can then use her perceptions of his emotions to gauge his level of approach and avoidance motives.

Thus, in the current study, we examined the link between people's motives and their own emotional experiences (i.e., cue relevance), as well as whether their partner can pick up on their emotions (i.e., cue availability and detection), and then use those perceptions as cues when making judgments about relationship approach and avoidance motives (i.e., cue utilization). We are not aware of any other studies that have provided explicit tests of each step of the perception process proposed by the Realistic Accuracy Model; thus, we aimed to examine each step in the context of motives with emotions as potential cues. We expected that people's emotions would serve as relevant cues to indicate their motives (i.e., their motives are linked to their emotions), that perceivers would be able to detect emotional cues (i.e., target

emotions would be linked to actors' perceptions of target emotions) and that they would rely on emotions as cues to make judgments about their partner's approach and avoidance motives (i.e., actor perceptions of target emotions would be associated with actor perceptions of target motives). We expected that, in general, relying on emotions as cues to judge partner motives would help perceivers improve the accuracy of their judgments.

Research Overview

We used data from two dyadic studies to examine the level of tracking accuracy and bias (projection and mean-level bias) in people's judgments of their partner's relationship approach and avoidance motives and the degree of similarity between partners' motives. Furthermore, we conducted additional analyses to examine positive and negative emotions as cues used to make judgments about a partner's motives in separate models and examining approach and avoidance motive perceptions separately. In Study 1 we focused on perceptions of partner daily relationship motives, and in Study 2 we focused on perceptions of partner motives during shared activities with the partner. In both studies, people reported on their own and their partner's relationship approach and avoidance motives and positive and negative emotions.

We expected that people's judgments would show considerable tracking accuracy, but at the same time, show evidence of projection of one's own motives onto the partner, consistent with prior work on perceptions that indicate the presence of both accuracy and bias in perceptions of other people (Fletcher & Kerr, 2010; Gagné & Lydon, 2004; West & Kenny, 2011). Furthermore, we expected to find evidence of mean-level bias, such that people would overperceive their partner's approach motives but underperceive their partner's avoidance motives. We expected to find this pattern of mean-level bias, because of findings of general positivity bias in people's established relationships (Gagné & Lydon, 2004; Murray & Holmes, 1997; West & Kenny, 2011). We did not make any specific predictions concerning similarity between partners' motives because existing research has demonstrated that people often project their own states onto their partner even in the absence of actual similarity between partners (West & Kenny, 2011).

In addition, in our analyses of emotions as potential cues that people use to make judgments regarding their partner's motives, we expected that emotions would serve as relevant cues to indicate motives, such that people's motives would be linked with their experiences of positive and negative emotions, given the links often found between approach and avoidance motives and emotions in existing work (Elliot et al., 2006; Gable, 2006; Gable & Impett, 2012; Updegraff et al., 2004). In turn, people were expected to detect their partner's emotions, such that the partner's self-reported emotions would be associated with people's perceptions of their partner's emotions, as prior research shows that people are able to detect close others' emotions (Clark et al., 2017; Overall et al., 2015; Watson et al., 2000). Finally, we expected people to use their perceptions of partner emotions as cues to make judgments about their partner's approach and avoidance motives. Overall, reliance on the partner's emotions as cues was expected to increase the accuracy of people's judgments of their partner's motives, given that using valid cues to make judgments should increase accuracy (Funder, 1995).

Study 1

The goal of Study 1 was to examine people's perceptions of their partner's daily relationship approach and avoidance motives using a daily diary design. More specifically, we examined the degree of accuracy and bias (projection, mean-level bias) in people's judgments of their partner's daily relationship motives, the level of similarity between partners' daily motives, and whether people successfully detect and use their partner's positive and negative emotions as cues to make judgments about their partner's motives to improve the accuracy of their perceptions, assuming that daily emotions would be valid cues to indicate daily motives.

Method

Participants and procedures. As a part of a larger daily diary study of romantic relationships, couples ($N = 233$ people) were recruited in the United States through online advertisements on Craigslist, Reddit, and a university newsfeed.^{1,2} The study was approved by the Institutional Review Board (IRB) of Kent State University (#17-078 Online Study of Cohabiting Couples). There were 217 people who completed at least one daily report, but in the present study, we use data from 104 couples ($N = 208$) where both partners completed diaries on time (i.e., between 7 p.m. and 10 a.m.), as we needed data from both partners on the same days to examine perceptions. On average, participants were 32 years old ($SD = 8.13$, range: 19 to 68), 50.4% female (48.3% male, 1.3% other/not reported), and concerning racial/ethnic diversity, 85.8% were White/European, 7.3% were African American, 7.3% were Hispanic/Latino(a), and 6.4% represented other ethnic groups. Forty-two percent were parents (number of children: $M = 2.32$, $SD = 1.35$) and most were involved in mixed-sex relationships (92%). On average, couples were romantically involved for 7.75 years ($SD = 6.28$, range = 7 months to 30 years) and lived together for 5.5 years ($SD = 3.42$ years, range = < 1 month to 29 years).

Interested couples emailed the lab and were screened for eligibility, which included being at least 18 years old, speaking English fluently, having daily Internet access, providing proof of cohabitation or a marriage certificate, and living in the United States. Eligible couples were sent the link to the online consent form and intake questionnaire. Once both partners completed the intake questionnaire, they were emailed the link to the online daily diary survey, which was a 10–15-min survey to be completed before going to bed every night for 14 consecutive nights. Participants received explicit instructions—both when receiving the link to the intake questionnaire and the link to the daily reports—that they should refrain from discussing their responses with anyone until they have completed all parts of the study. Each partner received \$15 for the intake survey and \$30 for the daily diaries if they completed at least 80% of the surveys (those who completed less than 80% received \$2 per survey) via an online gift card of their choice (Amazon, Walmart, or Target). Participants completed 2,377 nightly reports (83.6% of 2,996 possible reports; $M = 11.71$, $SD = 3.174$, range = 1 to 14). We were able to use reports for analysis for days when both partners submitted reports that were

completed on time; thus, our analyses are based on 2,158 reports of 1,079 days.

Measures.

Relationship approach and avoidance motives. Daily relationship approach motives (“Today, I tried to deepen my relationship with my partner;” “Today, I tried to move toward growth and development in my romantic relationship”) and daily relationship avoidance motives (“Today, I tried to make sure that nothing bad happened in my romantic relationship;” “Today, I tried to avoid disagreements and conflicts with my romantic partner”) were assessed using two items each (based on Impett et al., 2010), rated on 7-point scales (1 = *strongly disagree*, 7 = *strongly agree*). Items were averaged to create a daily relationship approach motives score ($M = 5.09$, $SD = 1.40$, $\alpha = .92$, $r = .86$) and a daily relationship avoidance motives score ($M = 4.92$, $SD = 1.61$, $\alpha = .82$, $r = .69$).

Participants also reported on their perceptions of their partner's daily approach and avoidance motives using the same items, modified to ask about the partner's motives. The two approach items (e.g., “Today, my partner tried to deepen our relationship”) were averaged to create a perceived partner daily relationship approach motives score ($M = 4.96$, $SD = 1.48$, $\alpha = .94$, $r = .90$), and the two avoidance motives items (e.g., “Today, my partner tried to make sure that nothing bad happened in our romantic relationship”) were averaged to create a perceived partner daily relationship avoidance motives score ($M = 4.82$, $SD = 1.61$, $\alpha = .85$, $r = .74$) for analysis.

Positive and negative emotions. Daily positive and negative emotions were assessed using four items based on the circumplex model of affect to tap into both high and low arousal emotions of each valence (Russell, 1980). Daily positive emotions (“Today, I felt delighted/happy/fulfilled;” “Today, I felt calm/relaxed/at ease”) and daily negative emotions (“Today, I felt tense/nervous/anxious;” “Today, I felt sad/dissatisfied/distressed”) were assessed using two items each, rated on 7-point scales (1 = *not at all*, 7 = *extremely*). Items were averaged to create a daily positive emotion score ($M = 4.72$, $SD = 1.44$, $\alpha = .87$, $r = .78$) and a daily negative emotion score ($M = 2.51$, $SD = 1.26$, $\alpha = .80$, $r = .67$).

Participants also reported on their perceptions of their partner's daily positive and negative emotions using the same items, modified to ask about the partner's daily emotions. Items for positive emotions (e.g., “Today, my partner felt delighted/happy/fulfilled”) and negative emotions (e.g., “Today, my partner felt tense/nervous/anxious”) were rated on the same scales and were averaged to create a perceived partner daily positive emotions score ($M = 4.76$, $SD = 1.36$, $\alpha = .88$, $r = .79$) and a perceived partner daily negative emotions score ($M = 2.57$, $SD = 1.20$, $\alpha = .84$, $r = .73$) for analysis.

¹ Data used in Study 1 has been used in another publication (Berzins, LaBuda, & Gere, 2018) that does not use any daily diary data and focuses on people's long-term and short-term motives toward their own health. Thus, there is no overlap in the data used for the studies and the topic of the published study is health motives.

² Research materials and analysis code used in the current study can be accessed at <https://osf.io/jrtv6/> and the data used in the analyses can be provided to researchers requesting it from the corresponding authors. The data are not posted publicly because of the confidentiality risks of making data publicly available that comes from couples (see Finkel, Eastwick, & Reis, 2015).

Results

Analysis approach. We analyzed the data using multilevel path models in MPlus 7 (Muthén & Muthén, 2012). All of the paths in the model were at Level 1 (daily reports); however, dependence in responses at the level of the person (Level 2) and the dyad (Level 3) were controlled in the analyses to obtain accurate estimates of *SEs*. Each person provided data on both themselves and their partner, serving as both actor and partner in the analyses. As our data contain both mixed- and same-sex couples and people who identified as “other” gender, we were not able to use models typically used for distinguishable dyads, where each member of the dyad has a distinct role that can distinguish them in a meaningful way (e.g., male or female, husband or wife; Bolger & Laurenceau, 2013). Analyses with distinguishable dyads usually involve data being modeled only on two levels of analysis, with both partners’ data being modeled on Level 1 but estimated separately, and the dyad being modeled at Level 2, as there is no random variability at the person level in models with distinguishable dyads (Bolger & Laurenceau, 2013). However, with the inclusion of same-sex dyads and other genders, we do not have a meaningful role by which partners can be distinguished from one another. Thus, our data come from indistinguishable dyads, resulting in the necessity of using a different modeling approach. As a result, we set up our model with a three-level structure more appropriate for indistinguishable dyads (Bolger & Laurenceau, 2013). These models were all path models, and all analyses were conducted using Level 1 variables (see <https://osf.io/jrtv6/> for sample analysis code).

First, we conducted analyses to examine levels of accuracy and bias (projection, mean-level bias) in people’s perceptions of their partner’s daily relationship approach and avoidance motives and similarity between the partners’ motives (see Figure 1), following the truth and bias model of judgment (West & Kenny, 2011). In these analyses, the outcome variable was the actor’s perception of their partner’s motive, which was predicted by the actor’s own motives (projection, path *p* in Figure 1) and the partner’s self-reports of their own motives (accuracy, path *a* in Figure 1). A covariance between the partners’ motives was added to test the similarity between partners’ daily motives (path *s* in Figure 1).

Following recommendations by West and Kenny (2011) we centered each report of motives (i.e., actor’s own motives, partner’s own motives, actor’s perception of the partner’s motives) around the grand mean of partner self-reported motives (i.e., the

truth value). This allowed the simultaneous testing of accuracy, projection, and mean-level bias, which was indicated by the intercept. A negative intercept indicates that actors underperceive their partner’s approach/avoidance motives, a positive intercept indicates that actors overperceive their partner’s approach/avoidance motives, and a nonsignificant intercept indicates no evidence of mean-level bias (i.e., mean-level accuracy). Our models estimated associations between each pair of variables, thus, had zero degrees of freedom and no model fit indices.

Second, we conducted additional analyses to examine in separate models whether people rely on their partners’ emotions as cues to judge their partners motives, and whether doing so would improve the accuracy of actors’ perceptions of partner motives. In other words, we expected that partners’ daily motives would be associated with the partner’s daily positive and negative emotions, making these relevant cues to judge motives, and that partner emotions would be available and detected by actors (i.e., actors would perceive partner emotions accurately), who would in turn use their perceptions of the partner’s emotions to make judgments about the partner’s motives. Figure 2 depicts the conceptual model that we tested in these analyses. We tested these models for approach and avoidance motives separately and examined positive and negative emotions as cues in separate models because of model complexity. Model fit for these models was evaluated based on χ^2 (nonsignificant value indicates good fit), root mean square error of approximation (RMSEA; values below .05 indicate good fit), comparative fit index (CFI; values above .95 indicate good fit), standardized root mean square residual (SRMR; values below .08 indicate good fit; Kline, 2016). No other paths or correlated residuals were allowed in the model, other than those explicitly specified and included in Figure 2.

Accuracy and bias in motive judgments. Regarding approach motives, results showed that higher daily partner approach motives predicted higher actor perceptions of partner approach motives ($\beta = .09$, $B = .08$, $SE = .03$, $p = .001$, 95% CI [.03, .13]), showing some degree of tracking accuracy in actors’ perceptions of their partner’s daily approach motives. Higher actor approach motives also predicted higher actor perceptions of partner approach motives ($\beta = .82$, $B = .78$, $SE = .03$, $p < .001$, 95% CI [.73, .84]), showing that to some degree, actors were projecting their own daily motives onto their partner. Further, the actor’s and the partner’s approach motives were significantly correlated ($\beta = .25$, $B = .48$, $SE = .14$, $p = .001$, 95% CI [.20, .75]), indicating that partners were similar in their daily relationship approach motives. Contrary to predictions, the intercept was negative and significantly different from zero ($B = -.11$, $SE = .03$, $p = .001$, $d = .08$, 95% CI [-.18, -.05]), indicating mean-level bias, such that actors underestimated their partner’s approach motives. The overall variance in actor perceptions of partner approach motives explained by this model was significant ($R^2 = .718$, $p < .001$).

Regarding avoidance motives, results showed that higher partner avoidance motives predicted higher actor perceptions of partner avoidance motives ($\beta = .08$, $B = .07$, $SE = .02$, $p = .003$, 95% CI [.02, .12]), indicating some degree of tracking accuracy in the actor’s perceptions of their partner’s daily relationship avoidance motives. Higher actor avoidance motives also predicted higher actor perceptions of partner avoidance motives ($\beta = .82$, $B = .75$, $SE = .04$, $p < .001$, 95% CI [.67, .82]), showing that to some degree, actors were projecting their own daily relationship

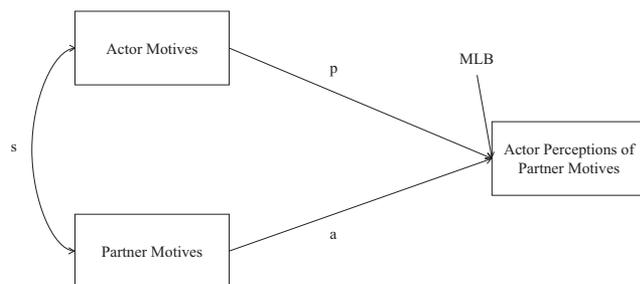


Figure 1. Conceptual model showing truth and bias model with relationship motives. *s* = similarity; *p* = projection; *a* = accuracy; MLB = mean-level bias.

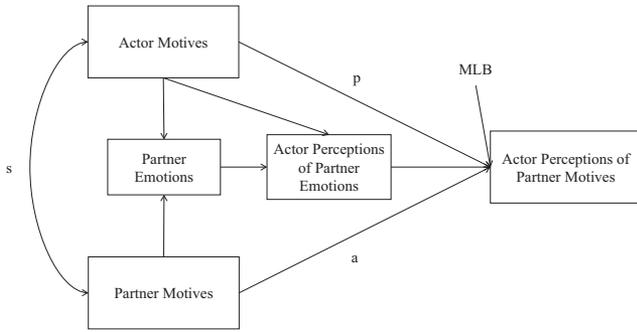


Figure 2. Conceptual model showing truth and bias model with relationship motives and emotions as cues. s = similarity; p = projection; a = accuracy; MLB = mean-level bias.

avoidance motives onto their partner. Once again, the actor and partner avoidance motives were significantly correlated ($\beta = .25$, $B = .65$, $SE = .21$, $p = .002$, 95% CI [.24, 1.06]), indicating that partners were similar in their daily relationship avoidance motives. The intercept was negative and statistically significant ($B = -.09$, $SE = .04$, $p = .015$, $d = .05$, 95% CI [-.16, -.02]), indicating mean-level bias, such that actors underperceived their partner's avoidance motives. The overall variance in actor perceptions of partner avoidance motives explained by this model was significant ($R^2 = .716$, $p < .001$). In the analyses of emotions as cues, estimates for projection, tracking accuracy, and mean-level bias were derived (i.e., these paths were included in subsequent models), however, the pattern of results did not change; thus, these estimates are not discussed again in the analyses of the cues

models. However, the estimates for these constructs are presented in Tables 1 through 4.

Partner emotions as cues.

Models for approach motives. Next, we tested whether the partner's positive emotions were used by actors as cues to judge partner approach motives (see Figure 2). We used a path model in which we regressed the actor's perception of partner approach motives on the partner's self-reported approach motives (accuracy path), and on the actor's own approach motives (projection path), as in prior models. In addition, we added positive emotions to this model, such that partner approach motives predicted partner positive emotions, which were assumed to predict actor perceptions of partner positive emotions, which were, in turn, assumed to predict actor perceptions of partner approach motives. We also added paths to examine whether actor approach motives predicted partner positive emotions and actor perceptions of partner positive emotions. Actor and partner approach motives were allowed to covary, as in prior models to account for any similarity between partners' motives.

Results for this model (see Table 1) indicated that, as expected, partner approach motives predicted higher partner positive emotions, indicating that positive emotions are relevant cues regarding approach motives. Actor approach motives were unrelated to partner positive emotions, but predicted higher actor perceptions of partner positive emotions. Partner positive emotions predicted higher actor perceptions of partner positive emotions, indicating that partner positive emotions were available and detectable cues to be used by actors. Finally, as expected, actor perceptions of partner positive emotions predicted higher actor perceptions of partner approach motives, indicating that actors did use their perceptions of their partner's

Table 1
Model Results for Approach Motives and Positive Emotions

Path	β	B	SE	p	95% CI
Study 1					
Tracking accuracy (path a)	.08	.07	.02	.002	[.03, .12]
Projection (path p)	.80	.77	.03	<.001	[.71, .82]
Similarity (s)	.25	.48	.14	.001	[.21, .75]
Mean-level bias (intercept)	-1.49	-.11	.03	<.001	[-.17, -.05]
Partner's motives → Partner's emotions	.28	.29	.06	<.001	[.19, .40]
Partner's emotions → Actor's perception of partner emotion	.41	.39	.05	<.001	[.29, .49]
Actor's perception of partner emotions → Actor's perception of partner's motives	.11	.11	.03	.001	[.05, .17]
Mediation	n/a	.01	.004	.006	[.004, .02]
Actor's motives → Partner's emotions	-.01	-.01	.05	.922	[-.11, .10]
Actor's motives → Actor's perception of partner emotion	.18	.18	.05	.001	[.08, .28]
Study 2					
Tracking accuracy (path a)	.18	.16	.03	<.001	[.09, .22]
Projection (path p)	.57	.49	.05	<.001	[.39, .60]
Similarity (s)	.10	.34	.21	.112	[-.08, .76]
Mean-level bias (intercept)	-.36	-.03	.05	.589	[-.13, .07]
Partner's motives → Partner's emotions	.30	.26	.03	<.001	[.19, .33]
Partner's emotions → Actor's perception of partner emotion	.27	.27	.05	<.001	[.18, .36]
Actor's perception of partner emotions → Actor's perception of partner's motives	.13	.13	.03	<.001	[.08, .19]
Mediation	n/a	.01	.003	.002	[.003, .02]
Actor's motives → Partner's emotions	.12	.11	.03	.001	[.05, .17]
Actor's motives → Actor's perception of partner emotion	.30	.27	.04	<.001	[.20, .34]

Note. SEs, p values, and confidence intervals correspond to the unstandardized results.

Table 2
Model Results for Approach Motives and Negative Emotions

Path	β	B	SE	<i>p</i>	95% CI
Study 1					
Tracking accuracy (path a)	.08	.07	.03	.002	[.03, .12]
Projection (path p)	.81	.78	.03	<.001	[.72, .83]
Similarity (s)	.25	.48	.14	.001	[.20, .75]
Mean-level bias (intercept)	-1.45	-.11	.03	.001	[-.17, -.05]
Partner's motives → Partner's emotions	-.16	-.15	.04	.001	[-.23, -.06]
Partner's emotions → Actor's perception of partner emotion	.48	.46	.05	<.001	[.37, .55]
Actor's perception of partner emotions → Actor's perception of partner's motives	-.09	-.09	.03	.001	[-.15, -.04]
Mediation	n/a	.01	.003	.030	[.001, .01]
Actor's motives → Partner's emotions	.00	.00	.04	.999	[-.07, .07]
Actor's motives → Actor's perception of partner emotion	-.09	-.08	.03	.013	[-.14, -.02]
Study 2					
Tracking accuracy (path a)	.20	.17	.03	<.001	[.11, .24]
Projection (path p)	.62	.54	.05	<.001	[.44, .64]
Similarity (s)	.10	.34	.21	.113	[-.08, .76]
Mean-level bias (intercept)	-.32	-.03	.05	.628	[-.13, .08]
Partner's motives → Partner's emotions	-.12	-.04	.01	.004	[-.07, -.01]
Partner's emotions → Actor's perception of partner emotion	.31	.33	.06	<.001	[.22, .44]
Actor's perception of partner emotions → Actor's perception of partner's motives	.02	.05	.08	.508	[-.10, .20]
Mediation	n/a	-.001	.001	.499	[-.003, .001]
Actor's motives → Partner's emotions	-.15	-.05	.02	.001	[-.08, -.02]
Actor's motives → Actor's perception of partner emotion	-.07	-.03	.02	.059	[-.06, .001]

Note. SEs, *p* values, and confidence intervals (CI) correspond to the unstandardized results.

positive emotions to judge their partner's approach motives. Indeed, the indirect path between partner approach motives and actor perceptions of partner approach motives, through partner positive emotions, was significant ($B = .01$, $SE = .004$, $p = .006$, 95% CI [.004, .02]), indicating that actors' use of partner

positive emotions served to indirectly increase their accuracy in judging their partner's approach motives. Adding positive emotions to the model reduced the direct accuracy path ($B = .083$ to $B' = .074$) by 10.8%. The overall variance in actor perceptions of partner approach motives explained by this model was

Table 3
Model Results for Avoidance Motives and Positive Emotions

Path	β	B	SE	<i>p</i>	95% CI
Study 1					
Tracking accuracy (path a)	.08	.07	.02	.003	[.02, .12]
Projection (path p)	.82	.75	.04	<.001	[.67, .82]
Similarity (s)	.25	.65	.21	.002	[.24, 1.06]
Mean-level bias (intercept)	-.53	-.09	.04	.013	[-.16, -.02]
Partner's motives → Partner's emotions	.04	.03	.05	.521	[-.07, .14]
Partner's emotions → Actor's perception of partner emotion	.43	.40	.05	<.001	[.30, .50]
Actor's perception of partner emotions → Actor's perception of partner's motives	.09	.10	.03	.003	[.03, .16]
Mediation	n/a	.001	.002	.544	[-.003, .005]
Actor's motives → Partner's emotions	-.04	-.04	.05	.426	[-.14, .06]
Actor's motives → Actor's perception of partner emotion	.00	.00	.04	.995	[-.07, .07]
Study 2					
Tracking accuracy (path a)	.10	.07	.04	.096	[-.01, .16]
Projection (path p)	.56	.42	.07	<.001	[.30, .55]
Similarity (s)	.002	.01	.22	.974	[-.43, .44]
Mean-level bias (intercept)	-1.08	-.11	.06	.048	[-.22, -.001]
Partner's motives → Partner's emotions	-.13	-.12	.05	.010	[-.22, -.03]
Partner's emotions → Actor's perception of partner emotion	.31	.31	.05	<.001	[.22, .40]
Actor's perception of partner emotions → Actor's perception of partner's motives	-.11	-.09	.03	.001	[-.14, -.04]
Mediation	n/a	.003	.002	.073	[.00, .01]
Actor's motives → Partner's emotions	-.01	-.01	.05	.815	[-.10, .08]
Actor's motives → Actor's perception of partner emotion	-.07	-.07	.04	.111	[-.15, .02]

Note. SEs, *p* values, and confidence intervals correspond to the unstandardized results.

Table 4
 Model Results for Avoidance Motives and Negative Emotions

Path	β	B	SE	<i>p</i>	95% CI
Study 1					
Tracking accuracy (path a)	.07	.07	.02	.006	[.02, .11]
Projection (path p)	.82	.75	.04	<.001	[.67, .82]
Similarity (s)	.25	.65	.21	.002	[.24, 1.06]
Mean-level bias (intercept)	-.54	-.09	.04	.015	[-.15, -.02]
Partner's motives → Partner's emotions	-.02	-.02	.04	.701	[-.10, .07]
Partner's emotions → Actor's perception of partner emotion	.49	.46	.05	<.001	[.37, .55]
Actor's perception of partner emotions → Actor's perception of partner's motives	-.07	-.09	.03	.002	[-.15, -.03]
Mediation	n/a	.001	.002	.707	[-.003, .004]
Actor's motives → Partner's emotions	-.03	-.03	.04	.525	[-.11, .05]
Actor's motives → Actor's perception of partner emotion	-.004	-.003	.03	.918	[-.05, .05]
Study 2					
Tracking accuracy (path a)	.09	.07	.04	.092	[-.01, .15]
Projection (path p)	.54	.41	.07	<.001	[.29, .54]
Similarity (s)	.002	.01	.22	.974	[-.43, .44]
Mean-level bias (intercept)	-1.05	-.11	.06	.051	[-.22, .001]
Partner's motives → Partner's emotions	.19	.07	.02	<.001	[.04, .10]
Partner's emotions → Actor's perception of partner emotion	.32	.34	.06	<.001	[.23, .45]
Actor's perception of partner emotions → Actor's perception of partner's motives	.14	.27	.08	.001	[.11, .42]
Mediation	n/a	.01	.002	.012	[.001, .01]
Actor's motives → Partner's emotions	.01	.002	.01	.870	[-.03, .03]
Actor's motives → Actor's perception of partner emotion	.13	.05	.02	.003	[.02, .09]

Note. SEs, *p* values, and confidence intervals correspond to the unstandardized results.

significant ($R^2 = .727, p < .001$). The model fit the data well, $\chi^2(2) = 9.23, p = .01, RMSEA = .04, CFI = .99, SRMR = .02$.

Next, we tested whether the partner's negative emotions were used as cues to judge their approach motives, using the same model as above, but with the partner's negative emotions included in the model as the cue. Results for this model (see Table 2) indicated that, as expected, partner approach motives predicted lower partner negative emotions, indicating that negative emotions are relevant cues regarding approach motives. Actor approach motives were unrelated to partner negative emotions but predicted lower actor perceptions of partner negative emotions. Partner negative emotions predicted higher actor perceptions of partner negative emotions, indicating that partner negative emotions were available and detectable cues to be used by actors. Finally, as expected, actor perceptions of partner negative emotions predicted lower actor perceptions of partner approach motives, indicating that actors did use their perceptions of their partner's negative emotions to judge their partner's approach motives. Indeed, the indirect path between partner approach motives and actor perceptions of partner approach motives, through partner negative emotions, was significant ($B = .01, SE = .003, p = .03, 95\% CI [.001, .01]$), adding to the accuracy of perceptions. Adding negative emotions to the model reduced the direct accuracy path ($B = .083$ to $B' = .074$) by 10.8%. The overall variance in actor perceptions of partner approach motives explained by this model was significant ($R^2 = .722, p < .001$). This model fit the data well, $\chi^2(2) = 2.79, p = .25, RMSEA = .01, CFI = .999, SRMR = .01$.

In summary, the models for approach motives indicated that both positive and negative emotions were relevant cues to indicate partner approach motives. Actors were able to pick up on partner emotions, indicating that emotions are available and detectable cues. Furthermore, actors used their perceptions of both partner

positive and negative emotions to make their judgments about partner approach motives, thereby increasing the accuracy of their judgments.

Models for avoidance motives. In our next set of analyses, we ran the same models as for approach motives described above, but with avoidance motives. First, we tested whether the partner's positive emotions were used as cues to judge the partner's avoidance motives. Results for this model (see Table 3) indicated that partner avoidance motives were not associated with partner positive emotions, indicating that positive emotions did not serve as relevant cues regarding avoidance motives. Actor avoidance motives were also unrelated to partner positive emotions, and did not predict actor perceptions of partner positive emotions. Partner positive emotions predicted higher actor perceptions of partner positive emotions, indicating that partner positive emotions were available and detectable cues to be used by actors. Actor perceptions of partner positive emotions predicted higher actor perceptions of partner avoidance motives, indicating that actors did use their perceptions of their partner's positive emotions to judge their partner's avoidance motives but in a direction opposite to what we expected. The indirect path between partner avoidance motives and actor perceptions of partner avoidance motives, through partner positive emotions, was not significant ($B = .001, SE = .002, p = .54, 95\% CI [-.003, .005]$), indicating that actors' use of partner positive emotions did not influence their accuracy in judging their partner's avoidance motives. The overall variance in actor perceptions of partner avoidance motives explained by this model was significant ($R^2 = .719, p < .001$). The model fit the data well, $\chi^2(2) = 12.60, p = .002, RMSEA = .05, CFI = .97, SRMR = .03$.

Next, we examined partner negative emotions as cues used to judge the partner's avoidance motives. Results (see Table 4) indicated that partner relationship avoidance motives were not asso-

ciated with partner daily negative emotions, indicating that negative emotions did not serve as relevant cues regarding daily relationship avoidance motives. Actor avoidance motives were also unrelated to partner negative emotions, and did not predict actor perceptions of partner negative emotions. Partner negative emotions predicted higher actor perceptions of partner negative emotions, indicating that partner negative emotions were available and detectable cues to be used by actors. Actor perceptions of partner negative emotions predicted lower actor perceptions of partner avoidance motives, indicating that actors did use their perceptions of their partner's negative emotions to judge their partner's avoidance motives but in a direction opposite to what we expected. The indirect path between partner avoidance motives and actor perceptions of partner avoidance motives, through partner negative emotions, was not significant ($B = .001$, $SE = .002$, $p = .71$, 95% CI $[-.003, .004]$), indicating that actors' use of partner negative emotions did not influence their accuracy in judging their partner's avoidance motives. The overall variance in actor perceptions of partner avoidance motives explained by this model was significant ($R^2 = .719$, $p < .001$). This model also fit the data well, $\chi^2(2) = 1.42$, $p = .49$, RMSEA = .00, CFI = 1.00, SRMR = .01.

In summary, the models for avoidance motives indicated that neither positive nor negative emotions were relevant cues to indicate partner avoidance motives. Actors were able to pick up on partner emotions, indicating that emotions are available and detectable cues. However, actors used their perceptions of both partner positive and negative emotions to make their judgments about partner avoidance motives incorrectly, and as a result, using emotions as cues did not influence the accuracy of their judgments.

Discussion

In Study 1, we found consistent patterns of accuracy and projection in people's perceptions of their partner's daily relationship approach and avoidance motives. We also found that partners were similar in their daily relationship approach and avoidance motives. Partner daily relationship approach and avoidance motives were both underperceived by actors, indicating evidence of mean-level bias. Both positive and negative emotions were relevant cues to judge partner approach motives, and actors successfully detected and used partner emotions to further increase the accuracy of their perceptions of partner approach motives. However, daily positive and negative emotions were not tied to daily partner relationship avoidance motives, and thus, could not be used as relevant cues for make judgments about daily relationship avoidance motives. Partner daily emotions were not associated with the accuracy of actors' judgments of partner avoidance motives.

It is possible that making judgments of motives on a daily basis is a difficult task, as partners have multiple interactions during the day, making it perhaps more difficult to make judgments about their partner's overall daily motives. Furthermore, many experiences throughout the day are tied to emotions; thus, it is possible that we did not find emotions to be relevant cues in the case of avoidance motives because if they are more weakly linked to emotions than approach motives, associations on a daily basis may be particularly weak. We assumed that projection may be less prominent in judgments, and emotions may be more strongly linked to motives if people are asked to make judgments regarding

specific situations, rather than about an entire day. Thus, we aimed to replicate our findings in a study that focused on judgments regarding partners' specific shared activities. We expected projection to play a smaller role, and emotions to be reliably tied to people's motives in specific activities.

Study 2

The goal of Study 2 was to examine people's perceptions of their partner's approach and avoidance motives during romantic partners' shared activities. More specifically, we examined tracking accuracy and bias (projection, mean-level bias) in people's judgments, and the level of similarity in partners' relationship approach and avoidance motives during partners' shared activities. We also examined whether people use their partner's positive and negative emotions as cues to make judgments about their partner's motives. We wanted to examine people's judgments in a different context, where the time period for the judgments is limited to a specific activity. This way, we were able to examine whether perceptions during a specific activity, rather than a full day, would result in higher levels of accuracy and less projection. Furthermore, emotions may be more relevant cues and perhaps be used to judge motives more effectively in the context of specific activities, given that the time period of judgment is shorter and more specific.

Method

Participants and procedures. We recruited 208 people (104 couples) using the psychology participant pool and advertisement flyers posted around a large Midwestern university.² The study was approved by the IRB of Kent State University (#14-196, Romantic Couples' Experiences of Shared Activities). The mean age of participants was 21.1 years old ($SD = 5.54$, range = 18 to 60) and 51.4% were female. Participants were primarily White (78.8%), and 16.3% were African American, 5.3% were Asian American, 3.4% were Hispanic/Latino, and 3.9% were of other backgrounds. Partners were romantically involved for an average of 2.23 years ($SD = 2.49$, range = 1 month to 16.5 years), and most were not living together (75%) but were exclusively dating (97%). The majority (95%) were involved in mixed-sex relationships. Participants were compensated with either course credit or \$10 for their participation.

In the lab, couples completed consent forms, and then partners jointly generated a list of their 10 most recent shared activities (in a private room without the researcher's presence), beginning with their most recent shared activity but not including their participation in the study. After completing their list, partners were taken to separate rooms to independently complete a series of questionnaires about themselves, their relationship, and their six most recent shared activities with their partner (partners only reported on six activities because of time constraints). In the current study, we used data from 614 activities on which both partners provided reports (some people did not input their list of activities in the requested order; as a result, for 10 activities we do not have reports from both partners). Both members of each dyad reported on their own and their partner's experiences for each activity; thus, our total sample size for the analyses was 1,228 reports on 614 shared

activities ($M = 5.90$ activities reported on per couple, $SD = .47$, range = 3 to 6).

Measures.

Relationship approach and avoidance motives. Relationship motives were assessed with items based on Impett et al. (2005) and modified for use regarding specific activities. Approach motives for taking part in each activity were assessed with two items ("I took part in this activity to make my partner happy," "I took part in this activity to create more satisfaction in our relationship") rated on 7-point scales (1 = *strongly disagree*, 7 = *strongly agree*). Responses were averaged to create an approach motive score for each activity ($M = 4.82$, $SD = 1.89$, $\alpha = .83$, $r = .71$). Relationship avoidance motives for taking part in each activity were assessed with three items ("I took part in this activity to prevent my partner from feeling upset," "I took part in this activity to avoid tension in our relationship," "I took part in this activity to avoid feeling guilty/selfish") using the same 7-point scales. Items were averaged to create an avoidance motive score for each activity ($M = 2.23$, $SD = 1.76$, $\alpha = .92$).

Participants also reported on their perceptions of their partner's motives using the same items that were modified to ask about the partner's motives during the activity. The two approach items (e.g., "My partner took part in this activity to make me happy") were averaged to create a perceived partner approach motive score for each activity ($M = 4.80$, $SD = 1.91$, $\alpha = .84$, $r = .72$), and the three avoidance motive items (e.g., "My partner took part in this activity to prevent me from feeling upset") were averaged to create a perceived partner avoidance motive score for each activity ($M = 2.12$, $SD = 1.69$, $\alpha = .93$).

Positive and negative emotions. Participants' positive and negative emotions during each activity were assessed with 11 items, based on the circumplex model of affect (Russell, 1980). Four items measured positive (joyful, excited, relaxed, and content/pleased; $M = 5.11$, $SD = 1.66$, $\alpha = .89$) and seven items measured negative emotions during the activity (angry, anxious/worried, tired, bored, dejected/down, irritated/annoyed, and frustrated; $M = 1.50$, $SD = .65$, $\alpha = .75$). Items were rated on 7-point scales (1 = *none of the time/0%*, 7 = *all of the time/100%*).

Participants also reported on their perceptions of their partner's positive and negative emotions during each activity using the same items, which were modified to ask about the partner's emotions. The four positive emotion items (e.g., "My partner felt joyful") were averaged to create a perceived partner positive emotion score for each activity ($M = 5.05$, $SD = 1.66$, $\alpha = .89$). The seven negative emotion items (e.g., "My partner felt angry") were averaged to create a perceived partner negative emotion score for each activity ($M = 1.52$, $SD = .69$, $\alpha = .79$).

Results

Analysis approach. As in Study 1, we analyzed the data using multilevel path models in MPlus 7 (Muthén & Muthén, 2012). All analyses were conducted at Level 1 (reports on activities) and controlled for potential dependence in responses at the level of the person (Level 2) and the dyad (Level 3). Both partners reported on their own and their partner's experiences in each activity. Thus, each person served as both actor and partner for each activity. Our analyses are based on a total of 1,228 reports of 614 activities. In

the first set of analyses, we examined tracking accuracy and projection in people's perceptions of their partner's relationship approach and avoidance motives for taking part in the shared activity, similarity between the partners' motives for the shared activity, and mean-level bias (i.e., over- or underperception) in perceptions of the partner's approach and avoidance motives (see Figure 1 for the conceptual model). In the second set of analyses (see Figure 2), we examined whether positive and negative emotions were used as cues to make judgments about partner motives and served to increase accuracy of judgments. We used the same analysis approach as in Study 1 and tested separate models for approach and avoidance motives, first using partner positive emotions as cues, and then using partner negative emotions as cues in separate models.

Accuracy and bias in motive judgments. Regarding relationship approach motives, results showed that higher partner approach motives predicted higher actor perceptions of partner approach motives ($\beta = .20$, $B = .17$, $SE = .03$, $p < .001$, 95% CI [.11, .24]), showing some degree of accuracy in actors' perceptions of their partner's approach motives during shared activities. Higher actor approach motives also predicted higher actor perceptions of partner approach motives ($\beta = .62$, $B = .53$, $SE = .05$, $p < .001$, 95% CI [.43, .63]), showing that actors were projecting their own motives onto their partner during their shared activities. Further, the actor's and the partner's relationship approach motives were not significantly correlated ($\beta = .10$, $B = .34$, $SE = .21$, $p = .11$, 95% CI [-.08, .76]), indicating that partners were not similar in their relationship approach motives during shared activities. The intercept was not significantly different from zero ($B = -.03$, $SE = .05$, $p = .63$, 95% CI [-.13, .08]), suggesting no evidence of mean-level bias in actor perceptions of partner relationship approach motives during shared activities. The overall variance in actor's perceptions of partner approach motives explained by this model was significant ($R^2 = .447$, $p < .001$).

Regarding relationship avoidance motives, results showed that higher partner avoidance motives marginally predicted higher actor perceptions of partner avoidance motives ($\beta = .10$, $B = .08$, $SE = .04$, $p = .072$, 95% CI [-.01, .17]), indicating some degree of accuracy in the actor's perceptions of their partner's avoidance motives during their shared activities. Higher actor avoidance motives predicted higher actor perceptions of partner avoidance motives ($\beta = .56$, $B = .43$, $SE = .07$, $p < .001$, 95% CI [.29, .56]), showing that actors were projecting their own avoidance motives onto their partner. Further, actor and partner avoidance motives did not covary ($\beta = .002$, $B = .01$, $SE = .22$, $p = .976$, 95% CI [-.43, .44]), indicating that partners were not similar in their avoidance motives during their shared activities. The intercept was negative and statistically significant ($B = -.10$, $SE = .05$, $p = .063$, $d = .06$, 95% CI [-.21, .01]), indicating mean-level bias, specifically, that actors underperceived their partner's avoidance motives. The overall variance in actor's perceptions of partner's avoidance motives explained by this model was significant ($R^2 = .327$, $p < .001$). The paths for accuracy, projection, mean-level bias, and similarity between the partners' motives were included in all subsequent models but pattern of results did not change.

Thus, estimates are reported in the tables but are not discussed in the sections below.

Partner emotions as cues.

Models for approach motives. As in Study 1, we tested whether the partner's positive emotions serve as cues to make judgments about the partner's relationship approach motives during shared activities (see Figure 2). As in Study 1, in addition to estimating accuracy, projection, mean-level bias and similarity, the model also included partner positive emotions and actor perceptions of partner positive emotions. We assumed that partner approach motives (and potentially actor approach motives) would predict partner positive emotions, which would predict actor perceptions of partner positive emotions. In turn, we predicted that actor perceptions of partner positive emotions would predict actor perceptions of partner approach motives. We also expected that actors' own approach motives would predict their perceptions of partner positive emotions.

Results for this model (see Table 1) indicated that, as expected, partner approach motives predicted higher partner positive emotions, indicating that positive emotions are relevant cues regarding approach motives. Actor approach motives also predicted higher partner positive emotions and predicted higher actor perceptions of partner positive emotions. Partner positive emotions predicted higher actor perceptions of partner positive emotions, indicating that partner positive emotions were available and detectable cues to be used by actors. In turn, actor perceptions of partner positive emotions predicted higher actor perceptions of partner approach motives, indicating that actors did use their perceptions of their partner's positive emotions to judge their partner's approach motives. As expected, the indirect path between partner approach motives and actor perceptions of partner approach motives through partner positive emotions was significant ($B = .01$, $SE = .003$, $p = .002$, 95% CI [.003, .02]), indicating that actors' use of partner positive emotions served to indirectly increase their accuracy in judging their partner's relationship approach motives during shared activities. Adding positive emotions to the model reduced the direct accuracy path ($B = .171$ to $B' = .158$) by 7.6%. The overall variance in actor perceptions of partner approach motives explained by this model was significant ($R^2 = .458$, $p < .001$). This model fit the data well, $\chi^2(2) = .28$, $p = .87$, RMSEA = .00, CFI = 1.00, SRMR = .004.

Next, we tested whether the partner's negative emotions served as cues to make judgments about the partner's relationship approach motives during shared activities, using the same model as above, but with the partner's negative emotions as the cue (see Table 2). As expected, partner approach motives predicted lower partner negative emotions, indicating that negative emotions are relevant cues to judge approach motives. Actor approach motives also predicted lower partner negative emotions and were marginally associated with lower actor perceptions of partner negative emotions. Partner negative emotions predicted higher actor perceptions of partner negative emotions, indicating that partner negative emotions were cues that were available and detectable for actors. However, actor perceptions of partner negative emotions did not predict actor perceptions of partner approach motives, indicating that actors did not seem to use their perceptions of their partner's negative emotions to judge their partner's relationship approach motives during shared activities. As a result, the indirect path between partner relationship approach motives and actor

perceptions of partner approach motives, through partner negative emotions, was not significant ($B = -.001$, $SE = .001$, $p = .50$, 95% CI [-.003, .001]). This model fit the data well, $\chi^2(2) = 9.80$, $p = .01$, RMSEA = .056, CFI = .97, SRMR = .03.

In summary, the models for approach motives indicated that both positive and negative emotions were relevant cues to indicate partner approach motives. Actors were able to pick up on partner emotions, indicating that emotions are available and detectable cues. However, actors used only their perceptions of partner positive emotions—but not negative emotions—to make judgments about partner approach motives, which increased the accuracy of their judgments.

Models for avoidance motives. In our next set of analyses, we ran the same models as for approach motives, but with partner relationship avoidance motives. First, we tested whether the partner's positive emotions serve as cues to make judgments about the partner's avoidance motives during shared activities (see Table 3). Higher partner avoidance motives predicted lower partner positive emotions, indicating that partner positive emotions serve as relevant cues to judge partner avoidance motives. Actor avoidance motives were not associated with partner positive emotions or with actor perceptions of partner positive emotions. Partner positive emotions predicted higher actor perceptions of partner positive emotions, indicating that partner positive emotions were available and detectable cues to be used by actors. Actor perceptions of partner positive emotions predicted lower actor perceptions of partner avoidance motives, indicating that actors did use their perceptions of their partner's positive emotions to judge their partner's relationship avoidance motives during shared activities. The indirect path between partner avoidance motives and actor perceptions of partner avoidance motives, through partner positive emotions, was marginally significant ($B = .003$, $SE = .002$, $p = .073$, 95% CI [.000, .007]). Adding positive emotions to the model reduced the direct accuracy path ($B = .079$ to $B' = .074$) by 6.3%. The overall variance in actor perceptions of partner avoidance motives explained by this model was significant ($R^2 = .341$, $p < .001$). This model fit the data well, $\chi^2(2) = .17$, $p = .92$, RMSEA = .00, CFI = 1.00, SRMR = .004.

In the second model, we examined the partner's negative emotions as cues to make judgments about the partner's relationship avoidance motives during shared activities. Results (see Table 4) indicated that partner avoidance motives predicted higher partner negative emotions, indicating that negative emotions were relevant cues to judge partner relationship avoidance motives. Actor avoidance motives were unrelated to partner negative emotions but predicted higher actor perceptions of partner negative emotions. Partner negative emotions predicted higher actor perceptions of partner negative emotions, indicating that partner negative emotions were available and detectable cues to be used by actors. Actor perceptions of partner negative emotions predicted higher actor perceptions of partner avoidance motives, indicating that actors did use their perceptions of their partner's negative emotions to judge their partner's relationship avoidance motives during shared activities. The indirect path between partner avoidance motives and actor perceptions of partner avoidance motives, through partner negative emotions, was significant ($B = .006$, $SE = .002$, $p = .012$, 95% CI [.001, .011]), indicating that actors' use of partner negative emotions increased their accuracy in judging their partner's relationship avoidance motives during shared activities. Add-

ing negative emotions to the model reduced the direct accuracy path ($B = .079$ to $B' = .071$) by 10.1%. The overall variance in actor perceptions of partner avoidance motives explained by this model was significant ($R^2 = .345$, $p < .001$). This model also fit the data well, $\chi^2(2) = 2.70$, $p = .26$, RMSEA = .02, CFI = .996, SRMR = .011.

In summary, the models for avoidance motives indicated that both positive and negative emotions were relevant cues to indicate partner avoidance motives. Actors were able to pick up on partner emotions, indicating that emotions are available and detectable cues. Furthermore, actors used their perceptions of both partner positive and negative emotions to make their judgments about partner avoidance motives, thereby increasing the accuracy of their judgments.

Discussion

In Study 2, we found consistent patterns of accuracy and projection in people's perceptions of their partner's approach and avoidance motives. Further, partners were not similar in their approach and avoidance motives during their shared activities. Only partner avoidance motives were underperceived by actors, indicating evidence of mean-level bias for avoidance motives, but not approach motives, in shared activities. Moreover, our results indicated that partner emotions are available and detectable cues to use in making judgments about partner motives. Both positive and negative emotions were relevant cues to judge partner approach motives, but actors only successfully used their partner's positive emotions and not negative emotions to increase the accuracy of their perceptions of partner approach motives. Both positive and negative emotions were also relevant cues for people to judge their partner's avoidance motives, and actors successfully used both positive and negative emotions to increase their accuracy of perceptions of partner avoidance motives during shared activities.

General Discussion

In two dyadic studies using daily diaries and reports of shared activities, there was significant evidence of simultaneous accuracy and bias in people's perceptions of their partner's relationship approach and avoidance motives. Although partners had similar daily approach and avoidance motives, their motives were not similar in their shared activities. At the same time, people underperceived both their partner's daily approach and avoidance motives, and their partner's avoidance motives during shared activities. People used their partner's emotions as cues successfully for approach motives in both daily diaries and shared activity reports, but emotions were only used as cues for avoidance motives in shared activities. Our results provide evidence that accuracy and bias are simultaneously present in people's perceptions of a partner's motives, and that there are differences between how people perceive a partner's daily motives and motives during shared activities, and how they use emotions as cues to judge partner relationship motives.

Accuracy of Motive Perceptions

Our findings indicate evidence of tracking accuracy in people's judgments of their partner's daily motives and motives during

shared activities. These findings are in line with previous research that found that people's judgments of interpersonal qualities and experiences contain some level of tracking accuracy (Fletcher & Kerr, 2010; Gagné & Lydon, 2004; West & Kenny, 2011). Given that a romantic partner's approach and avoidance motives have consequences for personal and relational well-being (Elliot et al., 2006; Gable, 2006; Gable & Impett, 2012; Impett, Gable, et al., 2005), it is important for people to be able to understand their partner's motives and identify changes in those motives on a day-to-day basis or during shared time together. Being accurate about a partner's motives allows greater understanding of the partner, helping partners establish the type of deep understanding of one another that is commonly sought in romantic relationships, even when better understanding may result in temporary challenges for partners (Finkel, 2017; Finkel et al., 2015, 2014).

Accuracy can also facilitate actively acknowledging a partner's motives for doing something, whether these motives are approach or avoidance. For example, recognizing a partner's approach motives may increase appreciation (Visserman, Righetti, et al., 2018) and reinforce the partner's approach motives. In addition, recognizing a partner's avoidance motives may allow people to proactively do something to enhance their partner's experience and potentially transform initial high avoidance motives into higher approach motives. In line with these ideas, research has found that accurately perceiving a partner's sacrifices boosts gratitude (Visserman, Impett, et al., 2018), and that perceptions rooted in accuracy are associated with greater marital well-being, even when controlling for overall rosy views of the relationship (Neff & Karney, 2005). In future research it will be important to examine how people respond to their perceptions of high partner approach and avoidance motives, as well as how avoidance motives may be reevaluated and transformed to more positive forms of motivation to prevent the negative well-being outcomes avoidance motives are commonly associated with over time.

Emotions as Cues in Perceptions of Motives

Relevance of cues. We found that relationship approach motives were associated with both positive and negative emotions in both daily reports and shared activities. When people reported having more approach motives, they also reported having more positive emotions and less negative emotions. These results indicate that positive and negative emotions are relevant cues to detect both daily approach motives and motives during shared activities. Our results are also in line with prior research that shows approach motives are associated with higher positive emotions and lower negative emotions (Elliot et al., 2006; Gable, 2006; Gable & Impett, 2012; Updegraff et al., 2004). These associations indicate that positive and negative emotions are relevant to the motives being judged, allowing people to use them in the first steps of making judgments with accuracy, in line with the realistic accuracy model (Funder, 1995).

Relationship avoidance motives, however, were associated with positive and negative emotions only in shared activities. Specifically, when people were more avoidance motivated, they experienced less positive emotions and more negative emotions. In contrast, daily relationship avoidance motives were not associated with people's daily positive and negative emotions. These results indicate that positive and negative emotions are relevant cues that

people can use to detect avoidance motives in shared activities, consistent with prior research showing associations between avoidance motives and negative and positive emotions (Elliot et al., 2006; Gable, 2006; Gable & Impett, 2012; Updegraff et al., 2004). It is possible that daily relationship avoidance motives were not associated with daily emotions because people experience many different events during the day—with and without their partner—that influence their emotions, and their daily relationship avoidance motives may be a relatively weaker predictor of daily emotions in comparison to other experiences and approach motives. In contrast, avoidance motives in specific activities may be more strongly tied to emotional experiences within the given activity. This is in line with other research that has also found more inconsistent links between avoidance motives and emotions in comparison to approach motives (Updegraff et al., 2004). These findings may indicate a stronger link between approach motives and daily emotional experiences than between avoidance motives and daily emotions. It will be important to explore this possibility in future research.

Availability and detection of cues. Partner positive and negative emotions were associated with actors' perceptions of partner positive and negative emotions in both daily reports and shared activities, indicating that positive and negative emotions are available and detectable cues. These findings are consistent with prior research showing tracking accuracy in people's perceptions of others' state and trait emotions (Clark et al., 2017; Overall et al., 2015; Watson et al., 2000). Consistent with the Realistic Accuracy Model, for emotions to be potential cues to improve accuracy, in addition to being relevant, they must also be available and detectable (Funder, 1995), and our and others' findings indicate that positive and negative emotions are indeed available and detectable cues that may then be used to improve accuracy of perceptions when they are also relevant cues.

Use of cues. When people perceived their partner as experiencing more positive emotions (daily and in shared activities) and less negative emotions (daily), they perceived their partner to be more approach motivated. Thus, although both positive and negative emotions were relevant cues for approach motives, positive emotions were used more consistently as cues than negative emotions to judge partner relationship approach motives. Further, people used their partner's emotions as cues to inform their judgments about their partner's motives. Given that emotions were relevant and available cues, their use to inform judgments of partner motives can improve the accuracy of partner approach motive judgments. The added accuracy was indicated by the significant indirect paths that explained 7–10% of tracking accuracy. Our findings provide support for the steps proposed by the Realistic Accuracy Model, showing that when a person is faced with a relevant, available, and detectable cue that they use, their perceptions are more accurate (Funder, 1995). Although the partner's negative emotions were relevant, available, and detectable cues for judging the partner's relationship approach motives, people did not use them during shared activities, which may be because of approach motives being more strongly tied to positive emotions than to negative emotions (Impett, Gable, et al., 2005; Updegraff et al., 2004). It is possible that people did not use negative emotions because of expectations that approach motives produce more positive emotions, whereas using the absence of negative emotions to judge approach motives may be more difficult.

When people perceived their partner as experiencing less positive and more negative emotions, they perceived their partner to be more avoidance motivated during their shared activities. Indeed, people successfully used their partner's emotions during shared activities as cues to improve the accuracy of their perceptions regarding their partner's relationship avoidance motives in their shared activities. The significant indirect paths indicated that the steps proposed in the Realistic Accuracy Model together contributed to improved accuracy, explaining 6–10% of the accuracy of perceptions. Thus, we demonstrated that, in line with the Realistic Accuracy Model (Funder, 1995), positive and negative emotions were relevant, available, and detectable cues that people used for making judgments about a romantic partner's avoidance motives during shared activities, which in turn improved their accuracy.

In contrast, perceptions of daily avoidance motives showed a more inconsistent pattern. Daily emotions were not relevant cues for judging avoidance motives, as daily emotions were not tied to daily relationship avoidance motives. However, people still attempted to use their partner's daily emotions as cues to make judgments about their partner's daily relationship avoidance motives and did so incorrectly. As a result, when people attempted to use their partner's daily emotions to make judgments about their partner's daily relationship avoidance motives, the accuracy of their perceptions did not improve. Given that people still achieved some degree of tracking accuracy in their judgments of their partner's daily avoidance motives, this indicates that they were using other cues on a daily basis to determine their partner's avoidance motives. Examining other possible cues that may be indicative of daily relationship avoidance motives will be an important avenue for future research. In addition, daily emotions are influenced by experiences unrelated to the partner, resulting in daily emotions containing considerable extraneous noise that may make it difficult for people to use them to make accurate judgments about avoidance motives, especially as avoidance motives appear to be harder to judge and are more inconsistently linked to emotions potentially because they result in avoidance of emotions (Updegraff et al., 2004) and because they are seen as more undesirable motives and people may be more inclined to try to hide them. Thus, it may be particularly difficult to accurately perceive daily avoidance motives, but they may be somewhat easier to detect in specific activities. In future research, it will be important to investigate what people do when they have relationship avoidance motives, such as whether they try to conceal them and what behavioral cues avoidance motives may be more reliably linked to.

Projection of Motives

We found that people consistently projected their own relationship motives onto their partner, such that they assumed their partner was experiencing relationship approach and avoidance motives to a similar extent as themselves during their daily lives and shared activities. These findings are consistent with previous findings of projection of own states and characteristics onto the partner (Fletcher & Kerr, 2010; Gagné & Lydon, 2004; Kenny & Acitelli, 2001; West & Kenny, 2011). People may rely on their own motives to make judgments about their partner if their partner's motives are difficult to judge, which seems likely. Indeed, prior research has shown that projection is strongest for traits where perceptions are low in accuracy (Watson et al., 2000) and

that people project their own motivations of competition and cooperativeness in social dilemma games (e.g., prisoner's dilemma) where the motives of others are completely unknown (Krueger, 2007; Krueger & Acevedo, 2007; Krueger, DiDonato, & Freestone, 2012). People also project their own goals onto others when the goals of others are unknown (Kawada, Oettingen, Gollwitzer, & Bargh, 2004). This suggests that people rely on projection as a strategy to make judgments in the absence of other relevant information (Krueger, 2007; Krueger et al., 2012; Watson et al., 2000). In fact, projection can be a useful strategy that may enhance accuracy, if people's assumptions of similarity occur in the presence of actual similarity with the partner (West & Kenny, 2011). In other words, if the partner's motives are similar to one's own motives, basing judgments of partner motives on one's own motives is a reasonable strategy that may provide useful insight into the partner's motives.

However, an interesting finding that emerged in our study was that projection did not always occur in the presence of actual similarity between the partners' motives. Specifically, there was evidence of similarity between partners' daily relationship approach and avoidance motives, but the partners' motives were not similar during their shared activities. Thus, projection of daily motives onto the partner when making judgments about partner daily motives can contribute to higher accuracy, as the partners' motives are indeed similar to some degree. It is possible that we found similarity in partners' daily relationship approach and avoidance motives because daily reports are based on the partners' interactions throughout the day and represent overall daily relationship motivation, across multiple interactions, rather than in a specific interaction. As a result, daily motives may reflect, at least in part, the overall tone of the relationship and people's tendencies to adopt approach and avoidance motives toward the relationship, which might be more similar compared with partners' motives during specific shared activities.

The lack of similarity between partners' motives during specific shared activities has interesting implications. When people project their own relationship motives for taking part in the shared activity onto their partner, they are likely doing so in the absence of similarity between their own and their partner's motives for the activity. As a result, the heavy reliance on projection in these situations, as our findings indicate, leads people astray and without a clear sense of their partner's actual motives, reducing the accuracy of their perceptions. Such projection may have important consequences for partners' experiences during shared activities, increasing the chances of misunderstanding one another's intentions and misinterpretations of each other's actions. In future research, it will be important to investigate the consequences of projections of motives, particularly in the absence of similarity between the partners' motives.

Mean-Level Bias in Motive Perceptions

Our results indicated that people tended to underperceive both their partner's daily relationship avoidance motives and their partner's relationship avoidance motives during shared activities, such that they reported their partner's avoidance motives to be lower than the partner reported them to be, although the size of these effects were small. Given that avoidance motives are generally less desirable than approach motives, it is perhaps not surprising that

people seem to be biased in wanting to believe that their partner is less avoidance motivated than the partner might actually be. Viewing a partner more positively than the partner views themselves is consistent with previous research showing that romantic partners are likely to view their relationship and partner more positively than the reality of the relationship (Fletcher & Kerr, 2010; Gagné & Lydon, 2004), often through rose-colored glasses (Murray et al., 1996). Although the positive perceptions may lead to biased views, they are often functional for relationship maintenance, in the sense that more positive mean-level bias in relationship judgments is associated with higher relationship satisfaction (Fletcher & Kerr, 2010; Murray et al., 1996) and more optimism about the fate of the relationship compared with outside observers' views of the relationship (Gagné & Lydon, 2004; Neff & Karney, 2005).

People's perceptions of their partner's relationship approach motives showed mean-level accuracy during shared activities, but people also underperceived their partner's daily relationship approach motives, although the effect size was also small. In specific shared activities, levels of approach motives may be easier to identify, especially because approach motivations are desirable, and as such, the partner has no reason to try to conceal them, resulting in higher accuracy in their perceptions. In daily reports, perceptions of partner relationship motives are reports across the day, requiring people to "sum" across interactions. Such perceptions may be more prone to bias, and it is possible that a lack of positivity and approach from the partner may be more memorable to perceivers, resulting in underperceptions of partner approach motives.

However, it is also possible that a negative mean-level bias regarding a partner's relationship approach motives may be adaptive, as some research suggests that underperceiving relationship-relevant information coming from the partner may be less costly than overperceiving such qualities when this information provides diagnostic information about the relationship (Fletcher & Kerr, 2010). In such cases, underperceiving may reduce complacency and may maintain people's efforts in the relationship (Fletcher & Kerr, 2010). Indeed, a meta-analysis has shown that people tend to show a default negative mean-level bias when making judgments about such relationship-relevant partner information and only show a positive mean-level bias regarding the partner or relationship when such judgments are not relationship-relevant (e.g., in the case of a partner's personality; Fletcher & Kerr, 2010). A partner's relationship motives would certainly fall into this category and, thus, are in line with the results for approach motives in the diary study, but based on this argument, avoidance motives should have been overestimated (show a negative bias), but this was not the case. Further research may be needed to better understand when people may be prone to enhancing their relationships and when they will underestimate partner positive behaviors in cases when information may be diagnostic about the relationship. Perhaps when people perceive the relationship-relevant information as threatening, they may perceive the partner's motives and behaviors more positively, even if doing so may be costly (Gagné & Lydon, 2004).

Another possibility is that when people are asked about their overall daily relationship motives, they may tend to selectively remember or exaggerate their own approach motives, which could potentially result in partners overreporting their own daily relationship approach motives. Given that people tend to be positively

biased in their self-reports of their own behaviors (Fletcher & Kerr, 2010; Sedikides, Gaertner, & Toguchi, 2003), it is possible that they recall having had more approach motives during the day. In future research, it will be important to first replicate these findings, and aim to investigate the reasons why underperceptions of approach motives may be occurring.

Limitations and Future Directions

In the current set of studies, we only focused on positive and negative emotions as potential cues that people could use in forming judgments of their partner's motives. However, these cues did not completely explain people's tracking accuracy, indicating that people are also relying on other information to make judgments about their partner's motives that lead to higher accuracy. In future research it will be important to examine other potential cues that people may use to judge their partner's motives, such as nonverbal behavioral cues (laughing, smiling, etc.), which could be observed through video-taped discussions.

Furthermore, our studies relied on people's reports of their own emotions, which may be influenced by reporting biases. One way to provide a more precise measurement of people's emotions would be to also use behavioral coding of emotions, although this would not be possible in the case of daily emotions and would have to limit shared activities to those that can be conducted and recorded in the lab. Another approach to getting more precise measurements of people's motives and emotions would be through the use of experience sampling techniques that would allow people to report on their motives and emotions, as well as perceptions of partner motives and emotions, in a specific moment in time, increasing external validity by focusing reports in daily life, and avoiding memory biases (Scollon, Kim-Prieto, & Scollon, 2003). It would be worth examining people's accuracy and bias in perceptions when their judgments are focused on a specific moment in time to determine if accuracy is improved and projection is diminished.

In the current set of studies, we focused on overall levels of accuracy and bias and overall tendencies to use cues to improve the accuracy of judgments. However, it is very likely that there are individual differences in people's tendencies to be accurate and base their judgments on different types of bias. Currently, individual differences in accuracy and bias in perceptions have received little research attention (Eldesouky, English, & Gross, 2017). In future research, examining a variety of traits (e.g., emotional intelligence, need for cognition), relationship variables (e.g., closeness, communication), and situational influences of perceptions (e.g., daily stress) that may influence accuracy of judgments will be important to gain a better understanding of how accuracy can be obtained or improved.

Conclusion

In conclusion, we found that accuracy and bias are simultaneously present in people's judgments of a romantic partner's relationship approach and avoidance motives. Specifically, although people's judgments showed evidence of tracking accuracy, people also projected their own motives onto their partner. Avoidance motives (daily and in shared activities) and approach motives (daily) were also underperceived. Finally, we also showed that

partner emotions were most often relevant, available and detectable cues that people used to make judgments about their partner's relationship motives. Avoidance motives seemed more difficult to judge, with daily emotions unrelated to daily relationship avoidance motives, and people using daily emotions as cues, despite no increase in accuracy, to judge daily avoidance motives. These findings show the complexity of making judgments about a partner's motives, and the difficulty of obtaining the type of deep understanding of one another's goals and motives that most people desire, and often expect (Finkel, 2017; Finkel et al., 2015, 2014) from their relationships.

References

- Adams, J. M., & Jones, W. H. (1997). The conceptualization of marital commitment: An integrative analysis. *Journal of Personality and Social Psychology, 72*, 1177–1196. <http://dx.doi.org/10.1037/0022-3514.72.5.1177>
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497–529. <http://dx.doi.org/10.1037/0033-2909.117.3.497>
- Berzins, T. L., LaBuda, J. E., & Gere, J. (2018). An examination of accuracy and bias in perceptions of a partner's motives for health behaviour regulation. *British Journal of Health Psychology, 23*, 872–887. <http://dx.doi.org/10.1111/bjhp.12321>
- Bolger, N., & Laurenceau, J. P. (2013). *Intensive longitudinal methods: An introduction to diary and experience sampling research*. New York, NY: Guilford Press.
- Campbell, L., Overall, N. C., Rubin, H., & Lackenbauer, S. D. (2013). Inferring a partner's ideal discrepancies: Accuracy, projection, and the communicative role of interpersonal behavior. *Journal of Personality and Social Psychology, 105*, 217–233. <http://dx.doi.org/10.1037/a0033009>
- Clark, M. S., Von Culin, K. R., Clark-Polner, E., & Lemay, E. P. (2017). Accuracy and projection in perceptions of partners' recent emotional experiences: Both minds matter. *Emotion, 17*, 196–207. <http://dx.doi.org/10.1037/emo0000173>
- Creameans-Smith, J. K., Stephens, M. A. P., Franks, M. M., Martire, L. M., Druley, J. A., & Wojno, W. C. (2003). Spouses' and physicians' perceptions of pain severity in older women with osteoarthritis: Dyadic agreement and patients' well-being. *Pain, 106*, 27–34. [http://dx.doi.org/10.1016/S0304-3959\(03\)00268-9](http://dx.doi.org/10.1016/S0304-3959(03)00268-9)
- Eldesouky, L., English, T., & Gross, J. J. (2017). Out of Sight, Out of Mind? Accuracy and Bias in Emotion Regulation Trait Judgments. *Journal of Personality, 85*, 543–552. <http://dx.doi.org/10.1111/jopy.12259>
- Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational Psychologist, 34*, 169–189. http://dx.doi.org/10.1207/s15326985ep3403_3
- Elliot, A. J., Gable, S. L., & Mapes, R. R. (2006). Approach and avoidance motivation in the social domain. *Personality and Social Psychology Bulletin, 32*, 378–391. <http://dx.doi.org/10.1177/0146167205282153>
- Elliot, A. J., & Sheldon, K. M. (1997). Avoidance achievement motivation: A personal goals analysis. *Journal of Personality and Social Psychology, 73*, 171–185. <http://dx.doi.org/10.1037/0022-3514.73.1.171>
- Finkel, E. J. (2017). *The all-or-nothing marriage: How the best marriages work*. New York, NY: Dutton.
- Finkel, E. J., Cheung, E. O., Emery, L. F., Carswell, K. L., & Larson, G. M. (2015). The suffocation model: Why marriage in America is becoming an all-or-nothing institution. *Current Directions in Psychological Science, 24*, 238–244. <http://dx.doi.org/10.1177/0963721415569274>
- Finkel, E. J., Eastwick, P. W., & Reis, H. T. (2015). Best research practices in psychology: Illustrating epistemological and pragmatic considerations

- with the case of relationship science. *Journal of Personality and Social Psychology*, 108, 275–297. <http://dx.doi.org/10.1037/pspi0000007>
- Finkel, E. J., Hui, C. M., Carswell, K. L., & Larson, G. M. (2014). The suffocation of marriage: Climbing Mount Maslow without enough oxygen. *Psychological Inquiry*, 25, 1–41. <http://dx.doi.org/10.1080/1047840X.2014.863723>
- Fletcher, G. J. O. (2015). Accuracy and bias of judgments in romantic relationships. *Current Directions in Psychological Science*, 24, 292–297. <http://dx.doi.org/10.1177/0963721415571664>
- Fletcher, G. J. O., & Kerr, P. S. G. (2010). Through the eyes of love: Reality and illusion in intimate relationships. *Psychological Bulletin*, 136, 627–658. <http://dx.doi.org/10.1037/a0019792>
- Funder, D. C. (1995). On the accuracy of personality judgment: A realistic approach. *Psychological Review*, 102, 652–670. <http://dx.doi.org/10.1037/0033-295X.102.4.652>
- Funder, D. C. (2012). Accurate personality judgment. *Current Directions in Psychological Science*, 21, 177–182. <http://dx.doi.org/10.1177/0963721412445309>
- Gable, S. L. (2006). Approach and avoidance social motives and goals. *Journal of Personality*, 74, 175–222. <http://dx.doi.org/10.1111/j.1467-6494.2005.00373.x>
- Gable, S. L., & Berkman, E. T. (2008). Making connections and avoiding loneliness: Approach and avoidance social motives and goals. In A. J. Elliot (Ed.), *Handbook of approach and avoidance motivation* (pp. 203–216). New York, NY: Psychology Press.
- Gable, S. L., & Gosnell, C. L. (2013). Approach and avoidance behavior in interpersonal relationships. *Emotion Review*, 5, 269–274. <http://dx.doi.org/10.1177/1754073913477513>
- Gable, S. L., & Impett, E. A. (2012). Approach and avoidance motives and close relationships. *Social and Personality Psychology Compass*, 6, 95–108. <http://dx.doi.org/10.1111/j.1751-9004.2011.00405.x>
- Gagné, F. M., & Lydon, J. E. (2004). Bias and accuracy in close relationships: An integrative review. *Personality and Social Psychology Review*, 8, 322–338. http://dx.doi.org/10.1207/s15327957pspr0804_1
- Gallrein, A.-M. B., Carlson, E. N., Holstein, M., & Leising, D. (2013). You spy with your little eye: People are “blind” to some of the ways in which they are consensually seen by others. *Journal of Research in Personality*, 47, 464–471. <http://dx.doi.org/10.1016/j.jrp.2013.04.001>
- Gallrein, A.-M. B., Weßels, N. M., Carlson, E. N., & Leising, D. (2016). I still cannot see it—A replication of blind spots in self-perception. *Journal of Research in Personality*, 60, 1–7. <http://dx.doi.org/10.1016/j.jrp.2015.10.002>
- Gere, J., & MacDonald, G. (2010). The need to belong: An update of the empirical case for the need to belong. *The Journal of Individual Psychology*, 66, 93–115.
- Gere, J., MacDonald, G., Joel, S., Spielmann, S. S., & Impett, E. A. (2013). The independent contributions of social reward and threat perceptions to romantic commitment. *Journal of Personality and Social Psychology*, 105, 961–977. <http://dx.doi.org/10.1037/a0033874>
- Higgins, E. (1998). Promotion and prevention: Regulatory focus as a motivational principle. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 30, pp. 1–46). New York, NY: Academic Press. [http://dx.doi.org/10.1016/S0065-2601\(08\)60381-0](http://dx.doi.org/10.1016/S0065-2601(08)60381-0)
- Impett, E. A., Gable, S. L., & Peplau, L. A. (2005). Giving up and giving in: The costs and benefits of daily sacrifice in intimate relationships. *Journal of Personality and Social Psychology*, 89, 327–344. <http://dx.doi.org/10.1037/0022-3514.89.3.327>
- Impett, E. A., Gere, J., Kogan, A., Gordon, A. M., & Keltner, D. (2014). How sacrifice impacts the giver and the recipient: Insights from approach-avoidance motivational theory. *Journal of Personality*, 82, 390–401. <http://dx.doi.org/10.1111/jopy.12070>
- Impett, E. A., Gordon, A. M., Kogan, A., Oveis, C., Gable, S. L., & Keltner, D. (2010). Moving toward more perfect unions: Daily and long-term consequences of approach and avoidance goals in romantic relationships. *Journal of Personality and Social Psychology*, 99, 948–963. <http://dx.doi.org/10.1037/a0020271>
- Impett, E. A., Peplau, L. A., & Gable, S. L. (2005). Approach and avoidance sexual motives: Implications for personal and interpersonal well-being. *Personal Relationships*, 12, 465–482. <http://dx.doi.org/10.1111/j.1475-6811.2005.00126.x>
- Impett, E. A., Strachman, A., Finkel, E. J., & Gable, S. L. (2008). Maintaining sexual desire in intimate relationships: The importance of approach goals. *Journal of Personality and Social Psychology*, 94, 808–823. <http://dx.doi.org/10.1037/0022-3514.94.5.808>
- Kawada, C. L. K., Oettingen, G., Gollwitzer, P. M., & Bargh, J. A. (2004). The projection of implicit and explicit goals. *Journal of Personality and Social Psychology*, 86, 545–559. <http://dx.doi.org/10.1037/0022-3514.86.4.545>
- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of interdependence*. New York, NY: Wiley.
- Kenny, D. A., & Acitelli, L. K. (2001). Accuracy and bias in the perception of the partner in a close relationship. *Journal of Personality and Social Psychology*, 80, 439–448. <http://dx.doi.org/10.1037/0022-3514.80.3.439>
- Kline, R. B. (2016). *Principle and practice of structural equation modeling* (4th ed.). New York, NY: Guilford Press.
- Krueger, J. I. (2007). From social projection to social behaviour. *European Review of Social Psychology*, 18, 1–35. <http://dx.doi.org/10.1080/10463280701284645>
- Krueger, J. I., & Acevedo, M. (2007). Perceptions of self and other in the prisoner’s dilemma: Outcome bias and evidential reasoning. *The American Journal of Psychology*, 120, 593–618.
- Krueger, J. I., DiDonato, T. E., & Freestone, D. (2012). Social projection can solve social dilemmas. *Psychological Inquiry*, 23, 1–27. <http://dx.doi.org/10.1080/1047840X.2012.641167>
- Lemay, E. P., Jr. (2014). Accuracy and bias in self-perceptions of responsive behavior: Implications for security in romantic relationships. *Journal of Personality and Social Psychology*, 107, 638–656. <http://dx.doi.org/10.1037/a0037298>
- Lemay, E. P., Jr., Clark, M. S., & Feeney, B. C. (2007). Projection of responsiveness to needs and the construction of satisfying communal relationships. *Journal of Personality and Social Psychology*, 92, 834–853. <http://dx.doi.org/10.1037/0022-3514.92.5.834>
- Muise, A., Impett, E. A., & Desmarais, S. (2013). Getting it on versus getting it over with: Sexual motivation, desire, and satisfaction in intimate bonds. *Personality and Social Psychology Bulletin*, 39, 1320–1332. <http://dx.doi.org/10.1177/0146167213490963>
- Murray, S. L., & Holmes, J. G. (1997). A Leap of Faith? Positive illusions in romantic relationships. *Personality and Social Psychology Bulletin*, 23, 586–604. <http://dx.doi.org/10.1177/0146167297236003>
- Murray, S. L., Holmes, J. G., Bellavia, G., Griffin, D. W., & Dolderman, D. (2002). Kindred spirits? The benefits of egocentrism in close relationships. *Journal of Personality and Social Psychology*, 82, 563–581. <http://dx.doi.org/10.1037/0022-3514.82.4.563>
- Murray, S. L., Holmes, J. G., & Collins, N. L. (2006). Optimizing assurance: The risk regulation system in relationships. *Psychological Bulletin*, 132, 641–666. <http://dx.doi.org/10.1037/0033-2909.132.5.641>
- Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The self-fulfilling nature of positive illusions in romantic relationships: Love is not blind, but prescient. *Journal of Personality and Social Psychology*, 71, 1155–1180. <http://dx.doi.org/10.1037/0022-3514.71.6.1155>
- Muthén, L. K., & Muthén, B. O. (2012). *Mplus user’s guide* (7th ed.). Los Angeles, CA: Author.
- Neff, L. A., & Karney, B. R. (2005). To know you is to love you: The implications of global adoration and specific accuracy for marital relationships. *Journal of Personality and Social Psychology*, 88, 480–497. <http://dx.doi.org/10.1037/0022-3514.88.3.480>

- Overall, N. C., Fletcher, G. J. O., & Kenny, D. A. (2012). When bias and insecurity promote accuracy: Mean-level bias and tracking accuracy in couples' conflict discussions. *Personality and Social Psychology Bulletin*, *38*, 642–655. <http://dx.doi.org/10.1177/0146167211432764>
- Overall, N. C., Fletcher, G. J. O., Simpson, J. A., & Fillo, J. (2015). Attachment insecurity, biased perceptions of romantic partners' negative emotions, and hostile relationship behavior. *Journal of Personality and Social Psychology*, *108*, 730–749. <http://dx.doi.org/10.1037/a0038987>
- Overall, N. C., & Hammond, M. D. (2013). Biased and accurate: Depressive symptoms and daily perceptions within intimate relationships. *Personality and Social Psychology Bulletin*, *39*, 636–650. <http://dx.doi.org/10.1177/0146167213480188>
- Rusbult, C. E., & Van Lange, P. A. M. (2003). Interdependence, interaction, and relationships. *Annual Review of Psychology*, *54*, 351–375. <http://dx.doi.org/10.1146/annurev.psych.54.101601.145059>
- Rusbult, C. E., & Van Lange, P. A. M. (2008). Why we need interdependence theory. *Social and Personality Psychology Compass*, *2*, 2049–2070. <http://dx.doi.org/10.1111/j.1751-9004.2008.00147.x>
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, *39*, 1161–1178. <http://dx.doi.org/10.1037/h0077714>
- Scollon, C. N., Kim-Prieto, C., & Scollon, C. N. (2003). Experience sampling: Promises and pitfalls, strengths and weaknesses. *Journal of Happiness Studies*, *4*, 5–34. <http://dx.doi.org/10.1023/A:1023605205115>
- Sedikides, C., Gaertner, L., & Toguchi, Y. (2003). Pancultural self-enhancement. *Journal of Personality and Social Psychology*, *84*, 60–79. <http://dx.doi.org/10.1037/0022-3514.84.1.60>
- Stephens, M. A. P., Rook, K. S., Franks, M. M., Khan, C., & Iida, M. (2010). Spouses use of social control to improve diabetic patients' dietary adherence. *Families, Systems, & Health*, *28*, 199–208. <http://dx.doi.org/10.1037/a0020513>
- Thomas, G., & Fletcher, G. J. O. (2003). Mind-reading accuracy in intimate relationships: Assessing the roles of the relationship, the target, and the judge. *Journal of Personality and Social Psychology*, *85*, 1079–1094. <http://dx.doi.org/10.1037/0022-3514.85.6.1079>
- Updegraff, J. A., Gable, S. L., & Taylor, S. E. (2004). What makes experiences satisfying? The interaction of approach-avoidance motivations and emotions in well-being. *Journal of Personality and Social Psychology*, *86*, 496–504. <http://dx.doi.org/10.1037/0022-3514.86.3.496>
- Vazire, S., & Carlson, E. N. (2010). Self-knowledge of personality: Do people know themselves?: Self-knowledge of personality. *Social and Personality Psychology Compass*, *4*, 605–620. <http://dx.doi.org/10.1111/j.1751-9004.2010.00280.x>
- Visserman, M. L., Impett, E. A., Righetti, F., Muise, A., Keltner, D., & Van Lange, P. A. M. (2018). To “see” is to feel grateful? A quasi-signal detection analysis of romantic partners' sacrifices. *Social Psychological & Personality Science*, *10*, 317–325. <http://dx.doi.org/10.1177/1948550618757599>
- Visserman, M. L., Righetti, F., Impett, E. A., Keltner, D., & Van Lange, P. A. M. (2018). It's the motive that counts: Perceived sacrifice motives and gratitude in romantic relationships. *Emotion*, *18*, 625–637. <http://dx.doi.org/10.1037/emo0000344>
- Watson, D., Hubbard, B., & Wiese, D. (2000). Self-other agreement in personality and affectivity: The role of acquaintanceship, trait visibility, and assumed similarity. *Journal of Personality and Social Psychology*, *78*, 546–558. <http://dx.doi.org/10.1037/0022-3514.78.3.546>
- West, T. V., & Kenny, D. A. (2011). The truth and bias model of judgment. *Psychological Review*, *118*, 357–378. <http://dx.doi.org/10.1037/a0022936>

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