

Seeing bad does good: Relational benefits of accuracy regarding partners' negative moods

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Abstract When would greater empathic accuracy (EA) be an asset and when would it not? In two studies of romantic couples (both employing daily diaries, the second also involving a lab-based video-recall paradigm), we explored the associations between EA (at the day-level, person-level, and in the lab) and an important relationship outcome: negative relationship feelings. Our results show that accuracy is tied more strongly to this relational outcome when negative (vs. positive) moods are the target of empathic judgments. The association between accuracy and (better) feelings was true for both perceivers and targets. Importantly, these associations emerged only in diary-based accuracy scores, and not in the lab-based ones. These results further support the importance of everyday empathic accuracy. They also highlight the need to consider such accuracy as

multi-faceted, and in particular, to recognize the differential role of attending to our partners' negative versus positive moods in daily life.

Keywords Empathic accuracy · Romantic relationships · Diary studies · Feelings within the relationship

Introduction

“To know you is to love you”, sang Stevie Wonder and his then-wife, Syreeta Wright (1972), echoing the widely accepted truism that empathic accuracy—i.e., the ability to accurately infer a partner's thoughts and feelings (Ickes 1997, 2003)—is associated with positive relationship outcomes such as love. This lay theoretical stance equating knowledge and love is also consistent with several prominent models in the field of relationship science, including the responsiveness framework (Reis and Clark 2013), self-verification theory (Swann et al. 2007), and the empathic accuracy model (Ickes and Simpson 2001).

In the responsiveness framework, greater accuracy (i.e., greater understanding) is one component (along with caring and validation) of partner responsiveness—and as importantly, of *perceived* partner responsiveness; (cf., Reis et al. 2004; Reis and Clark 2013). Responses which convey an accurate understanding are thought to engender a sense of authenticity, and to predicate the other components of responsiveness (Reis 2014). Responsiveness of this sort has been shown to be positively tied to various relational outcomes (Caprariello and Reis 2011; Gable et al. 2006; Gadassi et al. 2016; Maisel and Gable 2009). Additionally, accurate understanding may fulfill the *perceivers'* truth motivation (Cornwell et al. 2014), and thus confer benefits on them as well.

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Accuracy regarding transitory internal states may also play a part in the adaptive relational process of *verification*. Empathically accurate perceivers are likely to serve as better sources of verification/validation for their partners (cf., Swann et al. 2007). Individuals prefer feedback that is self-verifying over feedback that is not, even when what is verified is negative in nature; perceivers' ability to accurately read their partners' thoughts, feelings, or beliefs can aid in such verification, and is likely to increase the perceived partner's feeling of feeling understood, which is tied to several relationship benefits, such as enhanced conflict resolution and more tempered reactions to conflict (Gordon and Chen 2016).

The empathic accuracy model [presented by Ickes and Simpson (1997) and later revised by these authors (2001)] makes more complex predictions regarding the association between accuracy and satisfaction (along with other relational outcomes). Specifically, it argues that in most relationship situations, empathic accuracy would forecast greater satisfaction, but that certain situations, particularly ones involving some threat to the relationship, may make accuracy less advantageous, and possibly even harmful. For example, Simpson et al. (2003) videotaped couples as they tried to resolve a problem in their marriage. The partners then independently viewed the videotapes, recalling their own thoughts and feelings and inferring their partner's. The correspondence between the target's recollection and the perceiver's inferences were then rated by objective observers; when the targets' thoughts and feelings were threatening, perceivers who were accurate experienced pre-test to post-test declines in closeness. Other studies (e.g., Simpson et al. 1999; for review, see; Ickes and Hodges 2013) have also supported the idea that accuracy may not always prove useful, and have termed the resulting tendency of relationship partners towards benign attentional neglect of certain threatening materials "motivated inaccuracy."

Nonetheless, relationship-threatening situations are the exceptional occurrence rather than the rule for most couples. For this reason, the revised empathic accuracy model joins self-verification theory as well the responsiveness framework in suggesting that in general, accuracy should be beneficial for the perceiver, the target, and the relationship (Ickes and Hodges 2013). Some of these benefits may be direct, and others may be mediated; for example, accurate perceivers may enact more accommodative behaviors or enact better support, which will increase the targets' (i.e., the accommodation or support recipients') satisfaction (Kilpatrick et al. 2002; Verhofstadt et al. 2008). Importantly, these pro-relationship behaviors are likely to confer benefits on the perceiver as well (e.g., Kilpatrick et al. 2002). Moreover, as Ickes and Hodges (2013) note, accurate perceptions may benefit both partners by helping them align and coordinate their respective goals.

Interestingly, despite the solid theoretical foundation for the idea that accuracy should generally be good for relationships, the empirical basis for such arguments is surprisingly mixed (and weak on average). Indeed, a meta-analysis of accuracy studies (Fletcher and Kerr 2010) reported a correlation of .03 between a variety of accuracy measures and relationship satisfaction. Below, we discuss the ways in which specific operationalizations of accuracy may play a part in painting this mixed picture.

Most research that can speak to the benefits or consequences of empathic accuracy has employed the lab-based video-recall dyadic interaction paradigm developed by Ickes et al. (1990). This paradigm begins with couples having a videotaped conversation, and then continues with the steps described earlier [in the Simpson et al. (2003) study]. In Ickes et al.'s original study, the couples were surreptitiously taped while having an unstructured conversation, but later studies have instructed couples to focus their conversation either on some topic (typically, dyadic problem solving or the elicitation/provision of support for a personal problem). Importantly, perceivers are explicitly instructed to be as accurate as possible, thereby creating a motivated accuracy situation. Such motivated accuracy, as well as the chance to review the recorded conversation and reflect on it, is likely to focus respondents' attention on their partners' mental states more than would be typical in day-to-day situations, outside the lab. (For a striking example of the role of instructions in accuracy studies, see Ickes et al. 2000).

A handful of studies have used the dyadic interaction paradigm to examine the association between accuracy and relationship well-being. The picture that emerges from these studies is complicated. In one study of married couples who were asked to have a problem-solving conversation, Thomas et al. (1997) found no zero-order association between accuracy and well-being. In contrast, in a study of dating couples asked to have a similar conversation, Thomas and Fletcher (2003) found the association to vary depending on the length of the relationship: in short relationships, accuracy was tied to less satisfaction, whereas in long ones, accuracy was tied to more satisfaction. Interestingly, in their longitudinal study of newlyweds engaging in conflict conversations, Kilpatrick et al. (2002) found the opposite change pattern over time: whereas in early marriage, satisfaction and accuracy were positively tied, by the 2nd year of marriage, this association disappeared.

A commonality of these three studies is their use of conflict discussions for obtaining accuracy scores. In contrast, Verhofstadt et al. (2008, 2016) instructed couples to have a supportive interaction. The accuracy scores obtained from the video-recall of these interactions were found to be tied to specific pro-relationship behaviors (e.g., the provision of practical support), though relationship well-being itself was not reported in these two studies.

Other video-recall studies have also yielded complex results. Simpson et al. (1995) had couples view slides of prospective opposite-sex dates and rate them for attractiveness and sexual appeal. Under this relationship threat condition, partners who were closer as well as those who were more insecure regarding their relationship had lower EA. A follow-up study using the same paradigm (Simpson et al. 1999) revealed that the effects of EA differ depending on the perceiver's attachment anxiety.

The complex results of studies using video-recall methods limit our ability to draw firm conclusions regarding the relational benefits of accuracy. One possibility, which has been raised in several empathic accuracy studies (e.g., Howland and Rafaeli 2010), is that accuracy itself should not be treated as a monolithic ability, and that the association between well-being and accuracy will depend, in large part, on what the perceivers are accurate *about*. For example, accuracy regarding negative and positive target moods may carry different meaning. In particular, a target's *negative* moods are likely to play a more urgent communicative role, signaling that something is awry and requires immediate attention (Fischer and Manstead 2008; Overall et al. 2015). Of course, the targets' *positive* moods also serve a communicative function, but one that tends to be slower-acting, and more focused on the longer-term building of cohesion, integration, social acceptance, and resource development (for review, see Fredrickson 2001). Thus, accuracy regarding negative moods is likely to have more immediate effects than accuracy regarding positive moods.

Evidence for this idea comes from several sources; for example, Papp et al. (2010) found that depression was tied to empathic accuracy regarding anger, sadness, or fear, but not regarding positivity. Similarly, Gadassi et al. (2011) showed that women's depressive symptoms were tied specifically to their own (and their partner's) accuracy regarding the other person's negative moods, but not regarding his or her positive moods.

Two studies have used valence-specific accuracy scores to examine the association between accuracy and satisfaction. In a study of adolescent romantic couples, Haugen et al. (2008) demonstrated that accuracy regarding a partner's conflict or discomfort is tied to the partner's satisfaction, but that accuracy regarding a partner's sense of connection may not be. In a study of committed couples, Cohen et al. (2012) found that women's accuracy regarding negative and positive moods was positively associated with their own relationship satisfaction, as well as with their (male) partners' relationship satisfaction. Men's accuracy was also associated with their own relationship satisfaction, but only when positive emotions were perceived; on the

other hand, men's accuracy for negative emotions was tied to their female partners' satisfaction.¹

In a departure from the classic lab paradigm, Wilhelm and Perrez (2004) used experience sampling to explore the costs and benefits of accuracy in married couples when they were together and apart. In this study, individuals were prompted to complete diaries several times a day, and to indicate if they were with their spouse when completing the diary. Though some positive associations were found between accuracy and relationship satisfaction, these depended on the perceiver's gender and on the co-location of the perceiver and the target at the time the diaries were completed. Under some conditions, husbands' accuracy was actually negatively associated with relationship satisfaction. Wives' accuracy seemed to be more beneficial on the whole, but it too varied depending on which target emotion was perceived.

Wilhelm and Perrez (2004), Cohen et al. (2012), and others (e.g., Maneta et al. 2015) document a relatively consistent gender difference, with women's accuracy tending to have stronger consequences than men's accuracy. Such stronger consequences do not require gender differences in accuracy levels [which, as Ickes and Hodges (2013) note, are sometimes evident yet quite fickle]. However, they are consistent with considerable research suggesting that women tend to enact more pro-social behaviors at the communal, relational level (whereas men tend to do so at the collective level, but less at the relational one; for review, see Eagly 2009).

Overall, the extant findings leave us wondering about the generalizability of accuracy's benefits. Is accuracy equally beneficial for targets and perceivers? Would women's accuracy be more strongly associated with relational benefits than men's? Should accuracy regarding negative states function different from accuracy regarding positive states? These are the questions guiding our work. Some of them (e.g., the comparison of perceivers vs. targets, or the gender question) may be answerable using the classic video-recall paradigm (cf. Ickes 1997, 2003). Others, such as the question of differential effects of accuracies regarding different target states, require complementary approaches, such as diary methods (Howland and Rafaeli 2010; Wilhelm and Perrez 2004).

There are several ways in which diary-based accuracy estimates may complement accuracy estimates derived

¹ Notably, both of these studies departed from the classic video-recall paradigm; Haugen et al. asked both discussants to review the taped conversations and provide close-ended ratings for forty 20-s segments, whereas Cohen et al. solicited particularly upsetting relational events, chose four highly negative and two highly positive 30-s segments, and asked participants to rate their own and their partners' feelings in these.

from the classic lab paradigm (cf., Gadassi et al. 2011; Howland and Rafaeli 2010; Overall et al. 2015, study 2; Wilhelm and Perrez 2004). First, the diary method allows us to examine accuracy about a variety of target variables in a quantifiable and standardized way. By including certain target (and perceiver) scales within a diary, we can gauge accuracy about the same states every day, whether or not a target is experiencing them; if a state (e.g., anger) happens to be absent on a particular day, it will simply be scored as 0, but could still be accurately assessed as such. In contrast, the thoughts and feelings generated in the lab paradigm are idiographic to each target. Thus, the target essentially dictates the states on which the perceiver's accuracy is assessed.²

Second, the lab-based video recall paradigm instructs perceivers to be as accurate as possible, and gives them the explicit task of reviewing the recorded conversation; as such, it is likely to tap individuals' capacity for accuracy. Such capacity may serve as an upper limit for day-to-day accuracy, but need not be strongly associated to it. In contrast, daily diaries take the study of accuracy out of the lab and into daily life, and thus, are likely to reflect this tendency to be accurate more directly.

Third, the time-scale of lab-based interactions tends to focus perceivers' lens on momentary affect—i.e., on specific emotions (e.g., irritation felt following a partner's insensitive response; enjoyment felt after a partner's joke). In contrast, daily diaries ask perceivers to appraise more diffuse affective states—i.e., moods (e.g., negative feelings such as sadness or anxiety; positive feelings such as contentment or passion).

For these reasons, the present work focused on indices of accuracy derived from everyday life—specifically, from daily diary data. In our first study, we explored the degree to which day- and person-level accuracy indices predicted relationship benefits in everyday life. In our second study, we sought to replicate the results and compare them to those obtained with the classic video-recall paradigm.

Several interlaced factors guided our predictions. First, we expected accuracy to be tied to relationship benefits at both the person and the day levels. At the person level, we explored individual differences in accuracy, and examined their association with a person-level outcome—namely, the person's averaged negative relationship feelings. We predicted that accurate individuals will report less negative feelings within their relationship. At the day level, we explored within-person fluctuations in accuracy, and

examined their association with day-level outcomes—namely, daily negative relationship feelings. We predicted that on “more accurate” days, perceivers will feel better (i.e., less negative) within their relationship.³

Second, we expected the benefits noted above for perceivers to be evident for the targets as well, as was found by Cohen et al. (2012). Thus, we predicted that partners of accurate individuals will report greater relationship well-being (i.e., less negative relationship feelings); we also expected their relationship feelings to be particularly good on days in which their partners are more accurate. Establishing these partner effects would take Cohen et al.'s results out of the lab and into daily life, thus broadening our understanding of the functional role of accuracy.

Third, as noted earlier, we expected gender to play a role in our findings, as it did in several previous studies (e.g., Cohen et al. 2012; Gadassi et al. 2011; Wilhelm and Perrez 2004). We therefore expected women's accuracy to be a stronger predictor both of their own and of their partners' relational outcomes, at both the person and day levels.

Fourth, we believe that empathic accuracies are not all created equal, and that better understanding of accuracy's effects requires attending to the target moods—that is, to what one is accurate about. Specifically, earlier research suggests that accuracy regarding negative moods may be particularly important (Gaelick et al. 1985; Gadassi et al. 2011; Haugen et al. 2008; Papp et al. 2010). Therefore, we expected to find accuracy regarding negative target moods to be associated with adaptive relationship outcomes more so than accuracy regarding positive target moods.

We tested these hypotheses in two studies of committed couples. Both involved 3-week completion of electronic diaries by committed couples. In the second, the couples also took part in the lab-based video-recall paradigm. Both studies explored additional topics, not pertinent to the current question (for list of studies based on these data sets, see <https://osf.io/2fdmj>).

Study 1

Method

Participants

Couples were recruited via flyers posted in the New York City area, and were screened over the phone for inclusion criteria. To participate, couples had to have been cohabiting

² Notably, assessing EA towards quantifiable targets' mental states is possible within the lab by deviating from Ickes's verbal task. This adaptation of the lab-based EA paradigm has been used by few researchers to date (e.g., Zaki et al. 2008; Overall et al. 2015, study 1).

³ We ran a similar set of analyses with positive relationship feelings as the outcome. These can be seen in the Online Supplementary Material (<https://osf.io/2fdmj>).

for at least 6 months and be at least 18 years of age. In return for their participation, couples received \$90 and were included in a raffle for \$200. Forty three couples entered the study. We excluded data from six couples: One same-sex couple was excluded because gender was used as a differentiating variable in all analyses; five additional couples were excluded due to equipment malfunction. Participants completed an average of 20.6 diary entries ($SD=3.5$; range 6–24). Sample demographics are available in Table F in the online supplement (<https://osf.io/2fdmj>).

Procedure

In an initial training session, participants completed a background questionnaire and were introduced to the electronic diary and to the study's instructions. Participants all began the study on a Thursday and completed it 3 weeks later; during that time, each completed twice-daily questionnaires. The morning questionnaire (which inquired only about sleep and relationship feelings) was to be completed within 1 h of waking and the evening questionnaire was to be completed within 1 h of going to bed. Participants were instructed to complete the daily questionnaires separately, without discussing their individual responses. Couples were contacted by staff several times throughout the diary period to answer questions and ensure compliance. The daily diary was completed electronically on individual handheld devices, outfitted with the iESP diary program (Barrett and Feldman-Barrett 2000, with later adaptation by the Intel Corporation). All functions of these devices apart from the diary program were inaccessible to participants.

Measures

Daily positive and negative mood. Every evening, participants were asked to estimate both their own and their partner's mood at that time. This was done using an adapted and shortened daily diary version (Cranford et al. 2006) of McNair et al.'s (1971) Profile of Mood States, which included 12 items rated on a 5-point scale, ranging from *not at all* to *extremely*. Based on Watson and Tellegen's (1985) positive and negative activation model, these items were aggregated to create two scales: one for positive affect (PA; e.g., cheerful, lively) and one for negative affect (NA; e.g., angry, anxious). The between-persons and within-person reliabilities for the PA and NA scales were computed using procedures outlined in Cranford et al. (2006). The between-persons and within-person reliabilities were .82 and .83, respectively, for negative moods, and .78 and .65, respectively, for positive moods.

Daily negative relationship feelings. Participants' daily negative RF levels were assessed using an adapted version (Rafaeli et al. 2008) of the Emotional Tone Index

(Berscheid et al. 1989) that included six items assessing negative feelings within the relationship (*angry, irritated, sad, depressed, worried, and fearful*). Items were rated on a 5-point scale ranging from *not at all* to *extremely*. The between-persons and within-person reliabilities were .72 and .82 respectively.

Calculating empathic accuracy scores. At the day-level, empathic accuracy (EA) was operationalized as the absolute difference between the perceiver's estimated, and the target's actual, mood ratings on that given day. At the person-level, EA was operationalized as each person's averaged day-level accuracies across all the diary entries (akin to *level accuracy*; Howland and Rafaeli 2010). To simplify interpretation, we reversed accuracy scores so that higher scores indicate greater accuracy. At both the day and the person levels, two EA scores were computed: one for positive moods, the other for negative moods.

Results

Analytic strategy

Because our data have a multilevel structure (days nested within persons, and persons nested within couples), we used multilevel regression models (PROC MIXED; SAS Institute, 2003). In this case, these models have two levels (a within-individual level and a between-individual level), take into account the non-independence between partners within a couple, and can accommodate non-balanced data. As Bolger and Laurenceau (2013, p. 148) note, these data have three conceptual levels, but the absence of random variability at the within-dyad level (the third conceptual level) implies that it is saturated; as such, two-level models are recommended in this case. A series of such models was tested in which negative RFs were predicted by the participants' empathic accuracy.⁴

Day-level predictors were centered around person means to make interpretation of intercepts clearer and to allow testing interaction effects; person-level predictors were grand-mean centered. To address the non-independence inherent to dyadic data, we employed the Actor-Partner Interdependence Model (APIM, Kenny et al. 2006). APIM is a data-analytic approach designed specifically to test dyadic effects by simultaneously estimating *actor effects* [i.e., the effects of the actor's independent variable scores (e.g., their own empathic accuracy) on their own

⁴ As can be seen in online supplementary materials (Tables a1–a5), similar results were obtained with models testing positive RFs as the outcome.

Table 1 Predicting negative relationship feelings from EA regarding positive moods: person level results

	β	SE	df
Study 1			
Intercept	0.23***	0.05	33
Gender	-0.01	0.04	33
Actor's EA	0.19	0.19	33
Partner's EA	-0.74**	0.22	33
Gender X actor's EA	-0.96**	0.32	35.4
Gender X partner's EA	1.07**	0.32	35.2
Study 2			
Intercept	0.28***	0.06	41
Gender	-0.04	0.06	41
Actor's EA	-0.88*	0.35	41
Partner's EA	0.25	0.37	41
Gender X actor's EA	0.87	0.53	45.9
Gender X partner's EA	-0.64	0.53	45.8

Values from the multilevel models can be interpreted as unstandardized regression coefficients (β coefficients). Here and in subsequent tables, gender is coded 0 for men and 1 for women; the default values are those for men, and the gender interaction tests for a difference between women and men. Women's values are presented in the text
* $p < .05$; ** $p < .01$; *** $p < .001$

dependent variable score (e.g., their own RFs)], as well as *partner effects* [the effects of the other partner's variable scores (e.g., the partner's empathic accuracy) on the actor's dependent variable score (e.g., the actor's RFs)].

To reduce the concern of reverse causation, day-level analyses included the lagged score (i.e., the previous day's score) of the outcome variable. To estimate both person- and day-level effects, our day-level analyses also included the person's mean score (averaged across the entire diary period) of the predictor (EA).

We ran all analyses with and without two covariates which have been previously tied to EA: individuals' age (e.g., Raters et al. 2013) and mean relationship duration (e.g., Thomas and Fletcher 2003). Unless noted, the covariates' inclusion did not significantly alter the models; for brevity's sake, the results are presented without them.

The model used to assess person-level results was as follows:

$$Y_{ij} (\text{negative RF for person } j \text{ in dyad } i) = \beta_{0i} + \beta_{1i} (\text{gender}) + \beta_{2i} (\text{actor mean level of EA}) + \beta_{3i} (\text{actor mean level of EA} * \text{gender}) + \beta_{4i} (\text{partner mean level of EA}) + \beta_{5i} (\text{partner mean level of EA} * \text{gender}) + r_{ij}$$

Table 2 Predicting negative relationship feelings from EA regarding negative moods: person level results

	β	SE	df
Study 1			
Intercept	0.22***	0.03	33
Gender	-0.03	0.04	33
Actor's EA	-0.56**	0.17	33
Partner's EA	-0.48**	0.17	33
Gender X actor's EA	-0.09	0.29	35.9
Gender X partner's EA	0.37	0.29	35.9
Study 2			
Intercept	0.30***	0.04	41
Gender	-0.04	0.05	41
Actor's EA	-0.23	0.27	41
Partner's EA	-0.87***	0.24	41
Gender X actor's EA	-0.55	0.42	44.5
Gender X partner's EA	1.20**	0.42	44.3

Values from the multilevel models can be interpreted as unstandardized regression coefficients (β coefficients)

* $p < .05$; ** $p < .01$; *** $p < .001$

The model used to assess day-level results was as follows:

Level 1 equation:

$$Y_{ijk} (\text{negative RF on day } k \text{ for person } j \text{ in dyad } i) = \beta_{0ij} + \beta_{1ij} * (\text{actor's lagged negative RF} [\text{day } k - 1]) + \beta_{2ij} * (\text{actor's EA on day } k) + \beta_{3ij} * (\text{partner's EA on day } k) + r_{ijk}$$

Level 2 equations:

$$\beta_{0ij} = \gamma_{00} + \gamma_{01} * \text{Gender} + \gamma_{02} * (\text{actor's mean negative RF}) + \gamma_{03} * (\text{actor's mean EA}) + \gamma_{04} * (\text{partner's mean EA}) + \gamma_{05} * (\text{actor's mean negative RF} * \text{Gender}) + \gamma_{06} * (\text{actor's mean EA} * \text{Gender}) + \gamma_{07} * (\text{partner's mean EA} * \text{Gender}) + u_0$$

$$\beta_{1ij} = \gamma_{10} + \gamma_{11} * \text{Gender}; \beta_{2ij} = \gamma_{20} + \gamma_{21} * \text{Gender}; \beta_{3ij} = \gamma_{30} + \gamma_{31} * \text{Gender}$$

Zero-order correlations among study variables

To determine whether empathic accuracies regarding positive and negative moods are distinct constructs, we computed correlations between these two indices, separately for each gender. For both men and women, these correlations were positive, significant, but moderate in size [$r(36) = .50$, $p < .01$ for men; $r(36) = .43$, $p < .01$ for women], suggesting that these are related but distinct constructs.

Table 3 Predicting negative relationship feelings from EA regarding positive moods: day level results

	Study 1			Study 2		
	β	SE	df	β	SE	df
Intercept	0.09	0.16	97.9	-0.05	0.30	80.2
Gender	-0.02	0.22	103	-0.06	0.34	84.2
Actor's daily EA	-0.02	0.03	72.1	-0.02	0.04	97
Partner's daily EA	-0.03	0.03	88	0.005	0.04	527
Gender X actor's daily EA	0.08*	0.04	1154	0.004	0.05	741
Gender X partner's daily EA	0.04	0.04	1085	-0.02	0.05	921
Actor's mean EA	-0.04	0.06	104	-0.01	0.11	70.8
Partner's mean EA	0.01	0.07	97.4	0.02	0.11	68.8
Gender X actor's mean EA	0.02	0.09	107	0.04	0.17	66.6
Gender X partner's mean EA	-0.03	0.09	97.4	-0.02	0.16	64.6
Mean RF	0.86***	0.09	154	0.98***	0.05	82.4
Gender X mean RF	0.18 [†]	0.11	148	-0.02	0.06	81
Lagged RF	-0.03	0.04	46.8	0.003	0.002	53.4
Gender X lagged RF	0.09	0.06	323	-0.01***	0.002	744

Values from the multilevel models can be interpreted as unstandardized regression coefficients (β coefficients)

[†] $p < .10$

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 4 Predicting negative relationship feelings from EA regarding negative moods: day level results

	Study 1			Study 2		
	β	SE	df	β	SE	df
Intercept	0.03	0.33	157	-0.11	0.31	129
Gender	-0.02	0.44	176	-0.10	0.34	141
Actor's daily EA	-0.38***	0.05	89.9	-0.18***	0.04	89.5
Partner's daily EA	-0.15**	0.04	45.4	-0.23***	0.06	81.6
Gender X actor's daily EA	0.22***	0.05	977	0.07	0.05	1178
Gender X partner's daily EA	-0.03	0.05	1058	0.04	0.05	1159
Actor's mean EA	0.01	0.09	152	-0.13	0.11	129
Partner's mean EA	-0.02	0.08	151	0.16	0.11	124
Gender X actor's mean EA	0.04	0.12	166	0.20	0.17	138
Gender X partner's mean EA	-0.04	0.11	170	-0.17	0.11	124
Mean RF	0.93***	0.12	201	0.98***	0.06	124
Gender X mean RF	0.13	0.14	212	-0.03	0.08	152
Lagged RF	-0.01	0.04	35.2	0.002	0.002	59.3
Gender X lagged RF	0.11*	0.05	277	-0.005*	0.002	744

Values from the multilevel models can be interpreted as unstandardized regression coefficients (β coefficients).

* $p < .05$; ** $p < .01$; *** $p < .001$

Empathic accuracy at the person level

To test the hypotheses at the person level, we ran two person-level models. In the first model, actors' and partners' EA regarding *positive* moods served as predictors of average negative RF. In addition to the EA indices, gender and its interaction with the EA indices were entered as predictors. The second model was identical but used actors' and

partners' EA regarding *negative* moods. Each analysis simultaneously tests both perceiver (actor) and target (partner) effects, and tests the effect of gender. Below (and in the corresponding tables) we note all actor and partner effects, whether significant or not; we note interaction effects when significant.

Person-level EAs regarding positive moods. Table 1 presents the results for the model in which EAs regarding

Table 5 Predicting negative relationship feelings from Lab EA: study 2 person level results

	β	SE	df
Intercept	0.26***	0.06	40
Gender	-0.03	0.06	40
Actor's EA	0.41	0.38	40
Partner's EA	-0.85 [†]	0.44	40
Gender X actor's EA	-1.02 [†]	0.58	47.1
Gender X partner's EA	0.99	0.59	46.2

Values from the multilevel models can be interpreted as unstandardized regression coefficients

[†] $p < .10$

* $p < .05$; ** $p < .01$; *** $p < .001$

positive moods (EA[PA]) served as predictors.⁵ As can be seen in Table 1, there was a significant gender X actor EA interaction, indicating that actor's EA[PA] was associated with less negative RF only for women ($\beta = -0.76$, $SE = 0.18$, $p < .001$). More accurate women experienced lower levels of negative RF. Additionally, partner's EA[PA] was associated with lower negative RF scores for men. The (male) partners of more accurate women experienced lower levels of negative RF. As the significant gender X partner EA interaction suggested, an opposite partner effect was found for women ($\beta = 0.32$, $SE = 0.16$, $p < .05$); in other words, the (female) partners of more accurate men experienced more negative RF.

Person-level EAs regarding negative moods. Table 2 presents the results for the model in which EAs regarding negative moods (EA[NA]) served as predictors.⁶ As can be seen in Table 2, actor's EA[NA] was associated with less negative RF for both women ($\beta = -0.65$, $SE = 0.19$, $p < .01$) and men. More accurate perceivers of either gender experienced lower levels of negative RF. Additionally, partner's EA[NA] was associated with lower negative RF, but only among men. The (male) partners of more accurate women experienced lower levels of negative RF. No such partner effect was found for women.

Empathic accuracy at the day level

To test the hypotheses at the day level, we ran two models. In the first model, actors' and partners' EA regarding positive moods served as predictors of daily negative RFs. In

the second model, actors' and partners' EA regarding *negative* moods served as the predictors. In both models, gender and its interaction with the EA indices were entered as predictors as well. As noted in the analytic strategy, each model also included adjustments for the actor's lagged and mean negative RF, as well as for the mean EA indices for both actor and partner; it also included the interactions of gender with each of these.

Day-level EA regarding positive moods. Table 3 presents the results for the model in which daily EAs regarding positive moods (EA[PA]) served as predictors.⁷ In this model, actor's daily EA[PA] was marginally associated with negative RF for women ($\beta = 0.058$, $SE = 0.03$, $p = .06$); this effect became significant when adjusting for actor's age ($\beta = 0.063$, $SE = 0.03$, $p < .05$). On days in which women were more accurate regarding their partners' positive moods, they experienced higher levels of negative RF. This effect was not found for men, and as can be seen in Table 3, the gender X actor EA interaction was significant. Partner's daily EA[PA] was not predictive of negative RF for either gender.

Day-level EA regarding negative moods. Table 4 presents the results for the model in which daily EAs regarding negative moods (EA[NA]) served as predictors.⁸ In this model, actor's daily EA[NA] was inversely associated with negative RF for both men and women ($\beta = -0.15$, $SE = 0.04$, $p < .001$). On days in which perceivers of either gender were more accurate regarding their partners' negative moods, they experienced lower levels of negative RF. As the significant gender X actor EA interaction indicates, this effect was significantly weaker for women. Partner's daily EA[NA] was also inversely associated with the actor's negative RF, for both men and women ($\beta = -0.18$, $SE = 0.04$, $p < .001$). On days in which their partners were more accurate regarding their own negative moods, both men and women experienced lower levels of negative RF. In both day-level models, average levels of actor's or partner's EA (regarding either PA or NA) were included in the models but proved to be non-significant.

Summary and discussion

Overall, the results of Study 1 largely supported our hypotheses: EA at both person and day levels predicted relationship outcomes, for both perceivers and targets. Importantly, as hypothesized, these effects were more pronounced and consistent when women were the perceivers, and when EA reflected accuracy regarding negative moods.

⁵ Tables 1, 2, 3, 4 and 5 present the results with gender coded 1=female, 0=male; this implies that the default estimates in the tables are those for men. For this reason, we do not spell out men's estimates in the text, unless they are adjusted for covariates and therefore differ from those presented in the tables. We do, however, present women's estimates.

⁶ See footnote 5.

⁷ See footnote 5.

⁸ See footnote 5.

As we expected, EA[NA] was tied, quite consistently, to relationship benefits. At the person level, women who had higher EA[NA] experienced lower negative RF, as did their male partners. Men who had higher EA[NA] also experienced lower negative RF, but no such benefits were observed for their female partners. At the day level, these gender differences disappeared: on days in which men or women were more accurate regarding their partner's negative moods (i.e., had higher EA[NA]), both perceivers and targets experienced lower negative RF compared to days of lower accuracy.

Consistent with our hypotheses, the picture regarding EA[PA] was less clear-cut: the effects of EA[PA] were not as robust, nor as uniform, as those for EA[NA]. At the person level, women who had higher EA[PA] experienced lower negative RF, as did their male partners. However, the female partners of men who had higher EA[PA] experienced more negative RF. Moreover, no significant effects emerged for EA[PA] at the day-level.

One limitation of Study 1 is the inability to compare these diary-based indices with the lab-based indicator of accuracy, or to control for a capacity for accuracy. A second limitation of Study 1 is a relatively small sample size. For these reasons, we conducted Study 2, with the aim of replicating our diary-based results and extending our examination to lab-based methods as well.

Study 2

As we noted in the general introduction, diary-based and lab-based methods for assessing EA may not measure the same construct. The former may reflect more of a tendency to be accurate, whereas the latter may be more a measure of capacity. Studies using lab-based dyadic-interaction paradigms have yielded inconsistent associations between EA and relationship satisfaction. Importantly, only two such studies (Verhofstadt et al. 2008, 2016) examined couples as they were engaging in anything but conflict or problem-solving; these studies did not report relationship well-being as an outcome, but did find higher EA to be tied to more practical, though not more emotional, support. Thus, one aim of the present study was to examine the association with relationship satisfaction directly using both lab-based and diary-based EA indices.

Additionally, it would be useful to account for accuracy operationalized with the lab-paradigm in our analyses. If our results are robust, we should find that diary-based indices will continue to predict benefits in an everyday

context, even when the lab-based index is accounted for. Our hypotheses were identical to the ones guiding Study 1.⁹

Method

The procedures and measures used in it were largely the same as in Study 1; exceptions are noted below.

Participants

Couples were recruited via advertisements posted on physical and online bulletin boards in the New York City area. To participate, couples had to have been cohabiting for at least 6 months and be at least 18 years of age. In return for their participation, couples received \$90 and were included in a raffle for \$200. Fifty-five couples entered the study. We excluded data from four couples: Three same-sex couples were excluded because our focus was on gender differences, and another couple was excluded due to equipment malfunction. Of the remaining 51 couples, 8 couples (15.7%) had some missing data: 1 did not complete the videotaped interaction, and 7 had insufficient daily diary data. We used all available data for each analysis. Participants completed an average of 19.8 diary entries ($SD=3.3$). Sample demographics are available in Table F in the online supplement (<https://osf.io/2fdmj>).

Procedure

Support-provision task. In an adaptation of the procedure used by Thomas, Fletcher, and Lange, (1997), participants were videotaped while carrying out a conversation. Instructions were based on those used by Verhofstadt et al. (2008). Discussions focused on eliciting support, with one partner (randomly chosen) taking the role of help seeker and the other taking the role of help giver. The couples were given an alarm that beeped after 6 min, at which point they switched roles and continued with an additional 6-min conversation.

Thoughts-and-feelings protocol. After the conversation, partners reviewed the recordings separately. The recording was first paused after 55 s and then again every 30 s. Two stopping points were skipped around the time of the role switch (i.e., at 6 min 25 s and 6 min 55 s). Because the recordings lasted approximately 12.5 min, this procedure resulted in a total of 22 stops. Participants were instructed to write down what they were thinking and feeling at that particular moment in time and what they believed their partner was thinking and feeling at that particular point in time.

⁹ See footnote 3.

Daily diary procedure. The daily diary procedure was identical to that used in Study 1, with one exception: participants provided only an evening response, daily.

Measures

Daily positive and negative mood. The adapted and shortened daily diary mood measure described in Study 1 was again used, with one item (“blue”) removed from the NA scale, and six new items assessing happiness and calmness replacing a single item which had assessed self-sufficiency. The two scales, each nine-items long now, showed adequate between- and within-subjects reliabilities (.77 and .85, respectively, for negative moods, and .85 and .84, respectively, for positive moods).

Daily negative RF. The negative RF scale described in Study 1 was again used. The between-person and within-person reliabilities were .77 and .81, respectively.

Calculating empathic accuracy scores. Diary-based empathic accuracy scores were computed as in Study 1. To obtain lab-based empathic accuracy scores, five coders independently judged the degree of similarity between perceivers’ and targets’ statements by examining the taped discussions in conjunction with the writings participants generated during the thoughts-and-feelings protocol. Following Ickes et al. (1990) a 3-point scale was used: 0 (*essentially different content*), 1 (*somewhat similar, but not the same content*), and 2 (*essentially the same content*). The intraclass correlation (ICC) assessing intercoder reliability was high (ICC=0.86). Therefore, empathic accuracy scores were averaged across coders.

Results

The analytic strategy used in Study 2 was the same as in Study 1.¹⁰

Empathic accuracy at the person-level

We first examined the associations among the three person-level EA indices (lab-based EA, diary-based EA for positive moods, and diary-based EA for negative moods). For women, the correlations between all three indices were significant and moderate in size [$r(43)=0.43, p<.01$ between lab EA and EA regarding positive moods; $r(43)=0.31, p<.05$ between lab EA and EA regarding negative moods; $r(43)=0.32, p<.05$ between EA regarding positive moods and EA regarding negative moods]. For men, the correlation between the two diary-EAs was significant [$r(43)=0.37, p<.05$], but the correlations between

the lab-EA and the diary EAs were not [$r(43)=0.15, ns$ between lab EA and EA regarding positive moods; $r(43)=-0.02, ns$ between lab EA and EA regarding negative moods).

Lab EA. Table 5 presents the results for the model in which lab-based EAs served as predictors.¹¹ As can be seen in Table 5, the actor’s lab EA marginally predicted negative RF for women ($\beta=-0.61, SE=0.34, p=.08$). More accurate women experienced somewhat lower levels of negative RF. However, this effect was not robust, and became non-significant when adjusting for actor’s age ($\beta=0.45, SE=0.35, p=.20$). Additionally, there was a marginally significant partner effect for men. The (male) partners of accurate women experienced lower levels of negative RF. However, this effect too was not robust, and became non-significant when adjusting for relationship duration ($\beta=-0.62, SE=0.47, p=.19$) or for actor’s age ($\beta=-0.60, SE=0.50, p=.25$). No partner effect was found for women, and the gender X partner EA interaction was marginally significant.

Person-level EAs regarding positive moods. Table 1 presents the results for the model in which EAs regarding positive moods (EA[PA]) served as predictors.¹² As can be seen in Table 1, actor’s EA[PA] was associated with lower negative RF for men. More accurate men experienced lower levels of negative RF. However, this effect was no longer significant when adjusting for actor’s age ($\beta=-0.61, SE=0.40, p=.14$). Actor’s EA[PA] had no significant effect for women, and the effects of partner’s EA[PA] were not significant for either men or women.

Person-level EAs regarding negative moods. Table 2 presents the results for the model in which EAs regarding negative moods (EA[NA]) served as predictors.¹³ As can be seen in Table 2, actor’s EA[NA] was associated with less negative RF for women ($\beta=-0.78, SE=0.28, p<.01$), i.e., more accurate women experienced lower levels of negative RF. No actor effect was found for men. Additionally, partner’s EA[NA] was associated with lower negative RF, but only among men—i.e., the (male) partners of more accurate women experienced lower levels of negative RF. No such partner effect was found for women, and the gender X partner EA interaction was significant.

Both person-level models were re-run with actor’s or partner’s lab-based EA scores as covariates. Neither model was affected by this adjustment.

Empathic accuracy at the day-level

Day-level EA regarding positive moods. Table 3 presents the results for the model in which daily EAs regarding

¹⁰ See footnote 4.

¹¹ See footnote 5.

¹² See footnote 5.

¹³ See footnote 5.

Table 6 Summary of results across both studies—EA indices predicting lower negative feelings within the relationship

	Study 1	Study 2
Person-level models		
Men's EA[PA]	Higher negative RF for women	Lower negative RF for men ^a
Women's EA[PA]	Lower negative RF for men and women	–
Men's EA[NA]	Lower negative RF for men	
Women's EA[NA]	Lower negative RF for men and women	Lower negative RF for men and women
Men's Lab EA	N/A	–
Women's Lab EA	N/A	–
Day-level models		
Men's EA[PA]	–	–
Women's EA[PA]	–	–
Men's EA[NA]	Lower negative RF for men and women	Lower negative RF for men and women
Women's EA[NA]	Lower negative RF for men and women	Lower negative RF for men and women

Results which were consistent across both studies appear in bold. Actor effects denote effects of the perceiver's EA on their own outcome. Partner effects denote the effects of the perceiver's EA on their partner's outcome

^aNo longer significant when adjusting for actor's age

positive moods (EA[PA]) served as predictors.¹⁴ As can be seen in Table 3, neither actor's nor partner's EA[PA] were associated with negative RF for either men or women.

Day-level EA regarding negative moods. Table 4 presents the results for the model in which daily EAs regarding negative moods (EA[NA]) served as predictors.¹⁵ As can be seen in Table 4, actor's daily EA[NA] was inversely associated with negative RF for both men and women ($\beta = -0.11$, $SE = 0.04$, $p < .05$): i.e., on days in which perceivers of either gender were more accurate regarding their partners' negative moods, they experienced lower levels of negative RF. As the significant gender X actor EA interaction indicates, this effect was significantly weaker for women. Partner's daily EA[NA] was also inversely associated with the actor's negative RF, for both men and women ($\beta = -0.19$, $SE = 0.05$, $p < .001$). On days in which their partners were more accurate about their own negative moods, both men and women experienced lower levels of negative RF.

As in Study 1, in both day-level models, average levels of actor's or partner's EA (regarding either PA or NA) were included in the models but proved to be non-significant. In other words, once daily fluctuations in accuracy are included, person-level (i.e., average) accuracy ceases to predict feelings within the relationship. In addition, both models were re-run with actors' or partners' lab-based EA scores as covariates; neither model was affected by this adjustment.

Summary and discussion

We conducted Study 2 with two goals: to replicate the results obtained in Study 1, and to determine whether a more traditional (lab-based) measure of accuracy would reveal similar patterns. Including the lab-based accuracy index also permitted testing the incremental validity of the diary-based accuracy scores, as (to our knowledge) this is the first study to examine both types of accuracy in the same sample.

Table 6 presents a summary of the results of both studies. Study 2 fully replicated the day-level results of Study 1, again suggesting that the association of accuracies with relational outcomes for both perceiver and target is stronger at the day than at the person level. Study 2 also replicated the person-level finding that women's accuracy regarding partners' negative moods was tied to better relational outcomes. None of the positive effects of person-level accuracy regarding positive moods were replicated in Study 2—in fact, men's person-level accuracy regarding their partners' positive moods was tied to *increased* negative relationship feelings for the male perceivers. Men's person-level accuracy regarding their partners' negative moods was not tied to the relational outcome. Interestingly, the lab-based accuracy score proved to be mostly unrelated to the relational outcome. As a consequence, including the lab-accuracy scores as covariates in the person- or day-level analyses made no difference.

¹⁴ See footnote 5.

¹⁵ See footnote 5.

General discussion

The accurate perception of one's partner's moods should, intuitively, be tied to favorable relational outcomes—yet existing research has failed to offer consistent support for this intuition. Here, we tested the idea that EA must be partitioned into multiple *accuracies* (e.g., accuracy regarding different target moods, accuracy as a person vs. a moment level construct) to uncover its true nature. In particular, the two studies reported here expand on previous work (Gadassi et al. 2011; Howland and Rafaeli 2010), and show that EA in daily life (i.e., outside the lab) regarding negative moods (and not positive ones) is a valid predictor of beneficial relationship outcomes for both perceivers and targets. To discuss the results of these two studies (summarized in Table 6), we return to the interlaced factors that we thought would determine when it is that accuracies do indeed predict relational benefits.

Point 1: some accuracies are tied to benefits for targets

First, we expected accuracy to be tied to relationship benefits at both the person and the day levels—i.e., that the partners of accurate individuals will report less negative feelings within the relationship in general, *and* that on “more accurate” days, these “targets” will feel better within their relationship. The day-level results were consistently supportive of this hypothesis (at least with regards to accuracy regarding negative moods; see “Point 3” below). When perceivers were more accurate regarding their partners' negative moods, these target partners felt better (i.e., more positive and less negative) within the relationship. This was true regardless of the perceiver's gender.

In contrast, few consistent associations between accuracies and targets' relationship outcomes were evident at the person level.¹⁶ The sole consistent finding was that female perceivers' accuracy regarding their partners' negative moods was associated with reduced negative feelings for these (male) targets (for more, see “Point 4” below).

These results suggest that being accurately perceived, especially with regards to one's negative feelings on any particular day, is associated with some benefits for the target. These benefits can be understood through the constructs of responsiveness (Reis and Clark 2013) and verification (Swann et al. 2007). Responsiveness consists of a partner acting in a way that communicates understanding,

valuing, and caring for the other's core self and/or important personal needs and goals. Conceptually, responsive interaction sequences begin when one *elicits* responsiveness by expressing (verbally or not) a need, a desire, an accomplishment, or some other core aspect of oneself. Our results can be taken to suggest that negative moods afford more of a chance to respond than do positive moods. They also raise the possibility that being verified for our negative moods matters more. We elaborate on this in section “Point 3”.

Point 2: the same accuracies are also tied to perceivers' benefits

The effects of pro-relationship behaviors (e.g., the provision of social support) are often as (or even more) pronounced and robust for the actor (i.e., the support provider) than for the partner (i.e., the support recipient; e.g., Brown et al. 2003; Gleason et al. 2003). We had reasoned that accurate perception, like support provision, would yield similar benefits to the actor. Based on this reasoning, as well as on recent findings (e.g., Cohen et al. 2012; Maneta et al. 2015), we expected the benefits found for targets to be evident for the perceivers themselves as well. That was indeed the case; In fact, each of the robust partner effects (i.e., those found consistently for targets across the two studies) had a parallel robust actor effect.

As with the targets' results (discussed under “Point 1”), the findings at the day level were more impressive than those at the person-level. Specifically, at least with accuracy regarding negative moods (see “Point 3”, below), we found that perceivers who were more accurate on a particular day also felt better within their relationship on that day. In contrast, perceivers who were more accurate on average (at the person level) were not necessarily happier in their relationships,¹⁷ with one exception: female perceivers' accuracy regarding their partners' negative moods was associated with their own reduced negative feelings (see “Point 4” below).

Several factors may underlie the association between accuracy and perceivers' benefits. For one, accurate perceptions may at times be met by encouraging feedback. For example, when the perceiver accurately notes some rise in distress and provides timely support, the recipient's observable relief may serve as indirect feedback for the accuracy of the perception. With such feedback, perceivers may feel efficacious and successful in their relational role. Additionally, accurate perception and the appropriate support it may lead to can beget cycles of positive mutuality and reciprocation.

¹⁶ In Study 1, women's person-level accuracy (regarding both positive and negative moods) had several benefits; in contrast, men's person-level accuracy proved more of a mixed blessing, at times being associated with poorer relationship outcomes. None of these associations were replicated in Study 2.

¹⁷ See footnote 16.

Success in reading a partner's mind may also help perceivers regulate risk within their relationship (cf., Murray et al. 2006). First, mere accuracy itself may serve as a signal of greater connectedness and thus reduced risk. Second, it may also help assure that possible ruptures in the bond are noticed and repaired. Future research should examine this and other possible explanations for this benefit.

Of course, the association between relationship benefits and accuracy could be due to other factors. For one, greater relationship well-being may lead to greater motivation to be accurate, though, as we detail in “Point 3”, this explanation would need to account for the differential ties between relationship well-being and different targets of accuracy, and is belied somewhat by the use of lagged analyses. Similarly, some third variable (e.g., similarity or compatibility) could be a shared causal factor of both relationship well-being and accuracy. Further work is needed to adjudicate between these possibilities, though again, the fact that the association is clearest at the day and not the person levels points us away from any trait-like “third variable” explanation.

Point 3: the benefits depend on what the accuracy is about

We expected empathic accuracies regarding different target moods to differ in their significance, with accuracy regarding negative moods being particularly important (e.g., Gadassi et al. 2011; Haugen et al. 2008; Papp et al. 2010). That was indeed the case, at both the day level (in which accuracy regarding negative mood was tied to relational benefits for both perceivers and targets of either gender in both studies) and at the person level (in which accuracy regarding negative mood was tied to reduced negative feelings for female perceivers and their male targets in both studies).

The greater significance of accuracy regarding negative moods than regarding positive ones adds to a growing evidence base for the primacy of *bad* over *good* within close relationships (cf., Baumeister et al. 2001). As several authors have demonstrated, the general phenomenon of negative stimuli exerting stronger effects than positive stimuli occurs in various relationship processes, including negative versus positive conversations (Gottman 1994a) as well as negative versus positive relationship transactions (e.g., support vs. hindrance; Gottman and Krokoff 1989; Rafaeli et al. 2008). The current studies are the first to document it with regards to the benefits of accuracy regarding negative versus positive partner moods.

The lesser importance of accuracy regarding positive moods may reflect the fact that generalizing (or even over-generalizing) positivity, at the expense of accuracy, may actually be beneficial. Whereas the potential cost of missing one's partner's negative feeling may be large, the

counterpart cost for missing their positive feeling may not be. For example, when facing a (target) partner's angry mood, the (perceiver) partner's accurate empathic perception (of the feeling and of its source) could help avert the risk of failing to offer needed support (Bar-Kalifa and Rafaeli 2013); it could also help avert the risk of mis-attributing the anger to something (negative) within the relationship. In contrast, when facing a target's pleasant mood, no support is called for, and the perceiver may actually benefit from a certain amount of inaccuracy—e.g., mistakenly attributing the happiness to something within the relationship, or over-perceiving positive moods. The stronger consequences of accuracy regarding negative moods may also underlie the finding (in both studies) that such accuracy tended to be considerably higher than accuracy regarding positive moods. Furthermore, perceived partner negative (but not positive) moods may be interpreted as a relationship threat. The latter may activate the attachment system which involves hard-wired cognitive, affective, and behavioral responses in an effort to re-establish security in one's relationship (Mikulincer and Shaver 2007; Vaish et al. 2008).

Of course, the misperception of positive moods is not without its costs. Gottman's seminal work revealed the importance of positivity predominance for relationship stability (Gottman 1994b). More recent research has emphasized the various positive individual and relational outcomes of actively sharing positive events amongst romantic partners (i.e., capitalization; cf., Gable and Reis 2010). Hence, perceivers who underestimate partners' positive moods may miss valuable opportunities for active and constructive capitalization, or for tipping the balance of positivity to negativity (so as to reestablish a better positivity:negativity ratio). Still, the harmful effect of underestimating (let alone overestimating) positive moods is likely to be smaller and less detrimental in the longer run.

Point 4: accuracy and gender

Given previous findings regarding the greater importance of women's accuracy (e.g., Cohen et al. 2012; Maneta et al. 2015), we expected gender to play a role in our findings, with women's accuracy being tied more strongly to relational outcomes. As noted above, this was indeed the case, though only with regards to person-level accuracy regarding negative moods. In other words, women who were more accurate regarding negative moods tended to be more positive in their relationships than those who were less accurate, and to have partners who were more positive as well; among men, this was not the case. Notably, though perceived empathic effort (either their own or their partners') has been found to be more consequential for women

(Cohen et al. 2012), we did not find that accuracy itself played a stronger role in women's daily satisfaction.

Interestingly, the day-level accuracies of male and female perceivers had comparable associations with daily relational outcomes. In other words, on days on which perceivers (male or female) were more accurate, they and their targets felt better within the relationship. The fact that gender differences appeared at the person-level but not the day-level suggests that it is not attributable to micro day-level processes. Whereas the experience of accuracy on a particular day may be equally useful, regardless of the actor's gender, the greater impact of women's person-level accuracy may stem from the greater role played by women in tending to their relationships (e.g., Ragsdale 1996; Taylor 2006), a role which is also reflected in women's self-construal (e.g., Cross and Madson 1997). Apparently, with this greater role, comes greater responsibility (as well as a stronger effect on both their own and their male partners' relationship well-being).

It is important to remember that whatever gender differences we find in our dyadic data may reflect perceiver and/or target effects. After all, in this sample of heterosexual couples, female perceivers were always paired with male targets and vice-versa. Studies of gender differences in EA in which targets are kept constant offer a cleaner test of this issue. Their downside, of course, is that they are unable to examine the EA process within (ecologically-meaningful) intimate relationships.

A notable limitation of our samples was the exclusion of same-sex couples. It would be very interesting to consider gender with a more diverse sample, in which male–male, female–male, and female–female couples were included. Such a sample would allow examining the role of the actor's gender, the partner's gender, and the interactive effect of the two (see West et al. 2008, for further discussion).

Point 5: accuracy outside the lab complements lab-based accuracy

Study 2 allowed us to compare the more traditional (lab-based) index of accuracy with the day-level and person-level indices obtained in the daily diaries. We expected the diary-based indices to show incremental predictive validity above and beyond the lab-based index. This was indeed the case; importantly, the lab-based index itself proved to be mostly unrelated to our relational outcome.

Several differences between our lab-based and diary-based accuracy indices may underlie their divergent associations with relational outcomes. For one, the lab-based paradigm tends to elicit a mix of thoughts and feelings; consequently, accuracy regarding these is inherently less affective and more cognitive than the diary-based index,

which is based purely on inferences regarding the target's affect. Our relational outcome (relationship feelings) is also affective in nature. The stronger association between diary-based (vs. lab-based) EA and relational outcomes may reflect the shared content domain.

Another difference between lab-based and diary-based EA indices has to do with their ecological validity. The latter assess actual day-to-day accuracy (or, at the person-level, the tendency to be accurate in daily life). The former assess the capacity for accuracy in a well-defined laboratory environment. Though some previous studies have found lab-based accuracy to be tied to positive relational outcomes (e.g., Simpson et al. 2003; Verhofstadt et al. 2008), others have not found this effect (Thomas et al. 1997) or have found it only under certain conditions (e.g., Kilpatrick et al. 2002; Thomas and Fletcher 2003; Wincewski et al. 2016; for a review, see; Sened et al. 2017).

One possible reason for these confusing findings may lie in the distinction between being accurate regarding negative target states (which may matter more) versus positive target states (which may matter less)—discussed in “Point 3”, above. To date, most studies using video-recall methods to examine the association between EA and relational outcomes or processes (e.g., Kilpatrick et al. 2002; Thomas et al. 1997; Thomas and Fletcher 2003; Verhofstadt et al. 2008) have not distinguished between accuracy regarding differently-valenced target states. This may have obscured the meaningful effects of accuracy for *certain* moods or contents, and led to the inconsistent results found in these studies. Notably, some lab-based studies (e.g., Cohen et al. 2012; Maneta et al. 2015) do distinguish between accuracy regarding differently-valenced content, and find differential effects with these. Future research should further explore the distinction between “seeing bad” and “seeing good”, to help disentangle these findings.

Remaining questions, limitations, and future directions

It is important to note that our day-level indices of accuracy (i.e., the discrepancies between the target's actual mood and the perceiver's inference of this mood) are strongly tied to their constituent values. As such, it is possible that one or both of the constituents—and particularly, the target's mood—could be associated with processes or events within the relationship that lead to higher or lower relationship well-being. This raises the possibility of an alternative process through which the obtained EA—well-being association may occur, a process which merits further study. In particular, it would be interesting to determine whether this possible process affects both targets and perceivers.

The focus of the current studies on EA excluded a related and important question—whether *feeling* understood (or feeling that one understands) matters more than

actually *being* understood (or actually understanding; cf., Reis and Clark 2013). Several lines of research have pointed to the relative importance of such feelings when it comes to relational processes. For example, Cohen et al. (2012) found that feeling that one's partner has expanded empathic effort was a stronger predictor of relationship satisfaction than the partner's actual EA. A comparable dynamic may operate for targets' experience or perception of accuracy. Of course, it is likely that specific moments of *actual* accuracy contribute to the overall *feeling* of being understood by one's partner (e.g., Finkenauer and Righetti 2011; Reis and Clark 2013).

The recent decade has brought with it increased interest in the mechanisms responsible for accurate perception of others' minds (cf., Zaki and Ochsner 2011). Two primary mechanisms have been posited. The first is seen as more basic and automatic, and involves the perception of cues from others' (usually nonverbal) behavior, which culminates in some semblance of shared emotion. This mechanism is said to be the product of an experience sharing system (ESS; Zaki and Ochsner 2011) or of emotional empathy (Shamay-Tsoory 2011). The second is seen as more explicit and controlled, and involves the effortful and deliberate inference about others' inner states. This mechanism is said to be the product of a mental state attribution system (MSAS; Zaki and Ochsner) or of cognitive empathy (Shamay-Tsoory).

Our use of multiple methods within relatively naturalistic settings, though a strength of this investigation, is also a source of some weakness. Specifically, the indices of EA reported in our study are drawn from real-life experiences rather than from the relatively artificial stimuli often used in experimental research. As such, they are likely to be affected by some mixture of MSAS and ESS processes. Hypothetically, we would expect lab-based accuracy (which reflects the respondent's capacity for accuracy) to involve more deliberate (i.e., MSAS) processing than diary-based indices. After all, when providing their inferences in the lab, respondents are asked to reflect, moment-by-moment, on the verbal and non-verbal signals they pick up from their videotaped conversation. Still, this is a conversation they had taken part in themselves, and both their original affective reactions as well as their (possibly shared) reactions while reviewing the tape may play some part in their judgments. The exact make-up of that mixture is a topic worthy of further investigation, and similar arguments (and investigation) are also relevant with regards to diary-based empathic inferences.

It is possible that the mechanisms involved in empathic inferences (i.e., ESS vs. MSAS) differ in their relative balance and/or in their absolute activation more along valence lines than along the methodological ones noted above. This possibility may explain why it is that accuracy regarding

negative target moods is higher (Howland and Rafaeli 2010) and more consequential (as found in the current studies) than accuracy regarding positive moods. Previous work on this topic (Levenson and Ruef 1992) has shown that accuracy regarding negative emotion is tied to physiological linkage between the perceiver and the target, whereas accuracy regarding positive emotion is not. Thus, it is possible that empathic inferences regarding negative moods draw on more varied (and thus, more abundant) information.

This and other related questions require us to consider empathic accuracy as an umbrella term and not a unitary construct. In particular, we believe our results, along with earlier ones (Howland and Rafaeli 2010; Gadassi et al. 2011) demonstrate the utility of distinguishing between accuracies based on the valence of the attended-to affective states.

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Compliance with ethical standards

Conflict of interest All authors declare they have no conflict of interest.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

References

- Bar-Kalifa, E., & Rafaeli, E. (2013). Disappointment's sting is greater than help's balm: Quasi-signal detection of daily support matching. *Journal of Family Psychology*, 27, 956–967. doi:10.1037/a0034905.
- Barrett, D. J., Feldman-Barrett, L. (2000). *The experience-sampling program (ESP)*. <http://www2.bc.edu/~barretti/esp/>.
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, 5, 323–370. doi:10.1037/1089-2680.5.4.323.
- Berscheid, E., Snyder, M., & Omoto, A. M. (1989). The Relationship Closeness Inventory: Assessing the closeness of interpersonal relationships. *Journal of Personality and Social Psychology*, 57, 792–807. doi:10.1037/0022-3514.57.5.792.
- Bolger, N., & Laurenceau, J. P. (2013). *Intensive longitudinal methods: An introduction to diary and experience sampling research*. New York: Guilford Press.
- Brown, S. L., Nesse, R., Vinokur, A. D., & Smith, D. M. (2003). Providing support may be more beneficial than receiving it: Results

- from a prospective study of mortality. *Psychological Science*, *14*, 320–327. doi:10.1111/1467-9280.14461.
- Caprariello, P. A., & Reis, H. T. (2011). Perceived partner responsiveness minimizes defensive reactions to failure. *Social Psychological and Personality Science*, *2*, 365–372. doi:10.1177/1948550610391914.
- Cohen, S., Schulz, M. S., Weiss, E., & Waldinger, R. J. (2012). Eye of the beholder: the individual and dyadic contributions of empathic accuracy and perceived empathic effort to relationship satisfaction. *Journal of Family Psychology*, *26*, 236–245. doi:10.1037/a0027488.
- Cornwell, J. F., Franks, B., & Higgins, E. T. (2014). Truth, control, and value motivations: the “what,” “how,” and “why” of approach and avoidance. *Frontiers in Systems Neuroscience*. doi:10.3389/fnsys.2014.00194.
- Cranford, J. A., Shrout, P. E., Iida, M., Rafaeli, E., Yip, T., & Bolger, N. (2006). A procedure for evaluating sensitivity to within-person change: can mood measures in diary studies detect change reliably? *Personality and Social Psychology Bulletin*, *32*, 917–929. doi:10.1177/0146167206287721.
- Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin*, *122*, 5–37. doi:10.1037/0033-2909.122.1.5.
- Eagly, A. H. (2009). The his and hers of prosocial behavior: An examination of the social psychology of gender. *American Psychologist*, *64*, 644–658. doi:10.1037/0003-066X.64.8.644.
- Finkenauer, C., & Righetti, F. (2011). Understanding in close relationships: An interpersonal approach. *European Review of Social Psychology*, *22*, 316–363. doi:10.1080/10463283.2011.633384.
- Fischer, A. H., & Manstead, A. S. R. (2008). Social functions of emotion. In M. Lewis, J. Haviland, & L. Feldman Barrett (Eds.), *Handbook of emotion* (3rd ed., pp. 456–469). New York: Guilford.
- 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. doi:10.1037/a0019792.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*, 218–226. doi:10.1037/0003-066X.56.3.218.
- Gable, S. L., Gonzaga, G. C., & Strachman, A. (2006). Will you be there for me when things go right? *Journal of Personality and Social Psychology*, *91*, 904–917. doi:10.1037/0022-3514.91.5.904.
- Gable, S. L., & Reis, H. T. (2010). Good news! Capitalizing on positive events in an interpersonal context. *Advances in Experimental Social Psychology*, *42*, 195–257. doi:10.1016/S0065-2601(10)42004-3.
- Gadassi, R., Bar-Nahum, L. E., Newhouse, S., Anderson, R., Heiman, J. R., Rafaeli, E., & Janssen, E. (2016). Perceived partner responsiveness mediates the association between sexual and marital satisfaction: A daily diary study in newlywed couples. *Archives of Sexual Behavior*, *44*, 1–12. doi:10.1007/s10508-014-0448-2.
- Gadassi, R., Mor, N., & Rafaeli, E. (2011). Depression and empathic accuracy in couples an interpersonal model of gender differences in depression. *Psychological Science*, *22*, 1033–1041. doi:10.1177/0956797611414728.
- Gaelick, L., Bodenhausen, G. V., & Wyer, R. S. (1985). Emotional communication in close relationships. *Journal of Personality and Social Psychology*, *49*, 1246–1265. doi:10.1037/0022-3514.49.5.1246.
- Gleason, M. E. J., Iida, M., Bolger, N., & Shrout, P. (2003). Daily supportive equity in close relationships. *Personality and Social Psychology Bulletin*, *29*, 1036–1045. doi:10.1177/0146167203253473.
- Gordon, A. M., & Chen, S. (2016). Do you get where I’m coming from? Perceived understanding buffers against the negative impact of conflict on relationship satisfaction. *Journal of Personality and Social Psychology*. doi:10.1037/pspi0000039.
- Gottman, J. (1994a). Why marriages fail. *The Family Therapy Networker*, *35*, 41–48.
- Gottman, J. (1994b). *What predicts divorce?* Hillsdale, NJ: Erlbaum.
- Gottman, J. M., & Krokoff, L. J. (1989). Marital interaction and satisfaction: A longitudinal view. *Journal of Consulting and Clinical Psychology*, *57*, 47–52. doi:10.1037/0022-006X.57.1.47.
- Haugen, P. T., Welsh, D. P., & McNulty, J. K. (2008). Empathic accuracy and adolescent romantic relationships. *Journal of Adolescence*, *31*, 709–727. doi:10.1016/j.adolescence.2008.03.003.
- Howland, M., & Rafaeli, E. (2010). Bringing everyday mind reading into everyday life: Assessing empathic accuracy with daily diary data. *Journal of Personality*, *78*, 1437–1468. doi:10.1111/j.1467-6494.2010.00657.x.
- Ickes, W. (Ed.). (1997). *Empathic accuracy*. New York: The Guilford Press.
- Ickes, W. (2003). *Everyday mind reading*. New York: Prometheus Books.
- Ickes, W., Gesn, P. R., & Graham, T. (2000). Gender differences in empathic accuracy: Differential ability or differential motivation? *Personal Relationships*, *7*, 95–109. doi:10.1111/j.1475-6811.2000.tb00006.x.
- Ickes, W., & Hodges, S. D. (2013). Empathic accuracy in close relationships. In L. Campbell & J. Simpson (Eds.), *The Oxford handbook of close relationships* (pp. 348–373). New York: Oxford University Press.
- Ickes, W., & Simpson, J. A. (1997). Managing empathic accuracy in close relationships. In W. J. Ickes (Ed.), *Empathic accuracy* (pp. 218–250). New York: Guilford Press.
- Ickes, W., & Simpson, J. A. (2001). Motivational aspects of empathic accuracy. In G. J. O. Fletcher & M. S. Clark (Eds.), *Interpersonal processes: Blackwell handbook of social psychology: Interpersonal processes* (pp. 229–249). Oxford: Blackwell.
- Ickes, W., Stinson, L., Bissonnette, V., & Garcia, S. (1990). Naturalistic social cognition: Empathic accuracy in mixed-sex dyads. *Journal of Personality and Social Psychology*, *59*, 730–742. doi:10.1037/0022-3514.59.4.730.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York: Guilford Press.
- Kilpatrick, S. D., Bissonnette, V. L., & Rusbult, C. E. (2002). Empathic accuracy and accommodative behavior among newly married couples. *Personal Relationships*, *9*, 369–393. doi:10.1111/1475-6811.09402.
- Levenson, R. W., & Ruef, A. M. (1992). Empathy: A physiological substrate. *Journal of Personality and Social Psychology*, *63*, 234–246. doi:10.1037/0022-3514.63.2.234.
- Maisel, N. C., & Gable, S. L. (2009). The paradox of received social support: The importance of responsiveness. *Psychological Science*, *20*, 928–932. doi:10.1111/j.1467-9280.2009.02388.x.
- Maneta, E. K., Cohen, S., Schulz, M. S., & Waldinger, R. J. (2015). Linkages between childhood emotional abuse and marital satisfaction: The mediating role of empathic accuracy for hostile emotions. *Child Abuse & Neglect*, *44*, 8–17. doi:10.1016/j.chiabu.2014.07.017.
- McNair, D. M., Lorr, M., & Droppleman, L. F. (1971). *Profile of mood states*. San Diego: Educational and Industrial Testing Service.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- Murray, S. L., Holmes, J. G., & Collins, N. L. (2006). Optimizing assurance: The risk regulation system in relationships. *Psychological Bulletin*, *132*, 641–666. doi:10.1037/0033-2909.132.5.641.

- Overall, N. C., Fletcher, G. J., 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. doi:10.1037/a0038987.
- Papp, L. M., Kouros, C. D., & Cummings, E. M. (2010). Emotions in marital conflict interactions: Empathic accuracy, assumed similarity, and the moderating context of depressive symptoms. *Journal of Social and Personal Relationships*, *27*, 367–387. doi:10.1177/0265407509348810.
- Rafaeli, E., Cranford, J. A., Green, A. S., Shrout, P. E., & Bolger, N. (2008). The good and bad of relationships: How social hindrance and social support affect relationship feelings in daily life. *Personality and Social Psychology Bulletin*, *34*, 1703–1718. doi:10.1177/0146167208323742.
- Ragsdale, J. D. (1996). Gender, satisfaction level, and the use of relational maintenance strategies in marriage. *Communications Monographs*, *63*, 354–369. doi:10.1080/03637759609376399.
- Rauers, A., Blanke, E., & Riediger, M. (2013). Everyday empathic accuracy in younger and older couples: Do you need to see your partner to know his or her feelings? *Psychological Science*, *24*, 2210–2217. doi:10.1177/0956797613490747.
- Reis, H. T. (2014). Responsiveness: Affective interdependence in close relationships. In M. Mikulincer & P. R. Shaver (Eds.), *Mechanisms of social connection: From brain to group* (pp. 255–271). Washington, DC: American Psychological Association.
- Reis, H. T., & Clark, M. S. (2013). Responsiveness. In L. Campbell & J. Simpson (Eds.), *The Oxford handbook of close relationships* (pp. 400–423). New York: Oxford University Press.
- Reis, H. T., Clark, M. S., & Holmes, J. G. (2004). Perceived partner responsiveness as an organizing construct in the study of intimacy and closeness. In D. J. Mashek & A. Aron (Eds.), *Handbook of closeness and intimacy* (pp. 201–225). Mahwah, NJ: Erlbaum.
- Sened, H., Lavidor, M., Lazarus, G., Bar-Kalifa, E., & Rafaeli, E. (2017). Couples empathic accuracy and relationship satisfaction: A meta analytic review. *Journal of Family Psychology* (in press).
- Shamay-Tsoory, S. G. (2011). The neural bases for empathy. *The Neuroscientist*, *17*, 18–24. doi:10.1177/1073858410379268.
- Simpson, J. A., Ickes, W., & Blackstone, T. (1995). When the head protects the heart: Empathic accuracy in dating relationships. *Journal of Personality and Social Psychology*, *69*, 629–641. doi:10.1037/0022-3514.69.4.629.
- Simpson, J. A., Ickes, W., & Grich, J. (1999). When accuracy hurts: Reactions of anxious-ambivalent dating partners to a relationship-threatening situation. *Journal of Personality and Social Psychology*, *76*, 754–769. doi:10.1037/0022-3514.76.5.754.
- Simpson, J. A., Oriña, M. M., & Ickes, W. (2003). When accuracy hurts, and when it helps: A test of the empathic accuracy model in marital interactions. *Journal of Personality and Social Psychology*, *85*, 881–893. doi:10.1037/0022-3514.85.5.881.
- Swann, W. B., Jr., Chang-Schneider, C., & Angulo, S. (2007). Self-verification in relationships as an adaptive process. In J. Wood, A. Tesser & J. Holmes (Eds.), *Self and relationships* (pp. 49–72). New York: Psychology Press.
- Taylor, S. E. (2006). Tend and befriend biobehavioral bases of affiliation under stress. *Current Directions in Psychological Science*, *15*, 273–277. doi:10.1111/j.1467-8721.2006.00451.x.
- Thomas, G., Fletcher, G. J., & Lange, C. (1997). On-line empathic accuracy in marital interaction. *Journal of Personality and Social Psychology*, *72*, 839–850. doi:10.1037/0022-3514.72.4.839.
- Thomas, G., & Fletcher, G. J. O. (2003). Mind-reading accuracy in intimate relationship: Assessing the roles of the relationship, the target, and the judge. *Journal of Personality and Social Psychology*, *85*, 1079–1094. doi:10.1037/0022-3514.85.6.1079.
- Vaish, A., Grossmann, T., & Woodward, A. (2008). Not all emotions are created equal: the negativity bias in social-emotional development. *Psychological Bulletin*, *134*(3), 383–403. doi:10.1037/0033-2909.134.3.383.
- Verhofstadt, L., Devoldre, I., Buysse, A., Stevens, M., Hinnekens, C., Ickes, W., & Davis, M. (2016). The role of cognitive and affective empathy in spouses' support interactions: An observational study. *PLoS ONE*, *11*, e0149944. doi:10.1371/journal.pone.0149944.
- Verhofstadt, L. L., Buysse, A., Ickes, W., Davis, M., & Devoldre, I. (2008). Support provision in marriage: The role of emotional similarity and empathic accuracy. *Emotion*, *8*, 792–802. doi:10.1037/a0013976.
- Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin*, *98*(2), 219–235.
- West, T. V., Popp, D., & Kenny, D. A. (2008). A guide for the estimation of gender and sexual orientation effects in dyadic data: An actor-partner interdependence model approach. *Personality and Social Psychology Bulletin*, *34*, 321–336. doi:10.1177/0146167207311199.
- Wilhelm, P., & Perrez, M. (2004). How is my partner feeling in different daily-life settings? Accuracy of spouses' judgments about their partner's feelings at work and at home. *Social Indicators Research*, *67*, 183–246. doi:10.1023/B:SOCI.0000007339.48649.20.
- Winczewski, L.A., Bowen, J.D. & Collins, N.L. (2016) Is empathic accuracy enough to facilitate responsive behavior in dyadic interaction? distinguishing ability from motivation. *Psychological Science*. doi:10.1177/0956797615624491 (advance online publication)
- Wonder, S., & Wright, S. (1972). *To know you is to love you* (Recorded by S. Wonder & S. Wright). On Syreeta [Album]. Detroit, MI: Motown Records.
- Zaki, J., Bolger, N., & Ochsner, K. (2008). It takes two the interpersonal nature of empathic accuracy. *Psychological Science*, *19*, 399–404. doi:10.1111/j.1467-9280.2008.02099.x.
- Zaki, J., & Ochsner, K. (2011). Reintegrating the study of accuracy into social cognition research. *Psychological Inquiry*, *22*, 159–182. doi:10.1080/1047840X.2011.551743.