

A multimethod investigation of depressive symptoms, perceived understanding, and relationship quality

AMIE M. GORDON,^a RUGILE TUSKEVICIUTE,^b AND SERENA CHEN^a

^aUniversity of California, Berkeley and ^bNew York University

Abstract

This research examines whether people who are experiencing more depressive symptoms perceive their partners as less able to understand their thoughts and feelings. Results showed that depressive symptoms (Studies 1 and 3) and depressive mood (Study 2) were negatively associated with perceived understanding in general (Study 1), in daily life (Study 2), and during a conflict conversation (Study 3). Partners of people who were more depressed actually were less empathically accurate during the conflict conversation in Study 3, although they did not recognize that they were being less understanding. Moreover, perceived understanding helped explain the link between depressive symptoms and relationship quality in all three studies, and these effects held when controlling for self-reported understanding and perceived partner hostility.

Depressive symptoms can have devastating effects on people's personal lives, particularly their romantic relationships. Studies have shown that healthy, satisfying relationships are crucial to psychological well-being, but people who are more depressed tend to experience poorer quality relationships (e.g., Davila, Bradbury, Cohan, & Tochluk, 1997; Davila, Karney, Hall, & Bradbury, 2003; for a review, see Whisman, 2001). Even milder forms of depression, such as a depressive mood, can have harmful effects on relationships (Burns, Sayers, & Moras, 1994; Dehle & Weiss, 1998). In the current set of studies we examined whether people who are experiencing

more depressive symptoms or are in a more depressed mood perceive their partners as less able to understand their thoughts and feelings.

Perceived understanding by a relationship partner is associated with greater relationship quality and longevity (De La Ronde & Swann, 1998; Long, 1993a; Long & Andrews, 1990; Meeks, Hendrick, & Hendrick, 1998; Pollmann & Finkenauer, 2009; Swann, De La Ronde, & Hixon, 1994; Swann & Pelham, 2002), and is an important characteristic of high-functioning marriages (Long, 1993b). Recent research suggests that perceived understanding is a stronger predictor of relationship quality than is the partner's actual knowledge (Pollmann & Finkenauer, 2009), suggesting that feeling understood by one's partner is vital for the quality of romantic relationships. Recent research shows that there is a negative correlation between depressive symptoms and perceived understanding (Cramer & Jowett, 2010) and we sought to further investigate this association with three main aims: First, we sought to extend the previous research by using a multimethod approach to assess the association between

Amie M. Gordon, Department of Psychology, University of California, Berkeley, Berkeley, CA; Rugile Tuskeviciute, Department of Psychology, New York University, New York, NY; Serena Chen, Department of Psychology, University of California, Berkeley, Berkeley, CA.

This work was supported by a National Science Foundation Graduate Research Fellowship awarded to A.M.G.

Correspondence should be addressed to Amie M. Gordon, Institute of Personality and Social Research, 4143 Tolman Hall #5050, University of California, Berkeley, CA 94720-5050, e-mail: amieg@berkeley.edu

depressive symptoms and perceived understanding in general, in daily life, and during a conversation about a source of conflict in the relationship. Second, we sought to examine *why* depressive symptoms are negatively associated with perceived understanding by exploring whether individuals who experience depressive symptoms are accurate or inaccurate in their perceptions that their partners are less able to understand them. Finally, we sought to investigate whether a lack of perceived understanding by one's partner could be one aspect of the depressive experience that helps explain why people who are suffering from depressive symptoms experience poorer quality relationships.

Depressed and misunderstood?

Why might people who are experiencing more depressive symptoms perceive their partners as less understanding? In addition to the recent research showing a negative correlation between depressive symptoms and perceived understanding by one's partner (Cramer & Jowett, 2010), several other lines of work provide indirect evidence. Beck's (1963) cognitive theory of depression suggests that people who are depressed see everything, from their relationships to their future, in a negative and pessimistic light. Thus, people who are more depressed are likely to have a more negative view of their partners, and this negative bias may lead them to see their partners as less able to understand them. Along related lines, research shows that more depressed individuals see themselves and close others in a more negative light, in contrast to less depressed individuals who tend toward a more positive view of themselves and close others (Gara et al., 1993). Individuals who are more depressed want their negative views of themselves to be verified (Swann, Wenzlaff, Krull, & Pelham, 1992). Because people tend to view their partners more positively, this desire for verification might lead people who are more depressed to perceive their partners as less able to understand them. Depressive symptoms may also be negatively associated with perceived understanding by one's partner because people who are more depressed feel

more dissimilar to others (Swallow & Kuiper, 1987; Tabachnik, Crocker, & Alloy, 1983) and similarity is a basis for understanding (e.g., Kenny & Acitelli, 2001). In addition, people who feel more depressed report feeling lonelier (Hutcherson & Epkins, 2009; Schultz & Moore, 1988; Segrin, Powell, Givertz, & Brackin, 2003), and one aspect of loneliness is the perception that others do not really understand you or know you well (Russell, 1996).

People who are more depressed also engage in behaviors that may make it more difficult for their romantic partners to decode their thoughts and feelings. For example, research indicates that people who are more depressed tend to keep silent about their thoughts and feelings with close others (Horesh & Apter, 2006; Page, Stevens, & Galvin, 1996), engage in less eye contact, and have flatter facial expressions (Gotlib, 1982; Gotlib & Whiffen, 1989). If individuals who are experiencing more depressive symptoms do not disclose their thoughts and feelings or express their emotions to their romantic partners, their partners may have a harder time understanding them, in turn leading the more depressed individuals to feel less understood by their partners.

Perceived understanding: Based in reality?

Our second aim was to examine why people who are experiencing more depressive symptoms feel less understood by their partners. Specifically, we investigated whether people with more depressive symptoms feel less understood because their partners actually are less understanding, or if their perception of not being understood is inaccurate, perhaps another symptom of depression. Supporting the latter possibility is the host of research showing that people who are experiencing depressive symptoms view their world through a negative lens, including perceiving others more negatively and feeling more dissimilar to others (e.g., Beck, 1963; Gara et al., 1993; Swallow & Kuiper, 1987). This research indicates that the negative association between depressive symptoms and perceived understanding may be a manifestation of a broad negative bias.

On the other hand, research on depressive realism (Alloy & Abramson, 1979) suggests that people who are more depressed may actually be more realistic than their nondepressed counterparts. For example, depression is associated with being more realistic about the likelihood of negative life events (Kapçı & Cramer, 1998) and health risks, such as cancer (Keller, Lipkus, & Rimer, 2002). In addition, depressed people behave in ways that may actually make it more difficult for their partners to understand them, such as keeping silent about their thoughts and feelings (Horesh & Apter, 2006; Page, Stevens, & Galvin, 1996). Thus, it may be that people with depressive symptoms feel less understood by their partners because their partners actually are less able to understand their thoughts and feelings.

Two recent studies have directly examined the association between depressive symptoms and understanding by one's partner, with varying results. In one study, partners of more depressed women were less accurate at predicting anger but more accurate at predicting sadness during a conflict conversation, whereas partners of depressed men were less accurate at predicting sadness (Papp, Kouros, & Cummings, 2010). There was no effect of depressive symptoms on partner's empathic accuracy for positive emotions or fear. Another study found that partners of more depressed women were less accurate at predicting negative feelings (Gadassi, Mor, & Rafaeli, 2011), but this was only true in daily life and did not replicate in a support-giving interaction in the laboratory. Again, there were no effects for positive emotions, or for partners of more depressed men. Given these varying results, we approached this aim in a somewhat exploratory manner, though we anticipated that any association between depressive symptoms and partner empathic accuracy would be stronger for negative emotions.

Does perceived understanding help explain the depression–relationship quality link?

Decades of research have established a strong link between depression and relationship

quality. For example, studies have shown that people's feelings of depression at baseline predict lower marital quality several months later (e.g., Burns et al., 1994; Dehle & Weiss, 1998), and within-person changes in depression predict subsequent changes in marital quality across 4 years (Davila et al., 2003). Given the strong link between perceived understanding and relationship quality (e.g., Long, 1993a; Long & Andrews, 1990; Meeks et al., 1998; Pollmann & Finkenauer, 2009), our third aim was to assess whether the negative association between depressive symptoms and perceived understanding by one's partner might be one reason why people with depressive symptoms have poorer quality relationships.

Other pathways between these three variables are plausible. For example, there is clear evidence for a bidirectional relation between depression and relationship quality (for a review, see Whisman, 2001; see also Rehman, Gollan, & Mortimer, 2008), and we anticipate that there are bidirectional associations between the other variables as well. However, our goal in the present research was to investigate whether, and why, depressive symptoms negatively predict perceived understanding by one's partner, and if this association might be helpful in unpacking the strong correlation between depressive symptoms and relationship quality.

In conducting our investigation, we focused on two indices of relationship quality: relationship satisfaction and relationship conflict. Relationship satisfaction characterizes people's global feelings about their relationship, and a plethora of research has linked depressive symptoms and perceived understanding to relationship satisfaction (e.g., Davila et al., 2003; Long & Andrews, 1990; Papp, Goeke-Morey, & Cummings, 2007). Relationship conflict arises when partners having conflicting views, and perceiving that a partner is unable to understand one's thoughts and feelings is likely to create a sense of opposition and disagreement. Indeed, research has shown that both depressive symptoms and perceived understanding are associated with relationship conflict (Cramer & Jowett, 2010).

Overview of the present research

Across three studies we tested whether (a) individuals who report experiencing more depressive symptoms perceive their partners as less understanding, (b) the negative association between depressive symptoms and perceived understanding is based in reality (i.e., partners actually are less understanding), and (c) the depressive symptom–perceived understanding link helps explain the negative association between depressive symptoms and relationship quality. As a preliminary step, Study 1 examined associations between self-reported depressive symptoms, perceived understanding by one's partner, and relationship quality. In Study 2, we used daily experience methodology to test changes in perceived understanding and relationship quality as a function of depressive mood that day. In Study 3, we brought couples into the laboratory to examine whether depressive symptoms were associated with perceived understanding and relationship satisfaction during a conflict conversation. We also gathered measures of empathic accuracy during the conflict conversation to examine whether participants with depressive symptoms were accurate in feeling less understood by their partners relative to participants who were less depressed.

In addition to testing whether perceived understanding by one's partner helped explain the link between depressive symptoms and relationship quality, we also tested perceived understanding against two other mediators: First, research on depressive symptoms and interpersonal perception has shown that people who are more depressed are less able to understand their partners' thoughts and feelings (Gadassi et al., 2011; Papp et al., 2010). Given that self-reported understanding of a relationship partner is positively associated with perceived understanding by a relationship partner (Long & Andrews, 1990), in all three studies we tested whether perceived understanding helped explain the link between depressive symptoms and relationship quality even when taking into account individuals' own self-reported understanding of their partners. Second, more depressed individuals experience poorer quality relationships in part

because they perceive their partners as being more hostile (Coyne, 1976). Perceiving a partner as less understanding may simply reflect the belief that one's partner is hostile and unsympathetic toward oneself. To address this, in Studies 2 and 3 we tested whether perceived understanding helped explain the link between depressive symptoms and relationship quality even when accounting for individuals' perceptions of their partners' hostility.

Study 1

In Study 1, we gathered data from a cross-sectional sample in order to examine whether depressive symptoms were associated with perceiving one's partner as less able to understand one's thoughts and feelings in general. We also examined whether perceived understanding helped explain the link between depressive symptoms and relationship quality. Finally, we examined whether perceived understanding was a unique mediator beyond the effects of people's self-reported understanding of their partners.

Method

Participants and procedure

The sample consisted of 110 students (88 women, 22 men) at a large public university on the West Coast of the United States who were currently in a romantic relationship. Relationship duration ranged from 6 months to over 13 years ($M = 27.2$ months, $SD = 25.83$). Ages ranged from 18 to 44 years ($M = 21.42$ years, $SD = 3.83$). The sample was ethnically diverse with about 34% European/European American, 44% Asian/Asian American, 10% Hispanic, 1% African/African American, 2% Pacific Islander, and 9% Other. Participants were given course credit for their participation.

Measures

Depressive symptoms. Depressive symptoms were measured using the 20-item Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). The CES-D Scale

Table 1. Study 1 correlations, means, and standard deviations

	Depressive symptoms	Perceived understanding	Self-reported understanding	Satisfaction	<i>M</i>	<i>SD</i>
Depressive symptoms					13.75	9.53
Perceived understanding	−0.32***				4.95	0.97
Self-reported understanding	−0.37***	0.69***			5.24	0.91
Satisfaction	−0.43***	0.56***	0.47***		5.01	0.89
Conflict	0.29**	−0.61***	−0.48***	−0.57***	2.71	1.14

** $p < .01$. *** $p < .001$.

measures depressive symptoms in the general population with an emphasis on the affective component of depression. Participants rated how they had felt over the past week with items such as “I thought my life had been a failure” and “I enjoyed life” (reverse scored). All items were rated on a 4-point scale (0 = *rarely or none of the time*, 3 = *most or all of the time*). Scores for each item were summed to create a composite depression score (see Table 1 for means and standard deviations). In this sample, scores ranged from 0 to 45. According to categorical cut-offs for the CES-D (e.g., Goebert et al., 2009), 66.4% of participants had little to no depressive symptoms (i.e., scores < 16), 18.1% of participants had mild to moderate depressive symptoms (i.e., scores between 16 and 21), and 15.5% of participants were above the cutoff for possible major depressive disorder (i.e., above 21). The reliability was high, with $\alpha = .91$.

Perceived and self-reported understanding. The Other Dyadic Perspective Taking Scale (ODPT; Long & Andrews, 1990) was used to measure perceived understanding—that is, people’s perceptions of their partners’ ability to understand their thoughts and feelings. The 20-item scale includes statements such as “My partner very often seems to know how I feel.” The Self Dyadic Perspective Taking Scale (SDPT; Long & Andrews, 1990) was used to measure self-reported understanding—that is, the extent to which participants believed they were able to understand their partners’ thoughts and feelings. The 13-item scale includes statements such as “I am good at

understanding my partner’s problems.” For both scales, participants rated their agreement with each item on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). In this sample, both α s = .92.

Relationship quality. The four-item version of the Couple’s Satisfaction Index (CSI; Funk & Rogge 2007) was used to assess relationship satisfaction. It consists of items such as “How rewarding is your relationship with your partner?” Participants rated their agreement with each item on a 6-point scale (1 = *not true at all*, 6 = *completely true*). In this sample, $\alpha = .92$. Conflict, the other index of relationship quality, was measured with five items: “My partner and I have a lot of disagreements,” “I am often irritated by my partner,” “There is a lot of conflict in my relationship,” “I feel like all my partner and I do is fight,” and “It is rare that my partner and I get into a big argument” (reverse scored). Participants rated their agreement with each item on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). In this sample, $\alpha = .86$.

Discussion

Correlations and descriptive statistics are displayed in Table 1. As hypothesized, depressive symptoms were negatively associated with perceived understanding by one’s partner. Replicating prior research, depressive symptoms and perceived understanding were both significantly associated with relationship satisfaction and relationship conflict. We conducted a series of regression analyses to test whether differences in

perceived understanding helped explain the link between depressive symptoms. Analyses revealed that perceived understanding significantly predicted relationship satisfaction when controlling for depressive symptoms, $\beta = .47$, $t(107) = 5.81$, $p < .001$, and the direct effect of depressive symptoms on relationship satisfaction dropped, $\beta = -.28$, $t(107) = 3.45$, $p < .001$. The results were similar for relationship conflict: Perceived understanding continued to significantly predict relationship conflict when controlling for depressive symptoms, $\beta = -.57$, $t(107) = 7.11$, $p < .001$, and the direct effect of depressive symptoms on relationship conflict dropped below significance, $\beta = .11$, $t(107) = 1.31$, $p > .19$. To assess the strength of these indirect effects we constructed 95% confidence intervals using bootstrapping analyses (Preacher & Hayes, 2008), which are more sensitive tests of mediation relative to other methods. The null hypothesis of no mediation stipulates that the estimate for the indirect effect is zero. When zero is not included in the confidence interval, the null hypothesis is rejected. Neither of the confidence intervals for the indirect effects included zero: satisfaction, 95% CI $[-.03, -.01]$; conflict, 95% CI $[.01, .05]$, providing evidence for the significance of our indirect effects. In addition, effect size calculations (Kenny, 2012; Preacher & Kelley, 2011) demonstrated that the completely standardized indirect effects were $-.15$ for relationship satisfaction and $.18$ for relationship conflict, both of which are suggested to be a medium to large effect size (small = $.01$, medium = $.09$, large = $.25$; Kenny, 2012).

In addition, when perceived and self-reported understanding were entered as simultaneous mediators, the indirect effects of perceived understanding remained significant: satisfaction effect size_{cs} = $-.13$, 95% CI $[-.03, -.004]$; conflict effect size_{cs} = $.17$, 95% CI $[.01, .04]$. In contrast, self-reported understanding did not significantly predict either index of relationship quality (β s $< |.09|$, t s < 1). Taken together, these findings suggest that it may be perceiving one's partner, and not oneself, as less understanding that helps

explain the association between depressive symptoms and relationship quality.

Results

In summary, this first study provided evidence that depressive symptoms are negatively associated with perceived understanding by a romantic partner. This link between depressive symptoms and perceived understanding helped explain the negative association between depressive symptoms and relationship quality.

Study 2

In Study 2, we used daily experience methodology to examine whether depressive mood was associated with changes in perceived understanding by one's partner from one day to the next over a week. By repeatedly surveying the same person, we were able to examine whether Study 1's results extend to within-person fluctuations in depressive mood. In other words, we were able to look at whether people perceived their partners as less understanding and experienced poorer relationship quality on days when they felt more depressed than typical across a 7-day period.

As in Study 1, we examined whether perceived understanding helped explain the link between depressive mood and relationship quality when controlling for self-reported understanding of one's partner that day. We also tested whether perceived understanding helped explain the link between depressive mood and relationship quality even when taking into account participants' perceptions of their partner's hostility that day.

Method

Participants and procedure

The sample consisted of 99 students (83 women, 16 men) at a large public university on the West Coast who were currently in a romantic relationship. Relationship duration ranged from 1 month to over 5 years ($M = 18.1$ months, $SD = 15.4$). Ages ranged from 18 to 30 years ($M = 20.2$, $SD = 2.0$). The sample was ethnically diverse

with 29% European/European American, 48% Asian/Asian American, 13% Hispanic, 1% African/African American, 2% Pacific Islander, and 8% Other. Participants were given course credit for their participation.

As part of a larger study (see Gordon, Impett, Kogan, Oveis, & Keltner, 2012, Study 1), participants who were interested in the study were directed to an online website where they completed demographics and were given a link to the daily diary portion of the study. The daily diary consisted of a brief online survey that participants filled out every night before going to bed. The nightly survey inquired about daily mood, perceived and self-reported understanding, relationship satisfaction, and relationship conflict. Participants were instructed to complete the same survey every night for seven nights and were sent email reminders each evening between 8 pm and 10 pm. Participants completed 606 diaries, an average of 6.12 (out of 7) days per person. Seventy-six percent of the participants completed all seven diaries.

Daily measures

The daily diary measures were kept brief (sometimes measured with only single items) to maintain participant motivation and maximize responses (Reis & Gable, 2000). As a measure of *depressive mood*, participants rated the degree to which they felt “depressed,” “sad,” and “happy” (reverse scored; 1 = *not at all*, 5 = *a lot*). Within days, alphas for depressive mood ranged from .71 to .87. *Perceived understanding* was assessed with the item “How much do you think your partner was able to accurately understand what you were thinking and feeling today?” and *self-reported understanding* was assessed with the item “How much were you able to accurately understand what your partner was thinking and feeling today?” Both were measured on 5-point scales (1 = *not at all*, 5 = *completely*). As a measure of *relationship satisfaction*, participants responded to the statement “Today, I think that our relationship was . . . (1 = *terrible*, 5 = *terrific*).” This single-item measure has been used in previous daily diary research (e.g., Gable &

Poore, 2008; Gable, Reis, & Downey, 2003). *Relationship conflict* was assessed with the item “Did you and your partner experience conflict in your relationship today?” (1 = *we did not experience any conflict today*, 5 = *we experienced a lot of conflict today*). Finally, *perceived hostility* was measured with the item “My partner behaved and felt in hostile ways towards me” (1 = *not at all*, 5 = *completely*).

Discussion

Data analytic strategy

The data from the daily diaries consist of up to seven data points nested within each individual. Because these nested data violate assumptions of independence, we used a two-level hierarchical linear model to conduct our regression analyses (HLMwin version 6.04; Raudenbush, 2004). Level 1 intercepts were allowed to vary and Level 1 slopes were fixed. In each analysis, we controlled for the effect of the outcome variable on the previous day so that our results represent changes from one day to the next (Algoe, Gable, & Maisel, 2010). Depressive mood and perceived understanding were person centered, which allowed us to look at within-person fluctuations in these variables relative to each person’s own average. This approach also separates within- and between-person effects, which can be confounded when conducting multilevel mediations at Level 1 (Zhang, Zyphur, & Preacher, 2009). Below is a sample Level 1 equation in which one day’s perceived understanding is predicted from that day’s person-centered depressive mood (cDepr) and the previous day’s perceived understanding (PercUnd):

$$\text{PercUnd}_{it} = \pi_{0i} + \pi_{1i} (\text{cDepr}_{it}) + \pi_{2i} (\text{PercUnd}_{t-1i}) + e_{ij} \quad (1)$$

Results

Average descriptive statistics and meta-analytic correlations from across the 7 days are presented in Table 2. As shown in Table 3 (Model 1), and consistent with our findings

Table 2. Study 2 meta-analytic correlations, means, and standard deviations across 7 days

	Depressive mood	Perceived understanding	Self-reported understanding	Satisfaction	Conflict	<i>M</i>	<i>SD</i>
Depressive mood						2.02	0.95
Perceived understanding	−0.30***					3.21	1.13
Self-reported understanding	−0.32***	0.74***				3.39	1.04
Satisfaction	−0.58***	0.59***	0.48***			3.85	1.02
Conflict	0.48***	−0.23***	−0.11**	−0.49***		1.78	1.13
Perceived hostility	0.27***	−0.26***	−0.22***	−0.40***	0.34***	1.52	0.93

Note. Average correlation coefficients from across the 7 days were calculated by transforming the correlation coefficients using the Fisher Z transformation and weighting the subsequent Fisher Zs for each day by the inverse of the variance. The weighted Fisher Zs were summed and divided by the sum of their weights to produce a meta-analytic Fisher Z. We then used the inverse Fisher Z transformation to obtain meta-analytic correlation coefficients. To test significance, the meta-analytic Fisher Z was divided by a meta-analytic standard error, which yielded a *z* statistic.

p* < .01. *p* < .001.

from Study 1, on days when people felt more depressed than they typically did across the 7 days, they perceived their partners as less understanding, felt less satisfied in their relationships, and experienced more conflict, controlling for the outcome variable the previous day. To test whether changes in perceived understanding helped explain the link between depressive mood and reduced relationship quality, we regressed today's relationship quality onto today's depressive symptoms and perceived understanding, as well as yesterday's relationship quality and perceived understanding. As shown in Table 3 (Model 2), changes in perceived understanding significantly predicted changes in relationship satisfaction and conflict, and the size of the direct effects of depressive symptoms on relationship quality dropped. To test for the significance of these indirect effects, we used the Monte Carlo method for assessing mediation (MCMAM), which employs bootstrapping techniques similar to parametric bootstrapping and is appropriate to use on nested data with fixed slopes (Selig & Preacher, 2008). As in Study 1, neither confidence interval contained zero: satisfaction, 95% CI [−.14, −.05]; conflict, 95% CI [.01, .08], suggesting that changes in perceived understanding helped explain

the link between depressive mood and relationship quality in daily life. In this study, the completely standardized indirect effect sizes were in the small to medium range (satisfaction effect = −.09; conflict = .03).

As shown in Table 3 (Model 3), we also found that perceived understanding by one's partner significantly predicted changes in relationship satisfaction and conflict when controlling for self-reported understanding of one's partner. Both indirect effects for perceived understanding remained significant: satisfaction effect size_{cs} = −.08, 95% CI [−.14, −.05]; conflict effect size_{cs} = .07, 95% CI [.04, .14]. In contrast, self-reported understanding did not significantly predict satisfaction. Self-reported understanding did predict conflict; however, this association was in an unexpected direction such that self-reported understanding was associated with more conflict that day. We speculate that this effect is likely a spurious result due to the positive correlation between perceived and self-reported understanding. There was no association between self-reported understanding and changes in conflict when self-reported understanding was entered alone, *B* = .09, *t*(455) = 1.64, *p* > .10. Overall, then, as in Study 1, it was perceptions of one's partner, and not oneself, as understanding that better

Table 3. Results of HLM regression analyses in Study 3

Predictor	Δ Perceived understanding			Δ Relationship satisfaction			Δ Relationship conflict			
	B	SE	t	B	SE	t	B	SE	t	
Model 1										
Depressive mood	-.26***	.06	4.59	-.59***	.04	13.17	.67***	.06	11.17	
Model 2										
Depressive mood				-.48***	.04	11.31	.63***	.06	9.97	
Δ Perceived understanding				.36***	.04	9.15	-.15***	.06	2.61	
Model 3										
Depressive mood				-.48***	.04	11.19	.64***	.06	10.45	
Δ Perceived understanding				.34***	.05	7.07	-.31***	.07	4.33	
Δ Self-reported understanding				.01	.05	0.27	.25***	.07	3.72	
Model 4										
Depressive mood				-.44***	.04	10.63	.59***	.06	9.53	
Δ Perceived understanding				.36***	.04	9.59	-.14**	.05	2.69	
Δ Perceived hostility				-.22***	.04	5.22	.46***	.06	7.53	

Note. Bs represent unstandardized mixed model regression estimates.
 ** $p < .01$. *** $p < .001$.

explained the association between depressive mood and changes in relationship quality.

We also found that even when controlling for perceived partner hostility, perceived understanding of one's partner significantly predicted relationship quality (shown in Table 3, Model 4). Both perceived understanding indirect effects remained significant: satisfaction effect $size_{cs} = -.09$, 95% CI $[-.14, -.05]$; conflict effect $size_{cs} = .03$, 95% CI $[.01, .07]$. Perceived partner hostility also predicted relationship quality and helped explain the link between depressive symptoms and relationship quality: satisfaction effect $size_{cs} = -.03$, 95% CI $[-.07, -.01]$; conflict effect $size_{cs} = .07$, 95% CI $[.03, .13]$. These findings suggest that perceived understanding by one's partner and perceived hostility from one's partner may be two unique mechanisms underlying the link between depressive mood and relationship quality.

The findings from this study extend our previous results by showing that depressive mood influences perceived understanding by one's partner from one day to the next, and that this change in perceived understanding helps explain corresponding changes in relationship quality. Our first two studies, however, focused only on perceived understanding and included data from only one member of the couple. Thus, the results of these studies do not address the question of whether a lack of perceived understanding is a function of the depressive experience or if it reflects an actual lack of understanding from one's partner. We address these limitations in Study 3.

Study 3

In our final study we brought couples into the laboratory to examine whether depressive symptoms were associated with perceived and actual understanding during a conflict conversation. Depression is associated not just with more frequent conflict (Cramer & Jowett, 2010), but also with more maladaptive communication during conflict (e.g., Beach, Fincham, & Katz, 1998). Thus, the negative consequences of depression for relationship quality may be particularly apparent during times of conflict (Du Rocher Schudlich,

Papp, & Cummings, 2004; Papp et al., 2010). Accordingly, we hypothesized that people experiencing more depressive symptoms would perceive their partners as less able to understand them during a conflict conversation.

By bringing both partners into the laboratory, we were also able to test our second aim—namely, exploring whether individuals with more depressive symptoms are accurate in their perceptions that their partners are less able to understand their thoughts and feelings. To do so, we assessed partners' empathic accuracy in addition to their self-reported and perceived understanding. We also examined whether participants with more depressive symptoms were less satisfied postconflict relative to those with fewer depressive symptoms, and whether perceived understanding by one's partner during the conversation would help explain this link above and beyond self-reported understanding of one's partner and perceived partner hostility.

Finally, assessing both partners also allowed us to examine the effects of people's own depressive symptoms while controlling for their partners' depressive symptoms. This extension is important because the effects from Studies 1 and 2 could be a function of more depressed participants having partners who are also more depressed.

Method

Participants and procedure

Seventy-one heterosexual couples were recruited from a large public university on the West Coast and the surrounding community through online websites and community flyers. Five couples were eliminated from the final analyses because at least one member of the couple failed to comply with directions. One couple was eliminated because of a computer malfunction, leaving a total of 65 couples. Relationship duration ranged from 1 month to 6½ years ($M = 21.65$ months, $SD = 20.47$). Ages ranged from 18 to 56 ($M = 21.75$, $SD = 5.52$). The sample was ethnically diverse with 39% European/European American, 40% Asian/Asian American, 7%

Hispanic, 2% African/African American, 2% Pacific Islander, and 12% Other. Each partner was given \$10 or course credit for their participation.

Interested couples scheduled a laboratory session through e-mail. Two days before their session, each partner was sent an e-mail directing them to a secure website with a series of background measures, including depressive symptoms and relationship satisfaction. During the laboratory session, couples filled out measures on the computer and participated in two videotaped conversations, one of which was about a source of conflict in their relationship. For the conflict conversation, both partners listed the top three sources of conflict in their relationship at the beginning of the session and later one partner was randomly assigned to pick the topic from one of the three he or she had previously listed.¹ The couples were given 5 min to work toward a resolution of the conflict. After the conflict conversation, the partners returned to their computers and completed additional questionnaires pertaining to the conflict conversation.

Background measures

Depressive symptoms ($\alpha = .87$) and *relationship satisfaction* ($\alpha = .88$) were measured with the same items from Study 1. Scores on the CES-D ranged from 0 to 45; 73.8% of the sample scored at or below 15 (little to no depressive symptoms), 13.9% scored between 16 and 21 (mild to moderate depressive symptoms), and 12.3% of the sample scored at or above 21 (cutoff for possible major depressive disorder).

Laboratory measures

Perceived and self-reported understanding. After the conflict conversation, *perceived understanding* by one's partner was assessed with the item "During the conversation you just had, how much do you think your partner was able to accurately understand what

you were thinking and feeling?" and *self-reported understanding* of one's partner was assessed with the item "During the conversation you just had, how much were you able to accurately understand what your partner was thinking and feeling?" Both items were measured on 5-point scales (1 = *not at all*, 5 = *completely*).

Empathic accuracy. We assessed how well people were actually able to understand their partners during the conflict conversation by having them report the extent to which they and their partners had experienced 21 different positive and negative emotions during the conflict conversation, such as "happy," "caring," "confident," "insecure," "sad," and "angry" on 5-point scales (1 = *not at all*, 5 = *a lot*). We were interested in participants' ability to accurately discern the extent to which partners were experiencing particular emotions (i.e., mean-level bias; Fletcher & Kerr, 2010), so we computed accuracy scores by taking the absolute difference between participants' ratings of how much they thought their partners had experienced a particular emotion and the partners' actual self-reported experience of that emotion.² We averaged the accuracy scores for all of the emotions together and multiplied by -1 so that higher scores

1. The associations between depressive symptoms, perceived understanding and relationship quality did not differ as a function of which partner had chosen the topic.

2. Deviation scores assess mean-level bias (Fletcher & Kerr, 2010) and are one measure of empathic accuracy. Another common measure is profile correlations (Fletcher & Kerr, 2010; Gagné & Lydon, 2004; Kenny & Albright, 1987; Sillars, Pike, Jones, & Murphy, 1984), which measure accuracy in perceiving the relative level of an emotion compared to the other emotions being measured. We did not use this method for a few reasons. First, we were interested in people's ability to discern absolute levels of their romantic partners' emotions. For example, we wanted to know whether one partner's depressive symptoms would influence the other partner's ability to accurately detect whether their partner felt angry, not whether they felt more angry than sad. Second, previous research has shown that mean-level bias is a better predictor of relationship quality than profile correlations (Fletcher & Kerr, 2010). Finally, we computed a profile correlation in response to a reviewer comment and found that the profile correlations were not significantly associated with self-reported understanding ($r = -.06$, $p > .52$) or perceived understanding ($r = -.11$, $p > .21$). In contrast, as shown in Table 3, mean-level bias was associated with understanding, suggesting that this empathic accuracy measure better captured partners' views of understanding in this study.

represent greater empathic accuracy. In total, we created three different indices of empathic accuracy: total, positive emotions, and negative emotions.

Postconflict relationship satisfaction. Relationship satisfaction was assessed right after the conflict conversation with the same single item used in Study 2, “Right now, I think that our relationship is . . . (1 = *terrible*, 5 = *terrific*).”

Perceived hostility. People’s perceptions of how “angry” and “resentful” their partners had been during the conflict conversation were averaged to create a measure of perceived partner hostility ($\alpha = .79$).

Discussion

Data analytic strategy

Given that this study included both members of the couple, we analyzed the data using mixed models in PASW 18.0 to account for the nested nature of the data. The couples were treated as distinguishable dyads and we used the actor–partner interdependence model (APIM; Kenny, Kashy, & Cook, 2006) to estimate both the effect that one’s own independent variable has on one’s own dependent variable (actor effect), and the effect that a partner’s independent variable has on one’s own dependent variable (partner effect). Actor and partner effects were estimated simultaneously, controlling for each other. For the current investigation, we were interested in whether people’s own (i.e., actor) depressive symptoms predicted understanding even when taking into account their partners’ depressive symptoms. As in Study 2, we tested for the significance of our indirect effects by running bootstrapping analyses with the MCMAM, (Selig & Preacher, 2008), which creates a 95% confidence interval for the indirect effect, as well as computing completely standardized effect sizes.

Main analyses

Descriptive statistics and within-person and cross-partner correlations are shown in

Table 4. Consistent with our earlier findings and shown in Table 5 (Model 1), own depressive symptoms negatively predicted perceived understanding by one’s partner during the conflict conversation. There was also a partner effect of depressive symptoms on perceived understanding, such that participants who were experiencing more depressive symptoms were perceived as less understanding by their partners.

Misunderstood: Based in reality?

Are the partners of more depressed individuals actually less able to understand their feelings? As shown in Table 5 (Model 1), there was a partner effect of depressive symptoms on empathic accuracy. More specifically, the more depressive symptoms participants were experiencing, the less accurate their partners were at gauging the intensity of their emotions during the conflict conversation. This was true for both positive and negative emotions ($Bs < -.01$, $ts > 2.11$, $ps < .05$), and was driven in part by partners underestimating the negative emotions of participants with more depressive symptoms, $B = -.03$, $t(75) = 3.56$, $p < .001$.³ There was no systematic bias for positive emotions, $B = .01$, $t(79) = 1.36$, $p > .17$, and, as shown in Table 5 (Model 1), no effect of one’s own depressive symptoms on empathic accuracy.

These findings suggest that partners actually are less able to understand the feelings of individuals with more depressive symptoms. Indeed, as shown in Table 5 (Model 2), when perceived understanding was regressed onto depressive symptoms and empathic accuracy, partner empathic accuracy was a strong predictor of perceived understanding, and the effect of depressive symptoms on perceived understanding by one’s partner dropped below significance. Bootstrapping and effect size analyses provided evidence for a significant indirect effect, effect size_{cs} = $-.06$, 95% CI [$-.02$, $-.002$]. These analyses indicate that one reason why people who are experiencing more depressive symptoms perceive

3. The results for accuracy of negative emotions held when analyzing the negative emotions without the adjectives *depressed* and *sad*.

Table 4. Study 3 within-person and cross-partner correlations, means, and standard deviations.

	Depressive symptoms	Perceived understanding	Self-reported understanding	Empathic accuracy			Postconflict satisfaction	Perceived hostility	M	SD
				All	Positive	Negative				
Depressive symptoms	.18	-.10	-.20	-.31*	-.21 [†]	-.25*	-.13	.17	11.87	7.99
Perceived understanding	-.20	.51***	.44***	.40**	.24 [†]	.38**	.49***	-.23 [†]	3.74	1.01
Self-reported understanding	-.12	.62***	.43***	.32*	.12	.35**	.25*	-.36**	3.95	0.79
Empathic accuracy										
All	-.07	.34**	.24 [†]	-.65***	-.48***	-.56***	.41**	-.49***	0.84	0.34
Positive	-.11	.17	.18	-.68***	-.52***	-.28*	.22 [†]	-.19	0.84	0.38
Negative	.01	.34**	.21 [†]	-.85***	-.23 [†]	-.58***	.40**	-.50***	0.80	0.51
Postconflict satisfaction	-.35**	.56***	.40**	-.31*	-.33**	-.18	.35**	-.25*	4.45	0.73
Perceived hostility	.32*	-.46***	-.20	-.46***	-.26*	-.43***	-.49***	.26*	1.55	0.75

Note. Cross-partner correlations are on and above diagonal, and within-partner correlations are below diagonal. Standard error was corrected to N = number of dyads.
[†] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5. Results of APIM analyses in Study 3

Predictor	Empathic accuracy			Perceived understanding			Self-reported understanding			Postconflict satisfaction		
	B	SE	t	B	SE	t	B	SE	t	B	SE	t
Model 1												
Actor depressive symptoms	-.001	.003	0.28	-.02*	.01	2.51	-.01	.01	1.20	-.03***	.01	4.48
Partner depressive symptoms	-.01***	.003	3.77	-.02*	.01	2.25	-.01	.01	1.05	-.01	.01	0.78
Model 2												
Actor depressive symptoms				-.01	.01	1.28	-.002	.01	0.25	-.02**	.01	3.23
Partner depressive symptoms				-.02 [†]	.01	1.76	-.01	.01	0.86	-.004	.01	0.48
Actor empathic accuracy				.19	.28	0.69	.02	.24	0.07	.22	.22	0.97
Partner empathic accuracy				.82**	.28	2.91	.68**	.24	2.79	.55*	.22	2.44
Model 3												
Actor depressive symptoms										-.02***	.01	3.51
Partner depressive symptoms										.004	.01	0.62
Actor perceived understanding										.28***	.06	4.78
Partner perceived understanding										.19**	.06	3.21

Note. Bs represent unstandardized mixed model regression estimates.

[†]p < .10. *p < .05. **p < .01. ***p < .001.

their partners as less understanding is likely because their partners actually are less accurate in gauging the intensity of their feelings.

Are partners of those who are more depressed aware of their relatively poor empathic accuracy? As shown in Table 5 (Model 1), there was no partner effect of depressive symptoms on self-reported understanding of one's partner. That is, partners of participants with more depressive symptoms were no less likely to report understanding participants' thoughts and feelings than were partners of participants with fewer depressive symptoms. Overall, these findings indicate that while people who are more depressed are picking up on their partners' lack of empathic accuracy, the partners themselves are relatively unaware of their inaccuracies.

Depressive symptoms and postconflict satisfaction

To test our final aim, we assessed whether lack of perceived understanding helped explain the link between depressive symptoms and postconflict relationship satisfaction. As shown in Table 5 (Model 1), people who were experiencing more depressive symptoms reported being less satisfied postconflict relative to people who were less depressed. There was no effect of partner depressive symptoms on postconflict relationship satisfaction. When postconflict satisfaction was regressed onto actor and partner depressive symptoms and perceived understanding (Table 5, Model 3), actor perceived understanding significantly predicted postconflict satisfaction and the effect of actor depressive symptoms on postconflict satisfaction remained significant but dropped in size. Bootstrapping analyses provided evidence for a significant indirect effect, 95% CI [-.01, -.004], and the completely standardized effect size was -.06. Importantly, this effect remained significant when controlling for baseline satisfaction, 95% CI [-.02, -.002]. Thus, people who were experiencing more depressive symptoms were less satisfied after having a conversation with their partner about a source of conflict in their relationship relative to those who were less depressed, and perceiving one's partner as less

understanding during the conversation helped explain this link.

The indirect effect for perceived understanding by one's partner remained significant when self-reported understanding of one's partner was included as an additional mediator, effect size_{cs} = -.06, 95% CI [-.01, -.003]. Actor depressive symptoms did not predict self-reported understanding of one's partner, as shown in Table 5 (Model 1), replicating what we found in Studies 1 and 2. The indirect effect for perceived understanding also remained significant when controlling for perceived partner hostility, effect size_{cs} = -.05, 95% CI [-.01, -.002]. Perceived partner hostility also significantly predicted post-conflict satisfaction, $B = -.24$, $t(110) = 3.50$ $p < .001$, and the indirect effect of perceived hostility was significant, effect size_{cs} = -.08, 95% CI [-.01, -.003], providing further evidence that these are two unique mechanisms underlying the link between depressive symptoms and relationship quality.

Results

This final study extends our previous two studies by examining the dyadic effects of depression within the context of a conflict conversation. We found that people who had more depressive symptoms felt less understood by their partners during a conversation about a source of conflict in their relationship, and this was due in part to the fact that their partners actually were less empathically accurate during the conversation. Moreover, this lack of perceived understanding by one's partner helped explain why people who were experiencing more depressive symptoms were less satisfied with their relationships after the conflict conversation.

General Discussion

Substantial evidence indicates that people who have more depressive symptoms or are in a more depressed mood experience poorer quality relationships (Whisman, 2001). The current investigation joins a growing body of research seeking to illuminate specific

relational processes influenced by depressive symptoms. We focused on the link between depressive symptoms and perceived understanding of one's partner, investigating whether people who suffer from depressive symptoms perceive their partners as less able to understand their thoughts and feelings, an important aspect of high-quality relationships (Long, 1993b). Supporting this hypothesis, three studies using multiple methods showed that people who had more depressive symptoms or were in a more depressed mood felt less understood by their partners. This effect held when controlling for partner depressive symptoms, suggesting that the association between depressive symptoms and perceived understanding by one's partner was unique to people's own depressive experience, and not due to their partners being unable to understand them because they themselves were more depressed.

A second aim of the current research was to explore why people who are more depressed feel less understood by their partners, focusing on whether partners of more depressed individuals actually are less empathically accurate. In Study 3 we found that partners of the more depressed were less accurate in predicting the intensity of their partners' positive and negative feelings during a conflict conversation. This inaccuracy helped explain why people who were had more depressive symptoms felt less understood by their partners. Interestingly, although partners of people who were more depressed actually were more inaccurate, they did not perceive themselves as less able to understand their partners' thoughts and feelings. Thus, there may be a gap between self-reported and actual understanding for partners of people with depressive symptoms.

The third aim of the current research was to test whether a lack of perceived understanding by one's partner helped explain the association between depressive symptoms and poor relationship quality. Across all three studies, there was a significant indirect effect of depressive symptoms on relationship satisfaction and conflict through perceived understanding. That is, people who had more depressive symptoms (Studies 1 and 3) or

were in a more depressed mood (Study 2) felt less understood by their partners and, in turn, were less satisfied and experienced more conflict. These indirect effects were typically small to moderate in size and did not fully explain the link between depressive symptoms and relationship quality. This is unsurprising, given that depressive symptoms are likely to influence relationship quality through a variety of different mechanisms. However, to rule out some likely alternative explanations, we examined whether perceived understanding by one's partner was a significant mechanism even when accounting for self-reported understanding of one's partner and perceived partner hostility. We consistently found that perceptions of a partner's understanding helped explain why people who were more depressed experienced poorer quality relationships above and beyond self-reported understanding and perceived partner hostility.

Our findings also have implications for research on perceived understanding versus actual empathic accuracy. Pollmann and Finkenauer (2009) found that self-reported understanding of a relationship partner is more important for relationship quality than actual knowledge about one's partner. In the current research, we found that people who had more depressive symptoms felt less understood in part because their partners actually were less empathically accurate, despite the fact that their partners did not perceive themselves that way. Thus, when considering situations in which someone is suffering from depressive symptoms, actual knowledge about that person's feelings seems to play an important role beyond one's own self-reported understanding. Given this apparent contradiction, it would be interesting to pursue research that examined when, and for whom, understanding versus knowledge is more beneficial.

Limitations and Future Directions

Across studies we found that perceived understanding by one's partner helped explain the association between depressive symptoms and relationship quality both when considering between-person differences in

depressive symptoms and within-person fluctuations in depressive mood. These findings suggest that even milder forms of depression, such as feeling a bit more depressed and sad than usual, can influence the extent to which people feel understood by their partners. However, the majority of our samples in Studies 1 and 3 were experiencing little to no depressive symptoms. In Study 1, results held when we restricted our sample to those participants with depressive symptoms. Still, we cannot be certain that our findings would extend to individuals suffering from more severe depressive symptoms or even clinical depression. Future research is certainly needed to directly test the generalizability of our effects.

All three of the present studies employed correlational methodology, preventing us from making definitive conclusions about the causal direction of the associations among our variables. Although our primary goal was to understand whether depressive symptoms negatively predict perceived understanding by one's partner, it is likely that the reverse is true as well. People who do not feel understood by their partners are likely to feel isolated and possibly become more depressed over time. In addition, it is likely that relationship quality influences perceptions of understanding. For example, although not feeling understood by a partner is likely to promote conflict in relationships because conflict occurs when partners have differing views, heightened conflict might also exacerbate feelings of not being understood. Indeed, conflict significantly mediated the link between depressive symptoms/mood and perceived understanding in Studies 1 and 2. Although theory and prior research suggest there are bidirectional associations between these variables, research directly assessing the causal role of perceived understanding in explaining the association between depressive symptoms and relationship quality is clearly needed. Further, although Study 2 used a short-term repeated measures design and Study 3 controlled for baseline relationship satisfaction—thus providing some evidence for the hypothesized directional associations among depressive symptoms, perceived understanding, and relationship

quality—there are limitations to assessing mediation when the predictor, mediator, and outcome are measured in close proximity to each other (Maxwell & Cole, 2007).

Another limitation of the current research is our assessment of only one partner in Studies 1 and 2. Assessing both partners in Study 3 allowed us to assess empathic accuracy and to rule out the possibility that effects were driven by the partners' depression. Still, it will be important for future research to assess whether our dyadic results extend to experiences of perceived and actual understanding in other contexts besides a conflict conversation in the lab, such as understanding in everyday life. In addition, it is important to note that Studies 2 and 3 used single-item measures to assess understanding and relationship quality. This method may have introduced measurement error into our studies and impacted the ability to generalize our findings.

Finally, some prior work has found that gender influences the role of depression in close relationships (e.g., Fincham, Beach, Harold, & Osborne, 1997; Gadassi et al., 2011; Papp et al., 2010), but given the small number of males in Studies 1 and 2, we were unable to adequately explore gender differences in the present studies. There is little research examining depression and perceived understanding in close relationships, and work is clearly needed to understand the role of gender, if any, in these processes.

Concluding Comments

Depressive symptoms can have detrimental effects on people's close relationships. People who are experiencing more depressive symptoms experience poorer quality relationships in the moment and over time. Our research suggests that people who are experiencing more depressive symptoms also perceive that their partners are less able to understand their thoughts and feelings, and this may be one reason why they experience poorer relationship quality. Moreover, their feelings of being less understood are not simply the manifestation of a negative bias on their part—their partners actually are less able to take their perspectives relative to partners of people who

are less depressed. These findings shed light on another downside of depression—when one's partner is depressed, it can be more difficult to walk in his or her shoes.

References

- Algoe, S. B., Gable, S. L., & Maisel, N. C. (2010). It's the little things: Everyday gratitude as a booster shot for romantic relationships. *Personal Relationships, 17*, 217–233. doi:10.1111/j.1475-6811.2010.01273.x
- Alloy, L. B., & Abramson, L. Y. (1979). Judgments of contingency in depressed and nondepressed students: Sadder but wiser? *Journal of Experimental Psychology, General, 108*, 441–485. doi:10.1037/0096-3445.108.4.441
- Beach, S. R. H., Fincham, F. D., & Katz, J. (1998). Marital therapy in the treatment of depression: Toward a third generation of therapy and research. *Clinical Psychology Review, 18*, 635–661. doi:10.1016/S0272-7358(98)00023-3
- Beck, A. T. (1963). Thinking and depression: I. Idiosyncratic content and cognitive distortions. *Archives of General Psychiatry, 9*, 324–333.
- Burns, D. D., Sayers, S. L., & Moras, K. (1994). Intimate relationships and depression: Is there a casual connection? *Journal of Consulting and Clinical Psychology, 62*, 1033–1043. doi:10.1037/0022-006X.62.5.1033
- Coyne, J. C. (1976). Depression and the response of others. *Journal of Abnormal Psychology, 85*, 186–193. doi:10.1037/0021-843X.85.2.186
- Cramer, D., & Jowett, S. (2010). Perceived empathy, accurate empathy and relationship satisfaction in heterosexual couples. *Journal of Social and Personal Relationships, 27*, 327–349. doi:10.1177/0265407509348384
- Davila, J., Bradbury, T. N., Cohan, C. L., & Tochluk, S. (1997). Marital functioning and depressive symptoms: Evidence for a stress generation model. *Journal of Personality and Social Psychology, 73*, 849–861.
- Davila, J., Karney, B. R., Hall, T. W., & Bradbury, T. N. (2003). Depressive symptoms and marital satisfaction: Within-subject associations and the moderating effects of gender and neuroticism. *Journal of Family Psychology, 17*, 557–570. doi:10.1037/0893-3200.17.4.557
- Dehle, C., & Weiss, R. L. (1998). Sex differences in prospective associations between marital quality and depressed mood. *Journal of Marriage & the Family, 60*, 1002–1011. doi:10.2307/353641
- De La Ronde, C., & Swann, W. B. (1998). Partner verification: Restoring shattered images of our intimates. *Journal of Personality and Social Psychology, 75*, 374–382.
- Du Rocher Schudlich, T. D., Papp, L. M., & Cummings, E. M. (2004). Relations of husbands' and wives' dysphoria to marital conflict resolution strategies. *Journal of Family Psychology, 18*, 171–183. doi:10.1037/0893-3200.18.1.171
- Fincham, F. D., Beach, S. R. H., Harold, G. T., & Osborne, L. N. (1997). Marital satisfaction and depression: Different causal relationships for men and women? *Psychological Science, 8*, 351–357. doi:10.1111/j.1467-9280.1997.tb00424.x
- 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
- Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the couples satisfaction index. *Journal of Family Psychology, 21*, 572–583. doi:10.1037/0893-3200.21.4.572
- Gable, S. L., & Poore, J. (2008). Which thoughts count? Algorithms for evaluating satisfaction in relationships. *Psychological Science, 19*, 1030–1036. doi:10.1111/j.1467-9280.2008.02195.x
- Gable, S. L., Reis, H. T., & Downey, G. (2003). He said, she said: A quasi-signal detection analysis of daily interactions between close relationship partners. *Psychological Science, 14*, 100–105. doi:10.1111/1467-9280.t01-1-01426
- Gadassi, R., Mor, N., & Rafeali, 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
- Gagné, F., & Lydon, J. (2004). Bias and accuracy in close relationships: An integrative review. *Personality and Social Psychology Review, 8*, 322–338. doi:10.1207/s15327957pspr0804_1
- Gara, M. A., Woolfolk, R. L., Cohen, B. D., Goldston, R. B., Allen, L. A., & Novalany, J. (1993). Perception of self and other in major depression. *Journal of Abnormal Psychology, 102*, 93–100. doi:10.1037/0021-843X.102.1.93
- Goebert, D., Thompson, D., Takeshita, J., Beach, C., Bryson, P., Ephgrave, K., & Tate, J. (2009). Depressive symptoms in medical students and residents: A multischool study. *Academic Medicine, 84*, 236–41. doi:10.1097/ACM.0b013e31819391bb
- Gordon, A. M., Impett, E. A., Kogan, A., Oveis, C., & Keltner, D. (2012). To have and to hold: Gratitude promotes relationship maintenance in intimate bonds. *Journal of Personality and Social Psychology, 103*, 257–274. doi:http://dx.doi.org/10.1037/a0028723
- Gotlib, I. H. (1982). Self-reinforcement and depression in interpersonal interaction: The role of performance level. *Journal of Abnormal Psychology, 91*, 3–13. doi:10.1037/0021-843X.91.1.3
- Gotlib, I. H., & Whiffen, V. E. (1989). Depression and marital functioning: An examination of specificity and gender differences. *Journal of Abnormal Psychology, 98*, 23–30. doi:10.1037/0021-843X.98.1.23
- Horesh, N., & Apter, A. (2006). Self-disclosure, depression, anxiety, and suicidal behavior in adolescent psychiatric inpatients. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 27*, 66–71. doi:10.1027/0227-5910.27.2.66

- Hutcherson, S. T., & Epkins, C. C. (2009). Differentiating parent and peer-related interpersonal correlates of depressive symptoms and social anxiety in preadolescent girls. *Journal of Social and Personal Relationships*, *26*, 875–897. doi:10.1177/0265407509345654
- Kapçı, E. G., & Cramer, D. (1998). The accuracy of dysphoric and nondepressed groups' predictions of life events. *Journal of Psychology: Interdisciplinary and Applied*, *132*, 659–670. doi:10.1080/00223989809599297
- Keller, P. A., Lipkus, I. M., & Rimer, B. K. (2002). Depressive realism and health risk accuracy: The negative consequences of positive mood. *Journal of Consumer Research*, *29*, 57–69. doi:10.1086/339921
- Kenny, D. A. (2012, April). Effect size of the indirect effect. *Mediation*. Retrieved from <http://davidakenny.net/cm/mediate.htm>
- 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. doi:10.1037/0022-3514.80.3.439
- Kenny, D. A., & Albright, L. (1987). Accuracy in interpersonal perception: A social relations analysis. *Psychological Bulletin*, *102*, 390–402. doi:10.1037/0033-2909.102.3.390
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York, NY: Guilford.
- Long, E. C. J. (1993a). Maintaining a stable marriage: Perspective taking as a predictor of a propensity to divorce. *Journal of Divorce & Remarriage*, *21*, 121–138. doi:10.1300/J087v21n01_07
- Long, E. C. J. (1993b). Perspective-taking differences between high- and low-adjustment marriages: Implications for those in intervention. *American Journal of Family Therapy*, *21*, 248–259. doi:10.1080/01926189308250923
- Long, E. C. J., & Andrews, D. W. (1990). Perspective taking as a predictor of marital adjustment. *Journal of Personality and Social Psychology*, *59*, 126–131. doi:10.1037/0022-3514.59.1.126
- Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, *12*, 23–44.
- Meeks, B. S., Hendrick, S. S., & Hendrick, C. (1998). Communication, love and relationship satisfaction. *Journal of Social and Personal Relationships*, *15*, 755–773. doi:10.1177/0265407598156003
- Page, J. R., Stevens, H. B., & Galvin, S. L. (1996). Relationships between depression, self-esteem, and self-silencing behavior. *Journal of Social and Clinical Psychology*, *15*, 381–396.
- Papp, L. M., Goeke-Morey, M., & Cummings, E. M. (2007). Linkages between spouses' psychological distress and marital conflict in the home. *Journal of Family Psychology*, *21*, 533–537. doi:10.1037/0893-3200.21.3.533
- 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
- Pollmann, M. M. H., & Finkenauer, C. (2009). Investigating the role of two types of understanding in relationship well-being: Understanding is more important than knowledge. *Personality and Social Psychology Bulletin*, *35*, 1512–1527. doi:10.1177/0146167209342754
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879–891. doi:10.3758/BRM.40.3.879
- Preacher, K. J., & Kelley, K. (2011). Effect size measures for mediation models: Quantitative strategies for communicating indirect effects. *Psychological Methods*, *16*, 93–115. doi:10.1037/a0022658
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, *1*, 385–401. doi:10.1177/014662167700100306
- Raudenbush, S. W. (2004). What are value-added models estimating and what does this imply for statistical practice? *Journal of Educational and Behavioral Statistics*, *29*, 121–129. doi:10.3102/10769986029001121
- Rehman, U. S., Gollan, J., & Mortimer, A. R. (2008). The marital context of depression: Research, limitations, and new directions. *Clinical Psychology Review*, *28*, 179–198. doi:10.1016/j.cpr.2007.04.007
- Reis, H. T., & Gable, S. L. (2000). Event-sampling and other methods for studying everyday experience. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 190–222). New York, NY: Cambridge University Press.
- Russell, D. W. (1996). UCLA Loneliness Scale (version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, *66*, 20–40. doi:10.1207/s15327752jpa6601_2
- Schultz, N. R., & Moore, D. (1988). Loneliness: Differences across three age levels. *Journal of Social and Personal Relationships*, *5*, 275–284. doi:10.1177/0265407588053001
- Segrin, C., Powell, H. L., Givertz, M., & Brackin, A. (2003). Symptoms of depression, relational quality, and loneliness in dating relationships. *Personal Relationships*, *10*, 25–36. doi:10.1111/1475-6811.00034
- Selig, J. P., & Preacher, K. J. (2008). Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [Computer software]. Available from <http://quantpsy.org/>
- Sillars, A. L., Pike, G. R., Jones, T. S., & Murphy, M. A. (1984). Communication and understanding in marriage. *Human Communication Research*, *10*, 317–350. doi:10.1111/j.1468-2958.1984.tb00022.x
- Swallow, S. R., & Kuiper, N. A. (1987). The effects of depression and cognitive vulnerability to depression on judgments of similarity between self and other. *Motivation and Emotion*, *11*, 157–167. doi:10.1007/BF00992341

- Swann, W. B., De La Ronde, C., & Hixon, J. G. (1994). Authenticity and positivity strivings in marriage and courtship. *Journal of Personality and Social Psychology*, *66*, 857–869. doi:10.1037/0022-3514.66.5.857
- Swann, W. B., & Pelham, B. (2002). Who wants out when the going gets good? Psychological investment and preference for self-verifying college roommates. *Self and Identity*, *1*, 219–233. doi:10.1080/152988602760124856
- Swann, W. B., Wenzlaff, R. M., Krull, D. S., & Pelham, B. W. (1992). Allure of negative feedback: Self-verification strivings among depressed persons. *Journal of Abnormal Psychology*, *101*, 293–306. doi:10.1037/0021-843X.101.2.293
- Tabachnik, N., Crocker, J., & Alloy, L. B. (1983). Depression, social comparison, and the false-consensus effect. *Journal of Personality and Social Psychology*, *45*, 688–699. doi:10.1037/0022-3514.45.3.688
- Whisman, M. A. (2001). The association between depression and marital dissatisfaction. In S. R. H. Beach (Ed.), *Marital and family processes in depression: A scientific foundation for clinical practice* (pp. 3–24). Washington, DC: American Psychological Association. doi:10.1037/10350-001
- Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. *Organizational Research Methods*, *12*, 695–719. doi:10.1177/1094428108327450