

The virtue of problem-solving: Perceived partner virtues as predictors of problem-solving efficacy

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Abstract

Three studies involving dating relationships and friendships tested the hypothesis that higher perceived partner virtues (or personal strengths enacted in the context of relationships) are related to greater relationship problem-solving efficacy. Studies 1 and 2 showed that higher perceived partner virtues were related to more relationship problem-solving efficacy concurrently and longitudinally. Study 3 showed that perceiving one's partner as more virtuous predicted increased turning toward one's partner for assistance, which, in turn, predicted increased problem-solving efficacy. All 3 studies showed that higher perceived partner virtues were related to greater relationship problem-solving efficacy.

All relationships have problems at some point. In marital research, it is widely accepted that the difference between couples who terminate their relationship and couples who stay together is not whether they experience problems, but rather how they deal with those problems (e.g., Fincham, 2003; Gottman, 1994). Not surprisingly, numerous studies show that problem-solving ability is an important predictor of relationship satisfaction (e.g., Hunler & Gencoz, 2005; Johnson et al., 2005). A 2-year communication intervention study found that relationship quality improved when wives increased their positive problem-solving behaviors and

husbands decreased their negative problem-solving behaviors (Bodenmann, Bradbury, & Pihet, 2009). Similarly, the ability to work with one's partner to constructively solve problems before marriage positively affects later marital stability (Clements, Stanley, & Markman, 2004). Despite the importance of relationship problem-solving skills, little is known about the factors that lead some couples to be good problem solvers, while others are not.

Carroll, Badger, and Yang (2006) proposed a developmental model of competence within close relationships, which was originally applied to marital relationships. In that model, they suggested that competence comprises three domains: (a) communication, (b) virtue, and (c) identity. Communication refers to the couple's ability to negotiate and can be thought of as the skills component of relationship competence. It encompasses processes such as empathetic communication, conflict resolution, and problem solving. Virtue refers to the ability to love others and involves the enactment of intrapersonal strengths such as forgiveness and sacrifice. The final domain, identity, has to do with personal security or the ability to love one's

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self. It encompasses individual characteristics such as self-worth, temperament, and attachment. Carroll and colleagues suggested that identity and virtue provide the base for communication. In other words, it is necessary for people to be secure in themselves and focused on others before they are able to engage in positive communication skills. They further proposed that close relationship competence is a capacity that develops over time through interactions in childhood and adolescence.

The link proposed earlier has been supported by work on the development of romantic relationships in adolescents and young adults. Findings from this research suggest that close friend relationships play an important role in the development of romantic relationships and relationship skills and share a number of important characteristics, such as reciprocity and affiliation (Connolly & Goldberg, 1999; Furman, 1999; Furman, Simon, Shaffer, & Bouchey, 2002; Scharf & Mayseless, 2001). Thus, this study seeks to expand Carroll and colleagues' (2006) model of competence to relationships that are at earlier developmental stages and examines the connection between perceived partner virtues and relationship problem-solving efficacy cross-sectionally and over time in both emerging adult dating couples and friend pairs. In addition, we examine the mechanism by which this process occurs. More specifically, we focus on perceived partner virtues (as opposed to the personal trait of having virtues) by applying attribution theory to hypothesize that perceiving one's partner as more virtuous will be related to enhanced problem-solving efficacy. We further predict that the relation between perceived partner virtues and problem-solving efficacy will be mediated by how much partners turn to each other for support. The current study focuses specifically on problem-solving efficacy because numerous studies show that it affects not only actual problem-solving behaviors but also the use of coping skills (Belzer, D'Zurilla, & Maydeu-Olivares, 2002; Karademas & Kalantzi-Azizi, 2004; Takaki et al., 2003) and mental health (Chan, 2002; Cheung & Sun, 2000; Wu, Tang, & Kwok, 2004).

Perceived partner virtues

Increasingly, the field of relationship research is moving away from focusing solely on what is lacking in relationships to a picture of relationship health that is more multidimensional (Fincham, Stanley, & Beach, 2007). This shift brings to the forefront new processes and variables for examination, as well as highlighting meaning and motivation for couples. The concept of perceived partner virtues fits into the larger frame of positive psychology, which shifts the attention of research from pathology to strengths (Seligman & Csikszentmihalyi, 2000).

What are relationship virtues? Fowers (2005) conceptualized virtues as "the form of excellence that allows an individual to pursue worthwhile ends in everyday activities" (p. 27). In the context of relationships, virtues refer to those personal strengths, such as forgiveness, loyalty, and fairness, that allow individuals to pursue positive relationship interactions and relational outcomes. Perceived partner virtues are the extent to which the partner is aware of the enactment of these personal strengths. Given that these virtues are enacted in a relational context, the perception of the partner is paramount.

The basis for the virtues framework constructed by Fowers (1998, 2000, 2001) rests on an Aristotelian notion of virtues, in which people achieve excellence in their ability to use their intellect rationally and to experience happiness. The virtues framework has recently been expanded. In these more recent clarifications, virtue is not seen as a simple internal state, but rather as something requiring action (Broadie, 1991). This idea is illustrated in research on mutual responsiveness in conflict-of-interest situations, in which partners must put their own needs and desires on hold to successfully navigate the situation (Murray & Holmes, 2009).

Perceived partner virtues are not simply positive illusions, although similarities exist between the two constructs. Positive illusions are "the widespread tendency to adopt an unrealistically positive view" of one's relationship (Fowers, Lyons, Montel, & Shaked, 2001, p. 96). Although a component

of perceiving one's partner as virtuous could indeed be considered an "unrealistically positive view," some aspect of this perception will reflect actual virtue. This conceptualization of perception jibes with past research, which suggests that illusions are only one facet of perception (Lemay, Clark, & Feeney, 2007; Murray, Holmes, & Griffin, 1996). Thus, perceived partner virtues encompass not only a person's unrealistic hopes that his or her partner will act generously or be other-centered (examples of perceived partner virtues) within the context of their relationship but also the partner's actual enactment of these virtues.

Fowers (2000) applied a virtues framework to relationship interactions and communication skills. He noted that when working with couples, partners could use the communication skills in session, but they often experienced difficulties enacting them at home. He suggested that communication skills, an essential part of good problem solving, were insufficient alone and required a certain amount of personal character, or virtue, to be enacted. Hence, perceived partner virtues may prove crucial in understanding how relationships flourish. What remains unclear, however, is whether perceived partner virtues facilitate problem solving and, if so, why that occurs.

How perceiving virtues in one's partner may facilitate problem-solving efficacy

Attribution theory offers hints regarding a possible link between perceived partner virtues and effective problem-solving behaviors. Attribution theory suggests that when people interact, they attribute the causes of other's behavior to themselves, other people, or the circumstances (Doherty, 1982). These attributions may be either positive or negative and have been shown to affect problem solving (Doherty, 1982). The considerable literature linking attributions to problem solving (see Fincham, 2001) suggests that when couples are problem solving, how problem-solving behaviors are viewed and what causes are assigned to those behaviors may just be as important as the behaviors themselves.

Making positive attributions and interpretations about a partner's behaviors and motives can be viewed as one enactment of perceived partner virtues. It may be that individuals who perceive their partner as being more virtuous make more positive attributions and are therefore more likely to perceive themselves and their partners as problem solving in constructive ways. This is similar to the idea of perceived partner responsiveness (Reis, Clark, & Holmes, 2004), which suggests that intimacy and closeness in relationships is fostered by the extent to which partners view each other as focusing on and responding supportively to their desires, needs, and values. Perceived partner virtues moves from the construct of responsiveness to encompass the enactment of more personal strengths, such as loyalty and understanding; however, they may act in much the same way. In other words, perceived partner virtues may serve to foster closeness in the relationship, and hence more constructive, problem-solving situations.

How perceiving virtues in one's partner may facilitate turning to one's partner

As previously noted, attribution theory states that people respond to others based on the causes they ascribe to the others' actions. In addition to being directly related to an increase in positive problem-solving efficacy for those who perceive their partners as being more virtuous, higher perceived partner virtues may be linked to a greater likelihood of turning to one's partner for help. For example, positive perceptions of attachment with one's partner were linked to higher levels of support behaviors (Cobb, Davila, & Bradbury, 2001). Similarly, in dating couples, people whose partners view them more positively are more likely to share intimately with their partner, than those whose partners do not (Swann, de la Ronde, & Hixon, 1994). Within the context of the developmental model of relational competence, we expect the domains of virtue and identity (attachment) to be linked and to provide the basis for more positive problem solving. Thus, we expect that participants who view their partners as more virtuous will be more likely to turn to them for support.

How turning to one's partner facilitates problem solving efficacy

As people feel more comfortable turning to their partner, they should be more comfortable in voicing their concerns about the relationship. This is supported by research on gratitude (Lambert, Fincham, & Graham, 2011), which showed that participants who expressed gratitude toward their partners (a possible indicator of turning to one's partner) were more comfortable discussing relationship concerns with their partners.

Furthermore, Sullivan, Pasch, Johnson, and Bradbury (2010) showed that initial levels of support, which can be an indicator of turning to one's partner, predicted lower subsequent levels of negative behavior during problem-solving discussions. Similarly, discomfort with closeness (or an inability to turn to one's partner) related to lower levels of social self-efficacy (Corcoran & Mallinckrodt, 2000). Therefore, we predict that participants who turn to their partner for support will subsequently exhibit higher levels of problem-solving efficacy.

Perceived virtues are more than just relationship satisfaction

A large body of literature exists on problem solving in intimate relationships (see Fincham & Beach, 2010). Couples who differ in satisfaction behave differently toward each other in problem-solving situations. Specifically, dissatisfied partners reliably reciprocate negative partner behavior compared to their nondistressed counterparts (see Weiss & Heyman, 1997). In light of such findings, it is important to demonstrate that relationship constructs do not function as proxies for relationship satisfaction and do more than capture variance in commonly used measures of satisfaction. In absence of such a requirement, perceived partner virtues may simply reflect relationship quality under a different name. As a result of such observations, Fincham, Beach, and Davila (2004) have argued for routine use of a test of "surplus conceptual value" in relationship research, whereby the association between two relationship variables is tested,

while controlling for relationship satisfaction. Therefore, the current studies included relationship satisfaction as a control variable to ensure that the predicted effects were due to perceived partner virtues and not simply a reflection of relationship satisfaction.

Overview of studies

The current investigation tested the hypothesis that higher perceived partner virtues would predict self-reported problem-solving efficacy concurrently and over time (Studies 1 and 2). We also predicted that the relationship between perceived partner virtue and problem solving would be mediated by how much the partners turn to each other for help in solving problems (Study 3). Standardized β s are reported in all study results.

Study 1

Study 1 provided an initial test of our hypothesis that perceived partner virtues correlate with better problem-solving efficacy. Consistent with the test of surplus conceptual value, we controlled for relationship satisfaction to determine whether perception of partner virtues goes beyond the effect of one's satisfaction with the relationship in predicting problem-solving skills. We also controlled for other potential confounding variables: participant gender, age, and relationship length. We predicted a positive relation between perception of partner virtues and problem-solving efficacy in romantic relationships and friendships above and beyond these factors.

Method

Participants and procedure

Participants were 179 undergraduates (117 female; median age = 21 years). Participants completed all measures and received course credit. Participants reported on either a close friend or romantic partner. There were no differences between the groups on any of the dependent variables. Thus, these groups were combined for all analyses.

Measures

Perceived partner virtues. Perceived partner virtues were measured using the 24-item measure of perceived virtues (Hawkins, Fowers, Carroll, & Yang, 2007). Subscales for this measure are other-centeredness, generosity, admiration, teamwork, shared vision, and loyalty/backbiting. To avoid any potential inflation of the relation between perceived partner virtues and problem-solving efficacy, the teamwork subscale was included as a separate covariate in all regressions. Items include "My partner makes personal sacrifices for the good of the relationship" and "My partner is forgiving of my mistakes." Participants rated their partners on a 7-point scale that ranged from 1 = *almost never* to 7 = *almost always*. The α for perceived virtues was .90.

Problem-solving efficacy. Problem-solving efficacy was measured using a four-item scale designed for the study. This measure was designed to assess the extent to which participants felt they were able to address issues in their relationships. Participants rated themselves on a 5-point that ranged from 1 = *not at all true* to 5 = *completely true*. Sample items included "I am able to identify problems in my relationship as they come up" and "I work well with my partner to solve problems as they come up" ($\alpha = .90$).

Perceived problem-solving efficacy of partner. Perceived problem-solving efficacy was measured using a four-item scale designed for the study. This measure was designed to assess the extent to which participants felt their partners were able to address issues in their relationships. Participants rated their partners on a 5-point scale that ranged from 1 = *not at all true* to 5 = *completely true*. Sample items included "My partner works well with me to solve problems in our relationship" ($\alpha = .91$). As with the previous measure, exploratory factor analysis was conducted. All items loaded onto a single factor, with all factor loadings above .78.

Relationship satisfaction. Funk and Rogge (2007) conducted an Item Response Theory

analysis to develop a four-item measure of relationship satisfaction with optimized psychometric properties. Sample items are "How rewarding is your relationship with your partner?" (answered on a 6-point scale that ranged from 1 = *not at all* to 6 = *extremely*) and "I have a warm and comfortable relationship with my partner" (answered on a 6-point scale that ranged from 1 = *not at all true* to 6 = *very true*). Their measure correlates .87 with the widely used Dyadic Adjustment Scale. In the current sample, α was .91.

Results and discussion

Before completing the regression analyses, bivariate correlations were computed for all variables of interest and control variables. Results are reported in Table 1.

As expected, higher perceived partner virtues predicted higher levels of own relationship problem-solving efficacy, $\beta = .57$, $t(138) = 8.08$, $p < .01$, and perceived partner relationship problem-solving efficacy, $\beta = .70$, $t(135) = 11.42$, $p < .01$. This relationship remained significant for both own and partner relationship problem-solving efficacy even after controlling for the effects of the teamwork subscale, participant gender, age, relationship length, and level of overall relationship satisfaction, $\beta = .30$, $t(133) = 2.21$, $p < .05$, and $\beta = .59$, $t(130) = 4.96$, $p < .01$, respectively.

Thus, Study 1 provided initial evidence that viewing one's partner as more virtuous is linked with having better relational problem-solving efficacy and viewing one's partner as having better relational problem-solving efficacy. One shortcoming of this study is that it used a cross-sectional design, which precludes inferences about how perceiving one's partner as having virtues may relate to problem solving over time. Study 2 addressed this limitation.

Study 2

Study 2 examined whether perceived partner virtues would predict changes in problem-solving efficacy across time, using a longitudinal design. We predicted a positive

Table 1. Study 1 bivariate correlations

Variables	1	2	3	4	5	6	7	8
1. Partner virtues	1							
2. Relationship problem solving	0.57**	1						
3. Partner relationship problem solving	0.69**	0.78**	1					
4. Teamwork subscale	0.78**	0.54**	0.56**	1				
5. Relationship satisfaction	0.66**	0.49**	0.51**	0.55**	1			
6. Relationship length	0.12	0.11	0.06	0.12	0.07	1		
7. Participant age	0.02	0.01	0.04	0.05	0.02	0.09	1	
8. Participant gender	0.16*	0.09	0.12	−0.02	0.04	0.11	−0.16*	1

Note. Gender was coded 0 = male, 1 = female.

* $p \leq .05$. ** $p \leq .01$.

relation between perception of partner virtues and problem-solving efficacy over time in romantic relationships and friendships, controlling for participant gender, age, relationship length, and relationship satisfaction.

Method

Participants and procedure

Participants were 114 undergraduates (95 female; median age = 20 years). Participants completed all measures twice, initially (Time 1) and again 3 weeks later (Time 2). Participants reported on either a close friend or romantic partner. Preliminary analyses revealed that all predictors by relationship type were nonsignificant. Hence, these groups were combined for all analyses.

Measures

Perceived partner virtues. Perceived partner virtues were measured using the same measure as in Study 1 (Hawkins et al., 2007; $\alpha = .91$).

Problem-solving efficacy. Problem-solving efficacy was measured using the four-item scale used in Study 1 ($\alpha = .83$).

Perceived problem-solving efficacy of partner. Perceived problem-solving efficacy was

measured using the four-item scale used in Study1 ($\alpha = .92$).

Relationship satisfaction. We again used the Funk and Rogge (2007) four-item measure of relationship satisfaction ($\alpha = .94$).

Results and discussion

Before conducting the path analyses, bivariate correlations were computed among all variables of interest and control variables. Results are reported in Table 2. As expected, higher perceived partner virtues at Time 1 predicted own relationship problem-solving efficacy at Time 2, as well as perceived partner problem-solving efficacy at Time 2, even when controlling for the effects of the teamwork subscale, Time 1 relationship problem-solving efficacy, Time 1 perceived partner problem-solving efficacy, gender, age, relationship length, and initial relationship satisfaction ($\beta = .29$, $p < .01$ and $\beta = .26$, $p < .01$, respectively). None of the control variables was significantly related to Time 2 own relationship problem-solving efficacy, except for Time 1 own problem-solving efficacy ($\beta = .29$, $p < .01$) and relationship length ($\beta = .17$, $p < .05$). Likewise, none of the control variables was significantly related to Time 2 perceived partner relationship problem-solving efficacy, except for Time 1 perceived partner

Table 2. Study 2 bivariate correlations

Variables	1	2	3	4	5	6	7	8	9	10
1. Partner virtues	1									
2. T1 relationship problem solving	0.56**	1								
3. T2 relationship problem solving	0.47**	0.48**	1							
4. T1 partner relationship problem solving	0.61**	0.71**	0.40**	1						
5. T2 partner relationship problem solving	0.52**	0.44**	0.65**	0.58**	1					
6. Teamwork subscale	0.74**	0.50**	0.32**	0.52**	0.37**	1				
7. Relationship satisfaction	0.74**	0.51**	0.39**	0.49**	0.39**	0.59**	1			
8. Relationship length	0.15	0.17	0.25**	0.13	0.25**	0.22*	0.23*	1		
9. Participant age	0.01	0.07	−0.01	0.19*	0.18	0.04	0.02	0.15	1	
10. Participant gender	0.11	−0.03	0.14	0.03	0.17	0.05	0.08	0.12	0.00	1

Note. Gender was coded 0 = male, 1 = female.
* $p \leq .05$. ** $p \leq .01$.

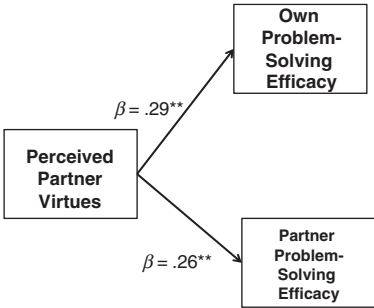


Figure 1. Time 1 perceived partner virtues predicts Time 2 own and partner problem-solving efficacy: Study 2.

Note. Control variables were included, but are not depicted. Perceived partner virtues were measured at Time 1. Own and partner problem-solving efficacy were measured at Time 2.

** $p < .01$.

problem-solving efficacy ($\beta = .41, p < .001$) and relationship length ($\beta = .18, p < .05$). Main findings are summarized in Figure 1.

Thus, Study 2 provided additional evidence that viewing one’s partner as more virtuous predicts changes over time in one’s own relational problem-solving efficacy, as well as changes in the perception of one’s partner’s relational problem-solving efficacy. However, both Studies 1 and 2 provide limited information on the process by which this occurs. Study 3 addresses this gap by examining the extent to which participants turning to their partners for support functions as a mediator of the relation between perceived partner virtues and problem solving.

Study 3

The previous studies provide a clear picture of the relation between perceived partner virtues and problem-solving efficacy, but they do not account for the mechanism by which this occurs. Study 3 tests the hypothesis that perceived partner virtues will predict problem-solving efficacy through how much partners seek out help and support from one another. The broader purpose of this study focused on friendship, which is why we only examined friendship relationships.

Method

Participants and procedure

The sample comprised 119 undergraduates (94 females; median age = 19) who reported on their relationship with their close friend (as defined by the participant). They received course credit for their participation. Participants completed all measures twice, initially (Time 1) and again 3 weeks later (Time 2).

Measures

Perceived partner virtues. Perceived partner virtues were again measured as in previous studies (Hawkins et al., 2007; $\alpha = .90$). Participants rated their partners on a 7-point scale that ranged from 1 = *almost never* to 7 = *almost always*.

Problem-solving efficacy. Problem-solving efficacy was measured using the four-item scale used in Studies 1 and 2 ($\alpha = .77$). Participants rated themselves on a 5-point that ranged from 1 = *not at all true* to 5 = *completely true*.

Perceived problem-solving efficacy of partner. Perceived problem-solving efficacy of partner was measured using the four-item scale used in Studies 1 and 2 ($\alpha = .77$). Participants rated themselves on a 5-point that ranged from 1 = *not at all true* to 5 = *completely true*.

Support seeking. Support seeking behavior was measured 4 weeks apart using a 16-item (e.g., “My friend is a person I can count on for advice”; “I make an effort to stay in contact with my study partner”) modified version of the Attachment Features and Functions Scale (Tancredy & Fraley, 2006; α s = .97 and .98 at Times 1 and 2, respectively).

Relationship satisfaction. Relationship satisfaction was assessed using the eight-item relationship satisfaction subscale from the Investment Model Scale (Rusbult, Martz, & Agnew, 1998) measure of relationship satisfaction with optimized psychometric properties. A sample item was “In general how satisfied are you with your relationship”

(answered on a 7-point scale ranging from *not at all* to *extremely*; higher scores indicate more satisfaction; Time 1, $\alpha = .76$; Time 2, $\alpha = .85$).

Results and discussion

Mediation analysis

Before completing the mediation analyses, bivariate correlations were computed among all variables of interest and control variables. Results are reported in Table 3. Preparatory to our mediation analysis, path analyses were conducted to compute direct effects.

To examine our mediation hypothesis, a path model was specified using Amos 7.0 (Arbuckle, 2006). Using Amos 7.0, we computed a confidence interval for the size of the indirect path between perceived partner virtues and perceived problem solving through support seeking. Computer-intensive resampling methods were used because they involve fewer assumptions and are more accurate than traditional tests of mediation (MacKinnon, Fairchild, & Fritz, 2007). Bootstrapping was used to gain more accurate confidence intervals for the analysis (Preacher & Hayes, 2008). Mediation pathways were tested for both the concurrent model (Figure 2) and longitudinal model (Figure 3) for own and partner problem-solving efficacy.

We tested first for mediation at Time 1 (concurrent model). Preliminary path analysis supported the expected direct relation between Time 1 perceived partner virtues and Time 1 own relationship problem-solving efficacy ($\beta = .73$, $p < .01$) and partner relationship problem-solving efficacy ($\beta = .74$, $p < .01$). The mediation model tested the impact of Time 1 perceived partner virtues on Time 1 own and partner relationship problem-solving efficacy through Time 1 support seeking, controlling for the teamwork subscale of the virtues profile, participant gender and age, relationship length, and relationship satisfaction. The indirect path through support seeking for concurrent perceived partner virtues and own problem-solving efficacy was statistically significant, 95% CI [0.12, 0.22]. Likewise, the indirect path through support seeking for concurrent perceived partner

Table 3. Study 3 bivariate correlations

Variables	1	2	3	4	5	6	7	8	9	10
1. Partner virtues	1									
2. T1 relationship problem solving	0.73**	1								
3. T2 relationship problem solving	0.65**	0.59**	1							
4. T1 partner relationship problem solving	0.75**	0.88**	0.40**	1						
5. T2 partner relationship problem solving	0.52**	0.42**	0.75**	0.40**	1					
6. Teamwork subscale	0.72**	0.54**	0.55**	0.58**	0.49**	1				
7. Relationship satisfaction	0.58**	0.47**	0.38**	0.46**	0.29**	0.41**	1			
8. Relationship length	-0.15	-0.01	-0.06	-0.06	-0.04	-0.07	-0.10	1		
9. Participant age	-0.02	0.01	0.00	0.01	0.02	0.05	-0.11	0.36**	1	
10. Participant gender	0.18	0.07	0.24**	0.10	0.23*	0.07	-0.02	-0.05	-0.15	1

Note. Gender was coded 0 = male, 1 = female.
* $p \leq .05$. ** $p \leq .01$.

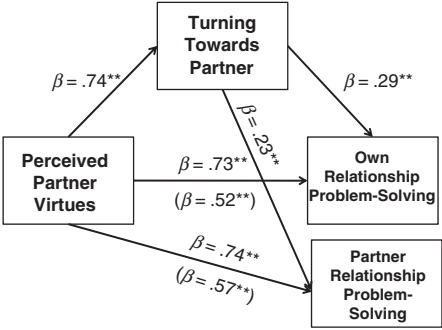


Figure 2. Turning to partner mediates the relation between perceived partner virtues and own and partner relationship problem-solving efficacy at Time 1: Study 3.

Note. Control variables were included, but are not depicted.

** $p < .01$.

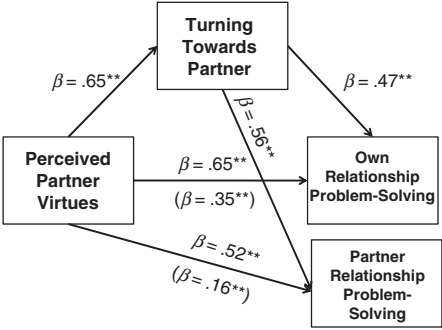


Figure 3. Turning to partner at Time 2 mediates the relation between perceived partner virtues at Time 1 and own and partner relationship problem-solving efficacy at Time 2: Study 3.

Note. Control variables were included, but are not depicted.

** $p < .01$.

virtues and perceived partner problem-solving efficacy was significant, 95% CI [0.17, 0.25]. Thus, support-seeking mediated the relation between concurrent perceived partner virtues and own problem-solving efficacy, even when controlling for the teamwork subscale of the virtues profile, initial levels problem solving, relationship satisfaction, age, and gender.

We then tested whether this mediation relationship held up over time. Preliminary path analysis supported the expected direct

relation between Time 1 perceived partner virtues and Time 2 own relationship problem-solving efficacy ($\beta = .65, p < .01$) and partner relationship problem-solving efficacy ($\beta = .52, p < .01$). The longitudinal mediation model tested the relation between Time 1 perceived partner virtues and Time 2 own relationship problem-solving efficacy through Time 2 support seeking, controlling for the teamwork subscale of the virtues profile, participant gender and age, relationship length, relationship satisfaction, and initial levels of relationship problem solving. Results indicated CI 95% [0.32, 0.40] for Time 2 own relationship problem-solving efficacy and CI 95% [0.26, 0.35] for Time 2 partner relationship problem-solving efficacy, controlling for the teamwork subscale of the virtues profile, initial levels of problem solving, relationship satisfaction, age, and gender. This indicates that support-seeking behaviors are related to later improved own and perceived partner problem-solving efficacy.

Testing an alternative model

Although our theoretical model focused on a specific direction of effects, we acknowledge that the variables included in this study likely have bidirectional effects and other models are plausible. For example, it could be that relationship problem-solving efficacy mediates the relation between partner virtues and support seeking or between perceived relationship problem-solving efficacy and support seeking. We tested the direct effects of these models through a stepwise regression analysis and found that Time 1 perceived partner virtues predicted Time 2 support seeking, $\beta = .61, t(114) = 9.66, p < .01$, and this relation remained, even when controlling for Time 1 support seeking, relationship satisfaction, and participant age and gender, $\beta = .20, t(110) = 2.14, p < .05$. However, it became nonsignificant when also controlling for the teamwork subscale of the virtues profile, $\beta = .03, t(109) = .24, p = .81$. Mediation was not tested due to the insignificance of the main effect. This lends support to the directionality suggested by our original model.

General Discussion

Every relationship encounters problems and challenges that must be faced and worked through if the relationship is to continue. Yet the complex processes underlying these interactions have not been fully understood. We used a developmental model of relational competence as a framework, supported by attribution theory, to examine the relations between partner virtues, attachment features and functions, and problem solving in friendship pairs and dating couples. Our findings provide support for this model by showing that for friendship pairs and dating couples, higher perceived partner virtues predicted more positive problem-solving efficacy through the mechanism of attachment features and functions. This relation occurred both concurrently and across time. In the cross-sectional study, participants who viewed their partners as virtuous reported better positive problem-solving efficacy. Longitudinally, participants who viewed their partner as more virtuous initially viewed themselves and their partners as better problem solvers later.

Attribution theory suggests that interpersonal interactions are shaped by the interpretations each partner ascribes to the interaction and their partners' behaviors. The present results are consistent with the documented association between relationship-enhancing attributions (e.g., perceiving partner as having more relationship virtues) and positive problem-solving behaviors (Bradbury & Fincham, 1992) in that they show participants who ascribed more positive characteristics to their partner viewed themselves and their partners as more efficacious in solving their relationship problems.

Taking these perspectives in concert, people who perceive their partners as virtuous display more relational problem-solving efficacy and view their partners as better problem solvers. Three studies, using multiple measures, consistently supported this hypothesis. The first study showed that perceived partner virtues predicted concurrent problem-solving efficacy (as suggested by attribution theory), even when controlling for levels of relationship satisfaction. The second study showed

that this relation also held true across time and that perceived partner virtues predicted later problem-solving efficacy even when controlling for levels of relationship satisfaction and initial problem-solving efficacy. Study 3 showed that support-seeking behavior mediated the relation between perceived partner virtues and own and partner problem-solving efficacy. Thus, people who experience their partners as being virtuous are more likely to turn to their partner for support, which in turn leads to better problem-solving efficacy.

This research has implications for couple intervention by moving practitioners from sole reliance on skills-based education to help partners identify virtues in one another and to turn to their partners for support and help when in problem-solving situations. This research also highlights the importance of this type of relationship education for people not presently in relationships as well as those in dating relationships. Further research will be needed in this area to determine the best method of assisting people in this work. In addition, this research provides further support for the importance of looking beyond negatives and what is missing in relationships to focus on positives in the relationship.

Limitations and future directions

The current research utilizes a variety of measures and methods in an attempt to fully address the topic investigated, but it is not without limitations. Future studies should be conducted with more diverse samples, over longer time periods, and with a better validated measure of problem solving to ensure the generalizability of the current findings. Also, it should be noted that positive problem-solving skills may not be beneficial for all couples. McNulty and Russell (2010) found that negative problem-solving behaviors (e.g., blaming and commanding) significantly decreased marital satisfaction over time when problems were minor. However, the opposite was true when initial problems were severe (e.g., substance abuse). In light of this finding, future research should be conducted to determine for whom perceiving their partner as more virtuous might not be

beneficial. Next, although it is assumed that perceived partner virtues reflect both subjective attribution and actual enactment of virtue, it was not possible to parse out the effects in the context of the current studies. Likewise, although it is likely that problem-solving efficacy is related to actual problem-solving behaviors, this cannot be determined in the current studies. Future research should examine these distinctions.

Conclusions

Our research supports a developmental model of relational competence, supported by an attribution theory perspective and points to the importance of the perception of virtues within one's partner in relationship problem-solving efficacy. People who view their partners as more virtuous display better problem-solving skills than those who do not. This relationship is displayed across time, as well. In addition, our data provide a starting point for understanding the mechanism through which partner's perceptions play out in problem-solving interactions: people who believe their partners to be virtuous turn to their partners more for help and support. Although there is potentially more to uncover about perceived partner virtues and their effects on problem-solving efficacy, our research provides a solid base for understanding this relationship.

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