
Perceived versus reported social referent approval and romantic relationship commitment and persistence

PAUL E. ETCHEVERRY,^a BENJAMIN LE,^b AND MAHNAZ R. CHARANIA^c
^a*Southern Illinois University Carbondale*; ^b*Haverford College*; ^c*University of Texas at Arlington*

Abstract

The current study examined social network influence processes on romantic relationship outcomes by obtaining the reported opinions of social referents as well as romantic relationship members' perceptions of social network members' opinions. Participants were 254 (151 women) college students from the United States involved in romantic relationships along with a male and female friend who all completed surveys regarding the participants' romantic relationship. This work demonstrated that perceived normative beliefs of social network members significantly mediated the effects of reported social network approval on relationship commitment. Participants' reports of relationship commitment were found to mediate the effect of subjective norms on relationship persistence. Along with network members' relationship approval, participants' satisfaction was found to predict participants' normative beliefs.

Romantic relationships exist as part of larger social networks of family, friends, and others (Sprecher, Felmlee, Orbuch, & Willetts, 2001). This larger social context can influence the characteristics and quality of dyadic relationships embedded within these networks. A range of studies find links between social networks and the nature of relationships within those networks (Bryant & Conger, 1999; Fischer, Sollie, Sorell, & Green, 1989; Kim & Stiff, 1991). For example, husband and wife contact with kin predicts cognition and behavior within marriage (Burger & Milardo, 1995), and in dating relationships, network overlap of

couples (i.e., mutual friends) predicts relationship stability (Milardo, 1982). These and similar findings suggest a need for more research to study the influence of social networks on romantic relationship processes.

One of the most commonly studied network characteristics is the degree of approval or disapproval of network members for a dyadic relationship (Sprecher et al., 2001). Prior research has operationalized network support for romantic relationships in several different ways, including participants' perceptions of approval from the entire social network (Cox, Wexler, Rusbult, & Gaines, 1997), from different categories of network members (i.e., friends, family members; Sprecher & Felmlee, 1992), or from specific individual social network members (e.g., Etcheverry & Agnew, 2004; Felmlee, 2001). Regardless of how researchers have operationalized network support, perceptions of approval or disapproval from social network members have consistently been associated with relationship quality and persistence (Sprecher et al., 2001).

Paul E. Etcheverry, Department of Psychology, Southern Illinois University Carbondale; Benjamin Le, Department of Psychology, Haverford College; Mahnaz R. Charania, Department of Psychology, University of Texas at Arlington.

Correspondence should be addressed to Paul E. Etcheverry, Southern Illinois University Carbondale, Department of Psychology, Life Sciences II, Room 281, Mail Code 6502, 1125 Lincoln Drive, Carbondale, IL 62901, e-mail: petch@siu.edu.

Theories of network approval or disapproval

Past research draws on several theoretical perspectives that point to the importance of network approval or disapproval as a key variable to explain why and how social network opinions influence romantic relationships (Sprecher & Feilmlee, 1992; Sprecher et al., 2001). Symbolic interactionist theory suggests that receiving network support and being labeled as a couple leads to a strengthening of that couple's dyadic identity (Lewis, 1975). Alternatively, uncertainty theory suggests that network approval for a relationship decreases relationship partners' uncertainty about their relationship, changing couple members' perceptions and behavior in the relationship (Berger, 1979).

Subjective norms and the prediction of romantic relationship behaviors

In recent research, Etcheverry and Agnew (2004) applied the theory of reasoned action (TRA; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) to understand social network influence on behavior in romantic relationships. The TRA provides a framework for predicting behavior with the assumption that the proximal determinant of a person's behavior is his or her intent to perform that behavior. The TRA theorizes that an individual's intention toward performing a behavior results from an additive combination of the attitude toward performing that behavior and social network support for performing that behavior. Since its introduction, researchers have applied the TRA to the prediction of behavior across a range of topics, including dental hygiene, education, contraceptive behavior, alcohol use, voting behavior, and many others (Sheppard, Hartwick, & Warshaw, 1988). The current study extends the social influence component of the TRA to the prediction of romantic relationship outcomes. Because past theorizing and research have explored intraindividual aspects of relationships that are comparable to the attitudinal component of TRA (e.g., satisfaction, closeness, intimacy; Berscheid & Reis, 1998; Fishbein & Ajzen, 1975), the current study focuses exclusively

on the social influence component of TRA, commonly referred to as *subjective norms*.

The subjective norms construct includes two distinct components: *normative beliefs* and *motivation to comply*. Normative beliefs provide a measure of the degree of approval or disapproval received from network members. For example, if a person in a romantic relationship perceives that a friend wishes her to maintain her relationship, this would be considered a positive, or approving, normative belief. If a member of a romantic relationship perceives the friend as believing the relationship should not be maintained, this would be a negative, or disapproving, normative belief. These normative beliefs are similar to the typical measures of network approval collected in past network research (Etcheverry & Agnew, 2004; Sprecher et al., 2001). The TRA defines the motivation to comply component of subjective norms as a tendency to yield to the perceived opinions of a particular social referent (Ajzen & Fishbein, 1980). The typical method of creating the subjective norm component is to multiply the normative beliefs measure by motivation to comply with the source of these beliefs and then average the subjective norm measures across all social network members measured to create an overall measure of subjective norms (Fishbein & Ajzen, 1975). This overall subjective norm construct predicts behavioral intentions across many domains (Ajzen & Fishbein, 1980), but it is typically absent from previous research on social networks and romantic relationships (cf. Etcheverry & Agnew, 2004).

Etcheverry and Agnew (2004) tested the TRA predictions regarding normative beliefs and motivation to comply in predicting relationship commitment and persistence. In this study, participants provided measures of normative beliefs perceived from, and motivation to comply with, up to seven social network members (parents, friends, siblings etc.). As with similar measures of network opinion (Sprecher et al., 2001), normative beliefs from each social network member predicted relationship commitment (Etcheverry & Agnew, 2004). Motivation to comply moderated the association between normative beliefs and commitment such that normative beliefs were

a stronger predictor of commitment when the participant was more motivated to comply with the source of those beliefs. These findings support the TRA's prediction that the influence of normative beliefs can best be understood when the motivation to comply with the source of those beliefs is considered along with the direction of the beliefs (Etcheverry & Agnew, 2004).

Predicting relationship commitment and persistence

The TRA proposes that the most proximal predictor of a behavior will be the intention to perform that behavior. In the context of theory and research on close relationships, commitment shares some similarities with the behavioral intention construct (Johnson, Caughlin, & Huston, 1999; Le & Agnew, 2003; Rusbult, 1983). The investment model defines relationship commitment as containing a long-term orientation toward the relationship, a psychological attachment to the relationship, and a behavioral intention to remain in the relationship (Rusbult, 1983). Given that it includes a behavioral intention component, a TRA perspective would predict that commitment should be a proximal predictor of behavior and mediate the impact of more distal factors, including subjective norms. To test this prediction within the context of romantic relationships, Etcheverry and Agnew (2004) created an overall subjective norm variable by averaging across all social network members listed (Fishbein & Ajzen, 1975). This averaged subjective norm variable predicted romantic relationship persistence. In addition, relationship commitment mediated the association between the overall subjective norms measure and relationship persistence, as we would expect if commitment serves as a behavioral intention.

Subjective norms and the prediction of commitment

The subjective norm construct fits well into already existing theories of relationship commitment. For example, Johnson's (1991) tripartite model of commitment theorizes that approval or disapproval from social network

members contributes to structural commitment to a romantic relationship. Etcheverry and Agnew (2004) also tested whether subjective norms predicted commitment over and above the predictors of commitment in the investment model: satisfaction with, alternatives to, and investments in a romantic relationship (Rusbult, 1983). In this study, subjective norms predicted commitment even when controlling for the other three investment model variables. Furthermore, in another study employing an investment model perspective, Cox and colleagues (1997) found that support from important friends and family predicted relationship commitment over and above the contributions of satisfaction, alternatives, and investments. These prior findings highlight the importance of subjective norms as a unique predictor of commitment, separate from previously theorized determinants of commitment.

Reported versus perceived opinions of social network members

Although past research (Etcheverry & Agnew, 2004) demonstrated that subjective norms significantly predict relationship commitment, this work did not include data from the social network members. Therefore, this prior research could not test whether perceived normative beliefs or social referents' reports of their approval or disapproval is more predictive of relationship commitment. The majority of research assessing network approval or disapproval relies on gathering self-reported perceptions from individuals in romantic relationships of the opinions held by social network members (e.g., Cox et al., 1997). These studies, therefore, are essentially testing perceived network opinions as opposed to actual network reports of approval or disapproval for a relationship. Fewer studies have collected data from a member of a romantic relationship as well as his or her social network members.

Those few studies that have collected information from social network members have added significantly to understanding social network knowledge and influence. Agnew, Loving, and Drigotas (2001) collected measures of commitment and inclusion of other in

the self (IOS; Aron, Aron, & Smollan, 1992) from heterosexual couples and perceptions of these variables from social network members. In their study, perceptions of commitment and IOS from friends of the female member of the romantic couple predicted breakup of the romantic relationship, over and above the couple's own perceptions. This study did not examine how social network perceptions contribute to the couple's own feelings of commitment and closeness.

Felmlee (2001) asked participants involved in romantic relationships to indicate how much support for their relationship they received from friends. Unlike in most studies, Felmlee also collected data from one close friend. Specifically, the close friend indicated the extent to which he or she approved or disapproved of the participant's romantic relationship. Results indicated that the friend's relationship approval predicted the participant's romantic relationship breakup, but the participant's perceptions of network approval mediated this association (Felmlee, 2001).

Although the Felmlee (2001) study was informative in understanding friend influence on relationship stability, several empirical questions remain. In this study, a specific close friend indicated his or her support for the participant's relationship, but the participants (i.e., those involved in the romantic relationship) provided their perceptions of the degree of global approval they received from all their friends. This method of data collection prevents examination of the degree to which participants' perceptions of their close friends' approval or disapproval of their relationships were accurate. It also does not allow for tests of what other factors contribute to specific normative beliefs.

Comparing reported versus perceived normative beliefs. Although Cox and colleagues (1997) and Etcheverry and Agnew (2004) demonstrated that subjective norms (or a similar construct) predicted commitment, even when controlling for satisfaction, alternatives, and investments, this research did not control for reported social network opinions. An important question to address, if we are to add subjective norms as a predictor of commit-

ment, is whether perceived social network approval and the social network member's own reports of relationship approval are both uniquely predictive of relationship commitment, or whether one variable is a nonsignificant predictor when controlling for the other. Based on the TRA (Fishbein & Ajzen, 1975), we predict that perceived approval, and not reported social network approval, is the most proximal predictor of commitment. The current study, by collecting data from participants involved in a romantic relationship and their friends, tests this important question regarding the prediction of commitment.

In addition, collecting data from participants and their friends allows for tests of both accuracy of, and the factors contributing to, normative beliefs. Presumably, perceptions of approval or disapproval are, in part, based on social network members' opinions regarding the relationship. Previous researchers have not tested this assumption.

Even if perceptions of network member opinions are based in reality, it is likely that romantic relationship members' perceptions of their networks may not be completely accurate. Determining what other factors contribute to normative beliefs, over and above friend opinions, would add to the overall understanding of social network influence. Inaccuracy in normative beliefs may actually represent a bias in the way in which members of romantic relationships perceive the approval or disapproval of others. Therefore, considering other research on bias within romantic relationships may lead to a better understanding of the factors contributing to normative beliefs.

Relationship illusions and normative beliefs. Researchers have identified a strong example of bias in romantic relationship perception labeled *relationship illusions*. These illusions occur when individuals view their romantic relationships and partners more positively than reality warrants. For example, people often view their own romantic relationship as of higher quality than friends' relationships (Martz et al., 1998), and people often hold their own relationships in a higher level of esteem than the reality of the relationships suggests they should (Murray & Holmes, 1997). Past

research has found evidence that participants' views of their own relationships are often more positive than those held by network members. For example, Agnew and colleagues (2001) report that participants' own ratings of their relationship quality (e.g., commitment, satisfaction) were significantly more positive than ratings of the same variables by friends of the participants. Applying this finding to normative beliefs, it seems likely that members of romantic relationships will perceive greater network approval for their relationships than actually exists.

Although this bias to view one's relationship positively is robust, research has found the degree of positive bias people display toward their partner is associated with their overall level of satisfaction with the relationship. In a study of married couples, Murray, Holmes, Dolderman, and Griffin (2000) found that highly satisfied spouses viewed their marriage partners more positively than their friends viewed those partners, but less satisfied spouses' perceptions were the same or even more negative than friends' reports. Murray and colleagues (2000) argued that satisfaction with the relationship acts as a motivational impetus to maintain a positive view of the relationship. If a wish to view one's own relationship positively influences participants' estimates of network support, then normative beliefs should be associated with relationship satisfaction, even after controlling for social referent opinions. Whether a person's perceptions of network approval are primarily unbiased and accurate or biased by factors like relationship illusions is an empirical question that requires data be collected from romantic relationship members and social network members.

The present research

Based on the TRA (Ajzen & Fishbein, 1980), we predict that commitment, as a behavioral intention, is the most proximal predictor of actual behavior (e.g., relationship persistence). Subjective norms, in turn, predict behavioral intentions or commitment to the relationship. To replicate a hypothesis Etcheverry and Agnew (2004) first tested, we offer the following prediction:

H1: *Commitment to a romantic relationship mediates the effect of subjective norms on relationship persistence.*

As previously noted, few studies of network influence actually collected data from social network members. One study that did collect data from network members found an association between reported social network opinions and relationship outcomes (Felmlee, 2001). Based on this finding and prior research examining normative beliefs and commitment (Etcheverry & Agnew 2004), we developed the following hypothesis:

H2: *Social network members' reported opinions about participants' romantic relationships predict participants' romantic relationship commitment.*

An important assumption of the TRA approach is that normative beliefs regarding a behavior, and not network opinions, are the most direct predictor of behavioral intentions. Based on the TRA prediction, normative beliefs should mediate the association of network opinions on relationship commitment. This suggests that some or all of the impact of social network opinions on participants' relationship commitment occurs due to the influence of network opinions on participants' normative beliefs. The following hypothesis tests this mediational prediction:

H3: *Participants' normative beliefs mediate the association between social network members' reported opinions about participants' romantic relationships and the participants' romantic relationship commitment.*

Normative beliefs, network opinions, and relationship illusions

We designed the above hypotheses to expand on prior research on social network influence and relationship commitment. The remaining hypotheses explore novel predictions regarding the association between normative beliefs and social network member opinions regarding

a romantic relationship. As discussed previously, researchers have found that participants often exhibit relationship illusions and commonly view their partners and their relationships as more positive than average (Murray, Holmes, & Griffin, 1996). Applying this concept of relationship illusions to the study of normative beliefs suggests that participants are likely to overestimate the degree of approval received from social network members. This overestimation of support can be seen as a positive relationship bias similar to viewing the relationship as a whole more positively than network members, leading to the following hypothesis:

H4: *Participants overestimate the degree of approval for their relationship provided by social network members.*

Murray and colleagues (2000) argued that satisfaction with the relationship motivates the maintenance of positive views of the relationship. If a wish to view one's own relationship positively influences participants' estimates of network support then normative beliefs should be associated with relationship satisfaction, even after controlling for reported network members' opinions. Therefore, we test the following hypothesis:

H5: *Participants' level of relationship satisfaction is positively associated with the participants' normative beliefs, even after controlling for social network members' reported approval or disapproval for the relationship.*

Method

We collected data in three distinct phases. First, each participant completed a questionnaire about his or her current romantic relationship and provided e-mail contacts for a female and male friend (i.e., social network members). Second, we contacted the female and male friends and asked them to complete a Web-based questionnaire about their perceptions of the participant's romantic relationship. Third, we contacted participants 7 months

later to determine if their romantic relationships had persisted or ended. We did not contact friends a second time. For clarity, we will refer to the original group who provided contact information for friends as "participants," whereas the male and female friends will be referred to as the "social referents" or "friends." We informed participants that we were interested in the attitudes that members of romantic relationships and their friends have regarding romantic relationships, and we informed the social referents that we were interested in their opinions about their friends' romantic relationships.

Participants

We recruited undergraduate students at a large state university in the Midwest of the United States as well as a small private liberal arts college on the East Coast of the United States through the introductory psychology pool or advertising posted around campus who participated for course credit or payment.¹ The large Midwestern university enrolled approximately 70% of its students from in state; its student body was 90% White and 42% female. The liberal arts college enrolled 19% of its students from in state, was 70% White, and 53% female. In total, 254 participants (151 women) involved in romantic relationships completed the questionnaire about their current relationship. The mean and median age of participants was 19 years ($SD = 2$) and 85% of the participants were White, 6% Asian, 3% Black, and 3% Latino. The mean relationship duration was 18 months ($SD = 15$, $Mdn = 14$), and

1. We compared key variables between the two separate samples and found some differences between the samples. Midwestern university participants indicated significantly higher levels of both commitment to and satisfaction with their current romantic relationship when compared to participants from the Eastern liberal arts college. Although we found no differences in normative beliefs across the two samples, the Midwestern university students indicated stronger motivation to comply with the social referents (both male and female) than the Eastern college students. More important, when we included a variable representing the sample (1 = Midwestern university, 2 = Eastern college) in the analyses both as a covariate and as a moderating variable, the pattern of results did not change.

94% of participants reported that their romantic relationships were exclusive.

As previously noted, we collected data from undergraduate students who volunteered to participate in the study. One reason we selected this sample was that a goal of the current research was to examine relationship persistence, and college students' dating relationships provide good opportunities to examine relationship persistence because of the high rate of breakup in these relationships. Studying college dating relationships allowed for a substantial number of relationships to terminate within the relatively short amount of time between the first data collection and the follow-up. It would have been difficult to collect these follow-up data within a reasonable time frame with an alternative sample. In addition, no clear sampling frame for dating relationships existed for probability sampling. Finally, because of the importance of close relationships to college-aged participants (Cantor, Acker, & Cook-Flannagan, 1992), and the fact that they are likely to discuss aspects of their close relationships with their friends (Parks & Adelman, 1983), undergraduate samples offer an excellent opportunity to study relationships and social networks within a sample for which these processes are very salient.

Social referents

We sent an e-mail to inform friends that participants had given the researchers permission to contact them to ask questions about the participant's romantic relationship and that their responses would not be shared with participants. Friends wishing to participate completed a Web-based questionnaire, including questions about the participant's romantic relationship.

Of the 331 friends for whom participants provided contact information, 119 friends (36%; 79 female friends and 40 male friends) provided data. Unfortunately, only 14 participants had data from both female and male friends, precluding analyses comparing female and male friend opinions within participants. For the female participants, 56 female and 23 male friends provided data. For the male participants, 23 female and 17 male friends provided data.

Participant measures

Relationship variables. Participants completed measures of satisfaction with and commitment to their current romantic relationship. We drew these measures from the Investment Model Scale (Rusbult, Martz, & Agnew, 1998), supplemented them with nine additional items for relationship commitment (Arriaga & Agnew, 2001), and both measures had acceptable reliabilities (satisfaction $\alpha = .92$, e.g., "I feel satisfied with our relationship"; commitment $\alpha = .94$, e.g., "I am committed to maintaining my relationship with my partner").

Normative beliefs. Participants completed four items assessing perceived normative beliefs for each network member they nominated (Etcheverry & Agnew, 2004). Participants responded to these questions using a 7-point scale from -3 to $+3$, indicating disapproval, no opinion, or approval from each respective network member (male friend $\alpha = .89$, female friend $\alpha = .95$; e.g., "My friend thinks that this [is not]/[is] a good current romantic relationship for me.").

Motivation to comply. Four items, drawn from past research, measured motivation to comply with social referents (Etcheverry & Agnew, 2004; e.g., "When making decisions about my romantic partners, I am likely to let my friend's opinion affect my actions"). Reliabilities were somewhat lower than previously found (male friend $\alpha = .55$, female friend $\alpha = .65$), but we retained all items so that measures were comparable to those used in previous research. This variable was measured on a 0–6 scale ranging from *do not agree at all* to *agree completely*, with higher numbers indicating a greater motivation to comply.

Social referent measures

Friends indicated their degree of approval or disapproval of the participant's romantic relationship using the same four normative belief items, rephrased from the friend's perspective. The measures both male and female friends completed were reliable (male friend $\alpha =$

.96, female friend $\alpha = .96$; e.g., “I think that this [is not]/[is] a good current romantic relationship for my friend”), and were scaled from -3 to $+3$.

Follow-up measure of relationship stability

Approximately 7 months after Time 1, we contacted participants via e-mail and asked to indicate whether they were still dating the same partner as described at the first session. One hundred twenty-six participants provided follow-up data (50%) and of those providing follow-up data, 38 (30%) had broken up. Comparisons of participants who did and did not provide follow-up data indicated no significant differences among variables assessed at Time 1.

Results

Means and correlations between participant and friend variables

Overall, participants reported being fairly satisfied and committed to their romantic relationship. We found no significant sex differences in satisfaction and commitment. Table 1 presents descriptives for and correlations between commitment, satisfaction, and female and male friend normative beliefs and motivation to comply as well as means and correlations for social referent approval or disapproval for participants' romantic relationships. With regard to the participants' normative beliefs, we found no sex differences in participants' mean level of normative beliefs for male and female friends, $F(1, 213) = .01, ns$. On average participants knew the male friends for 62 months ($SD = 65$) and female friends for 59 months ($SD = 64$).

Analytic strategy

The analyses reported below correspond to the specific hypotheses tested in the current study. Due to the nature of the hypotheses, each one uses a different subset of the overall sample and at times we averaged male and female social referent reported opinions together and other times we did analyses separately for each

social referent. Hypothesis 1 tested whether relationship commitment mediates the association between subjective norms and relationship persistence. This analysis only included those participants who provided follow-up data (50%) and, in order to maximize the sample size for this analysis, included all participants regardless of whether their respective social referents also provided data. Hypotheses 2 and 3 test predictions regarding reported social referent opinions and normative beliefs; therefore, these analyses only include those participants with at least one social referent providing data. It is a common practice for research on the TRA to aggregate across all relevant social referents to create overall measures. Therefore, the analyses for these two hypotheses average the scores across both social referents for those participants with both a male and female friend providing data. Hypotheses 4 and 5 are related to accuracy and direct comparisons between participants' normative beliefs and reported social referents, reports. For these hypotheses, we completed analyses separately for male and female friends in order to make sure that we could compare a participant's normative beliefs for the male social referent directly with the reported opinion of the male social referent and that we could compare accuracy of a participant's normative beliefs for the female social referent to the reported opinion of the female social referents. Although this analytic approach does not allow for comparisons between male and female friends, these comparisons are not central to the purpose of Hypotheses 4 and 5.

Testing Hypothesis 1: The mediational role of commitment in predicting stability

Hypothesis 1 predicted that relationship commitment mediates subjective norms' association with relationship persistence. For this analysis, we created the subjective norms component by multiplying normative beliefs for each friend by the motivation to comply with that friend (Ajzen & Fishbein, 1980). We then averaged the individual social referent subjective norm scores for both the male and female friends together to create a composite measure.

Table 1. Descriptives and correlations between study variables

Variables	1	2	3	4	5	6	7	8	9
1. Commitment	—								
2. Satisfaction	.74** (254)	—							
3. Female NB	.53** (231)	.54** (231)	—						
4. Female MTC	-.20** (231)	-.12† (231)	.12† (232)	—					
5. Male NB	.45** (230)	.57** (230)	.59** (215)	-.05 (215)	—				
6. Male MTC	-.17* (230)	-.07 (230)	.00 (215)	.37** (215)	.03 (231)	—			
7. Female friend opinion	.31** (80)	.34** (80)	.63** (78)	.06 (78)	.35** (71)	.04 (71)	—		
8. Male friend opinion	.25 (38)	.18 (38)	-.01 (34)	.02 (34)	.61** (35)	-.08 (35)	.27 (15)	—	
9. Relationship persistence	.32** (126)	.28** (126)	.27** (114)	.04 (114)	.16† (113)	.02 (113)	.25† (52)	-.13 (25)	—
<i>M</i>	6.49	6.54	2.16	3.75	2.19	3.35	1.82	2.02	0.70
<i>SD</i>	1.45	1.39	1.35	1.18	1.09	1.08	1.58	1.39	0.46
<i>n</i>	254	254	231	231	230	230	80	38	126

Note. NB = normative beliefs; MTC = motivation to comply. The numbers in parentheses indicate the sample size of each correlation directly above the parentheses. †*p* < .10. **p* < .05. ***p* < .01.

We included only those participants providing follow-up data in these analyses ($n = 126$). In order to test the mediational prediction (Baron & Kenny, 1986), the first analysis used subjective norms to predict relationship commitment and was significant, $F(1, 122) = 27.22$, $p < .01$; $R^2 = .17$; $\beta = .43$. Next, a logistic regression analysis showed that subjective norms were positively associated with remaining in the romantic relationship, $\chi^2(1, 122) = 3.91$, $p < .05$; logistic estimate = .22. As expected, commitment significantly predicted relationship persistence, $\chi^2(1, 122) = 9.10$, $p < .05$; logistic estimate = .35. Finally, we ran a logistic regression with subjective norms and relationship commitment predicting relationship persistence. The overall analysis was significant, $\chi^2(2, 122) = 9.15$, $p < .01$, with commitment positively associated with remaining in the romantic relationship at Time 2, $\chi^2(1, 122) = 6.23$, $p < .05$; logistic estimate = .31. With commitment in the model, the effect of subjective norms on relationship persistence was no longer significant, $\chi^2(1, 122) = 0.49$, $p = .48$; logistic estimate = .09. A Sobel test indicated significant mediation ($z = 2.18$, $p = .05$). This supports the TRA-inspired prediction that commitment (i.e., a behavioral intention) mediates the effect of subjective norms on relationship persistence (i.e., a behavior).

Testing Hypotheses 2 and 3: Friend beliefs, commitment, and participant normative beliefs

Hypothesis 2 predicted that social referents' reported opinions are positively associated with relationship commitment, and the corresponding analysis includes only data from participants with at least one referent providing data. This analysis shows that friends' reported opinion about the participants' relationship was significantly associated with participants' commitment, $F(1, 98) = 8.90$, $p < .01$; $\beta = .29$; $R^2 = .07$, and provides support for Hypothesis 2.

The next set of analyses tested Hypothesis 3 that participants' normative beliefs would mediate the association between the social referents' reported opinions and relationship commitment. These analyses followed Baron

and Kenny's (1986) approach to testing mediation. The first step in this test of mediation was to examine the association between friend's reported opinions and participant's normative beliefs in a simple regression. Friends' reports of their opinions regarding participants' romantic relationships were significantly positively associated with participants' normative beliefs, $F(1, 98) = 40.82$, $p < .01$; $\beta = .54$; $R^2 = .29$. In the next step, participants' normative beliefs predicted commitment, $F(1, 98) = 34.76$, $p < .01$; $\beta = .51$; $R^2 = .25$. To complete the test of mediation (Baron & Kenny, 1986), we included participants' normative beliefs and friends' reported opinions in a multiple regression predicting commitment. The overall regression was significant, $F(2, 97) = 17.22$, $p < .01$; $R^2 = .25$. Examination of the individual variables indicates that participants' normative beliefs remained a significant predictor of commitment, $t(97) = 4.85$, $p < .01$; $\beta = .50$. Friends' reported opinions were no longer significant predictors, $t(97) = 0.15$, $p = .88$; $\beta = .02$. We computed a Sobel test and the results indicated a significant level of mediation ($z = 3.83$, $p < .05$). These findings support Hypothesis 3 and the TRA-inspired prediction that normative beliefs mediate the effect of reported friend opinion on participants' behavioral intentions.

Testing Hypothesis 4: Participants' versus friends' opinions

Before testing Hypothesis 4, we computed intraclass correlations (ICC) to assess the degree of agreement between participants' perceptions of social referents' normative beliefs and social referents' reports of their opinions. The ICC for female social referents showed a significant amount of agreement between participants and female social referents ($ICC = .72$, $p < .01$). Likewise, the ICC for male social referents provided similar findings ($ICC = .69$, $p < .01$). Therefore, perceptions of normative beliefs were significantly associated with reported social referent opinions for both male and female friends.

Hypothesis 4 predicted that participants report perceiving more support for their

current relationships than their male or female friends actually report. A mixed analysis of variance compared participants' normative beliefs for female and male friends with social referents reports of their opinions, with participant sex included as a between-subject variable. These analyses included only those participants who had at least one social referent provide data. For female friends, we found a significant effect of the within-subject variable, $F(1, 76) = 4.77, p < .05$. As predicted, participants' normative beliefs for their female friends were significantly more positive than the opinions the female friends provided (see Table 2). The interaction term between the within-subject factor and participant sex was not significant, $F(1, 76) = 1.78, p = .19$. Similarly, participants' normative beliefs for their male friends were significantly more positive than the opinions the male friends provided, $F(1, 33) = 5.63, p < .05$, with participants perceiving more approval for the relationship than male friends actually provided (see Table 2). Again, the within-subject variable interaction with participant sex was not significant, $F(1, 33) = .11, p = .74$. For both male and female friends, participants' normative beliefs were significantly more positive than warranted based on friend reported opinions.

Testing Hypothesis 5: Relationship satisfaction and normative beliefs

As shown in the above analyses, friends' reports of their opinions showed a significant level of agreement with participants' normative beliefs about those friends. At the same time, the degree of correspondence between normative beliefs and opinions was not perfect. This allows for other factors to predict

participants' normative beliefs. Hypothesis 5 predicted that participants' satisfaction with their romantic relationship contributes to their perceptions of normative beliefs over and above friends' reported opinions.

To test this hypothesis, we computed two multiple regressions using participants' reported relationship satisfaction and friends' opinions to predict normative beliefs for those friends. Again, this analysis only included those participants with at least one friend providing data. The first multiple regression used romantic relationship satisfaction along with the female friend's reported opinion regarding the participant's relationship to predict participant's normative beliefs for that female friend. The overall analysis was significant, $F(2, 75) = 30.91, p < .01, R^2 = .44$; female friends' reports of their opinions, $t(75) = 6.10, p < .01, \beta = .55$, and romantic relationship satisfaction, $t(75) = 2.64, p < .05, \beta = .24$, were both significantly associated with participants' normative beliefs for their female friends.

We conducted a similar analysis using male friends' reported opinion and participants' romantic relationship satisfaction to predict normative beliefs for those male friends. Again, the overall analysis was significant, $F(2, 32) = 13.53, p < .01, R^2 = .42$; male friends' reports of their opinions, $t(32) = 4.25, p < .01, \beta = .56$, and romantic relationship satisfaction, $t(32) = 2.24, p < .05, \beta = .30$, were both significant predictors of participants' normative beliefs for their male friends. These two analyses provide strong support for Hypothesis 5 that participant relationship satisfaction will predict normative beliefs over and above reported friend opinions.

Table 2. Mean comparisons for normative beliefs and reported friend opinions computed separately for male and female friends

Social referents	Normative beliefs	Reported friend opinions
Female friends	2.28 _a (1.23)	1.82 _b (1.59)
Male friends	2.41 _a (0.72)	1.96 _b (1.14)

Note. Numbers in the same row with different subscripts are different at the $p < .05$ level. Standard deviations are in parentheses.

Discussion

Theorists and researchers of interpersonal relationships have challenged the field to more carefully consider the role that social network members have in influencing cognition and behavior within relationships (Berscheid, 1999; Milardo & Allan, 1997; Sprecher et al., 2001). The current research attempts to meet this challenge by drawing on the normative beliefs and subjective norm component of the TRA (Fishbein & Ajzen, 1975) to better understand social network influence. Based on the TRA, we hypothesized that subjective norms would predict relationship persistence, but we argued that this association would be mediated by relationship commitment. In addition, the TRA-inspired prediction was made that perceived normative beliefs from network members mediate the association between reported social network beliefs and relationship commitment.

Similar to prior work (Etcheverry & Agnew, 2004), we found that commitment mediated subjective norms' association with relationship persistence. These results suggest that the impact of subjective norms on remaining in a relationship is due to their influence on a person's intention to remain in or leave a romantic relationship. It is possible that other relationship behaviors influenced by network opinions are not mediated by commitment, but the current study and prior research (Etcheverry & Agnew, 2004) suggest a mediational role for commitment predicting relationship persistence that fits with the predictions of the investment model (Rusbult, 1983) and the TRA (Fishbein & Ajzen, 1975).

Using the data collected from social network members (i.e., a male and female friend), we were able to examine the process by which social referent opinions influence relationship commitment. The TRA makes the specific prediction that perceptions of approval from network members for performing a behavior, and not actual network approval, are the most proximal predictors of the intention to perform the behavior. The current research tested this prediction in the context of romantic relationships and commitment as an intention to persist, finding that participants' normative beliefs mediated the association between

reported network opinions and romantic relationship commitment.

Johnson (1991) theorized that social network approval or disapproval for a relationship contributes to structural commitment in the tripartite model of commitment. In addition, several studies (e.g., Cox et al., 1997; Etcheverry & Agnew, 2004) following an investment model (Rusbult, 1983) perspective have found subjective norms to predict relationship commitment over and above the contribution of satisfaction, alternatives, and investments. The current research expands on this prior work and the investment model by suggesting that it is perceived normative beliefs, and not reported social network opinions, that are the most proximal predictor of relationship commitment. This finding fits well with the hypothesis, developed based on TRA assumptions, regarding social referent influence on behavioral intentions. These results do not indicate that actual social network opinions are unimportant, but they suggest that the primary impact of social network opinions is on normative beliefs.

Predicting normative beliefs

We argue that reported network opinions are associated with relationship cognition and behavior through the perception of normative beliefs. This does not mean that normative beliefs are perfectly correspondent with reported network opinions. Therefore, we explored the possibility that other variables, besides reported referent opinions, are predictive of normative beliefs. Borrowing from research on relationship illusions, we expected participants to be motivated to view their relationship in a positive light (Murray et al., 2000). As predicted, participants were more positive regarding perceived support from friends than was warranted, and participants' relationship satisfaction predicted normative beliefs even when controlling for friends' opinions.

These results suggest that the factors influencing the formation of normative beliefs are twofold. There is the "reality" of social referents' opinions that are associated with normative beliefs. There is also a desire to view

support for a romantic relationship in line with preexisting perceptions of the relationship, like satisfaction with the relationship. Similar to work by Murray and colleagues (2000), positive illusions regarding romantic relationships appear to extend to perceptions of network support for the relationship.

In earlier studies on social network influence, researchers have commonly assumed that perceptions of social referent approval or disapproval (i.e., normative beliefs) influence relationship satisfaction (Sprecher et al., 2001), although not all previous researchers have taken this approach (Cox et al., 1997; Etcheverry & Agnew, 2004). The hypothesis currently tested, that satisfaction predicts normative beliefs, deviates somewhat from prior studies. Further consideration of the positive illusions literature provides insight into these differences. Murray and colleagues (2000) have argued that relationship satisfaction predicts positive illusions regarding a partner and the relationship. They have also suggested that positive illusions influence satisfaction with and persistence in romantic relationships (Murray & Holmes, 1997). A similar process may be operating with normative beliefs and satisfaction. More positive normative beliefs may lead to greater relationship satisfaction, but relationship satisfaction may be associated with positive illusions regarding normative beliefs as well. The cross-sectional, correlational nature of the current study does not allow us to discriminate clearly between these two mechanisms, and future work should continue to investigate these processes with this goal as a focus.

The finding that positive illusions may impact upon normative beliefs from network members has important implications for understanding prior research. Members of romantic relationships may develop perceptions of network approval or disapproval that, in part, support their preferred behavior within their relationships. It is unlikely that people develop entirely accurate normative beliefs and so measures of social network approval collected from relationship members likely have multiple determinants.

In sum, this research extends the literature in four distinct ways. First, this is the initial work to investigate the correspondence

between perceived approval or disapproval for a romantic relationship received from a friend (normative beliefs) and the level of approval or disapproval that friend reports. Second, this research highlights the importance of subjective perceptions of social network opinions rather than the objective reality of social referent approval, in understanding the social influence process on relationship commitment. Third, this work is the first to demonstrate that participants perceive more approval for their relationships than is warranted; suggesting perceptions of social network approval are not immune to relationship illusions impression management strategies (Murray et al., 2000). Fourth, this bias in perceptions was associated with relationship satisfaction, providing evidence that motivational factors contribute to perceptions of approval and disapproval received from others.

Limitations and future directions

Several limitations of the current research should be considered. First, we only collected social referent data from friends. The pattern of results may have differed if we had also collected data from parents or other relatives (e.g., siblings). For example, given that children may use strategic disclosure to influence their parents' thoughts about their romantic relationships (Leslie, Huston, & Johnson, 1986), the subsequent impact of parents' normative beliefs on the child's relationship commitment and persistence may be lessened. Also, all participants were young college students in the United States. It is possible that across different cultural contexts, normative beliefs and social network member opinions may have a stronger or weaker impact on commitment and persistence. In addition, the response rate for the social referents was low, especially for male referents. This limited overall power in certain analyses, and a larger sample of network members would enhance the ability to test further predictions. Similarly, given the modest response rate of social network members, we cannot rule out the possibility that a self-selection bias for these network members may have occurred. It may be the case that those friends who approve of

the relationship were more likely to participate in this study, which may have decreased variance and limited the predictive power of the reported friend opinions. Also, the reliabilities for the measures of motivation to comply were low, which may have attenuated the magnitude of the effects found in these data. A final limitation of this research is its correlational nature. We can not determine causal relationships due to this nonexperimental design.

The results and limitations of the current research suggest several areas for future study. For example, research that collects data from parents (or other network members) and employs experimental designs (e.g., manipulating perceived normative beliefs from social referents) would improve understanding of social influence processes. A particularly important direction for future research is whether normative beliefs and subjective norms are helpful for predicting relationship variables other than commitment and persistence, such as the use of relationship maintenance strategies and other relational behaviors such as willingness to sacrifice and accommodation (Rusbult, Drigotas, & Verette, 1994). In addition, extending this work to other types of relationships (e.g., marriages, distressed couples, same-sex couples) may provide insight into social influence processes because it is possible that network approval for these relationships may differ from opposite-sex dating relationships.

Future research examining the associations between normative beliefs and reported social network opinions may also prove to be fruitful. For example, other variables besides satisfaction may be associated with normative beliefs, such as an optimistic or agreeable personality, one's need for social approval, or attachment dimensions. In addition, various factors may be associated with more or less accuracy in normative beliefs, including style of interaction with a friend, disclosure to social network members, and time spent with network members. Furthermore, future work investigating the specific avenues by which normative beliefs are communicated to participants will provide insight into the social network influence process in romantic relationships.

Conclusions

Despite the limitations of the current work there are important practical, methodological, and theoretical implications of this research. While the literature on relationship persistence is growing (Fine & Harvey, 2006), the majority of this work has ignored the processes by which social networks are associated with relationship stability. Understanding the mechanisms by which networks can promote, or discourage, relationship persistence may prove to be useful in clinical applications, such that practitioners can help clients understand the means by which network members influence their relationships. In addition, while there is significant overlap between the perceptions of relationship participants and their friends, these sources of data systematically differ. Researchers should be aware that compared to reports collected from network members, dyadic members' responses may be overly positive. In addition, given that dyadic members' perceptions mediated the effect of social network members' approval on commitment, researchers may benefit from understanding that participants' perceptions are the likely mechanism by which network approval (or disapproval) is associated with relationship cognition and behavior. Finally, from a theoretical perspective, the current work highlights the importance of including social contexts in understanding relationship processes (Berscheid, 1999). Drawing on the literature describing basic social influence and attitudinal processes (e.g., Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), this research underscores the importance of aspects of the social environment in the prediction of relationship quality and behaviors.

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