

## **Linking Theoretical Explanations for the Use of Marital Maintenance: Equity, Uncertainty, Attachment, and Reciprocity**

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### **Abstract**

Research provides support for four theoretical explanations for relationship maintenance: equity, uncertainty, attachment, and reciprocity. This study focused on the relationships among these theoretical explanations, as well as whether the concepts might be combined to provide a single explanation for why an individual enacts maintenance behavior. Survey data were collected from 179 married individuals. Path-modeling techniques revealed that, counter to predictions, uncertainty did not mediate the relationship between equity and maintenance enactment. Further, there were significant correlations among variables associated with all four theories. A series of multiple regression equations indicated that the four theoretical concepts predicted between 16% and 68% of the variance in maintenance enactment. Among the four theoretical explanations, reciprocity was the strongest and most consistent predictor.

*Keywords:* Maintenance, Equity Theory, Relationship Uncertainty, Attachment, Reciprocity.

## **Vinculando las Explicaciones Teóricas de Mantenimiento Marital: Equidad, Incertidumbre, Apego y Reciprocidad**

### **Resumen:**

La investigación apoya cuatro explicaciones teóricas para el mantenimiento en las relaciones maritales: equidad, incertidumbre, apego y reciprocidad. Este estudio se enfoca en las relaciones entre estas teorías, así como en la posibilidad de que los conceptos puedan ser combinados para brindar una sola explicación del porqué un individuo realiza conductas de mantenimiento. Los datos se obtuvieron de 179 individuos casados. Las técnicas de Path-modeling revelaron que –en contra de las predicciones- la incertidumbre no juega un papel que mediatice entre equidad y mantenimiento. Además, se obtuvieron correlaciones significativas asociadas con las cuatro teorías. Asimismo se encontró por medio de ecuaciones de regresión múltiple que los cuatro conceptos teóricos predijeron entre el 16% y 68% de la varianza en el establecimiento del mantenimiento. De las cuatro teorías, la reciprocidad fue el predictor más fuerte y consistente.

*Palabras claves:* Mantenimiento, Teoría de la Equidad, Incertidumbre en la Relación, Apego, Reciprocidad.

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The study of relationship maintenance has moved from its infancy in the late 1980s to a sustained and significant area of interest for scholars of interpersonal relationships today. To date, several theoretical frameworks have been considered, including equity (e.g., Canary & Stafford, 1992, 1993, 2001) and relationship uncertainty (e.g., Dainton, 2003; Dainton & Aylor, 2001). In fact, in a direct comparison of these two theoretical approaches to maintenance, Dainton (2003) found that both uncertainty and equity predicted the use of maintenance, but uncertainty predicted a larger amount of the variance in maintenance enactment than did equity. She speculated that these two constructs might be conceptually linked, such that perceptions of inequity lead to feelings of uncertainty, which in turn affect maintenance use. The present study tests that speculation.

Two additional theoretical explanations are also considered. First, recent work has focused on the extent to which attachment theory predicts maintenance enactment (Author, in press; Guerrero & Bachman, 2006). Results indicate that attachment "plays a subtle yet important role" in maintenance (Guerrero & Bachman, 2006, p. 353). Second, associated with social exchange theory, the norm of reciprocity suggests that people are driven to match rewarding behavior, such as relationship maintenance (Gouldner, 1960). Indeed, previous research confirms that relationship maintenance strategies are reciprocated, such that an individual's perception of his or her partner's use of maintenance predicts that individual's own use of maintenance (Dainton & Stafford, 2000; Weigel & Ballard-Reisch, 1999a). Additional goals of this study, then, are to determine if there are any relationships among the four theoretical concepts, as well as to ascertain the extent to which some combination of the four theories might be a good fit for explaining the use of relationship maintenance behavior.

## **Relational Maintenance**

Of primary importance is the clarification of the dependent variable. There are several definitions of relational maintenance, some of which focus on maintenance as a particular relationship stage, and some of which focus on actions or activities used to keep a relationship in a specified state (Stafford, 1994). Communication scholars most often use the latter approach, with communication considered the mechanism by which relationship maintenance is achieved. Regarding the "specified state," scholars have alternatively considered such relational qualities as commitment, love, liking, and intimacy (Dindia & Canary, 1993). By far, however, the most frequent dependent variable is relationship satisfaction (Dindia, 2000). Accordingly, the present manuscript defines relational maintenance as efforts to sustain desired levels of relationship satisfaction.

Although numerous maintenance strategies have been proposed, according to Dindia (2000) no typology matches the heuristic influence of that developed by Stafford and colleagues (Stafford & Canary, 1991; Canary & Stafford, 1992; Stafford, Dainton, & Haas, 2000). Using two samples, one with open-ended data

and a second that used the open-ended responses for scale development, Stafford and Canary (1991) identified five maintenance behaviors. Stafford and colleagues (2000) later expanded the typology to seven behaviors by focusing on both routine and strategic maintenance activity, as follows.

First, *positivity* refers to being cheerful and upbeat around the partner. Second, *openness* includes self-disclosure, and the honest discussion of one's thoughts and feelings. *Assurances* are verbal and nonverbal messages that stress one's love and commitment. Fourth, *networks* involve spending time with common friends and affiliations. *Sharing tasks* is the fifth strategy; it involves performing instrumental activities including household chores. Next, *conflict management* involves integrative strategies such as cooperation and apologizing. Finally, *advice* refers to sharing one's opinions in support of the partner. Research has consistently found moderate to strong correlations between the use of these maintenance behaviors and relational satisfaction (e.g., Dainton, Stafford & Canary, 1994; Stafford & Canary, 1991; Stafford et al., 2000). Indeed, programmatic research reliably finds that the use of these maintenance behaviors predicts satisfaction (e.g., Canary & Stafford, 1992, 1993; Stafford & Canary, 1991; Stafford et al., 2000).

At question is what predicts the use of maintenance behavior. A number of variable-analytic studies have considered possibilities such as sex (e.g., Stafford & Canary, 1991), gender role (e.g., Aylor & Dainton, 2004), self-monitoring (e.g., Ragsdale & Brandau-Brown, 2005), locus of control (e.g., Canary & Stafford, 1993), and relationship ideology (e.g., Weigel & Ballard-Reisch, 1999b). However, these variables explained relatively little of the variance in maintenance use. More importantly, there are few theoretical reasons for using these variables as substantive explanations for relationship maintenance enactment. Instead, this study considers four theoretical explanations for the use of maintenance: equity, uncertainty, attachment, and reciprocity of partner's behavior.

### Equity Theory

The first theoretical predictor of maintenance enactment is equity. Relatively early in their investigations of maintenance, Canary and Stafford (1992) argued for the use of equity theory in understanding relational maintenance processes. Equity theory predicts that relational satisfaction is highest when a relational partner believes that the ratio of inputs to outputs is equal for both members in the relationship (Hatfield, Traupmann, Sprecher, Utne, & Hay, 1985). Individuals who receive more rewards relative to inputs as compared to their partner are deemed *over-benefited*. Individuals who receive fewer rewards relative to inputs as compared to their partner are deemed *under-benefited*. Those who perceive a balance are said to have an equitable relationship.

As regards relational maintenance, Canary and Stafford (2001) argued that maintenance behaviors operate as both inputs and outputs in equity calculations; inputs (costs) can be conceived as one's own maintenance enactment, and outputs (rewards) can be understood as perceptions of the partner's maintenance

enactment. In the first study they published linking equity and maintenance, Canary and Stafford (1992) predicted that individuals in equitable relationships would be most likely to use maintenance behaviors, and that under-benefited individuals would be least likely to use maintenance, as their inputs already exceed their rewards. They found support for their predictions when using wives' perceptions of equity. More recently, Canary and Stafford (2001) found that an individual's perceived equity differentially predicted between 3% and 28% of the variance in his/her perception of the partner's maintenance strategy use.

### Relationship Uncertainty

As described earlier, recent research has highlighted the role that uncertainty might play in relationship maintenance, with a particular focus on relationship uncertainty. Based on the work of Knobloch and Solomon (1999, 2002; Solomon & Knobloch, 2001), relationship uncertainty refers to the "degree of confidence people have in their perceptions of involvement within close relationships" (Knobloch & Solomon, 1999, p. 264). These authors propose four types of relationship uncertainty, which are strongly correlated: *behavioral norms uncertainty* refers to uncertainty over what is considered to be acceptable and unacceptable behavior within a relationship; *mutuality uncertainty* refers to uncertainty over the similarity of feelings between relational partners; *definitional uncertainty* is uncertainty about the current status of the relationship; and *future uncertainty* assesses uncertainty over the long-range outcomes of the relationship.

Regarding the role of uncertainty in maintenance enactment, Ficara and Mongeau (2000) found negative associations between uncertainty and the use of assurances, openness, and positivity. Dainton and Aylor (2001) found moderate to strong, negative correlations between uncertainty and all five of Stafford and Canary's (1991) original maintenance strategies. Finally, Dainton (2003) found that the use of assurances was strongly, negatively associated with uncertainty, with all of the remaining maintenance strategies also evidencing a negative relationship with uncertainty. At question is the direction of the relationship: does uncertainty predict maintenance enactment, or does maintenance enactment predict uncertainty? Although research methods to date have not allowed for causality to be determined, Dainton (2003) did find that between 2% (for advice) and 42% (for assurances) of the variance in maintenance enactment could be predicted by uncertainty. In short, although maintenance enactment might in turn predict uncertainty, the focus of this effort is on the predication of self-reported maintenance.

Moreover, building on the work of Canary and Stafford, Dainton (2003) studied the relative importance of equity and uncertainty in predicting relational maintenance enactment. She found that uncertainty was a stronger predictor of self-reported maintenance use than was equity. The original formulation of equity theory suggested that inequity causes anxiety (Hatfield et al., 1985). Dainton (2003) speculated that this anxiety might take the form of uncertainty. As such, she hypothesized that perceived inequity might lead individuals to experience

relationship uncertainty, which in turn influences the use of maintenance. The first goal of the present study is to test this hypothesis:

H1: Uncertainty mediates the relationship between equity and the self-reported use of maintenance behavior.

### Attachment Theory

The third theoretical approach to maintenance is attachment theory. Attachment refers to behavior oriented toward attaining or retaining closeness with a preferred individual who provides a sense of security (Bowlby 1969, 1973, 1980). Bowlby's original theory focused on early childhood relationships, but attachment theory has been established as a primary means for explaining marital relationships as well (Hazan & Shaver, 1987). Hazan and Shaver (1987) focused on three attachment styles, including the *secure* style (comfort with intimacy, lack of anxiety), the *avoidant* style (discomfort with intimacy, difficulty depending on others), and the *anxious-ambivalent* style (desire for extreme intimacy, but high anxiety). More recently, Bartholomew (1990) argued for a four-group typology, which in essence splits the anxious-ambivalent style in two. Specifically, Bartholomew suggested that working models of self and others could differentiate attachment styles. Two continua are used to make this distinction: whether the self is viewed as worthy or unworthy, and whether the other is viewed as caring or uncaring. *Secure* individuals have positive views of both self and other; *preoccupied* individuals have negative views of self, and positive views of others; *fearful avoidant* individuals have a negative view of both self and others; and *dismissive* individuals have a positive view of self and a negative view of others.

Research connecting attachment theory with the maintenance of romantic relationships is sparse but growing. Simon and Baxter (1993) found that securely attached individuals used more pro-social maintenance (assurances and romance) than individuals in other attachment groups. They also found that the use of maintenance provided a strong explanation for secure individuals' relatively higher levels of relationship satisfaction.

Guerrero and Bachman (2006) found that secure individuals used more assurances, affection, and openness than did dismissive individuals; that preoccupied individuals reported comparatively high levels of assurances, openness, and comfort/support; that avoidance was negatively associated with affection, openness, and social networks; and that anxiety was negatively associated with sharing tasks, providing support, and the use of social networks.

Finally, Dainton (2007) also found that a dismissive attachment was negatively associated with maintenance, and a secure attachment style reported was positively associated with maintenance. Also similar to the work of Guerrero and Bachman, Dainton (2007) found that the fearful avoidant and preoccupied attachment styles were positively associated with the use of assurances, and negatively associated with the use of integrative conflict management and positivity.

## Reciprocity

The final theoretical predictor of maintenance enactment is reciprocity. Although both reciprocity and equity can be considered under the rubric of social exchange, they vary in the extent to which rewards and costs are considered. As described earlier, equity theory considers the relative contribution of inputs (rewards) and outputs (costs). The norm of reciprocity is concerned primarily with the exchange of rewards, suggesting that the receiver of a reward is obligated to provide a reward back to the giver (Gouldner, 1960).

Roloff (1987) argued that there are particular rules for exchange within intimate relationships such as marriage. For example, he suggested that although intimate partners need not reciprocate the identical rewarding behavior, these exchanges should be roughly equivalent. Within the realm of relationship maintenance, this would mean that partners would not feel obligated to match positivity with positivity, for example, but that if the partner uses positivity the other partner should respond with some form of maintenance enactment.

There is both indirect and direct evidence that the norm of reciprocity is associated with relationship maintenance. Regarding indirect indicators, Dainton and Stafford (1993) found that married spouses were more similar than expected by chance in their reports of all but four (of 12) maintenance behaviors, suggesting that some degree of reciprocity might be at play. In addition, Spiegelhoff and Dindia (2001) found moderate correlations between romantic partner's use of positivity, assurances, and networks.

More directly, two studies suggest that maintenance is reciprocal. First, Dainton & Stafford (2000) found that the single best predictor of an individual's maintenance enactment is his or her perception that the partner has engaged in that maintenance behavior. This finding is supported by the work of Weigel and Ballard-Reisch (1997), who found that husbands' self-reported use of maintenance behaviors was a significant predictor of wives' self-reported use of maintenance behaviors.

To summarize, four theoretical explanations for the use of relationship maintenance have been described. At question are the associations among these four variables, and the extent to which they jointly or independently predict relationship maintenance use. As indicated earlier, Dainton (2003) found that uncertainty and equity are correlated, and that uncertainty might mediate the relationship between equity and maintenance use. However, conceptually there are other possible associations among the theories. For example, equity and reciprocity should be related to each other, as the perception of the partner's rewarding behavior is taken into account in both of these social exchange calculations. Further, one study has found that attachment is associated with equity. Grau and Doll (2003) found that both secure and avoidant individuals perceived their relationships as equitable, whereas individuals with anxious attachment styles see perceived their relationships as inequitable and under-benefited. Despite these possible connections between the theories, to date no studies have looked specifically at the associated between reciprocity, uncertainty,

and attachment, nor how all of the theoretical predictors might jointly predict relationship maintenance. This leads to two research questions:

RQ1: How are equity, uncertainty, attachment, and reciprocity related?

RQ2: To what extent do equity, uncertainty, attachment, and reciprocity predict the self-reported use of maintenance behavior?

## Method

The goal of the present study was to survey married individuals in order to assess the associations among, and the relative importance of, four theoretical explanations for marital maintenance. Data collection centered exclusively on marriage because previous research has indicated that dating relationships and married relationships reflect different developmental states, with differences in the behaviors used to maintain these distinct relational forms (Dainton & Stafford, 1993). Moreover, Dainton (2003) speculated that the reason her results did not match the results of Canary and Stafford (1992, 2001) is because she had used a sample that included both married and dating individuals, whereas Canary and Stafford sampled only married individuals. The respondents in this study were not required to be satisfied with the marriage at the time s/he filled out the questionnaire. Only one marital partner was permitted to fill out the questionnaire to prevent non-independence of data. Individuals were instructed neither to discuss nor to show their survey to their spouse.

A total of 179 individuals were recruited via network sampling. Specifically, the researcher attended 31 graduate courses in professional programs (MBA, Nursing, and Education) at a private, urban university. Because respondents were required to be married, it was assumed that individuals in graduate courses would more likely meet the inclusion requirements. Given possible academic exposure to the concept of relationship maintenance, graduate students in psychology and communication were not solicited for participation.

The researcher spent the first five minutes of the class describing the research, and assuring class members that their participation was voluntary and that their decision about whether or not to take part in the study would have no effect on their grade or experience in the class. Participation was anonymous. No extra credit or other incentives were offered. However, the researcher offered to provide summary results of the study to any individual interested in the study, regardless of whether that individual took part in the study or not. Sealed packets holding the research materials were distributed to those who met the eligibility requirements and expressed interest in participating in the study. Participants who chose to take part in the study opened and completed the packet outside of class time. Inside the packet was a consent letter, the survey itself, and a pre-addressed stamped envelope. Participants completed the survey and mailed it directly to the researcher. A 39% return rate was achieved.

### Sample

The average age of the sample was 41.7 years ( $SD = 11.44$ , range from 24 to 68). The average length of the marriage was 15 years ( $SD = 11.70$ , range from 5 months to 41 years). The majority of respondents were in their first marriage (82.5%,  $N = 148$ ). There were 68 men and 111 women. Regarding ethnicity, 81% described themselves as white, not of Hispanic origin ( $N = 145$ ), 12.3% described themselves as black, not of Hispanic origin ( $N = 22$ ), 2.8% described themselves as Hispanic ( $N = 5$ ), 2.2% described themselves as Asian/pacific Islander ( $N = 4$ ), and 1.7% described themselves as "other" ( $N = 3$ ). Given the make-up of graduate students in professional programs, this sample appears to be a representative sample of that population.

### Instrumentation

Maintenance was measured using Stafford et al.'s (2000) measure. Respondents were asked to fill out the scale twice, once for their own maintenance enactment, and once for perception of the partner's maintenance enactment. Responses were based on a 7-point Likert scale, with 1 = strongly disagree, and 7 = strongly agree. Sample items include "I say 'I love you'" (self-reported assurances) and "My partner discloses what s/he needs or wants from the relationship" (perception of partner's openness). Scale reliabilities and means were as follows for self-reported maintenance: advice ( $\alpha = .83$ ,  $M = 5.60$ ,  $SD = 1.29$ ), assurances ( $\alpha = .91$ ,  $M = 5.66$ ,  $SD = 1.63$ ), conflict ( $\alpha = .89$ ,  $M = 5.53$ ,  $SD = 1.33$ ), network ( $\alpha = .94$ ,  $M = 5.46$ ,  $SD = 1.64$ ), openness ( $\alpha = .91$ ,  $M = 5.04$ ,  $SD = 1.74$ ), positivity ( $\alpha = .91$ ,  $M = 5.59$ ,  $SD = 1.27$ ), and tasks ( $\alpha = .91$ ,  $M = 6.15$ ,  $SD = 1.25$ ). Scale reliabilities and means were as follows for perception of partner's maintenance: advice ( $\alpha = .82$ ,  $M = 5.62$ ,  $SD = 1.33$ ), assurances ( $\alpha = .92$ ,  $M = 5.71$ ,  $SD = 1.33$ ), conflict ( $\alpha = .92$ ,  $M = 4.89$ ,  $SD = 1.76$ ), network ( $\alpha = .85$ ,  $M = 5.08$ ,  $SD = 1.75$ ), openness ( $\alpha = .93$ ,  $M = 4.46$ ,  $SD = 1.96$ ), positivity ( $\alpha = .93$ ,  $M = 5.48$ ,  $SD = 1.41$ ), and tasks ( $\alpha = .93$ ,  $M = 5.61$ ,  $SD = 1.67$ ).

A measure of reciprocity was created by calculating the absolute discrepancy score between self-reported maintenance of a behavior and perceived partner use of that same behavior. Accordingly, a score of zero meant that both partners were perceived as using the same behavior with the same frequency. The higher the score, the less the use of the behavior was perceived as similar between the partners. The mean reciprocity scores were as follows: advice  $M = 2.22$  (range 0-12,  $SD = 2.30$ ), assurances  $M = 4.61$  (range 0-30,  $SD = 5.13$ ), conflict management  $M = 5.99$  (range 0-26,  $SD = 6.02$ ), networks  $M = 1.56$  (range 0-10,  $SD = 1.99$ ), openness  $M = 9.58$  (range 0-37,  $SD = 9.30$ ), positivity  $M = 2.19$  (range 0-10,  $SD = 2.06$ ), and tasks  $M = 7.27$  (range 0-30,  $SD = 7.17$ ).

Equity was measured using the procedures described by Canary and Stafford (2001) and Sprecher (1986). Specifically, two single-item equity indexes were used: Hatfield et al.'s (1979) global equity measure and Sprecher's (1986) equity scale. Hatfield et al.'s measure asks respondents to consider "how much



you and your partner put into this relationship and how much you and your partner get out of it." On a seven-point scale, item responses span from 1 = "I am getting a much better deal than my partner" to 7 = "My partner is getting a much better deal." Sprecher's (1986) measure states "Consider all the times when your relationship has become unbalanced and one partner has contributed more for a time. When this happens, who is more likely to contribute more?" Again, a 7-point scale is used, with 1 = "My partner is much more likely to be the one to contribute more" to 7 = "I am much more likely to be the one to contribute more." Accordingly, lower scores on both measures indicate over-benefitedness and higher scores indicate under-benefitedness.

Sprecher (1986) has argued that these two measures likely assess inequity for different sorts of resources, with the Hatfield measure assessing stable resources and the Sprecher measure assessing more dynamic resources. As such, the Sprecher measure tends to have more variability than the Hatfield measure. Citing psychometric theory, Sprecher (1986) suggests that the two measures should be combined in order to provide a more reliable and precise measure of equity than either measure alone. Accordingly, in this study the two items were summed ( $\alpha = .76$ ,  $M = 4.02$ ,  $SD = 1.44$ ).

Because theoretically equity should demonstrate a curvilinear relationship with maintenance, standard statistical techniques cannot be used. In order to overcome this challenge, two continuous measures for inequity were constructed, one measuring over-benefitedness, and one measuring under-benefitedness (see Canary & Stafford, 2001; Sprecher, 1986). This allows for a version of dummy coding; significant results for *either* under-benefitedness or over-benefitedness are interpreted as an indicator of that form of inequity, whereas significant results for *both* under-benefitedness and over-benefitedness are interpreted as an indication of equity.

To create the continuous measures, midpoint responses on the combined index (i.e., those scoring between 7 and 9) were defined as equitable. To create a scale for over-benefitedness, individuals scoring a seven or above were assigned a "0," indicating no presence of over-benefitedness (this is analogous to dummy coding in regression). Those scoring a six were assigned a "1," five was assigned a "2," and so on, with the most over-benefited individuals, those scoring a two on the combined index, being assigned a "5." A similar method was used to create a measure of under-benefitedness; individuals scoring a nine or below were assigned a "0." Those scoring a 10 on the combined index were assigned a "1," and those indicating the most under-benefitedness (i.e., a 14 on the combined index) were assigned a "5." Accordingly, continuous measures of over-benefitedness and under-benefitedness were constructed.

In this sample, 44.7% of the respondents reported being in an equitable relationship ( $n = 80$ ), 22.3% reported being over-benefited ( $n = 40$ ), and 33% reported being under-benefited ( $n = 59$ ). This is relatively consistent with previous research, although this sample seems to report being relatively more under-benefited than is typical: Buunk and VanYperen (1991) found that 47% of their sample perceived themselves to be in equitable relationships, with the remainder nearly evenly divided between under-benefited and over-benefited. In the present

study, the mean over-benefitedness score was .48 ( $SD = 1.06$ ) and the mean under-benefitedness score was .69 ( $SD = 1.26$ ).

Relationship uncertainty was operationalized by Knobloch and Solomon's (1999) mutuality uncertainty measure. Mutuality uncertainty was selected because married individuals conceptually are less likely to express behavioral, definitional, or future uncertainty than other relational types because of the cultural norms about marriage (i.e., what marriage means and how one should behave when married). Respondents are asked to respond to each statement using a six-point scale, wherein 1 = completely or almost completely uncertain, and 6 = completely or almost completely certain. Note that higher scores represent more certainty with the Knobloch and Solomon (1999) scale. Means and reliabilities were  $\alpha = .92$  ( $M = 5.34$ ,  $SD = .93$ ).

Attachment was measured using Guerrero's (1996; 1998) continuous measure of attachment. The scale includes four factors, with high scores on each factor associated with a particular attachment type. Previous research has validated the scale, finding the subscales to be predictably related to a forced-choice measure (e.g., Guerrero & Burgoon, 1996; Guerrero & Jones, 2003).

All items use a 7-point Likert scale, with 1 = strongly disagree and 7 = strongly agree. Specifically, the secure attachment style is indicated by high scores on the confidence sub-scale. Items include "I am confident that other people will like me" and "I worry that others will reject me" (reverse coded). Alpha reliability = .84,  $M = 4.97$ ,  $SD = 1.58$ . The preoccupied attachment style is indicated by high scores on the relational worry subscale. Sample items are "I worry that others do not like me as much as I like them" and "I wonder how I would cope without someone to love me." Alpha reliability = .86,  $M = 3.43$ ,  $SD = 1.81$ . The fearful avoidant attachment style is indicated by high scores on the fear of intimacy subscale. Sample items are "I would like to depend on others, but it makes me nervous to do so" and "I worry about getting hurt if I allow myself to get too close to someone." Alpha reliability = .83,  $M = 3.23$ ,  $SD = 1.72$ . Finally, the dismissive attachment style is indicated by high scores on the self-sufficiency subscale. Because initial reliability for this subscale was low, items that detracted from the reliability were dropped from the scale. Accordingly, only three items were used. They included "I put more time/energy into my relationships than other activities" (reverse coded), "Maintaining relationships is my highest priority" (reverse coded), and "Intimate relationships are the most central part of my life" (reverse coded). Alpha reliability = .71,  $M = 3.76$ ,  $SD = 1.65$ .

## Results

Path analysis was used to test the first hypothesis, which predicted that uncertainty mediates the relationship between equity and self-reported maintenance use. The least squares criterion was used to estimate the parameters, and the fit of the model was assessed. Results did not support the fit of the model  $\chi^2 (2 df) = 17.683$ ,  $p < .001$ ; CFI = .843. Accordingly, the hypothesis

failed to achieve support. Equity and uncertainty appear to independently predict the use of maintenance.

The first research question asked about the relationships among equity, uncertainty, attachment, and reciprocity. Pearson correlations were computed, and are reported in table 1.

Table 1  
*Correlations Among the Four Theoretical Concepts*

	1	2	3	4	5	6	7	8	9	10	11	12	13
1													
2	-.25**												
3	.01	.31**											
4	-.01	-.01	-.17*										
5	.07	-.06	.16*	-.71**									
6	.06	.08	.09	-.58**	.66**								
7	.05	.14*	.24**	.18*	-.32**	-.11							
8	-.03	-.19*	-.32**	.06	-.05	-.01	-.08						
9	-.03	-.20**	-.30**	.02	.02	-.09	-.15*	.21**					
10	.01	-.45**	-.25**	.01	-.04	.02	-.16*	.13	.19*				
11	.01	-.27**	-.15*	.04	-.02	-.03	-.01	.20**	.05	.15*			
12	-.13	-.17*	-.22**	-.06	.01	.02	-.17*	.23**	.27**	.41**	.02		
13	-.03	-.18*	-.20**	.17*	-.23**	-.15*	-.03	-.01	.19*	.31**	.10	.25**	
14	-.03	-.48**	-.23**	.04	.04	-.06	-.22**	.24**	.22**	.34**	.20**	.27**	.22**

\*\*  $p < .001$ , \*  $p < .05$

1 = over-benefited

2 = under-benefited

3 = mutuality uncertainty

4 = secure attachment

5 = preoccupied attachment

6 = fearful avoidant attachment

7 = dismissive attachment

8 = reciprocity advice

9 = reciprocity assurances

10 = reciprocity conflict management

11 = reciprocity network

12 = reciprocity openness

13 = reciprocity positivity

14 = reciprocity tasks

Note that for the purposes of interpretability, the uncertainty measure was recoded so that higher scores indicate more uncertainty, and the reciprocity measure was recoded so that higher scores indicate more reciprocity. Results indicate that there were predictable significant correlations within theoretical frames (e.g., being over-benefited and being under-benefited were negatively correlated, as would be predicted; the attachment styles were correlated in predictable ways; and reciprocity was correlated in predictable ways). Further, variables from each theoretical frame were also associated with variables from all other theoretical frames, with under-benefitedness, a dismissive attachment style, and reciprocity of positivity showing the most inter-theory correlations.

The final research question asked about the extent to which equity, uncertainty, attachment, and reciprocity predicted the self-reported use of maintenance behavior. Because the larger the number of factors in any one regression the higher the probability of both Type I and Type II errors (Cohen & Cohen, 1975), the researcher investigated whether scores for each maintenance sub-scale might be combined to represent a single global indicator of self-reported maintenance, eliminating the need for multiple tests. A test for nonadditivity was significant  $F(1, 30) = 84.24, p < .001$ . Accordingly, a single index of maintenance use is not appropriate. Nonetheless, when there is a minimum of 20 subjects per factor, the likelihood of error is reduced (Tabachnick & Fidell, 1989). Because the number of subjects in this sample exceeds this parameter, the possibility of error is reduced. Therefore, in order to answer the research question, a series of stepwise multiple regressions were calculated, with the theoretical variables as the independent variables and each self-reported use of maintenance behavior serving as the dependent variable in a separate equation. Note that for these equations, perceptions of the partner's use of maintenance were included as the independent variable rather than the reciprocity score; conceptually, since the prediction is for an individual's own use of maintenance, reciprocity would be at work if the perceptions of the partner's behavior lead the individual to perform the behavior.

Results are reported in table 2.

The four theoretical explanations predicted on average about one-third of the variance in maintenance use, with a few exceptions. Only 16% of the variance in advice was explained, but 68% of the variance in assurances and 53% of the variance in networks was explained by these four theories. Variables associated with all four theories appeared in at least one equation. However, reciprocity and attachment variables appeared in every equation, indicating that these theories might be the most consistent explanation for maintenance enactment. Further, the reciprocity variables were the strongest predictor in five of the seven equations, suggesting that reciprocity effects outweigh equity, uncertainty, and attachment as a predictor of self-reported maintenance.

Table 2  
*Equity, Uncertainty, Attachment, and Reciprocity Regressed on Self-Reported Maintenance Behaviors*

Dependent Variable	Independent Variable	Beta	R2 Ch.	Adj. R2	F Ch.
Advice	Partner's Assurances	.33	.14	.16	26.65
	Dismissive Attachment	-.17	.03		16.38
Assurances	Partner's Assurances	.61	.62	.68	265.44
	Partner's Network	.19	.05		160.88
	Dismissive Attachment	-.12	.01		113.58
	Mutuality Uncertainty	-.12	.01		88.08
Conflict Mgmt	Partner's Network	.31	.15	.29	28.74
	Fearful Avoidant Attachment	-.26	.05		11.00
	Partner's Openness	.18	.05		10.30
	Under-Benefitedness	-.27	.05		10.42
	Partner's Assurances	.21	.02		5.23
Networks	Partner's Network	.66	.50	.53	165.61
	Dismissive Attachment	-.11	.02		5.87
	Partner's Task	-.20	.02		5.50
	Partner's Conflict Management	.16	.01		4.49
Openness	Partner's Assurances	.29	.19	.26	37.62
	Dismissive Attachment	-.22	.06		12.67
	Partner's Network	.18	.03		5.66
Positivity	Mutuality Uncertainty	-.20	.18	.32	37.67
	Partner's Assurances	.27	.05		11.30
	Fearful Avoidant Attachment	-.20	.05		11.42
	Over-Benefitedness	-.19	.04		8.43
	Partner's Networks	.15	.02		4.21
Tasks	Over-Benefitedness	-.41	.21	.33	44.85
	Dismissive Attachment	-.17	.05		11.32
	Partner's Tasks	-.27	.03		6.21
	Partner's Conflict Management	.29	.02		4.99
	Secure Attachment	.15	.02		6.92

Note: All Beta weights are significant,  $p < .05$ ; all  $F$  values are significant,  $p < .01$

## Discussion

The overarching purpose of this study was to assess the relationships among four theoretical approaches to relationship maintenance, as well as to ascertain the extent to which a combination of these theories might provide a useful means to understand the maintenance process. The results of this study indicate that equity, uncertainty, attachment, and reciprocity explain a moderate amount of the variance in maintenance enactment.

### *Does Uncertainty Mediate the Relationship Between Equity and Maintenance?*

The first specific goal of the study was to test Dainton's (2003) hypothesis that uncertainty mediates the relationship between an individual's perception of (in)equity and his or her performance of maintenance behavior. The results of this study indicate that, counter to the hypothesis, uncertainty does not mediate the relationship between inequity and maintenance. Dainton (2003) originally suggested the possibility of mediation because inequity and uncertainty were moderately correlated with each other, and also because uncertainty was a stronger predictor of maintenance behavior than was equity in her study. Further, there were theoretical reasons for the supposition, as the original formulation of equity theory suggested that inequity leads to anxiety, which might take the form of uncertainty (Hatfield et al., 1985). Consistent with Dainton's (2003) findings, in the present study, uncertainty and inequity, at least in the form of under-benefitedness, were again moderately correlated with each other. Yet, as will be discussed in greater detail shortly, neither equity nor uncertainty emerged as particularly robust predictors of maintenance in this study.

At first glance, the rejection of the hypothesis is disappointing, as a link between these two theories might strengthen both equity theory and relationship uncertainty models. However, the correlation between under-benefitedness and mutuality uncertainty is conceptually important, and deserves attention. Although not tested as part of this study, results indicate that both under-benefitedness and uncertainty were negatively correlated with the perception of the partner's use of all seven maintenance behaviors, with correlations between under-benefitedness and partner's maintenance ranging from  $-.32$  (for network) to  $-.58$  (for tasks), and correlations between uncertainty and partner's maintenance ranging from  $-.34$  (for openness and tasks) to  $-.60$  (for assurances). As such, one might surmise that the key to the correlation between inequity and uncertainty may be an individual's perception that his or her partner is performing relationship maintenance. That is, if an individual perceives that his or her partner is not performing maintenance, then he or she feels under-benefited and is uncertain about the mutuality of feelings in the relationship.

Such an explanation is consistent with both theories. An equity theory approach to maintenance suggests that the partner's use of maintenance counts as a reward in equity calculations (Canary & Stafford, 1992). Accordingly, and as the results of this study indicated, a lack of rewarding behavior (i.e., the partner not performing maintenance) could very well lead to perceptions of inequity. This conclusion is supported by the work of Canary and Stafford (2001), who found

associations between perceptions of the partner's behavior and inequity, especially under-benefitedness. Similarly, a relationship uncertainty approach suggests that partner behaviors can serve as uncertainty inducing events (Emmers & Canary, 1996; Planalp & Honeycutt, 1985; Planalp, Rutherford, & Honeycutt, 1988). It is likely that a partner's failure to perform maintenance behaviors might lead an individual to be uncertain about the extent to which the partner cares about him or her. Future research might examine whether partner maintenance (or lack thereof) causes feelings of both (in) equity and (un) certainty.

#### *Relationships Among the Theories*

The second goal of the study was, in fact, to investigate the relationships among four theoretical approaches to maintenance. Results indicate some relationship among all four approaches. In addition to the correlation between being under-benefited and feelings of uncertainty, being under-benefited and feeling uncertain were also negatively correlated with the reciprocity of all seven maintenance behaviors. This makes theoretical sense. First, since both reciprocity and equity are social exchange approaches that rely on assessing rewards, conceptually the two should be related to each other. Moreover, if one is to follow the logic of the causal links hypothesized above, perceptions of the partner's maintenance is likely to influence feelings of equity and uncertainty, which in turn have been established as affecting one's own maintenance enactment (Canary & Stafford, 2001; Dainton, 2003). Logically, then, since both partner and self-reported maintenance are used to assess reciprocity, it is no surprise that being under-benefited and feeling uncertain are related to the reciprocity of maintenance enactment.

Reciprocity was also related to the attachment dimensions. Specifically, the more dismissive an individual, the less likely she or he was to reciprocate the use of assurances, integrative conflict management, openness, and sharing tasks. This is consistent with both the work of Guerrero and Bachman (2006) and Dainton (2007), who found that dismissive individuals were the least likely to perform pro-social maintenance. Interestingly, and unlike these two previous studies, the secure attachment dimension was not positively associated with the reciprocation of any of the maintenance behaviors, with the exception of positivity. Perhaps secure individuals perform maintenance without concern for reciprocity. Roloff (1987) proposed that as relational partners become more intimate, they are more obligated to initiate (rather than simply reciprocate) rewarding behavior. For secure individuals, who are most comfortable with intimacy and independence, performing maintenance might simply be something that is done for the sake of the relationship, regardless of perceptions of the maintenance behavior used by the partner.

There were also relatively few associations between attachment and equity. There was a single significant correlation; being under-benefited also was associated with a dismissive attachment orientation. This makes sense. An individual who places a high value on him or herself and a low value on relationships is likely to believe that he or she is not getting what he or she deserves in the relationship. Note that the correlation was relatively small,

however. The relative lack of associations between attachment and equity is not consistent with the work of Grau and Doll (2003), who found that secure and avoidant individuals perceived their relationships to be equitable, and anxious individuals perceived their relationships to be under-benefited. However, Grau and Doll used fictitious vignettes rather than assessing respondents' actual attachment scores. Clearly, the relationship between attachment and equity is still up in the air.

A final link between the four approaches is in the association between uncertainty and attachment. Not surprisingly, the secure orientation was negatively associated with uncertainty; these individuals are comfortable with intimacy and have relatively high self-esteem. As such, they are less likely to feel concern about the mutuality of the relationship. Conversely, it is also not surprising that the preoccupied dimension was positively associated with uncertainty. Preoccupied individuals have a negative view of themselves, often viewing themselves as unlovable or unworthy. As such, they are likely to be particularly susceptible to suspicions that their partner does not care for them as strongly as they care for their partner. The positive relationship between the dismissive dimension and uncertainty was initially surprising, however. These individuals are the mirror opposite of the preoccupied style, with a positive view of self and a negative view of others. Why, then, would they be uncertain? A careful review of the measure might provide an answer. Questions ask about an individual's certainty about the partner having the same level of commitment to the relationship. Dismissive individuals might be quite certain that they do NOT have the same level of commitment, skewing the results.

#### *Predicting Self-Reported Maintenance*

The final research question sought to determine the extent to which these four theoretical approaches predicted the self-reported use of maintenance behavior. A series of regression equations indicated that between 16% and 68% of the variance in the use of maintenance behavior could be predicted by a combination of the theories. The amount of variance explained is larger than previous studies that included only one or two of these theories (e.g., Canary & Stafford, 2001; Dainton, 2003; Guerrero & Bachman, 2006), indicating that using all four theories provides superior predictive ability to any one approach alone.

As indicated earlier in this discussion, equity and uncertainty demonstrated at best a modest predictive ability. Being over-benefited was a negative predictor of both positivity and tasks, and being under-benefited was a negative predictor of integrative conflict management. This is partially consistent with Dainton's (2003) results. It seems that the privilege associated with being over-benefited makes one less likely to be "nice" in a relationship; such individuals do not feel a need to do household tasks or be pleasant to their partners. Further, being under-benefited seems to be associated with a decreased likelihood to apologize or cooperate in conflict. Interestingly, equity itself was not a predictor of maintenance enactment. Recall that equity was coded such that significant scores for both over-benefitedness and under-benefitedness indicated equity. In this study, there were no equations that included both indices of inequity. Accordingly, it seems that



inequity might be a better predictor of pro-social maintenance than is equity. This is also consistent with Canary & Stafford (2001). Future research should more closely examine whether equity actually leads to maintenance performance, or whether inequity might inhibit it.

Continuing a discussion of the results, counter to Dainton's (2003) finding, uncertainty was not a particularly strong predictor of self-reported maintenance. Uncertainty was a minor contributor in the equation for assurances, and it was the primary predictor in the equation for positivity. There are two possible reasons for the difference in the results in this study as compared to that of Dainton (2003). First, it may simply be that when other theoretical contributions are added to the equation, the relative importance of uncertainty when predicting maintenance behavior diminishes. Indeed, the equations in this study predicted substantially more of the variance in maintenance than did the equations reported by Dainton (2003), ranging from an increase of 11% of the variance explained in conflict management and openness, to an increase of 49% of the variance explained for the use of networks. Clearly, the addition of attachment and reciprocity provided an important means of predicting self-reported maintenance that may supersede the importance of uncertainty in and of itself.

A second explanation might be provided by the sample used in this study. This study sampled only married individuals so that better comparisons might be made to the results of Canary and Stafford (1992, 2001). Dainton (2003) sampled both married and dating individuals. It may be that uncertainty is a stronger driving force for dating individuals than for married individuals. Uncertainty reduction theory, after all, was initially developed to explain initial interactions. Despite research that supports that uncertainty levels are in flux throughout the lifespan of the relationship, uncertainty about the future or mutuality of the relationship might be particularly salient prior to marriage. Future research should examine this possibility.

The third theoretical approach used in this study, attachment, was a more consistent predictor of maintenance, appearing in all seven equations. Of particular importance was a dismissive attachment style, which appeared as a negative predictor of maintenance in five of the equations. This is consistent with the work of Dainton (2007) and Guerrero and Bachman (2006), who found that dismissive individuals were the least likely attachment group to use pro-social maintenance. Less consistent with these authors, the secure attachment style was a positive predictor of only one maintenance activity, the use of sharing tasks. This is surprising, as previous research has indicated that secure individuals are more likely to be open and to use integrative conflict management than other attachment types (Feeney, Noller, & Roberts, 2000). Similar to the discussion with equity, it appears that the "negative" (inequity, a dismissive style) plays a stronger role in predicting behavior than does the "positive" (equity, security). Again, this is an intriguing area for future research.

Fearful avoidance was also a negative predictor in two equations. This attachment orientation was a negative predictor of integrative conflict management and of positivity, which is consistent with Dainton (2007) and Guerrero and Bachman (2006). Fearful avoidant individuals have a strong fear of being hurt,

which leads them to avoid emotional expressiveness (Guerrero & Jones, 2003), such as being upbeat and cheerful and apologizing.

The final theoretical framework was reciprocity, which was the most consistent and strongest of the theoretical variables when predicting maintenance enactment. The two most consistent predictors of an individual engaging in maintenance activity was the perception of the spouse's use of assurances and social networks. The relative importance of assurances is not surprising, as assurances consistently has emerged as the single most potent predictor of relational characteristics such as satisfaction and commitment (e.g., Dainton et al., 1994; Stafford & Canary, 1991; Weigel & Ballard-Reisch, 1997). It appears that telling one's partner "I love you," and talking about the future is a highly valuable way to ensure that the partner will engage in maintenance, thereby engendering one's own marital satisfaction.

The relative importance of social networks is a bit of a surprise, however, as previous research has found only modest relationships between the use of social networks as a maintenance technique and relationship satisfaction. Moreover, the perception of the partner's use of social networks predicted only one's own use of networks in the Dainton and Stafford (2000) study, and did not appear in the equations for the other six maintenance behaviors. Still, previous research has indicated that sharing social networks is important for married couples; Sprecher and Felmlee (1992) found that couples are more in love, more satisfied, and more committed if the people in their lives support the relationship. As Felmlee argued "Couples exist within systems of networks that frequently alter their interactions, affect their roles, and influence their decisions" (2001, p. 1260). Accordingly, the use of social networks might provide an atmosphere of support that encourages the use of relationship maintenance.

What is particularly intriguing about the relative importance of the perception of the partner's use of maintenance is that in this study the couples did not appear to be matching particular maintenance behaviors. That is, consistent with the propositions associated with the norm of reciprocity, the use of maintenance behaviors appears to be heteromorphic; married partners use maintenance to meet each other's needs, rather than to repay a specific debt (Rolloff, 1987). In only three of the seven equations produced in this study did the perception of the partner's use of a particular behavior predict an individual's own use of that behavior. In this study, homeomorphic exchanges emerged for assurances and networks. In both cases, the perception of the partner's use of these behaviors was the strongest predictor that an individual would also report using those behaviors. Of course, as discussed previously, perception of partner's use of assurances and social networks predicted many behaviors, so it is not surprising that these behaviors also predicted an individual's own use of these maintenance techniques.

Interestingly, although the perception of the partner's use of tasks appeared in the equation for an individual's own use of tasks, it was a negative predictor. It appears that an individual is more likely to engage in tasks because the partner is not doing so. In this case compensation seems to be taking place rather than reciprocity.

*Limitations and Conclusions*

Despite the relatively large amount of variance explained by the four theoretical approaches used in this study, there are several significant limitations. First, this study did not include any measurements over time. As such, causality could not be determined. Despite the fact that the theories used in this study clearly suggest that they function as predictors of rewarding behavior such as maintenance, the reality is that the directions of causality are not clear. Canary and Stafford (2001) admit that an individual's perceptions of equity are both a cause and a consequence of maintenance behavior. Similarly, Berger and Calabrese (1975) proposed that communication can function to create certainty, but it is also a means to reduce uncertainty. Finally, current theorizing about attachment styles indicates that attachment styles can vary as a function of a particular relationship (Feeney & Noller, 1996). Thus, despite the causal directions proposed by these theories, the actual direction is unclear.

Related to the use of concurrent measurements, a second limitation of this study is that a true assessment of reciprocity could not be determined. Nevertheless, Schaap (1984) differentiates between simultaneous reciprocation (immediate reciprocation), base-rate reciprocation (sums of partners' behaviors over a period of time), and contingency reciprocation (how one behavior follows a previous behavior). The norm of reciprocity suggests that within intimate relationships the amount of time to return a reward becomes more variable (Rolloff, 1987). Moreover, the norm of reciprocity also suggests that within intimate relationships the appropriateness of non-contingent exchanges increases (Rolloff, 1987). Accordingly, base-rate reciprocation might be best way to assess reciprocity of marital maintenance behaviors, softening the effects of this limitation. The extent of simultaneous and contingent reciprocation of maintenance behaviors is an area for future research.

There are also some sample biases that may have affected the results. Because these data were collected in graduate classes, the sample is more highly educated than the U.S. norm. Cate and Lloyd (1992) have argued that level of education affects marital quality because it provides additional insights into performing the marital role. Accordingly, the results in this study may have been skewed because of the education level of the participants, who may have more insight into their own expectations and understanding of relationships, and who may also engage in different marital behaviors. Future research should focus on how education might impact the relationship maintenance process.

Finally, Guerrero and Bachman (2006) found that respondents' perceptions of their partner's attachment style influence his or her own maintenance enactment. This is similar to the tenets of the norm of reciprocity, which hold that in intimate relationships an individual is most likely to initiate an exchange to meet the partner's needs (Rolloff, 1987). The present study focused only on an individual's own needs, in the form of attachment style and feelings of uncertainty and equity. The partner's needs were not considered, but clearly can contribute to an understanding of marital maintenance.

### *Future Directions*

Although a relatively large amount of the variance in an individual's enactment of maintenance was explained in this study as compared to previous studies that looked at only one or two theories, there is still a significant amount of the variance that is yet to be explained. As described above, it is likely that married partners are concerned about both their own and their partner's needs. Including a measure of these needs may very well increase the variance explained.

Further, previous research that has sought to predict maintenance enactment has successfully included sex, gender, satisfaction, commitment, personality, and relationship length as possible explanations for why an individual uses particular maintenance behaviors (e.g., Aylor & Dainton, 2004; Canary & Stafford, 1993; Dainton & Stafford, 2000; Stafford et al., 2000; Weigel & Ballard-Reisch, 1997). The current study focused exclusively on equity, uncertainty, attachment, and reciprocity. Again, additional variables should be considered in order to more fully explain the use of maintenance.

Finally, the results of this study raised some interesting questions that warrant future research. Does perception of the partner's behavior cause feelings of (in) equity and uncertainty? Are securely attached individuals more likely to perceive themselves to be in an equitable relationship than those in other attachment groups? Do positive relationship states (i.e., equity, certainty) or individual characteristics (secure attachment) engender maintenance use, or do negative relationship states (i.e., inequity, uncertainty) or individual characteristics (e.g., dismissive attachment) inhibit maintenance use? To what extent does compensation occur with maintenance use, and why do individuals choose to compensate instead of reciprocate? Is maintenance behavior simultaneously reciprocated, or does contingent reciprocation occur? These questions, and many others, ensure that researching relationship maintenance will be sustained, and that an additional theory or theories will be necessary to clarify the complexity of why some relationships stay together and others do not.

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