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## Equity and Social Exchange in Dating Couples: Associations With Satisfaction, Commitment, and Stability

*A longitudinal study with romantic couples was conducted to examine the importance of equity relative to other social exchange variables (i.e., rewards, investments, and alternatives) in predicting relationship satisfaction, commitment, and stability. Underbenefiting inequity (but not overbenefiting inequity) was associated with a lower level of satisfaction and commitment and a greater likelihood of breakup. However, little evidence was found that equity at one time predicted change in satisfaction and commitment. Slightly more evidence was found for a reverse causal direction: Satisfaction and commitment contributed to a decrease in underbenefiting inequity, although these results were not consistent across time. Women's commitment was the strongest predictor of relationship stability. In addition, women's underbenefiting inequity and alternatives and men's alternatives were associated with breakups in some of the analyses, and women's rewards and satisfaction and men's satisfaction were associated with relationship stability in some of the analyses. Because of the multiple waves and the extended length of the longitudinal study, the findings make a unique contribution to the literature on equity and exchange.*

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Some relationships develop, are maintained, and last a lifetime. Other relationships become dissatisfying to one or both partners and are terminated. Considerable prior research has focused on identifying the factors associated with relationship satisfaction and success. Among the factors considered have been social exchange elements of the relationship, which include two categories of theoretical variables. One set of variables refers to the distributive justice norms, particularly equity (e.g., Walster [Hatfield], Walster, & Berscheid, 1978). The second set derives from Thibaut and Kelley's interdependence theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959) and more recently has been represented in Rusbult's (1980, 1983) investment model. The central focus of the present research is on the importance of equity in predicting relationship satisfaction, commitment, and stability, but its importance is assessed relative to other social exchange variables (rewards, investments, and comparison level for alternatives). These associations are examined with a longitudinal sample of couples, all of whom were dating at the first wave of the study.

### THEORETICAL BACKGROUND

Equity refers to the perceived balance in the partners' contributions and outcomes. An individual is underbenefited in a relationship if he or she contributes more but receives less than his or her partner. The state of overbenefit occurs when one is

contributing less but receiving more than one's partner. (The two partners may not agree in their perceptions of equity.) Equity theorists (e.g., Hatfield, Utne, & Traupmann, 1979; Walster et al., 1978) predict that both underbenefiting inequity and overbenefiting inequity cause distress, but that underbenefiting inequity is more distressing. The theory further predicts that the distress is likely to strain the relationship and decrease overall satisfaction and commitment. This distress leads an individual to seek to restore equity by either changing his or her own contributions, convincing the partner to change his or hers, or convincing him or herself that the inequity does not exist (i.e., change perceptions and expectations of each partner's contributions and outcomes). If these attempts fail, the relationship is likely to end.

The variables included in investment theory (e.g., Rusbult, 1980, 1983; Rusbult & Buunk, 1993; Rusbult, Drigotas, & Verette, 1994) are rewards, costs, comparison level (general expectations of what one deserves), comparison level for alternatives (expectations of rewards one could obtain elsewhere), and investments (what one gives to the relationship that cannot be retrieved if the relationship were to end). This framework distinguishes between predictors of satisfaction or positive affect experienced in the relationship and commitment, or the intent to maintain and feel psychologically attached to the relationship. The investment model predicts that satisfaction will be greater the higher the rewards and the lower the costs, both as compared to the individual's comparison level. A person's commitment to the relationship is predicted to be affected positively by satisfaction (which is further predicted by the positive difference between rewards and costs) and investments, and negatively by desirable alternatives. Stability of the relationship is expected to be affected directly by commitment and thus indirectly by the other social exchange variables.

Both equity theory and the investment model purport to predict relationship outcomes such as satisfaction, commitment, and stability, although there have been few attempts to compare the relative explanatory power of equity and investment model variables. The general goal of this investigation is to extend the integration of the two social exchange theories by examining the contribution of equity, relative to several investment model variables, in predicting relationship satisfaction, commitment, and stability. Relationship and family researchers, theoreticians, and practitioners have long been interested in identifying the factors

that contribute to relationship happiness and success, and this investigation contributes to this body of literature.

#### REPRESENTATIVE RESEARCH ON EQUITY

Early research that examined equity in intimate relationships found that individuals who reported underbenefit in their relationships experienced the most distress, those who reported equity experienced the least distress, and those who were overbenefited were intermediate between these two groups (for a review, see Hatfield et al., 1979). Research also has provided support for the prediction that distress experienced as a result of inequity strains the overall relationship and is associated with lower satisfaction and commitment (e.g., Davidson, 1984; Sabatelli & Cecil-Pigo, 1985; Sprecher, 1988; Traupmann, Hatfield, & Wexler, 1983; Traupmann, Peterson, Utne, & Hatfield, 1981; Utne, Hatfield, Traupmann, & Greenberger, 1984).

Other research focused on comparing equity with reward level or equality (another justice norm) in predicting relationship quality. These studies found equity to be less important than rewards as a predictor of relationship quality (Cate, Lloyd, & Henton, 1985; Cate, Lloyd, Henton, & Larson, 1982; Cate, Lloyd, & Long, 1988; Desmarais & Lerner, 1989; Martin, 1985; Michaels, Acock, & Edwards, 1986; Michaels, Edwards, & Acock, 1984). Sprecher (1988) compared equity with several investment variables—satisfaction, investments, and alternatives (as well as with the degree of social network support)—in predicting relationship commitment. She found comparison level for alternatives to be the strongest predictor of commitment but also found that equity, satisfaction, and network support explained unique variance in commitment (investments did not explain any additional variance in commitment when the other variables were included in the model). Floyd and Wasner (1994) found equity to be correlated with commitment in bivariate analyses but unrelated to commitment when satisfaction and desirable alternatives also were included in multivariate analyses.

Although equity appears to be at least modestly associated with satisfaction and commitment in concurrent analyses, it appears to do less well in forecasting later relationship stability (see Berg & McQuinn, 1986; Felmlee, Sprecher, & Bassin, 1990; Lujansky & Mikula, 1983). In addition, very little evidence has been found that equity at

one time contributes to a change in relationship quality over time (see Cate et al., 1988; Lujansky & Mikula, 1983). However, VanYperen and Buunk (1990), with a Dutch sample of men and women most of whom were married, found that the more equity that wives perceived at Time 1, the smaller the decrease (or the greater the increase) in their satisfaction a year later. In addition, Grote and Clark (2000), in a longitudinal study of husbands and wives making the transition to parenthood, found that inequity in division of labor at one time contributed to an increase in conflict and a decrease in satisfaction 6 to 8 months later, although for wives only.

Although equity appears not to be a strong predictor of change in relationship quality, what about the reverse causal direction? Is there evidence that dissatisfaction in a relationship leads people to perceive or create inequities? Some exchange theorists (e.g., Grote & Clark, 2000) have argued that this causal direction is also likely to occur in part because dissatisfaction, as a negative emotion, can trigger people to become more focused on what is going on in their relationship and possibly lead to biased retrieval of information on who is contributing what. In support of this prediction, Grote and Clark (2000) found that conflict and dissatisfaction measured at one time (for both husbands and wives) predicted greater inequity in household tasks several months later.

#### A BRIEF OVERVIEW OF RESEARCH ON THE INVESTMENT MODEL

Rusbult and her students have provided several tests of the predictions derived from the investment model (e.g., Duffy & Rusbult, 1986; Rusbult, 1980, 1983; Rusbult, Johnson, & Morrow, 1986; Rusbult & Martz, 1995; Rusbult, Martz, & Agnew, 1998). In addition, others have tested some of the associations predicted from the theory (e.g., Bui, Peplau, & Hill, 1996; Felmlee et al., 1990; Floyd & Wasner, 1994; Kurdek, 1992; Sacher & Fine, 1996; Simpson, 1987). This previous research has found satisfaction to be generally predicted by rewards but less affected by costs. In a majority of the studies, commitment has been found to be associated positively with investments and rewards and associated negatively with comparison level for alternatives. However, and as noted earlier, very little research has examined investment model variables along with justice norms (e.g., equity). In addition, very little of the research has been longitudinal, particularly

of the type that includes measures of the theoretical variables at later time points (see, however, Rusbult, 1983).

#### PURPOSES OF THIS INVESTIGATION

The first purpose of this study is to examine the unique association of equity with commitment and satisfaction, relative to rewards, investments, and comparison level for alternatives, with all variables measured concurrently. I hypothesize that inequity (particularly underbenefiting inequity) and alternatives will be associated negatively with commitment and satisfaction, and that rewards and investments will be associated positively with commitment and satisfaction. Although prior research (e.g., Cate et al., 1988; Martin, 1985) suggests that rewards will be a more important predictor of satisfaction and commitment than equity, little prior research has compared equity with other investment model variables, and thus the importance of equity relative to the other variables will be explored.

The second purpose is to examine whether equity predicts change in satisfaction and commitment over time. As noted previously, most of the research demonstrating links between equity and relationship outcomes has been based on cross-sectional data. Only VanYperen and Buunk (1990) and Grote and Clark (2000) found any evidence that equity may contribute to a change in satisfaction, and for women only. In the present study, panel analyses examine how equity measured at Time  $n$  predicted satisfaction (and commitment) at Time  $n + 1$  controlling for satisfaction (commitment) at Time  $n$ . As a comparison, similar analyses are conducted with the other social exchange variables.

The third purpose is to test the reverse causal direction between equity and relationship quality—does inequity arise out of relationship unhappiness? Individuals may perceive preexisting inequities or create new ones only if a relationship dips below a certain threshold of relationship quality. Panel analyses examine how satisfaction (and commitment) measured at Time  $n$  predicts inequity at Time  $n + 1$  controlling for inequity at Time  $n$ . As a comparison, similar analyses are conducted with the other social exchange variables.

The final purpose of this study is to examine the degree to which equity predicts the stability of the relationship, also in comparison with other social exchange variables. Although inequity should

have a negative effect on the entire relationship and lead to dissolution, previous research (e.g., Berg & McQuinn, 1986; Felmler et al., 1990; Lujansky & Mikula, 1983) has found almost no support for the theory that equity predicts which couples break up and which remain together over time. Investment model variables (e.g., comparison level for alternatives) have done better in forecasting the final status of the relationship (e.g., Berg & McQuinn, 1986; Bui et al., 1996; Rusbult et al., 1998), although most previous longitudinal studies have followed couples over a limited period of time or at only one follow-up (the Bui et al. study is an exception).

In sum, through both concurrent and longitudinal analyses, equity is compared to other social exchange variables in predicting satisfaction and commitment (including change in satisfaction and commitment) and relationship stability with a sample of romantic couples. In addition, the longitudinal data allow for the examination of the degree to which change in equity (and the other exchange variables) is affected by satisfaction and commitment.

## METHOD

### *Overview of the Data*

The data are from a longitudinal study conducted at a Midwestern university with a volunteer sample of romantic couples. The original sample consisted of both partners of 101 dating couples who completed a self-administered questionnaire in fall 1988. The first follow-up was conducted 6 months later (spring, 1989), and then three additional follow-ups were conducted approximately annually (spring-summer of 1990, 1991, and 1992).

Most of the participants were university undergraduate students when they first participated at Time 1. They were recruited primarily through advertisements in the student newspaper and posters placed around campus. The mean age of the participants at Time 1 was approximately 20 years (by Time 5, the participants were, on the average, 24–25 years of age). Most of the sample was White (97.5%) and of the middle or upper-middle class (86.6%). The mean number of months the couples had been dating was 18.7.

All of the participants at Time 1 and some of the participants at the follow-ups completed the questionnaire in a university office. In the follow-ups, the couples were initially contacted over the phone to determine the current status of their re-

lationships. Participants who had moved away were mailed the questionnaire, with a stamped, self-addressed return envelope. Generally, there was very little refusal to participate, particularly among couples whose relationships remained intact. Of the 41 couples who remained together over the study, 38 of the women and 36 of the men participated at all five waves of the study. (Six participants from five different relationships did not participate in one of the waves, and one couple [two participants] were missing at two waves.) A higher rate of nonresponse occurred in the final contact (the breakup questionnaire) for the subsample of couples who broke up, although the response rate was still high (86%).

### *Measurement*

*Social Exchange Measures.* At each wave of the study, equity, rewards, and investments were assessed by both a detailed measure and a global item. The detailed measure for each exchange variable was based on the six resources included in Foa and Foa's (1974) classification of resources—love (affection, warmth); status (prestige, esteem); money (cash, credit, earning potential, paying on dates); material goods (gifts, sharing possessions); services (favors, comfort); and information (knowledge, common sense); it also included the resource sex (meeting needs and preferences) (see also Cate et al., 1988; Michaels et al., 1984). The exchange variables were assessed in the following order:

*Rewards.* Participants were first asked to indicate how rewarding their partner's contributions have been in each of the seven resource areas. A 1 (*very unrewarding*) to 7 (*very rewarding*) response scale followed each resource. The mean of these seven items represents the participant's score on the rewards scale. Cronbach's alpha ranged from .70 to .93 for men and women across the five waves of the study. Participants also were asked the global item: "When you think about everything that your partner has to offer to you and the relationship (in the areas above as well as in other areas), how unrewarding or rewarding are his/her contributions?" This was followed by a 1 (*very unrewarding*) to 7 (*very rewarding*) response scale. Because the scores on the rewards scale and the global reward item were highly correlated ( $r$  ranged from .60 to .82 for men and women across the waves), they were averaged for a total rewards score.

*Investments.* Participants were then asked to indicate how much they had invested of each of the resources listed. An investment was defined as "something you put into the relationship that cannot easily be taken back if the relationship were to end." The same list of seven resources was provided, with each item followed by a 1 (*very little invested*) to 7 (*a great deal invested*) response scale. Cronbach's alpha ranged from .63 to .75. The global item of investments was: "Overall, how much have you invested into the relationship?" (options ranged from 1 = *very little invested* to 7 = *a great deal invested*). The mean score to the investment scale and the global item were correlated ( $r$  from .48 to .75) and were averaged for a total investments score.

*Equity.* Participants were then asked to indicate the degree to which the exchange in each resource area was fair or unfair. Participants responded to each resource on a 7-point scale, where 1 = *very unfair; I'm getting the worse deal*; 4 = *fair*; and 7 = *very unfair; I'm getting the better deal*. A total score on the equity scale was represented by the mean of the seven items. Cronbach's alpha ranged from .48 to .72. A global equity measure was represented by the Hatfield Global Equity Measure (described in Hatfield et al., 1979), which asks participants to indicate who is getting a better deal in the relationship (options ranged from 1 = *I am getting a much better deal than my partner* to 7 = *My partner is getting a much better deal than I am*; 4 was the equitable response). This item was recoded so that the lower scores (1–3) represented an underbenefiting response, and the higher scores (5–7) represented an overbenefiting response. Scores on the equity scale and the global item were correlated ( $r$  ranged from .43 to .73) and were averaged for a total equity score.

Equity, as measured in this study, differs from the other social exchange variables because it is curvilinear (the midpoint represents equity, and low and high scores represent two types of inequity). Various analytic approaches have been used in prior research to deal with equity in combination with linear variables (for a review of these strategies, see Sprecher & Schwartz, 1994). The approach used here was to develop underbenefiting and overbenefited indices created from the mean of the equity scale and the Hatfield global item (also see Sprecher, 1986). The analysis is similar to dummy variable regression in that there are two variables that represent the three possible

categories of equity. If a participant had an equity score of 4 or higher, his or her score on the underbenefiting index was 0; otherwise the score on the underbenefiting index was the absolute value away from the midpoint of the equity score. A participant's score on the overbenefiting index was 0 if he or she had a score of 4 or lower on the equity score; otherwise the score was the absolute value away from the midpoint of the equity score. For example, a mean equity score of 3.79 resulted in a score of .21 on the underbenefiting index and a score of 0 on the overbenefiting index. A mean score of 4.14 resulted in a score of .14 on the overbenefiting index and a score of 0 on the underbenefiting index.

*Comparison level for alternatives.* Later in the questionnaire, five items were included to measure the quality and likelihood of alternative situations in comparison to continuing the relationship. These were: "Considering what you have to offer, how difficult/easy would it be to find a new partner?" (1 = *very difficult*; 7 = *very easy*); "Considering the number of 'eligibles' you are aware of, how difficult/easy would it be to find a new partner?" (1 = *very difficult* to 7 = *very easy*); "Considering what you have to offer and the number of 'eligibles' you are aware of, how do you think you would fare in finding a new partner? That is, how would the new partner compare to your present partner?" (1 = *far worse than present partner* to 7 = *far better than present partner*); "Think about the alternative of being unattached (not dating anyone for a while). Right now, how desirable is this alternative compared to your current situation?" (1 = *far worse than current situation* to 7 = *far better than current situation*); and "Consider your alternatives to the relationship. These alternatives could include beginning a relationship with another person, begin seeing several people, or spending time alone. All things considered, how do your alternatives compare with your relationship with your partner?" (1 = *relationship with partner is much worse than alternatives* to 7 = *relationship with partner is much better than alternatives*). Comparison level for alternatives was represented by the mean of these five items, after the last item was reverse scored. The higher the score, the better and more likely are the alternatives. Cronbach's alpha ranged from .54 to .81.

*Relationship Quality Measures.* There are two major subcategories measuring relationship quality:

● *Satisfaction.* The Hendrick (1988) Relationship Assessment Scale was used to measure general satisfaction in the relationship. Example items of this seven-item scale include, "In general, how satisfied are you with your relationship?" and "To what extent has your relationship met your original expectations?" A 5-point response scale was provided for each item. The mean of the seven items represents the total score. Cronbach's alpha ranged from .65 to .87.

● *Commitment.* Five items were included to measure relationship commitment. Four of these items were from the commitment scale developed by Lund (1985) and include "How likely is it that your relationship will be permanent?" and "How likely are you to pursue another relationship or single life in the future?" The final item was the direct question, "How committed are you to your partner?" Each item was followed by a 7-point response scale. The mean of the five items represents the total score. Cronbach's alpha ranged from .52 to .97.

## RESULTS

The analyses presented are based on the participants' data from Time 1 and from each of the follow-ups at which their relationship was intact.

### *Preliminary Analyses*

At each wave of the study, men and women described their relationship as generally equitable, the rewards they received to be high, their investments to be considerable, and alternatives to be only slightly desirable and available. A table of means and standard deviations for the exchange variables is available by writing the author. The participants also reported high levels of satisfaction and commitment (see Sprecher, 1999).

As part of preliminary analyses, I also examined the intercorrelations among the exchange variables at each wave of the study (for each gender separately). Scores on the underbenefiting and overbenefiting indices at each wave of the study were moderately and negatively correlated ( $-.16$  to  $-.34$ , mean  $r = -.26$ ). Underbenefiting inequity was correlated negatively with rewards ( $-.19$  to  $-.66$ , mean  $r = -.46$ ), generally unrelated to investments ( $-.16$  to  $.10$ , mean  $r = -.01$ ), and generally positively related to perceptions of alternatives ( $.02$  to  $.49$ , mean  $r = .25$ ). Overbenefiting inequity was generally unrelated to the other exchange variables, with the exception of a sig-

nificant ( $p < .01$ ) negative correlation with investments at Time 3 for men ( $-.35$ ) and women ( $-.46$ ) and at Time 4 for men ( $-.39$ ), and a positive correlation ( $.26$ ,  $p < .01$ ) with rewards at Time 1 for women. Rewards and investments were positively correlated ( $.43$  to  $.81$ , mean  $r = .63$ ). Finally, alternatives were negatively correlated with rewards ( $-.13$  to  $-.68$ , mean  $r = -.43$ ) and with investments, although less so ( $-.09$  to  $-.46$ , mean  $r = -.24$ ). In general, then, with the exception of a few high correlations between rewards and investments (particularly at later waves of the study), multicollinearity among the independent variables was not a problem. For a table of the specific correlations, write to the author.

*The Association Between Exchange Variables and Satisfaction and Commitment.* The first major purpose of this study was to examine how equity and the other exchange variables were related to satisfaction and commitment, all measured concurrently. Table 1 presents these correlations for each wave of the study. Because of the number of correlations considered in these analyses, statistical significance was set to  $p < .01$  (rather than the standard  $p < .05$ ) in order to reduce the likelihood of a Type I error.

The first two columns of Table 1 present the correlations between the exchange variables and satisfaction and commitment, all measured at Time 1 for the full sample. These correlations generally support the first set of predictions. For both men and women, satisfaction and commitment were associated negatively with underbenefiting inequity (although the correlation with commitment did not reach significance for men) and alternatives and were associated positively with rewards and investments. Overbenefiting inequity, however, was not significantly associated with either satisfaction or commitment.

Multiple regressions also were conducted with the full sample at Time 1 in order to examine the unique contribution of equity, relative to the other social exchange variables, in predicting satisfaction and commitment. These results are presented in Table 2. As a set, the exchange variables accounted for a significant amount of variance in both satisfaction ( $R^2 = .60$  for men and  $.56$  for women) and commitment ( $R^2 = .59$  for men and  $.57$  for women). For men, satisfaction was uniquely predicted by underbenefiting inequity, rewards, and alternatives (in that order). For women, satisfaction was uniquely predicted by rewards and

TABLE 1. CORRELATIONS OF EXCHANGE VARIABLES WITH SATISFACTION AND COMMITMENT AT FIVE WAVES

Variable	Time 1		Time 2		Time 3		Time 4		Time 5	
	M (100)	W (101)	M (80)	W (79)	M <sup>a</sup> (80)	W (62)	M (46)	W (48)	M (37)	W (39)
<b>Satisfaction</b>										
Underbenefiting inequity	-.56***	-.41***	-.51***	-.38**	-.45***	.00	-.61***	-.36	-.10	-.11
Overbenefiting inequity	.08	.21	.15	.11	-.08	-.27	.04	-.03	-.14	-.05
Rewards	.67***	.73***	.74***	.78***	.71***	.63***	.72***	.71***	.73***	.43**
Investments	.34**	.41***	.52***	.48***	.48***	.56***	.30	.69***	.53***	.43**
Alternatives	-.51***	-.37***	-.67***	-.46***	-.64***	-.48***	-.57***	-.46**	-.62***	-.17
<b>Commitment</b>										
Underbenefiting inequity	-.24	-.37***	-.34**	-.37**	-.06	.03	-.39**	-.46**	-.01	.01
Overbenefiting inequity	.00	.11	.01	.11	-.03	-.38**	-.09	-.04	-.19	.07
Rewards	.55***	.56***	.68***	.60***	.64***	.60***	.67***	.59***	.67***	.36
Investments	.46***	.49***	.57***	.34**	.34**	.56***	.40**	.55***	.42**	.35
Alternatives	-.69***	-.57***	-.73***	-.61***	-.72***	-.65***	-.75***	-.76***	-.75***	-.34

Note: M = men; W = women.  
<sup>a</sup>n = for satisfaction = 57; n for commitment = 59.  
 \*\*\*p < .001. \*\*p < .01. \*p < .05.

TABLE 2. MULTIPLE REGRESSION OF SATISFACTION AND COMMITMENT ON SOCIAL EXCHANGE VARIABLES AT TIME 1

Variable	$\beta$	
	Men	Women
Satisfaction		
Underbenefiting inequity	-.35***	-.05
Overbenefiting inequity	-.04	.04
Rewards	.34***	.60***
Investments	.15	.10
Alternatives	-.25**	-.16*
R <sup>2</sup>	.60***	.56***
Commitment		
Underbenefiting inequity	.05	-.22*
Overbenefiting inequity	.00	.00
Rewards	.30**	.14
Investments	.20*	.37***
Alternatives	-.54***	-.40***
R <sup>2</sup>	.59***	.57***

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

also by alternatives, although less so. Commitment was uniquely predicted by alternatives, rewards, and investments (in that order) for men and by alternatives, investments, and underbenefiting inequity (in that order) for women.

Multiple regressions were not conducted with the follow-up data, because the results could be misleading with the smaller  $n$  sizes in combination with the number of independent variables. However, the correlations conducted at the follow-ups, which are presented in Table 1, indicate that the positive associations of rewards and investments with satisfaction and commitment and the negative associations of alternatives with satisfaction and commitment were generally found (with a few exceptions that did not reach significance) in each wave's subsample. However, the correlations of inequity with satisfaction and commitment were somewhat less consistent across the panels of the study. Generally, underbenefiting inequity was associated negatively with satisfaction, although this association was not found in the Time 3 and Time 4 subsamples for women and was also not found for either gender in the Time 5 subsample. Similarly, underbenefiting inequity was unrelated to commitment for both genders in the Times 3 and 5 subsamples. Overbenefiting inequity was generally unrelated to satisfaction and commitment but was associated negatively with commitment for women in the Time 3 subsample. It must be noted that the correlations in Table 1 cannot be compared for drawing conclusions about how the associations change over time because the sub-

samples of participants differed (declined) across waves of the study.

#### *Equity and Social Exchange as Predictors of Change in Satisfaction and Commitment*

The second purpose of this investigation was to examine whether equity contributes to a change in satisfaction and commitment. This was first examined by regressing the Time 2 score of satisfaction (commitment) on the Time 1 score of underbenefiting inequity, controlling for the Time 1 score on satisfaction (commitment). Similar analyses were conducted with overbenefiting inequity. A significant beta for the predictor variable (e.g., underbenefiting inequity) would indicate that it is significantly associated with change in the dependent variable (e.g., satisfaction) over time. In these results, satisfaction at Time 1 was a significant predictor of satisfaction at Time 2 (6 months later), and furthermore, commitment at Time 1 was a significant predictor of commitment at Time 2 (betas ranged from .43 to .65,  $p < .001$ ). However, underbenefiting inequity at Time 1 did not predict satisfaction and commitment at Time 2, controlling for satisfaction and commitment at Time 1 (betas ranged from  $-.16$  to  $.05$ ). Thus, no evidence was found that equity contributes to a change in satisfaction and commitment over time.

I also conducted similar regressions for underbenefiting inequity only (with satisfaction and commitment) for Times 2 and 3, Times 3 and 4, and Times 4 and 5. In the analyses for consecutive later waves, some evidence was found that Time  $n$  underbenefiting inequity predicted Time  $n + 1$  satisfaction or commitment, although only for men. For men, Time 4 satisfaction was predicted by Time 3 underbenefiting inequity (beta =  $-.37$ ,  $p < .01$ ), controlling for Time 3 satisfaction. Furthermore, men's Time 4 commitment was predicted by their Time 3 underbenefiting inequity (beta =  $-.24$ ,  $p < .05$ ), controlling for their Time 3 commitment. Thus, men experienced greater increases in their satisfaction and commitment between Times 3 and 4 the lower their underbenefiting inequity score at Time 3 (i.e., the more equity they perceived).

A similar set of over-time regressions was conducted for rewards, investments, and alternatives with Times 1 and 2 data only. Some evidence was found that women's perceptions of rewards at Time 1 predicted an increase in their satisfaction and commitment 6 months later. The beta for Time 1 rewards as a predictor of Time 2 satisfac-

tion was .21 ( $p < .05$ ), controlling for Time 1 satisfaction. In addition, for women, the beta for Time 1 rewards as a predictor of Time 2 commitment was .21 (marginally significant at  $p = .055$ ), controlling for Time 1 commitment. Women's investments at Time 1 also contributed to a change in commitment 6 months later. The beta for Time 1 investments as a predictor of Time 2 commitment, controlling for Time 1 commitment, was .24 ( $p < .05$ ).

#### *Satisfaction and Commitment as a Predictor of Changes in Equity and Social Exchange*

The third purpose of this research was to examine the reverse causal direction. Does satisfaction or commitment measured early in the relationship contribute to a later change in equity? To examine this, Time 2 underbenefiting inequity was regressed on Time 1 satisfaction and commitment (one at a time), controlling for Time 1 underbenefiting inequity. For men, Time 2 underbenefiting inequity was not predicted by either Time 1 satisfaction or Time 1 commitment, controlling for Time 1 underbenefiting inequity. However, for women, Time 2 underbenefiting inequity was predicted by Time 1 satisfaction (beta =  $-.28$ ,  $p < .01$ ), controlling for Time 1 underbenefiting inequity. Time 1 commitment also had a near significant effect (beta =  $-.19$ ,  $p = .06$ ) on Time 2 underbenefiting inequity, controlling for Time 1 underbenefiting inequity. These results indicate that women experienced a greater increase in underbenefiting inequity between Time 1 and Time 2 the lower their satisfaction and commitment at Time 1. No evidence was found that satisfaction and commitment contributed to a change in overbenefiting inequity by Time 2 for either men or women.

Evidence of a reverse causal direction was also found at the later follow-ups. Men experienced a decrease in their underbenefiting inequity between Times 2 and 3, the greater their satisfaction at Time 2 (beta =  $-.26$ ,  $p < .05$ ). In addition, there was a near significant effect (beta =  $-.27$ ,  $p = .053$ ) of women's commitment at Time 3 as a predictor of their underbenefiting inequity at Time 4, controlling for Time 3 underbenefiting inequity.

Such a reverse causal direction also was examined for the other exchange variables in a set of regressions conducted with the Times 1 and 2 data. Evidence was found that Time 2 rewards were predicted by Time 1 satisfaction, controlling for Time 1 rewards for women (beta =  $.29$ ,  $p <$

$.01$ ). Furthermore, for women, Time 2 rewards were predicted by Time 1 commitment (beta =  $.21$ ,  $p < .01$ ), controlling for Time 1 rewards. These results indicate, then, that for women only, greater satisfaction and commitment at Time 1 were associated with an increase in rewards by Time 2. However, no evidence was found that Time 2 investments or alternatives were predicted by Time 1 satisfaction or commitment, for either gender.

#### *Predicting Stability of the Relationship*

The final purpose of this study was to examine how equity and the other social exchange variables, as well as satisfaction and commitment, were associated with the likelihood of relationship dissolution. Spearman correlations were first used to examine these associations. The analyses conducted were the following: (a) correlations between the exchange variables measured at Time 1 and the likelihood of breakup by Time 2 (1 = intact; 2 = broken up); (b) correlations between the exchange variables measured at Time 1 and the likelihood of breakup at any time during the study (1 = intact; 2 = broken up); and (c) correlations between the exchange variables measured at Time 1 and the timing of the breakup, operationalized as: 1 = not broken up yet; 2 = broken up between Times 4 and 5; 3 = broken up between Times 3 and 4; 4 = broken up between Times 2 and 3; and 5 = broken up between Times 1 and 2; thus, the higher the score, the earlier the breakup. These correlations are presented in Table 3.

The strongest and most consistent predictor of the likelihood of a breakup was the woman's commitment (significant in all three correlations). Women's perception of alternatives also was a consistent predictor of breakups, as indicated by the correlations. Variables associated significantly with two (out of three) operationalizations of breakup were men's commitment, women's underbenefiting inequity, women's rewards, and women's satisfaction. The significant effects found were in the directions predicted. Commitment, satisfaction, and rewards were associated negatively with the likelihood of breakup, and underbenefiting inequity and alternatives were associated positively with the likelihood of breakup. (Women's overbenefiting inequity score was actually associated with the lesser likelihood of a breakup by Time 2.) Investments were not asso-

TABLE 3. SPEARMAN CORRELATIONS OF EQUITY, OTHER EXCHANGE VARIABLES, SATISFACTION, AND COMMITMENT WITH LIKELIHOOD OF BREAKING UP

	Broken Up by Time 2/ Time 1 Predictors	Broken Up by Time 5/ Time 1 Predictors	How Soon Broken Up/ Time 1 Predictors
Men's scores			
Underbenefiting inequity	-.02	.03	.06
Overbenefiting inequity	.13	-.08	-.04
Rewards	-.10	-.13	-.18
Investments	-.05	-.11	-.16
Alternatives	.20*	.09	.16
Satisfaction	-.13	-.17	-.23*
Commitment	-.26**	-.17	-.25*
Women's scores			
Underbenefiting inequity	.38***	.12	.25*
Overbenefiting inequity	-.22*	-.04	-.14
Rewards	-.28**	-.15	-.22*
Investments	-.14	-.11	-.15
Alternatives	.35***	.25*	.32**
Satisfaction	-.31**	-.18	-.25*
Commitment	-.46***	-.42***	-.52***

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

ciated with breakups, regardless of how breakup was operationalized.

Second, regressions were conducted with all of the predictors included, with each operationalization of breakup as the dependent variable one at a time. In predicting the likelihood of breakup at Time 2 and in predicting the likelihood of breakup ever in the study (dichotomous dependent variables), logistic regression was used. In the logistic regression for relationship status at Time 2, none of the Time 1 predictors reached significance for either men or women. (However, in analyses that included only the Time 1 exchange variables as predictors, without also satisfaction and commitment, underbenefiting inequity and alternatives were significant [ $p < .05$ ] and positive, unique predictors for women.) In the logistic regression for relationship status at the end of the study, no Time 1 predictor was significant for men. However, for women, commitment was a unique, significant ( $p < .001$ ) predictor of breakups. In predicting the timing of the breakups, linear regression was used. Once again, women's commitment was a significant ( $p < .001$ ) unique predictor of the likelihood (and timing) of breakups. In a regression equation that included only the Time 1 exchange variables (without satisfaction and commitment), underbenefiting inequity and alternatives were significant ( $p < .05$ ) unique predictors of breakups for women.

## DISCUSSION

This study makes an important contribution to the equity and social exchange literatures because contemporaneous effects of equity and exchange were examined at multiple times, effects of equity and exchange on changes in relationship quality across time points were examined, and reverse causal directions (relationship quality leading to changes in equity and exchange) were explored. Furthermore, this study extended prior investigations on determinants of breakups by monitoring the status of the relationships over an extended period of time (almost 5 years), including data from both partners of the couple, and comparing predictors from two theoretical frameworks on social exchange (equity and interdependence-investment). However, because of the number of ways that the theoretical associations could be tested with multiwave data, interpretations can be problematic, particularly because findings are not always consistent across times, as will be discussed in the following.

### *Equity as a Predictor of Relationship Satisfaction and Commitment*

The prediction from equity theory that the distress associated with inequity is likely to strain the overall relationship and decrease satisfaction and commitment in the relationship received some support in the concurrent analyses, although only

for underbenefiting inequity. In bivariate correlational results, underbenefiting inequity was found to be associated negatively with both satisfaction and commitment, for both genders, although not at all five waves. For example, in the Time 5 subsample, underbenefiting inequity was not associated significantly with satisfaction or commitment for either gender. A selection effect may explain the decreasing association between underbenefiting inequity and relationship quality. For example, the couples who survived to Time 5 are a select group of couples whose satisfaction with the relationship may have been generally unaffected by fairness concerns. Further analyses (not presented in the paper but available by writing the author) were conducted to examine how the correlations changed over time specifically for the subsample of respondents who remained in their relationship and participated at all waves of the study. For the men in this subsample, the negative association of underbenefiting inequity with satisfaction and commitment was reduced to nonsignificance by Time 5. For women in this select group, the association of underbenefiting inequity with satisfaction and commitment was weak at all waves of the study. These are happy and committed couples at one of the most exciting stages of their relationship (most were approaching marriage or going through the honeymoon phase). Any inequities experienced during this stage may be perceived positively—as signs of one's own or one's partner's willingness to sacrifice. Thus, there may be a window of time in the progression of heterosexual romantic relationships, shortly before and after marriage, during which perceived inequities are less consequential for the quality of the relationship. The relatively small sample by Time 5 (<40 couples), however, reduces the generalizability of these results.

#### *The Importance of Equity Relative to Other Social Exchange Variables*

The present study generally indicated that underbenefiting inequity was a unique predictor, distinct from rewards and other exchange variables, of relationship quality. For example, in the multiple regression results conducted at Time 1, underbenefiting inequity (controlling for the other social exchange variables) explained unique variance in satisfaction for men and unique variance in commitment for women. Nonetheless, and consistent with the previous studies (e.g., Cate et al., 1982; Cate et al., 1988; Desmarais & Lerner, 1989; Mar-

tin, 1985; Michaels et al., 1986; Michaels et al., 1984), there was some evidence that rewards were more important than equity in predicting relationship quality. For example, the correlational results conducted at each wave indicated that rewards were consistently associated with satisfaction and commitment, whereas underbenefiting inequity was not (as noted earlier). Rewards were particularly important as a predictor of satisfaction, especially for women.

In support of the investment model, investments were generally correlated significantly and positively with commitment (as well as satisfaction) for both genders at each wave of the study. In addition, investments were a significant predictor of commitment for both men and women in the multiple regression analyses. Contrary to the results of the present study, an earlier study (Sprecher, 1988) found that investments did not explain any unique variance in commitment, once equity and other investment model variables were controlled. However, there are at least two differences between the studies that may explain the stronger effect of investments in the present study. Sprecher (1988) included among the predictor variables social approval from networks of family and friends, which was found to be a positive predictor of commitment. Embeddedness in a larger network of supportive family and friends may be an important component of feeling invested in the relationship, and thus the variance left to be accounted for by general investments may have been reduced. The other difference is that investments were measured by only one item in the Sprecher (1988) study. The limited variance of a one-item measure may have reduced the amount of unique variance that can be explained. In contrast, investments were operationalized in this study by a combination of detailed measures and a global item.

Of all the variables considered in this study, comparison level for alternatives was most highly associated with commitment in the multiple regression analyses. Alternatives also were found to be a significant and unique predictor of satisfaction. Furthermore, the correlational results conducted at each wave of the study indicated that alternatives were consistently and negatively correlated with both commitment and satisfaction for both genders. Several other previous studies also found comparison level for alternatives to be an important predictor of a relationship outcome variable (e.g., Michaels et al., 1986; Rusbult, 1983; Sprecher, 1988). The strength of alternatives in the

contemporaneous results is not surprising. Those who lack alternatives are likely to remain committed (and satisfied), but also those who are satisfied and committed to the relationship are likely to devalue alternatives (e.g., Johnson & Rusbult, 1989).

In sum, underbenefiting inequity was a unique predictor of satisfaction (for men) and commitment (for women) at Time 1, controlling for the other social exchange variables, but was less consistently correlated with satisfaction and commitment over time than were the other exchange variables.

#### *Equity and Social Exchange as Predictors of Change in Satisfaction and Commitment*

Very little evidence was found in this study that inequity in a relationship at one time can erode the relationship and decrease satisfaction and commitment at a later time. For example, no evidence was found that underbenefiting inequity at Time 1 contributed to a change in satisfaction or commitment by Time 2 for either men or women. However, the more underbenefited men perceived themselves to be at Time 3, the more their satisfaction and commitment decreased by Time 4. There are many possible explanations for the general failure of equity to contribute unique variance in satisfaction and commitment at a later date (controlling for earlier equity). First, the participants' satisfaction and commitment scores were already quite high early in the study, and thus ceiling effects may have been reached, preventing further increases. Second, the relationships tended to remain generally equitable over time, and furthermore, the types of inequities that may have been experienced were probably not severe enough to set in motion a chain of events that would decrease satisfaction or commitment 6 months to 1 year later. Finally, it may be that those couples who were most susceptible to having a decrease in satisfaction or commitment at a later time because of an earlier equity broke up and thus were removed from the sample.

Equity was not unique in its weak over-time effects. The other exchange variables also did not evidence strong links with later increases or decreases in satisfaction and commitment. However, there was some evidence that rewards and investments measured at Time 1 were associated with an increase in relationship quality by Time 2, but for women only.

#### *Satisfaction and Commitment as Predictors of Change in Equity and Social Exchange*

Critics of equity theory have argued that people may not perceive inequities or become upset about inequities until the relationship becomes dissatisfying. For example, Duck (1982) suggested that evaluations of equity and exchange do not occur in earnest until initial stages of the breakup process. Equity theory predictions are not necessarily incompatible with the prediction that a decreased level of satisfaction and commitment is likely to lead to inequity. Both processes could operate, possibly at different times in the relationship.

As discussed previously, there was only a small amount of evidence that equity measured at one time led to changes in satisfaction and commitment at a later date. Only slightly stronger support was found for the opposite causal direction. High scores on satisfaction and commitment at Time 1 were associated with decreases in underbenefiting inequity by Time 2 for women. Furthermore, high satisfaction at Time 2 was related to a decrease in underbenefiting inequity by Time 3 for men. There was also slight evidence that other social exchange variables (e.g., rewards) change as a function of earlier satisfaction and commitment. However, in general, the evidence for the reverse causal direction (relationship quality leading to changes in social exchange) was no more consistent across times and genders than was evidence for the causal directions predicted by the social exchange theories. Nonetheless, the significant results that were found point to the importance of examining social exchange variables not only as predictors of relationship quality but also as consequences. When relationships experience a downturn, for whatever internal or external reason, a process may be set in motion in which the partners are particularly sensitive to equity and exchange issues.

These findings also highlight the importance more generally of studying consequences of change in relationship satisfaction and commitment. In most research, relationship quality is the dependent variable rather than the independent variable (see Glenn, 1990). However, relationship quality variables (e.g., commitment) are likely to affect several interactional, behavioral, cognitive, and affective phenomena in relationships, including those experienced by the partner.

*Equity and Social Exchange as Predictors of Relationship Stability Versus Dissolution*

The degree to which equity and the other exchange variables, as well as satisfaction and commitment, were associated with later stability (vs. breakup) of the relationship also was examined. Through both bivariate and multivariate analyses, the associations of the predictor variables measured at Time 1 were examined with all of the following: (a) likelihood of breakup by Time 2, which was 6 months later; (b) likelihood of breakup at any time during the study; and (c) timing of breakup (i.e., how soon the relationship ended). In both the correlational and the regression results, the strongest predictor of stability was women's commitment. The more committed women were, the more likely the couple was to be together 6 months to several years later (men's commitment also was important but was less consistently associated with stability). In addition, in at least some of the analyses, satisfaction and rewards were associated negatively and underbenefiting inequity and alternatives were associated positively with breakups. Thus, the associations that were found were consistent with predictions from equity and exchange theories, although the effects were not as strong as might be expected. Surprisingly, investments were not a significant predictor of breakups in any of the analyses. The finding that women's commitment was most highly associated with breakups suggests that women can better forecast the outcome of the relationship or can determine whether the relationship lasts, which is consistent with some prior research (e.g., Rubin, Peplau, & Hill, 1981). More generally, these results also suggest that women may be more sensitive than men to the quality of the exchange, in part because of their greater relationship focus (e.g., Acitelli & Holmberg, 1993).

*Limitations*

Although this study has the strengths of multiple-wave longitudinal data and data collected from both partners, there are limitations. One primary limitation is the sample. The sample consisted of heterosexual, romantic couples who were initially dating. Whether similar findings would be obtained for other types of relationships (e.g., homosexual, friendship) or for other stages of heterosexual romantic relationships (e.g., long-term marriage) needs to be investigated in future research. Furthermore, the sample was rather ho-

mogeneous on background and demographic characteristics (most were White, middle class, and in college, and all were from the United States). A second potential limitation of the study were the long intervals between measurement. The longitudinal design was based on data collected approximately once a year. Such data may mask fluctuations in equity and relationship quality that occur within that period of time.

*Conclusions*

The results of this study, as well as the results of several other studies conducted in the past two decades (for a review, see Sprecher & Schwartz, 1994), suggest that equity may not be as important as suggested by early theoretical statements (e.g., Walster [Hatfield] et al., 1978) and by the early research testing equity theory, which was characterized primarily by cross-sectional data and the omission of other exchange variables. Nonetheless, judgments about equity, particularly underbenefiting inequity, may play a role in affecting relationship outcomes, although it may be only one link in a larger chain of processes that occur as relationships grow, change, and deteriorate. Perceptions of equity may sometimes contribute to feelings of satisfaction and commitment and may sometimes be influenced by changes in satisfaction and commitment. The exact association between equity (inequity) and the quality of the relationship may depend on the overall state and stage of the relationship. As two people become acquainted, equity issues are likely to be salient and affect whether a relationship is even established. If they are grossly mismatched, they are likely to discover this in the get-acquainted stage. Once a relationship enters a stage of long-term commitment, equity issues may no longer be as salient, and if perceived, they may not be that harmful for the relationship. Most of the relationships represented in this study, particularly those that remained intact, were of this nature. Such couples probably have strong optimism as they approach marriage. Later in most long-term relationships, however, couples face changes, transitions (including parenthood), and stressors, and dissatisfaction may arise because of both internal and external factors, which can lead the partners to perceive inequities. In a study of the association of equity and relationship quality for married couples during the transition to parenthood, Grote and Clark (2000) proposed a process model, which states that the perception of inequity may initially

arise out of feelings of distress, but that the perceived inequity may then escalate the distress (in accord with equity theory). A challenge for future research is to determine what other factors are associated with perceptions of equity becoming salient and having detrimental effects on relationships. One possible such factor is the awareness that in comparison to others in similar roles, one is less well off, which has been referred to as *referential comparisons* (e.g., VanYperen & Buunk, 1994).

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