# Relationship Satisfaction in Dating Relationships and Same-Sex Friendships: A Comparison and Integration of Equity Theory and Attachment Theory

By

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## Abstract

Past research has found support for Equity Theory and Attachment Theory in predicting relationship satisfaction. According to Equity Theory, individuals feel satisfied when they are engaged in equitable relationships, where the ratio of benefits to costs is the same across partners. On the other hand, Attachment Theory postulates that a secure attachment style predicts high relationship satisfaction. Although an extensive number of studies have supported these predictions, the present study was the first to compare or integrate Equity Theory and Attachment Theory in predicting relationship satisfaction. A total of 384 introductory psychology students completed questionnaires. Simultaneous multiple regression indicated that partner's input and the avoidance dimension of attachment were the two largest predictors of relationship satisfaction among overall sample. Hypotheses regarding the relation between equity level and attachment styles were only partially supported. In addition, three proposed models for predicting satisfaction were tested. The first model, based on Equity Theory, showed that underbenefiting exchange orientation, communal orientation, and closeness predicted the level of equity, which in turn led to relationship satisfaction. The second model, based on Attachment Theory, indicated that attachment styles affected the level of self-disclosure leading to intimacy and closeness, which predicted satisfaction. The third model integrated the two theories and showed that attachment styles predicted equity, which influenced the level of self-disclosure. Self-disclosure influenced intimacy and closeness, which led to relationship satisfaction. The integrated model best predicted relationship satisfaction among the three proposed models. Finally, sex differences and differences between friendships and dating relationships were also discussed.

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# Relationship Satisfaction in Dating Relationships and Same-Sex Friendships: A Comparison and Integration of Equity Theory and Attachment Theory

People engage in a variety of close relationships in their everyday life. These relationships include ones with family members, friends, and romantic partners. Some relationships are more satisfying than others, and the same relationship (e.g., friendship) is more enjoyable for some people than for others. Why is this the case? How are more satisfying relationships different from less satisfying ones? What are the determinants of relationship satisfaction? Equity and Attachment Theories are two theories providing some insights into these questions. According to Equity Theory, individuals who perceive their relationships as equitable feel more satisfied compared to those who are in overbenefiting and underbenefiting relationships (Buunk & VanYperen, 1991; Cate, Lloyd, Henton, & Larson, 1982; Roberto & Scott, 1986; Schreurs & Buunk, 1996; Traupmann, Hatfield, & Wexler, 1983). Past research indicated that one's exchange orientation moderates this relation between equity and satisfaction (Buunk & VanYperen, 1991). Individuals who have a high exchange orientation tend to focus more on equity, and equitable partners feel more satisfied than inequitable partners. On the other hand, individuals who have a low exchange orientation feel satisfied with their relationships regardless of equity level. Communal orientation (Buunk, Doosje, Jans, & Hopstaken, 1993) and interconnectedness (Medvene, Teal, & Slavich, 2000) are other moderating variables found in the previous studies for the relation between equity and satisfaction.

According to Attachment Theory, individuals with secure attachment styles feel more satisfied with their relationships than those with insecure attachment styles (Bippus & Rollin, 2003; Feeney, 1994; Keelan, Dion, & Dion, 1998; Kirkpatrick & Davis, 1994; Koski & Shaver, 1997; Pistole & Clark, 1995; Simpson, 1990; Stackert & Burisik, 2003).

Based on the past studies, closeness (Aron, Aron, & Smollan, 1992), intimacy (Schreurs & Buunk, 1996; Yela, 2000), and self-disclosure (Hendrick, 1981; Hendrick, Hendrick, & Adler, 1988; Keelan et al., 1998) are associated with the relation between attachment and relationship satisfaction. The main goals of the current study included (1) to review and integrate the literature on relationship satisfaction based on Equity Theory and Attachment Theory, (2) to test which variables best predict relationship satisfaction, and (3) to compare predictors of relationship satisfaction in close same-sex friendships and dating relationships.

## Equity Theory

Hatfield, Utne, and Traupmann (1979) applied Equity Theory to close, intimate relationships. Equity is accomplished when the ratio of benefits to costs is equal between both partners. In some relationships, both partners get approximately the same amount of benefits out of the relationship, while both of them contribute to the relationship equally. It is also possible that one person receives more benefits out of the relationship and, at the same time, makes more effort to maintain the relationship, compared to the other person. Equity Theory considers both of these relationships as equitable, as long as both partners receive equal amounts of outcomes relative to each other. In an inequitable relationship, one partner perceives that he/she is getting a better deal (overbenefited) or a worse deal (underbenefited) than the other partner based on the ratio of benefits to costs. According to Equity Theory (Hatfield et al., 1979), people in inequitable relationships feel distress regardless of whether they get too much or too little out of their relationships. Overbenefited individuals may feel more guilt than those who are in equitable or underbenefiting relationships, while underbenefited individuals may feel more anger than those who are in equitable or overbenefiting relationships (Hatfield et al., 1979).

*Empirical Support for the Relation between Equity and Relationship Satisfaction*

If individuals who are in inequitable relationships feel more distress than those in equitable relationships, it is plausible to expect that people in equitable relationships will be more satisfied with their relationships than those who are in either overbenefiting or underbenefiting relationships. In fact, there are some studies supporting this prediction. For instance, it was found that individuals who were in an equitable dating relationship were more satisfied with their relationship than those who were in an inequitable relationship (Cate et al., 1982; Schreurs & Buunk, 1996; Traupmann et al., 1983). Traupmann et al. (1983) argued that since romantic relationships are important components in the lives of university students, they might feel satisfied with their lives overall if they are satisfied with their romantic relationships. In fact, higher equity in their dating relationships was found to be related not only to higher relationship satisfaction but also to higher life satisfaction among university students. The association between equity and relationship satisfaction has also been found in marital relationships (Buunk & VanYperen, 1991) and close friendships among the elderly (Roberto & Scott, 1986). The studies by both Buunk and VanYperen (1991) and Roberto and Scott (1986) showed a significant quadratic trend between equity and relationship satisfaction, indicating that satisfaction was higher in equitable relationships compared to overbenefiting and underbenefiting relationships.

While there are consistent results that people in equitable relationships feel more satisfied than in inequitable relationships, the findings for the relation between equity level and satisfaction are less consistent in inequitable relationships. Among those who are in inequitable relationships, overbenefited people tend to have higher relationship satisfaction than underbenefited people. This has been found for married couples (Buunk

& VanYperen, 1991) and dating couples (Cate et al., 1982). In addition, overbenefited partners in dating relationships were more likely to feel more sexually satisfied than underbenefited partners (Traupmann et al., 1983). In contrast, Roberto and Scott (1986) found that underbenefited elderly tended to be more satisfied with their friendships than those who were in overbenefiting friendships. In addition, Sprecher (2001) found that overbenefiting inequity was not associated with relationship satisfaction of romantic couples, while underbenefiting inequity was associated with a lower level of relationship satisfaction. In contrast, Davis, Williams, Emerson, and Hourd-Bryant (2000) found no significant relation between equity and satisfaction among African American romantic couples.

Thus, the relationship between equity and relationship satisfaction is somewhat inconsistent across different relationship types and different sample groups. In general, romantic partners and friends in equitable relationships tend to feel more satisfied with their relationships than those in inequitable relationships. In addition, among those who are in inequitable relationships, overbenefited partners are more likely to feel satisfied than underbenefited partners. This pattern is most typical in studies using university students as participants. Since participants of the current study were college students, I predicted that people in equitable relationships would be more satisfied with their dating relationships and close same-sex friendships than in inequitable relationships. In addition, I expected that relationship satisfaction would be higher among overbenefited partners than underbenefited partners in both dating relationships and close same-sex friendships.

The previously mentioned studies have analyzed the data on equity and satisfaction with either correlations between these variables or analysis of variance by dividing participants into three groups (i.e., equitable, underbenefiting, and overbenefiting) based

on their equity scores and using satisfaction as a dependent variable. In addition to the association between equity and relationship satisfaction, a few studies have examined if equity is a significant predictor of current and future relationship satisfaction. These results are not conclusive. For example, Lloyd, Cate, and Henton (1982) found that equity predicted present relationship satisfaction in both casual and intimate dating relationships. Equity was the best predictor of satisfaction in casual relationships and the second best predictor in intimate relationships (the amount of information received from their partners was first), accounting for 26% and 18% of the variance respectively. On the other hand, in a longitudinal study, Sprecher (2001) found little evidence that equity among dating couples at one time predicted future changes in satisfaction. Underbenefiting inequity at time one did not predict relationship satisfaction at time two. However, taking participants' sex into account, underbenefiting inequity at time one was a significant predictor of low satisfaction for men at time one, but not for women. When the reverse causal relation was examined, satisfaction contributed to a decrease in underbenefiting inequity, although these results were not consistent across time. Underbenefiting inequity at time two was predicted by satisfaction at time one for women, but not significant for men. In regard to friendships, only two studies have examined this issue and only with senior adults. In these studies, equity was not a significant predictor of current friendship satisfaction (Jones & Vaughan, 1990; Roberto & Scott, 1986). It appears that equity in dating relationships at one time is a good predictor of satisfaction at the same time but cannot predict future satisfaction, and equity is not a significant predictor of present or future friendship satisfaction, at least among the elderly.

*Moderating Variables for the Relation between Equity and Relationship Satisfaction*

Although there is some empirical support for the relation between equity and

relationship satisfaction, there are a few variables that moderate this association. These variables include reward level, exchange orientation, communal orientation, and closeness.

*Reward level*. Reward level is one moderating variable of the equity-satisfaction relation and refers to the extent to which people get benefits out of their relationships. If people emphasize reward level in their relationship more than equity, they tend not to focus on their contribution to their relationship or the comparison of rewards and costs in their relationship with their partner as equity theorists propose. Instead, these individuals only focus on the rewards or benefits they receive from the relationship. In fact, compared to equity, reward level was found to be a better predictor of marital satisfaction (Martin, 1985) and relationship satisfaction among dating couples (Cate et al., 1982; Sprecher, 2001). Cate et al. (1982) reported that reward level accounted for 13.8% of the total variance for relationship satisfaction, while equity level accounted for only 3.9% of the variance.

*Exchange orientation*. Exchange orientation is another variable moderating the relation between equity and satisfaction. Exchange orientation refers to "the degree to which individual members of the dyad seek reciprocity from their partner in goods, services, privileges and demonstrations of affection" (Milardo & Murstein, 1979, p. 279). Individuals who are high in exchange orientation expect immediate and comparable rewards from their relationship partner after providing some rewards to them, while those who are low in exchange orientation do not expect immediate and direct reciprocity (Buunk & VanYperen, 1991; Milardo & Murstein, 1979). Actually, those who are low in exchange orientation feel their marriage relationship is more equitable and more satisfying regardless of equity, while there is a curvilinear trend between equity and

satisfaction for those who are high in exchange orientation (Buunk & VanYperen, 1991). In other words, if individuals score high on exchange orientation, marital satisfaction is greater in equitable relationships than in underbenefiting and overbenefiting relationships. In addition, exchange orientation and the interaction between exchange orientation and equity were significant predictors of current marital satisfaction, while equity itself was not a significant predictor (Buunk & VanYperen, 1991). Research with Dutch employees also indicates a similar moderating effect of exchange orientation. Among individuals with high exchange orientation, negative affect was significantly lower when they felt their relationship with the superior was equitable than when they felt the relationship was inequitable, while those with low exchange orientation overall felt low negative affect regardless of equity (Buunk et al., 1993).

Exchange orientation can also be seen as a moderating variable for the relation between equity and relationship satisfaction in the study of friendships among senior adults. As mentioned earlier, higher equity was related to higher friendship satisfaction in close friendships (Roberto & Scott, 1986). This association was not found for best friends. Exchange orientation or an exchange norm characterized by direct reciprocity is more likely to occur in relatively casual relationships (Clark & Mills, 1993). When Roberto and Scott (1986) asked their participants to choose two close friends, participants were asked to pick their best and least best friends. Since the relationships with least best friends are relatively more casual than those with best friends, respondents should have stronger exchange orientations toward least best friends than best friends. Thus, the results showing the relationship between equity and satisfaction among least best friends, but not among best friends, can be explained using exchange orientation as a moderator variable.

In addition to the moderating effect on satisfaction, exchange orientation itself has a negative association with marital satisfaction (Broderick & O'Leary, 1986). The higher exchange orientation spouses had, the lower marital satisfaction they reported. Furthermore, exchange orientation was positively associated with negative affect at work among Dutch employees (Buunk et al., 1993). Broderick and O'Leary (1986) further found that exchange orientation uniquely contributed to satisfaction, though only 4% of the total variance was accounted for. Sprecher (1992, 1998) argues that when examining exchange orientation, two types should be distinguished: underbenefiting exchange orientation (UEO) and overbenefiting exchange orientation (OEO). UEO is similar to what previous researchers have defined as exchange orientation (Clark & Mills, 1993; Milardo & Murstein, 1979). Individuals with high UEO are concerned about receiving benefits back from another after giving them. These people try to avoid being underbenefited in their relationships. Individuals with high OEO also keep score in their relationships but for different reasons. They want to give benefits back after receiving benefits from a partner in order to avoid being overbenefited in their relationships. In a role-playing vignette study (Sprecher, 1992), participants reported that depression would increase the most and satisfaction would decrease the most in response to underbenefiting situations, while guilt would increase the most in response to overbenefiting situations. In addition, it was found that high relationship satisfaction among dating couples was significantly related to partner's high OEO (Sprecher, 1998). On the other hand, no significant relation was found between own OEO and relationship satisfaction, though the correlation was positive as predicted. This suggests that the partner's tendency to avoid being overbenefited might be pleasing, while one's own is not. In contrast to Broderick and O'Leary's study, no significant relation between UEO and satisfaction was found

(Sprecher, 1998).

*Communal orientation*. Communal orientation is also a moderating variable for the relation between equity and relationship satisfaction. Communal orientation refers to a person's general tendency or norm "to give benefits in response to needs or to demonstrate a general concern for the other person" (Clark & Mills, 1993, p. 684). Zak, Fancher, Gillies, Tornatore, and Waterhouse (1999) recruited romantic couples at parks and public areas and examined exchange-communal dimension and relationship satisfaction. After dividing all participants into either an exchange-oriented or a communal-oriented group, the investigators found that individuals with a communal orientation toward their romantic partner were more satisfied with their relationship compared to those with an exchange orientation. In addition, senior adults (Jones & Vaughan, 1990) and university students (Thornton, 1998) with a high communal orientation reported higher relationship satisfaction with their friends compared to those with a low communal orientation. In fact, communal orientation was a significant contributor to satisfaction with exchange orientation, equity, and other characteristics statistically controlled for (Jones & Vaughan, 1990). In yet another sample, Buunk et al. (1993) examined employees of a company in Holland. Referring to giving and receiving support from their superiors, participants responded to measures of equity, communal orientation, exchange orientation, and negative affect at work. A moderating effect of communal orientation on the relation between equity and negative affect was found. Among individuals with a low communal orientation, negative affect was lower when they felt their relationship was equitable than when it was inequitable, while for those with a high communal orientation, negative affect was lowest in overbenefiting, followed by equitable and underbenfiting, relationships (Buunk et al., 1993).

*Closeness*. Related to exchange and communal orientations, closeness or interconnectedness also has a moderating effect on the relation between equity and satisfaction. Medvene et al. (2000) examined closeness, equity, and relationship satisfaction in a questionnaire study regarding participants' closest relationships. About 62% responded regarding their dating relationships, 23% regarding their close friendships, and 15% regarding their marital relationship. Closeness was measured with Aron et al.'s (1992) Inclusion of Other in Self Scale (IOS). In dating relationships, although the relation between equity and satisfaction was curvilinear for both low and high IOS scorers, equity affected satisfaction more dramatically in respondents with low IOS than those with high IOS. That is, while those with high IOS scores overall had higher satisfaction than those with low IOS scores, the differences between high and low IOS respondents were much larger under overbenefiting and underbenefiting conditions than in equitable situations. A significant moderating effect of IOS was also found in close friendships, but it had a different pattern from the dating relationships. Among individuals with high IOS scores, the relation between equity and satisfaction was curvilinear with highest satisfaction in equitable relationships and lower satisfaction in underbenefiting and overbenefiting relationships. In contrast, among individuals with low IOS scores, equity was linearly related to relationship satisfaction with highest satisfaction in overbenefiting relationships and lowest satisfaction in underbenefiting relationships. A significant moderating effect was not found among married individuals. Medvene et al. (2000) discussed that there were fewer participants in this group than the dating relationship and friendship groups, thus producing low statistical power. As to dating relationships and friendships, all dating partners followed a communal pattern regardless of IOS scores, while friends with high IOS followed a communal rule and

those with low IOS followed a exchange pattern (Medvene et al., 2000). Although this interpretation is plausible, it was a post hoc explanation. Thus, my study measured IOS, equity, exchange and communal orientations, and satisfaction together and examined how these variables would be related.

From these previous studies, I expected that individuals' underbenefiting exchange orientation would moderate the relation between equity and relationship satisfaction. That is, individuals who are low in underbenefiting exchange orientation would tend to be satisfied with their dating relationships and same-sex friendships regardless of the equity of their relationships, while those who are high in underbenefiting exchange orientation would be more satisfied in an equitable relationship than in an inequitable relationship. In addition, since there are only a few studies examining the relation between the two types of exchange orientation and relationship satisfaction in romantic relationships and no studies in friendships, I posed a research question: Are underbenefiting and overbenefiting exchange orientations related to relationship satisfaction in dating relationships and same-sex friendships? In terms of communal orientation, I predicted that communal orientation would be positively related to relationship satisfaction in dating relationships and same-sex friendships. In addition, communal orientation would have a moderating effect on the relation between equity and satisfaction. A curvilinear relation between equity and satisfaction (i.e., highest satisfaction in equitable relationships, and lower satisfaction in overbenefiting and underbenefiting relationships) would be found only among the low communal orientation group. Finally, I expected a moderating effect of closeness, measured by the IOS, on the relation between equity and satisfaction in dating relationships and same-sex friendships, with equity having a stronger impact on satisfaction among individuals with low IOS. Integrating findings

based on Equity Theory, it appears that exchange orientations, communal orientation, and closeness affect the level of equity, which in turn leads to satisfaction (see Figure 1). This model was also tested separately for same-sex friendships and romantic relationships in the current study.

## Attachment Theory

A second relationship theory that has been used to predict relationship satisfaction is Attachment Theory. Hazan and Shaver (1987) applied Bowlby's Attachment Theory to adult romantic relationships. They argue that romantic partners are secure bases for each other, similar to a mother for an infant, in which partners seek each other in stressful situations and explore the environment while partners are present. According to Hazan and Shaver (1987), attachment styles can be classified into three categories: secure, anxious/ambivalent, and avoidant. *Secure* individuals find it easy to get close to other people and feel comfortable depending on others. These people are not anxious about being neglected by their partner. *Anxious/ambivalent* partners feel that others do not get as close to them as they prefer, and they are worried about being abandoned by their partner. *Avoidant* individuals find it difficult and uncomfortable to get close to others, depend on them, or trust them. They get nervous when other people get too close to them, and their partners often want them to get more close and intimate (Hazan & Shaver, 1987). Bartholomew (1990) further divided the avoidant style into two: fearful and dismissing. Individuals with a *fearful* attachment style wish to develop close relationships and receive intimacy from close others, but they are so scared of rejection that they avoid establishing close relationships, especially when they feel vulnerable to rejection. In contrast, *dismissing* individuals avoid close relationships by emphasizing their own independence and autonomy and not being aware, or at least pretending not to be aware,

of the importance of involvement in close relationships (Bartholomew, 1990).

Several dimensions have been found to underlie the attachment styles. For instance, Collins and Reed (1990) created the Adult Attachment Scale based on Hazan and Shaver's (1987) categorical measure of attachment styles. When they factor-analyzed the items of their quantitative scale, they found three factors: Depend, "the extent to which subjects could trust others and depend on them to be available when needed;" Anxiety, "fear of being abandoned and not being loved;" and Close, "the extent to which subjects were comfortable with closeness and intimacy" (Collins & Reed, 1990, p. 646). Bartholomew (1990) conceptualized attachment with two dichotomous underlying dimensions. One dimension is a model of self, which is either "positive (positive self-concept, the self as worthy of love and attention) or negative (negative self-concept, the self as unworthy)" (p. 162). Another dimension is a model of other, which is either "positive (the other as trustworthy, caring, available) or negative (the other as rejecting, uncaring, distant)" (p. 162).

Bartholomew (1990) also presented subordinate dimensions for the model: Dependence and Avoidance. These dimensions represent social response styles. The self dimension can be viewed as Dependence, which ranges from "low (where self-esteem is largely internalized and does not require external validation) to high (where self-esteem requires others' ongoing acceptance)" (p. 165). The dimension of other reflects the degree of behavioral avoidance. Thus, *secure* individuals have positive models of self and other (low on both Dependence and Avoidance); *preoccupied*, called anxious/ambivalent by Hazan and Shaver (1987), individuals have a negative model of self and positive model of other (high on Dependence and low on Avoidance); *dismissing* individuals have a positive model of self and negative model of other (low on Dependence and high on

Avoidance); and *fearful* individuals have negative models of self and other (high on both Dependence and Avoidance; Bartholomew, 1990). Bartholomew argues that these four categories are prototypes rather than discrete groups as presented by previous researchers (e.g., Hazan & Shaver, 1987). It is possible that individuals behave in their ongoing relationships in such a way that the behavior could be classified into another category different from their general attachment style. In addition, the degree of each dimension can vary within the categories. For instance, within the secure attachment style, some individuals may have a very positive view of self and other, while some may have neither positive nor negative, but rather neutral, views of self and other. Thus, individuals could be placed within the space along the two dimensions, and there are a variety of degrees on both dimensions, rather than one label assigned to all individuals within each attachment style (Bartholomew, 1990).

Brennan, Clark, and Shaver (1998) reviewed attachment categories and dimensions in order to interpret different sets of categories and dimensions previous researchers had developed. After a factor analysis of 323 items of attachment originating from previous studies, Brennan et al. retained 18 items and two significant factors, Avoidance and Anxiety. These factors are consistent with Ainsworth, Blehar, Waters, and Wall's (1978) original work on attachment styles in adult relationships. In addition, the four groups based on scores on the two dimensions are very similar to Bartholomew's (1990) four categories. Bartholomew's model of self is associated with Anxiety dimension, while model of other is associated with Avoidance dimension. When Brennan et al. clustered individuals into three categories, the two avoidant groups were combined. This categorization is consistent with Hazan and Shaver's (1987) grouping of attachment styles. Thus, it seems that although various researchers created different scales to

measure attachment styles, they measured the same dimensions and categories of adult attachment.

*Empirical Support for the Relation between Attachment and Relationship Satisfaction*

Bowlby (1969, 1980) argued that once infants establish attachments with their primary caregiver, a cognitive model, called a working model, is created. A working model consists of beliefs and expectations about relationships with a primary caregiver, which influences all subsequent relationships. In order to examine if the original attachment styles, which a working model is based on, are related to adult relationship qualities, Bradford and Lyddon (1993) tested if parental attachment of college students would be related to the relationship satisfaction in their dating relationships. They asked university students about their parental attachment, psychological distress, and dating relationship satisfaction and found no significant relation between current parental attachment and satisfaction in their dating relationships.

Most studies investigating the association between attachment and satisfaction have examined attachment styles not specifically for parental attachment but for general attachment styles at the time of the investigation. When adult romantic relationships were examined, a general secure attachment style was significantly related to higher relationship satisfaction than other types of attachment style (Feeney, 1994; Keelan et al., 1998; Kirkpatrick & Davis, 1994; Koski & Shaver, 1997; Pistole & Clark, 1995; Simpson, 1990; Stackert & Burisik, 2003). On the other hand, those with insecure attachment styles, which include avoidant and anxious attachments, reported significantly lower relationship satisfaction than those with secure attachment styles. Similar results were found for friendships; securely attached people reported higher friendship satisfaction or positive friendship qualities than insecurely attached individuals (Bippus & Rollin, 2003; Koski &

Shaver, 1997; Weimer, Kerns, Oldenburg, 2004). Simpson (1990) examined these associations separately for male and female partners of dating couples. Higher relationship satisfaction for men was related to higher levels of own secure attachment and lower levels of own anxious and avoidant attachment and partner's anxious attachment. On the other hand, higher relationship satisfaction for women was associated with higher levels of own secure attachment and partner's secure attachment and lower levels of own avoidant attachment and partner's lower avoidant attachment.

Underlying dimensions of attachment styles have also been used to examine the association between attachment and relationship satisfaction. Brennan and Shaver (1995) found that in romantic relationships, participants' higher relationship satisfaction was related to own and partner's higher security, own and partner's lower avoidance, and own lower anxiety. On the other hand, partner's higher satisfaction was found to be related to own higher security, own and participant's lower avoidance, and participant's lower anxiety. In addition, lower relationship satisfaction was reported for dating couples with more avoidantly attached men and more anxiously attached individuals of both sexes (Tucker & Anders, 1999). Shi (2003) found that both avoidance and anxiety attachment dimensions were significant predictors of romantic relationship satisfaction. Individuals who were low on these dimensions felt more satisfied with their romantic relationships than those who reported being high. Among married couples, the anxiety dimension also has a significant negative correlation with marital satisfaction (Feeney, 2002). Overall, attachment styles and dimensions are related to relationship satisfaction in both romantic relationships and friendships, with securely attached individuals expressing higher satisfaction. Thus, I predicted that securely attached individuals would feel more satisfied with their dating relationships and same-sex friendships than insecurely attached

individuals.

*Mediating Variables for the Relation between Attachment and Relationship Satisfaction*

Although there are general findings from previous studies that individuals with a secure attachment style feel more satisfied with their relationships compared to those with an insecure attachment style, a few mediating variables for this relation are considered here. These mediating variables include closeness, intimacy, and self-disclosure.

*Closeness and Intimacy*. Berscheid, Snyder, and Omoto (1989) developed the Relationship Closeness Inventory and defined closeness in terms of the amount of time interacting with each other (frequency), the number of different activities performed together (diversity), and the degree to which partners are influenced by each other (strength). Another closeness measure is Aron et al.'s (1992) Inclusion of Other in the Self (IOS) Scale, which measures interpersonal interconnectedness with a 1-item pictorial scale of closeness. While testing the validity of the IOS, Aron et al. found that the IOS was significantly correlated with marital satisfaction. The closer spouses perceived their partners were to themselves, the more satisfied they were with their marriage. In addition to marital satisfaction, the IOS was also found to be associated with intimacy. Individuals who reported higher closeness felt more intimate with their closest other (Aron et al., 1992). Similarly, among cross-sex friends, the IOS scale was positively related to friendship satisfaction (Morry, 2005). The closer cross-sex friends felt, the more satisfied they were with their friendships.

Intimacy has been defined as a "special affective link between the partners in the couple" (Yela, 2000, p. 236) and "the sharing of a variety of experiences, … the engaging in joint activities, and … the mutual exchange of personal feelings" (Schreurs & Buunk

1996, p. 579). Schreurs and Buunk (1996) found that intimacy, as reported by lesbian participants and their partners, was positively correlated with relationship satisfaction. Multiple regression analysis also indicated that intimacy significantly contributed to relationship satisfaction. Yela (2000) reported similar results in heterosexual romantic relationships. The author examined how psychological, socio-demographic, and interpersonal factors were related to loving and sexual satisfaction. Among 35 variables tested, intimacy was the second best predictor of loving satisfaction for both men and women, but did not significantly predict sexual satisfaction.

Attachment is also related to intimacy with romantic partners and friends. Secure men and men with secure female romantic partners reported higher intimacy than insecure men and men with insecure female partners (Kirkpatrick & Davis, 1994; Koski & Shaver, 1997). In an examination of adolescent friend pairs, Weimer et al. (2004) found that dyads in which both friends had secure attachment styles disclosed more on high-intimate topics and less on low-intimate topics than dyads in which at least one friend had an insecure attachment style. There were no differences between secure-insecure and insecure-insecure dyads on intimacy. Attachment styles also contributed significantly to intimacy toward friends among Korean and Caucasian Americans with about 10% of total variance accounted for (You & Malley-Morrison, 2000). A secure attachment style was positively related to intimacy toward friends, while a dismissive attachment style was negatively related to friendship intimacy.

From these studies, it seems that closeness and intimacy are related, and each of these variables is associated with relationship satisfaction in romantic relationships. As to intimacy, the previous research was correlational in nature and indicates associations between (a) attachment and intimacy, (b) intimacy and satisfaction, and (c) attachment

and satisfaction. Since it is possible that the relation between attachment and satisfaction is at least partially mediated by intimacy, it is worth examining this mediating effect of intimacy. In addition, closeness was found to be related to intimacy, so a mediating effect of closeness was also examined. In friendships, only one study has examined the relation between closeness and satisfaction, and no studies have examined the relation between intimacy and satisfaction. Therefore, it is important to test if the relations found in romantic relationships apply to friendships. Thus, I expected that closeness and intimacy, which would be related, would be positively correlated with relationship satisfaction in dating relationships and same-sex friendships. In addition, I predicted that intimacy and closeness would have a mediating effect on the relation between attachment and satisfaction in dating relationships and close same-sex friendships.

*Self-disclosure*. Self-disclosure is another variable which is related to relationship satisfaction. It refers to the willingness to talk about personal issues to the target person (Miller, Berg, & Archer, 1983). In questionnaire studies, self-disclosure was positively associated with relationship satisfaction among dating couples (Hendrick et al., 1988) and married couples (Hendrick, 1981). Emmers-Sommer (2004) asked participants to report all interactions they had with a close other on a daily basis for a week. Approximately 52% of respondents reported on interactions with their romantic partner, and about 27% reported on their same-sex friend. It was found that communication quality and communication quantity independently and significantly contributed to relational intimacy with 36% and 10% of total variance accounted for, respectively. In addition, communication quality, but not quantity, significantly contributed to the total variance of relational satisfaction by 26%. Thus, it seems that communication qualities such as depth and smoothness are more important in predicting relational intimacy and satisfaction than

communication quantity. Keelan et al. (1998) examined the relation among attachment style, self-disclosure, and relationship satisfaction. They found a significant positive correlation between self-disclosure and relationship satisfaction, controlling for attachment style. Thus, I predicted that self-disclosure would be positively related to relationship satisfaction in dating relationships and same-sex friendships.

When attachment is measured categorically, individuals with a secure attachment style seem to find it easier to disclose to romantic partners compared to those with insecure attachment styles (Keelan et al., 1998; Koski & Shaver, 1997; Pistole, 1993). Pistole (1993) asked participants to report the amount of self-disclosure and comfort with self-disclosure toward their romantic partners. It was found that secure individuals disclosed significantly more than avoidant individuals, and secure and anxious people were more comfortable disclosing than avoidant people. When dimensions were used to measure attachment among dating couples, the avoidance dimension was negatively correlated with self-disclosure and relationship disclosure, which refers to "the amount of relationship-focused information that the respondent gives their current partner" (Bradford, Feeney, & Campbell, 2002, p. 496). In contrast to their predictions, the anxiety dimension of attachment was not significantly related to self-disclosure or relationship disclosure (Bradford et al., 2002). Although it was expected that individuals scoring low on both the avoidance and anxiety dimensions would report the highest amount of relationship disclosure, this prediction was only supported for men. Thus, I expected that secure individuals would report the highest self-disclosure, followed by preoccupied and then dismissing and fearful individuals.

Keelan et al. (1998) further examined whether the relation between attachment and relationship satisfaction would be mediated by self-disclosure. In order to test which

aspect of self-disclosure would function as a mediator, disclosure variables were factor analyzed. Three components were extracted from the analysis: "personalistic disclosure" measuring how willing and easy it is to reveal intimate parts of self, "affective quality" including general positive and negative affective reactions revealed during disclosing, and "facilitative disclosure" reflecting self-measured self-disclosure to the partner and how well one can elicit self-disclosure from the partner. Each of these three factors was then used as a mediator with attachment style as the predictor variable and relationship satisfaction as a criterion variable. Mediational analyses indicated that only facilitative disclosure significantly mediated the relation between attachment and relationship satisfaction. In the current study I predicted that this mediating effect of self-disclosure would be replicated. Thus, I expected that self-disclosure would partially or fully mediate the relation between attachment style and relationship satisfaction.

In an experimental study, Aron, Melinat, Aron, Vallone, and Bator (1997) asked participants to do self-disclosure tasks with same-sex female stranger pairs and cross-sex stranger pairs. Self-disclosure increased in intensity in an experimental condition, while it stayed minimal in a control condition. When closeness was measured after the tasks, participants in a high self-disclosure condition reported significantly higher closeness compared to those in a control condition. Thus, this experiment supports that self-disclosure leads to closeness, not vice versa. From an Attachment Theory perspective, the following model was examined (see Figure 2): Attachment styles would influence the level of self-disclosure leading to intimacy and closeness, which finally affects satisfaction. This model was examined for same-sex friendships and dating relationships in the current study.

## Relations between Equity Theory and Attachment Theory

Although Equity Theory and Attachment Theory predict relationship satisfaction from different perspectives, it appears that there is a relation between these two theories. Grau and Doll (2003) hypothesized and found that individuals who were high on the anxiety dimension tended to be in an underbenefiting position in their romantic relationship. Anxious individuals perceived their partners as not responding to their needs and blamed their partners for that reason. Thus, they perceived their partner's input and their own outcome were lower than their own input and their partner's outcome, which led to an underbenefiting position in the relationship. In addition, both anxious and underbenefited individuals felt angry at their partner. In contrast, those who had a secure attachment style were expected and found to be in equitable relationships with higher own and partner's input and own and partner's outcome compared to those with insecure attachment styles. Finally, avoidant persons invested less in the relationship than their partner because they did not expect their partner to support them. As a result, their own input and their partner's outcome were predicted to be lower than their partner's input and their own outcome, which would place avoidant individuals in an overbenefiting position. Consistent with this reasoning, avoidant and overbenefited individuals were found to feel guilty. Against predictions, however, avoidant individuals were only slightly overbenefited, but not significantly different from secure individuals. That is, avoidant individuals were in equitable relationships similar to secure individuals. However, unlike those who have secure attachment styles, avoidant partners reported much lower scores in all four equity components. Thus, secure individuals were equitable at higher levels of exchange, while avoidant individuals were equitable at lower levels of exchange (Grau & Doll, 2003).

In order to further consider Grau and Doll's (2003) results using the two-dimensional, four categories of attachment styles, their findings are presented visually in Figure 3. In this figure, a model of self or the Anxiety dimension can be conceptualized as the amount of partner's input and own outcome, and a model of other or the Avoidance dimension can be understood as the amount of own input and partner's outcome. In Grau and Doll's study, secure individuals perceived greater amounts of own and partner's input and outcome, while preoccupied (anxious) individuals perceived high own input and partner's outcome, and low partner's input and own outcome. The avoidant group though went against Grau and Doll's predictions, possibly because they did not distinguish between the two types of avoidant people. They predicted that own input and partner's outcome would be low and partner's input and own outcome would be high, which fits well for dismissing individuals. However, they found that avoidant individuals perceived low own and partner's input and outcome, which would reflect fearful individuals in Bartholomew's model. Since it is possible that their unsupported prediction about the avoidant group was due to the failure to distinguish between the two subgroups of avoidant individuals, the relation between attachment styles and the level of equity was examined with a two-dimensional, four-category scale in my study. I expected that (a) secure individuals would tend to be in equitable relationships with high own and partner's input and outcome, (b) preoccupied individuals would be more likely to be involved in underbenefiting relationships with high own input and partner's outcome, and low partner's input and own outcome, (c) dismissing individuals would tend to be in overbenefiting relationships with low own input and partner's outcome and high partner's input and own outcome, and (d) fearful individuals would be more likely to be in equitable relationships with low own and partner's input and outcome.

An integrated model based on Equity Theory and Attachment Theory is presented in Figure 4. I expected that attachment styles would be the basis for this model because Attachment Theory argues that attachment styles are established with a primary caregiver during infancy and influence all subsequent relationships (Bowlby, 1969, 1980). Attachment styles and equity are related as found in Gran and Doll's (2003) study. However, exchange and communal orientations should come before equity because exchange orientation (Buunk et al., 1993; Buunk & VanYperen, 1991; Roberto & Scott, 1986) and communal orientation (Buunk et al., 1993) are moderators of the relation between equity and satisfaction. Specifically, secure individuals would have a low (underbenefiting) exchange orientation and a high communal orientation because they have low anxiety and avoidance toward the partner. It enables them to give help to their partner when the partner is in need without expecting reciprocity. Preoccupied individuals would report a high (underbenefiting) exchange orientation and a low communal orientation. These individuals have high anxiety about being rejected by their partner (Bartholomew, 1990). They try to contribute to the relationships through their own high input regardless of whether their partner is in need or not, and expect their partners to reciprocate. This pattern tends to put preoccupied individuals in an underbenefiting position in the relationships. Individuals with a dismissing attachment style would report a low (underbenefiting) exchange orientation and a low communal orientation. These individuals focus on independence and autonomy (Bartholomew, 1990), and thus they do not contribute to the relationship, which leads to low own input. Since they still perceive their partner in the relationship as giving high input, they would become overbenefited in the relationship. Finally, fearful individuals would have a low (underbenefiting) exchange orientation and a low communal orientation. They tend to keep their distance from their

partner, so both exchange and communal orientations would be low, and own and partner's input and outcome would be also low. To summarize, attachment styles influence exchange and communal orientations which lead to equity.

As self-disclosure was found to lead to closeness in an experiment (Aron et al., 1997), self-disclosure was predicted to come right before closeness in the model, which left equity before self-disclosure. Since intimacy and closeness are closely related (Aron et al., 1992), both intimacy and closeness appear after self-disclosure, which finally leads to relationship satisfaction. To summarize the integrated model in Figure 4, avoidance and anxiety dimensions of attachment styles would affect exchange and communal orientations which would lead to equity. Equity would then influence the level of self-disclosure which initiates intimacy and closeness. Finally, intimacy and closeness would affect relationship satisfaction. This model was tested separately for same-sex friendships and dating relationships in the current study.

## Sex Differences in Relationship Satisfaction, Equity, and Attachment

Sex differences have been studied for relationship satisfaction and the predictor variables of satisfaction. For relationship satisfaction, female adolescents reported higher positive friendship qualities than male adolescents (Weimer et al., 2004), while senior men felt more satisfied with their friendships than senior women (Roberto & Scott, 1986). On the other hand, no sex difference in satisfaction was found in close friendships among senior adults (Jones & Vaughan, 1990) and in romantic relationships among African Americans (Davis et al., 2000). In addition, sex was not a significant predictor of relationship satisfaction in romantic relationships with attachment styles controlled for (Shi, 2003). It seems that sex differences are consistently found when studying equity. In close relationships in general, women were more distressed by inequity than men

(Sprecher, 1992). In marriage (Buunk & VanYperen, 1991; Medvene et al., 2000) and romantic relationships (VanYperen & Buunk, 1990), more men felt they were overbenefited than women did, while more women felt they were underbenefited than men did. In contrast, men felt higher equity in their romantic relationships among African Americans (Davis et al., 2000) and in friendships among senior adults (Roberto & Scott, 1986). Previous studies have found no sex differences on attachment classifications (Feeney, 2002; Pistole & Clark, 1995; Weimer et al., 2004; see You & Malley-Morrison, 2000 for an exception). In other words, proportions of each attachment style were similar for men and women. Since sex differences were found in some studies and not others, I examined sex differences in all the analyses.

## Overview

As discussed earlier, previous studies found support for Equity Theory such that equity is related to relationship satisfaction in romantic relationships and friendships (Buunk & VanYperen, 1991; Cate et al., 1982; Roberto & Scott, 1986; Schreurs & Buunk, 1996; Traupmann et al., 1983). For this equity – satisfaction relation, four moderating variables have been reported: reward level (Cate et al., 1982; Martin, 1985; Sprecher, 2001), exchange orientation (Buunk et al., 1993; Buunk & VanYperen, 1991; Roberto & Scott, 1986), communal orientation (Buunk et al., 1993), and interconnectedness or closeness as measured by IOS (Medvene et al., 2000). Although equity level is related to satisfaction in close relationships, it seems that there are individual differences (e.g., exchange and communal orientations) which influence the importance of equity in relationships. This study was the first to test exchange orientation, communal orientation, and closeness together to determine their effects on equity and satisfaction. Furthermore, there has been no research which distinguishes between underbenefiting and

overbenefiting exchange orientations in friendships. This distinction in my study would add more insight to the literature in this area. By including other individual characteristics such as attachment styles and the level of self-disclosure in the same study, my research expands the knowledge and understanding of how equity is related to satisfaction. Specifically, I examined if equity would independently contribute to relationship satisfaction, when other individual characteristics are controlled. In addition, a model (see Figure 1) was tested to see if it is plausible that moderating variables found in previous studies affect the level of equity, which in turn leads to satisfaction. Doing so makes it possible to see a general picture of how equity influences satisfaction.

Secure attachment was also found to be associated with high relationship satisfaction in romantic relationships and friendships (Bippus & Rollin, 2003; Feeney, 1994; Keelan et al., 1998; Kirkpatrick & Davis, 1994; Koski & Shaver, 1997; Pistole & Clark, 1995; Simpson, 1990; Stackert & Burisik, 2003; Weimer et al., 2004). Most studies have examined attachment in romantic relationships, though attachment bonds can be created between close friends (e.g., Bartholomew, 1990). Thus, the relation between attachment and satisfaction was also tested in friendships in the current study. Although self-disclosure was found to mediate the relation between attachment and satisfaction, no studies have examined the mediating effects of closeness and intimacy. Since these variables are related to attachment and/or satisfaction, their mediating effects were examined in my study. Thus, this study is the first to test mediating effects of intimacy, closeness, and self-disclosure together on the relation between attachment and satisfaction. In addition, a model presented in Figure 2 was tested to see if the general model of attachment, satisfaction, and mediating variables is plausible. As Brennan et al. (1998) argued, various scales of adult attachment have been created and utilized. Since

the scale developed by Brennan et al. seems the most representative of all other attachment measures, this scale was used in my research.

Only one study by Grau and Doll (2003) has examined the relation between equity level and attachment styles, and their results failed to support their predictions for avoidant individuals. I proposed that this might be because they did not distinguish between the two subgroups of an avoidant attachment style. Therefore, their study was replicated using the two-dimensional, four-category scale of adult attachment. No studies have examined which theory, Equity or Attachment, is a better predictor of relationship satisfaction. This issue was tested in two ways in the current study. First, I compared the independent contribution of equity and attachment to relationship satisfaction, while controlling for the effect of other variables. Second, I tested which model, Equity Theory (Figure 1) or Attachment Theory (Figure 2), better explains relationship satisfaction. Furthermore, an integrated model based on both Equity Theory and Attachment Theory (Figure 4) was examined to test if this model was better than, or as good as, one based on either theory alone. This integrated model has not been tested in the previous studies.

Finally, all analyses were conducted separately for close same-sex friendships and dating relationships. This allowed me to compare predictors of, and models for, relationship satisfaction between same-sex friendships and dating relationships. Thus, a general research question for this matter states: Are the predictors of relationship satisfaction similar in close same-sex friendships and dating relationships?

The hypotheses and research questions in my study are summarized as the following:

Hypothesis 1: Relationship equity would predict satisfaction in both dating relationships and close same-sex friendships.

Hypothesis 1a: People in equitable relationships would be more satisfied with their dating relationships and same-sex friendships than those who are in inequitable relationships.

Hypothesis 1b: Relationship satisfaction would be higher among overbenefited partners than underbenefited partners.

Hypothesis 2: Individuals' exchange orientation would moderate the relation between equity and relationship satisfaction.

Hypothesis 3: Communal orientation would predict relationship satisfaction.

Hypothesis 3a: Communal orientation would be positively related to relationship satisfaction in dating relationships and close same-sex friendships.

Hypothesis 3b: Communal orientation would have a moderating effect on the relation between equity and satisfaction. Individuals low in communal orientation would report higher satisfaction in equitable relationships than in inequitable relationships, while individuals high in communal orientation would report high satisfaction regardless of the equity level.

Hypothesis 4: There would be a moderating effect of closeness on the relation between equity and satisfaction in dating relationships and same-sex friendships. Although the relation between equity and satisfaction would be curvilinear in both high and low closeness groups, the difference in satisfaction between equitable relationships and inequitable relationships would be larger in the low closeness group than in the high closeness group.

Hypothesis 5: Securely attached individuals would feel more satisfied with their dating relationships and close same-sex friendships than insecurely attached individuals.

Hypothesis 6: Closeness and intimacy, which would be related, would be positively

correlated with relationship satisfaction in dating relationships and same-sex friendships.

Hypothesis 7: Intimacy and closeness would mediate the relation between attachment and satisfaction in dating relationships and close same-sex friendships.

Hypothesis 8: Self-disclosure would be positively related to relationship satisfaction.

Hypothesis 9: Secure individuals would report the highest self-disclosure, followed by preoccupied and then dismissing and fearful individuals.

Hypothesis 10: Self-disclosure would partially or fully mediate the relation between attachment style and relationship satisfaction.

Hypothesis 11: Attachment styles and equity level would be related.

Hypothesis 11a: Secure individuals would tend to be in equitable relationships with high own and partner's input and outcome.

Hypothesis 11b: Preoccupied individuals would be more likely to be involved in underbenefiting relationships with high own input and partner's outcome, and low partner's input and own outcome.

Hypothesis 11c: Dismissing individuals would tend to be in overbenefiting relationships with low own input and partner's outcome and high partner's input and own outcome.

Hypothesis 11d: Fearful individuals would be more likely to be in equitable relationships with low own and partner's input and outcome.

Research question 1: Are underbenefiting and overbenefiting exchange orientations related to relationship satisfaction in dating relationships and close same-sex friendships?

Research question 2: Are the predictors of relationship satisfaction similar in close same-sex friendships and dating relationships?

## Method

### *Participants*

A total of 384 participants were recruited from introductory psychology courses at University of Manitoba. All participants received partial course credit for their participation. The data of 12 participants were dropped from the analyses due to the failure to follow instructions or complete the questionnaire. Thus, the data from a total of remaining 372 participants (159 men and 210 women, three participants did not indicate their sex) were used for the analyses. The average age of participants was 20 years old ($M$ = 20.11, $SD$ = 3.93). Half of the respondents (50.0%) reported their relationship status as dating, and the other half (44.0%) reported being single.[1]

### *Materials*

*Relationship satisfaction*. Relationship satisfaction was measured by Hendrick's (1988) Relationship Assessment Scale. This scale consists of seven 5-point Likert-type items, ranging from 1 (most negative) to 5 (most positive). In order to make it explicit, the terms "partner" and "relationship" were reworded to "friend" and "friendship" in the questionnaires for friendships. For instance, the item "In general, how satisfied are you with your relationship?" for dating partners was termed "In general, how satisfied are you with your friendship?" for friends, and the item "To what extent has your relationship met your original expectations?" was termed "To what extent has your friendship met your original expectations?" Two items were reverse scored, and then the mean was calculated for further analyses, where greater scores indicated higher satisfaction. The item-total correlations were between .57 and .76 in previous studies (Hendrick, 1988). I found a somewhat higher reliability in the current study; the Cronbach's alpha was .85.

*Global equity*. Equity level was measured by the Hatfield Global Measure of

Equity-Inequity (Hatfield et al., 1979). It assesses general perceptions of fairness in people's relationships. Participants were asked to think about what both partners contribute to the relationship and get out of it. Then, they chose one of the following options: (a) "I am getting a much better deal than my partner" (+3), (b) "I am getting a somewhat better deal" (+2), (c) "I am getting a slightly better deal" (+1), (d) "We are both getting an equally good or bad deal" (0), (e) "My partner is getting a slightly better deal" (-1), (f) "My partner is getting a somewhat better deal" (-2), and (g) "My partner is getting a much better deal than I am" (-3) (Hatfield et al., 1979, p. 112). Along with a previous study (Buunk & VanYperen, 1991), those who scored +3, +2, or +1 were considered as overbenefited; those who scored 0 were considered as being in an equitable relationship; and those who scored –1, -2, or –3 were considered as underbenefited.

*Equity components*. In order to measure equity components, I created a scale based on previous studies (Grau & Doll, 2003; VanYperen & Buunk, 1990). By following the procedure described by Grau and Doll (2003) this scale was intended to measure four equity components: own input (A; "the extent to which you have each characteristic;" see Appendix A), own outcome (B; "the extent to which you benefit from each item your partner contributes to this relationship;" see Appendix B), partner's input (C; "the extent to which your partner has each characteristic;" see Appendix C), and partner's outcome (D; "the extent to which your partner benefits from each item you contribute to this relationship;" see Appendix D). Eleven types of positive contributions were adopted from the original 24 contributions found in VanYperen and Buunk's (1990) study. Five items were dropped because these contributions only apply to marital relationships. In addition, since only positive characteristics are appropriate to use Adams' (1965) equation, eight VanYperen and Buunk's items on negative characteristics were not included in this scale.

For each component, participants were asked to rate 11 types of contributions to their relationships. A 7-point Likert scale was used for each item ranging from 1 = "not at all" to 7 = "very much." The means were computed for each equity component. Furthermore, the ratio difference (B/A) – (D/C) was calculated for each item, then the mean of these scores was computed for the total equity score. Cronbach's alphas were adequate for all components: .79, .83, .80, and .82 for own input, own outcome, partner's input, and partner's outcome, respectively.

*Attachment style*. Brennan et al. (1998) created the Multi-Item Measure of Adult Romantic Attachment. The scale consists of 18 items for the Anxiety dimension and 18 items for the Avoidant dimension. Each item is responded to with a 7-point Likert scale (from 1 = "disagree strongly" to 7 = "agree strongly"). Anxiety items include "I worry about being abandoned" and "I worry a lot about my relationships." Avoidant items include "I don't feel comfortable opening up to romantic partners" and "I try to avoid getting too close to my partner." When participants in this study responded to the scale about their friendship, items were reworded so that they reflected friendships, not romantic relationships. One item of the Anxiety dimension and nine items of the Avoidance dimension are worded negatively, so reverse scores were calculated. I then calculated scores for the two dimensions and computed coefficient scores for the four attachment categories: Secure, Fearful, Preoccupied, and Dismissing. Finally, I assigned all participants into one of the four categories, as described in Brennan et al. (1998). In a previous study (Brennan et al., 1998) Cronbach's alphas were .91 and .94 for the Anxiety and Avoidance dimensions, respectively. Similarly high Cronbach's alphas were found in this study: .92 for both the Anxiety and Avoidance dimensions.

*Exchange orientation*. In order to measure exchange orientation, Sprecher's (1998)

underbenefiting exchange orientation (UEO) and overbenefiting exchange orientation (OEO) scales were used. The 20-item UEO scale is a revised version of Murstein, Wadlin, and Bond's (1987) Exchange Orientation Scale, and the 20-item OEO scale was developed by rewriting UEO items so that they reflect overbenefiting inequity (Sprecher, 1998). Items within each of UEO and OEO scales were put in random order, and items for each scale were alternated and presented in the questionnaire as one scale of exchange orientation. A five-point response scale (1 = "strongly disagree" to 5 = "strongly agree") was placed after each item. Example items for UEO include: "If I take a friend out to dinner, I expect him/her to do the same for me sometime" and "It bothers me if people don't fulfill their obligations to me." Example items for OEO include: "If a friend takes me out to dinner, I expect to do the same for him/her sometime" and "It bothers me if I don't fulfill my obligations to other people." There was one reversed item in each of UEO and OEO scales, and the mean was taken for each scale to represent exchange orientations. Greater means indicate higher UEO and OEO. Cronbach's alphas for UEO ranged from .80 to .84, and for OEO from .66 to .79 (Sprecher, 1998). Test-retest reliability was also adequately high; between .75 and .77 for UEO and between .60 and .70 for OEO (Sprecher, 1998). In the current study, Chronbach's alphas were .85 for UEO and .75 for OEO, which were both adequate.

*Communal orientation*. The Communal Orientation Scale (Clark, Ouellette, Powell, & Milberg, 1987) was used to measure how much participants behave in a communal fashion and how much they expect others to behave in such a way. The scale consists of 14 descriptive statements, and participants were asked to rate how characteristic each statement is for them based on a 5-point scale (1 = "extremely uncharacteristic" to 5 = "extremely characteristic"). Some example items are "When making a decision, I take

other people's needs and feelings into account" and "I'm not especially sensitive to other people's feelings (reverse scored)." Half of the items were reverse scored, and the mean was used for further analyses. Greater means show higher communal orientation. This scale has adequate reliability; Chronbach's alpha was .78, and test-retest reliability was .68 (Clark et al., 1987). Chronbach's alpha in this study (.79) was similar to those in previous studies.

*Self-disclosure*. The Self-Disclosure Index (Miller et al., 1983) was used to measure the extent to which people are willing to talk about their personal issues. This scale consists of ten personal issues, and participants were asked how willing they are to disclose these issues to the target person (e.g., a dating partner, a same-sex friend). The 5-point Likert scale originally ranging 0 - 4 was changed to 1 = "not at all" to 5 = "fully/completely" for consistency with other scales. An example item of this scale for a dating partner is: "I'm willing to talk with my partner about my deepest feelings," and an example item for a same-sex friend is: "I'm willing to talk with my friend about what is important to me in life." There were no reverse items on this scale, and the mean was taken to represent participants' overall self-disclosure, where higher means indicate greater self-disclosure. Cronbach's alpha ranged from .86 to .93 in past research (Miller et al., 1983). Similarly high reliability was found in this study (.93).

*Closeness*. The Inclusion of Other in the Self (IOS) Scale developed by Aron et al. (1992) was utilized in order to measure closeness of the relationship. The IOS Scale is a single-item pictorial measure. It consists of a set of Venn-like diagrams with different amounts of overlap between the two circles; one representing self and the other representing the other in the relationship. Participants were asked to circle the one best representing their relationship.

*Intimacy.* Four items of an expressiveness factor from the intimacy scale (Monsour, Betty, & Kurzweil, 1993) were used. Participants were instructed to indicate how much of the following items they currently experience in their relationship: the amount of caring and affection, the frequency of discussing close, personal things in the relationship, closeness, and the amount of emotional expressiveness. A 7-point Likert scale (1 = "not at all" to 7 = "a lot") was placed after each item. The mean of four items was calculated for further analyses, where greater means indicate higher intimacy. Cronbach's alpha was .87 in this study, which was adequate.

*Demographics*. In addition to the scales mentioned above, participants were asked to provide demographic information about themselves and their dating partner/same-sex friend. This information included age, sex, ethnicity, relationship status, country in which they were born, and the number of years living in Canada, if born outside Canada. All participants were asked the length of their relationship, and those who responded to a questionnaire about their dating relationship provided information about how long they had known each other.

*Procedure*

About 20 to 30 students were assigned to each study session. Once participants arrived at the study session, they were told that the purpose of the study was to examine the impact of personal characteristics on their close relationships. Participants were asked to carefully read the informed consent form and sign it if they agreed to participate in the current study. They then completed the questionnaire package with the scales and demographic items described above. Half of the respondents were asked to refer to their dating partner, and the other half to their same-sex best friend. Individuals responding to a dating partner also were asked if this was a current relationship or a past relationship.[2]

The order of measures was randomized within the questionnaire package. It took about 30 minutes to complete the questionnaire. After completing the questionnaire, participants were debriefed and thanked.

## Results

Before analyzing the data, a squared score of global equity measure was calculated for all participants. A raw equity score indicates how much benefit relative to contribution an individual gets compared to their partners, in which a positive value indicates overbenefiting and a negative value indicates underbenefiting. On the other hand, a squared equity score indicates equitability of relationships in which a lower value indicates equity and a higher value indicates inequity (either overbenefiting or underbenefiting).

### *Descriptive Analyses*

Means and standard deviations for the overall sample are presented in Table 1. Means and standard deviations for men and women, along with independent-sample *t*-tests for participant sex, are shown in Table 2. Means and standard deviations for same-sex friendships and dating relationships, along with independent-sample *t*-tests for relationship type, are presented in Table 3.

#### *Attachment Styles*

Among 372 participants who completed the attachment scale, 41.7% ($n$ = 155) were classified as having a secure attachment style, 20.4% ($n$ = 76) having a fearful attachment style, 18.3% ($n$ = 68) having a preoccupied attachment style, and 19.6% ($n$ = 73) having a dismissing attachment style. Based on past research (Brennan et al., 1998), it was expected that approximately 30% of participants would have a secure attachment style, 25% would have a fearful attachment style, 25% would have a preoccupied attachment

style, and another 20% would have a dismissing style. Thus, there were more secure individuals and fewer fearful and preoccupied individuals than expected among participants in the current study, $\chi^2$ (3, $n$ = 372) = 26.73, $p$ < .001.

When examined separately between men and women and between friendships and dating relationships, it was found that the proportions of attachment styles were consistent with what was expected for men, $\chi^2$ (3, $n$ = 159) = 5.53, $p$ = n.s., and in dating relationships, $\chi^2$ (3, $n$ = 184) = .203, $p$ = n.s. On the other hand, among female participants, there were more secure individuals (47.62%) and fewer preoccupied (18.57%) and fearful individuals (17.62%) than expected, $\chi^2$ (3, $n$ = 210) = 31.30, $p$ < .001. In addition, in same-sex friendships there were more secure individuals (51.60%) and fewer fearful (16.49%) and preoccupied individuals (12.23%) than what was predicted, $\chi^2$ (3, $n$ = 188) = 46.94, $p$ < .001.

*Equity*

In this study, 362 participants reported their global equity score. Based on Buunk and VanYperen's (1991) classification, 65.2% ($n$ = 236) were in equitable relationships, 21.8% ($n$ = 79) in underbenefiting relationships, and 13.0% ($n$ = 47) in overbenefiting relationships. Due to unequal number of participants across groups, the use of this grouping might influence further analyses. Based on responses to the equity components, own benefits were calculated by dividing own outcome by own input to the relationship. Partner's benefits were calculated in the same fashion, but with partner's input and partner's outcome. The ratio of benefits was computed by dividing own benefits by partner's benefits. The averages of own benefit, partner's benefit, and ratio of benefits were approximately one (see Table 1), which indicates that participants were on average in equitable relationships.

There were no sex differences on the proportion of equity categories. However, more participants reported to be underbenefited in dating relationships (31.8%) compared to those in same-sex friendships (12.0%), and more participants reported to be in equitable friendships (74.9%) than in equitable dating relationships (55.3%), $\chi^2$ (2, $n$ = 362) = 21.61, $p < .001$.

### *Pearson Correlations*

Pearson correlation coefficients were computed in order to test Hypotheses 1a, 1b, 3a, 5, 6, 8, and 11, and research question 1.[3] Correlation coefficients between selected predictor variables and relationship satisfaction are presented in Table 4. All correlation coefficients were compared across participants' sex and relationship type using Fisher's *z*-scores, but only significant results are presented here.

Hypothesis 1a stated that individuals in equitable relationships would be more satisfied with their relationships than individuals in inequitable relationships. Supporting this hypothesis, I found a significant negative correlation between a squared global equity score and relationship satisfaction (see Table 4). Individuals who were in equitable relationships (indicated by lower scores on squared global equity) reported higher satisfaction than those in inequitable relationships (indicated by higher scores on squared global equity).

Hypothesis 1b predicted that relationship satisfaction would be higher among overbenefited partners than underbenefited partners. This hypothesis was examined with a correlation between a raw global equity score and satisfaction. As hypothesized, relationship satisfaction was higher when individuals felt more overbenefited and lower when they felt more underbenefited (see Table 4). Fisher's *z* scores indicated that there was a significant difference between correlation coefficients for men and women, *z* =

-2.47, $p < .02$. The positive correlation between raw global equity and relationship satisfaction was only significant for women, $r$ (203) = .25, $p < .001$, but not for men, $r$ (151) < .01, $p$ = n.s.

Supporting Hypothesis 3a, which stated that communal orientation would be positively related to relationship satisfaction, the correlation between communal orientation and satisfaction was significant and positive (see Table 4). The more communally oriented individuals were, the more satisfied they were with their relationship.

Hypothesis 5 stated that securely attached individuals would feel more satisfied with their close relationships than insecurely attached individuals. Significant negative correlations between satisfaction and anxiety dimension of attachment, and between satisfaction and avoidance dimension of attachment were found (see Table 4).

Hypothesis 6 indicated that closeness and intimacy, which would be related, would be positively correlated with relationship satisfaction. This hypothesis consisted of three correlation coefficients, which were all significant. First, a significant positive correlation was found between closeness and satisfaction (see Table 4). Second, the correlation between intimacy and satisfaction was significant and positive (see Table 4). Third, the correlation between closeness and intimacy was significant and positive, $r$ (366) = .54, $p < .001$. Thus, Hypothesis 6 was supported.

In addition, consistent with Hypothesis 8, self-disclosure was positively correlated with relationship satisfaction (see Table 4). The higher self-disclosure individuals reported, the more satisfied they were with their relationships.

Hypothesis 11 stated that attachment styles and equity level would be related. Specifically, it predicted a negative correlation between the anxiety dimension of

attachment and a raw score of global equity and a positive correlation between the avoidance dimension of attachment and a raw score of equity. These relations were not significant in this study, $r$ (360) = -.05, $p$ = n.s., and $r$ (360) = .10, $p$ = n.s.

Finally, correlations between relationship satisfaction and underbenefiting exchange orientation (UEO) and overbenefiting exchange orientation (OEO) were examined to answer Research Question 1, which asked whether UEO and OEO would be related to relationship satisfaction. A significant negative correlation was found between UEO and satisfaction (see Table 4). Fisher's z scores indicated that there was a significant difference in correlation coefficients between men and women, $z$ = -3.15, $p$ < .005. The negative correlation was only significant for men, $r$ (156) = -.363, $p$ < .001, but not for women, $r$ (207) = -.05, $p$ = n.s. On the other hand, OEO was not significantly related to satisfaction, $r$ (368) = .08, $p$ = n.s., which is consistent with Sprecher's (1998) research.

### *Regression Analyses*

*Overall sample*. One of the general goals in this study was to determine which predictors would independently contribute to predicting relationship satisfaction after controlling for the other predictors. In order to achieve this goal, simultaneous multiple regression was conducted with relationship satisfaction as the criterion variable and all of the other variables as predictors.[4] The overall model was significant, $F$ (13, 346) = 29.05, $p$ < .001, and the multiple R square was .52, $p$ < .001. That is, about 52% of the total variance in relationship satisfaction was explained by this model. The standardized beta coefficients for all the predictors among the overall sample are presented in Table 5. When each predictor variable was examined separately, seven predictors significantly contributed to predict satisfaction: Raw global equity, closeness, partner's input, partner's outcome (inversely), intimacy, avoidance dimension of attachment (inversely), and

anxiety dimension of attachment (inversely). Examining the coefficients for each of these predictors, the amount of partner's input to the relationship and the avoidance dimension of attachment (inverse relation) were the largest contributors in predicting relationship satisfaction.

*Split by sex*. The overall model to predict relationship satisfaction was significant for both men, $F$ (13, 135) = 12.33, $p < .001$, and women, $F$ (13, 190) = 18.04, $p < .001$. Beta coefficients for men and women are presented in Table 5. As shown in Table 5, beta coefficients were significant among both men and women for the following predictors: partner's input, avoidance dimension of attachment (inversely), and anxiety dimension of attachment (inversely). On the other hand, beta coefficients for raw global equity and intimacy were only significant for women, while beta coefficient for partner's outcome was significant only for men (inversely).

*Split by relationship type*. The overall model to predict relationship satisfaction was significant for both same-sex friendships, $F$ (13, 167) = 16.88, $p < .001$, and dating relationships, $F$ (13, 160) = 16.04, $p < .001$. Beta coefficients for this regression separated by relationship type are presented in Table 5. Significant predictors of satisfaction both in same-sex friendships and dating relationships were partner's input and intimacy. Own outcome, partner's outcome (inversely), and anxiety dimension of attachment (inversely) were significant predictors only for same-sex friendships, while raw global equity and avoidance dimension of attachment (inversely) were significant predictors only for dating relationships.

*Moderators*

*Overall sample*. In order to examine moderating effects of exchange orientation (Hypothesis 2), communal orientation (Hypothesis 3b), and closeness (Hypothesis 4) on

the relation between equity and satisfaction, moderation analyses as described by Baron and Kenny (1986) were utilized. Before the analyses, independent variables and moderating variables were centered. That is, means for each variable were subtracted from response scores for all participants. Interaction terms were then calculated for each hypothesis between a centered independent variable (a squared score of global equity) and a centered moderator (exchange orientation, communal orientation, or closeness). By using a squared score of global equity instead of a raw score, equity level varies from high equity (low scores) to low equity (high scores). Then, simultaneous multiple regressions were conducted in which relationship satisfaction was regressed on a centered squared equity score, a centered moderator, and the interaction term. Significant interaction effects indicate moderating effects. Interaction effects were not significant for underbenefiting and overbenefiting exchange orientations or for closeness, while a significant interaction was found for communal orientation, $\beta = -.61$, $p < .05$. A median split on communal orientation was performed, and a simple regression of squared equity scores on satisfaction was conducted in order to examine how the relation between equity and satisfaction differs between high and low communal orientation groups. Squared equity scores significantly predicted relationship satisfaction in both the low communal orientation group, $\beta = -.23$, $p < .002$, and the high communal orientation group, $\beta = -.38$, $p < .001$. Thus, high equity predicted low satisfaction for both high communal orientation group and low communal orientation group, though this relation was a little stronger for high communal orientation group.[5]

Post hoc analyses were conducted for the same moderation effects as described above, but with raw equity scores instead of squared scores. These analyses would further explore moderation effects by examining these effects on different types of inequity

instead of the equity – inequity distinction. Thus, a high raw score indicates an overbenefiting position in the relationship, while a low raw score indicates an underbenefiting position in the relationship. Again, all variables except the criterion variable (i.e., satisfaction) were centered before calculating interaction terms. The interaction term between equity and underbenefiting exchange orientation (UEO) was significant, $\beta = -.531$, $p < .05$. A median split on UEO was performed, and a simple regression of raw equity scores on satisfaction was conducted in order to examine how the relation between equity and satisfaction differs between low and high UEO groups. This regression was only significant for the low UEO group, $R^2 = .05$, $F$ (1, 188) = 9.28, $p < .003$, but not for the high UEO group, $R^2 = .01$, $F$ (1, 169) = 2.07, $p$ = n.s. This indicates that, although higher raw global equity is related to higher satisfaction in the overall sample, this is only true for individuals with low UEO. In addition, the interaction term between raw equity scores and overbenefiting exchange orientation (OEO) significantly predicted satisfaction, $\beta = 1.03$, $p < .05$. A simple regression of raw global equity on satisfaction after a median split on OEO was significant for a higher OEO group, $R^2 = .05$, $F$ (1, 153) = 8.78, $p < .004$, but only marginally significant for a lower OEO group, $R^2 = .02$, $F$ (1, 204) = 3.52, $p < .06$. Thus, the significant positive relation between raw global equity and satisfaction only applies to individuals with high OEO. The interaction term between raw equity scores and communal orientation was also significant, $\beta = .91$, $p < .01$. A median split was performed on communal orientation, and it was found that a simple regression with a raw equity score as a predictor of satisfaction was only significant for the higher communal orientation group, $R^2 = .09$, $F$ (1, 184) = 17.82, $p < .001$. This indicates that high raw global equity predicting high relationship satisfaction is only true for individuals with high communal orientation. Finally, the

interaction term between raw equity scores and closeness was not significant.

Thus, while only communal orientation significantly moderated the relation between squared scores of equity and satisfaction, underbenefiting and overbenefiting exchange orientations in addition to communal orientation were significant moderators of the relation between raw equity scores and relationship satisfaction.

*Split by sex*. The effects of each moderator were also examined separately for male and female participants. For the relation between the squared global equity scores and relationship satisfaction, there were no sex differences in the moderating effects of underbenefiting exchange orientation (UEO), overbenefiting exchange orientation (OEO), communal orientation, and closeness. In other words, as with the overall sample, these moderating effects were not significant for either men or women.

On the other hand, there were a few sex differences in the variables moderating the relation between raw global equity and relationship satisfaction. First, the moderating effect of UEO was marginally significant for women, $\beta = -.12$, $p < .08$, while it was not significant for men, $\beta = -.06$, $p$ = n.s. This indicates that raw global equity significantly predicts relationship satisfaction only among women with low UEO, not among women with high UEO or men. In addition, OEO was a significant moderator for women, $\beta = .16$, $p < .02$, while it was not for men, $\beta = -.02$, $p$ = n.s. Thus, raw global equity is a significant predictor of relationship satisfaction among women with high OEO, but not among women with low OEO or men. The moderating effect of communal orientation was not significant for men, $\beta = -.01$, $p$ = n.s., while it was significant for women, $\beta = .21$, $p < .002$. This means that raw global equity significantly predicts satisfaction only among women with high communal orientation, but not among women with low communal orientation or men. Finally, closeness was a marginally significant moderator for women,

$\beta$ = -.11, $p$ < .08, but not for men, $\beta$ = .01, $p$ = n.s. Median split was performed on closeness among women in order to examine how the relation between raw equity scores and satisfaction differs between high and low closeness groups. Raw equity scores significantly predicted relationship satisfaction among women with low closeness, $\beta$ = .34, $p$ < .001, but it was not significant among women with high closeness, $\beta$ = .10, $p$ = n.s. Thus, the relation between raw global equity and satisfaction was only significant for women with low closeness but not for women with high closeness, while the relation was not significant for men regardless of closeness level.

*Split by relationship type*. Moderating effects of underbenefiting exchange orientation (UEO), overbenefiting exchange orientation (OEO), communal orientation, and closeness on the relation between squared scores of global equity and relationship satisfaction did not reach statistical significance after the data were split by relationship type. In addition, moderating effects of UEO, OEO, and closeness on the relation between raw global equity and satisfaction were not significant, regardless of relationship type. However, communal orientation was a significant moderator in same-sex friendships, $\beta$ = .27, $p$ < .001, while it was not significant in dating relationships, $\beta$ = -.05, $p$ = n.s. Thus, the relation between raw global equity and satisfaction was only significant for individuals with high communal orientation in same-sex friendships, but not for individuals with low communal orientation, while this relation was not significant in dating relationships regardless of their communal orientation.

*Mediators*

*Overall sample*. To test the mediation effects of closeness (Hypothesis 7), intimacy (Hypothesis 7), and self-disclosure (Hypothesis 10) on the relation between attachment and satisfaction, mediation steps outlined by Baron and Kenny (1986) were followed.

First, the effects of attachment (avoidance dimension and anxiety dimension) on the mediating variables were tested. The significant simple regression of the avoidance dimension was found for closeness, $R^2 = .26$, $F$ (1, 368) = 129.64, $p < .001$, intimacy, $R^2 = .41$, $F$ (1, 367) = 251.45, $p < .001$, and self-disclosure, $R^2 = .48$, $F$ (1, 368) = 342.42, $p < .001$. On the other hand, the simple regression of the anxiety dimension was not significant for any of the mediating variables. Thus, further mediation analyses were not performed on the anxiety dimension of attachment. Second, the effects of the mediating variables on satisfaction were tested. The simple regressions on relationship satisfaction were significant for closeness, $R^2 = .21$, $F$ (1, 366) = 96.22, $p < .001$, intimacy, $R^2 = .22$, $F$ (1, 366) = 103.07, $p < .001$, and self-disclosure, $R^2 = .13$, $F$ (1, 366) = 55.19, $p < .001$. Third, the avoidance dimension significantly predicted satisfaction, $R^2 = .30$, $F$ (1, 368) = 155.05, $p < .001$ (see Step 1 in Table 6), and this relation was weaker for closeness and intimacy, but not for self-disclosure, when the mediating variables were entered (see Step 2 in Table 6).

Furthermore, Sobel tests were conducted in order to see whether these mediators of the relation between avoidance dimension of attachment and satisfaction were significant. As expected in Hypothesis 7, mediations were significant for closeness, Sobel = -4.45, $p < .001$, and intimacy, Sobel = -3.52, $p < .001$. However, it was not significant for self-disclosure (Hypothesis 10), Sobel = .51, $p$ = n.s. Since the avoidance dimension of attachment was still a significant predictor of satisfaction when mediators were controlled for in the third step of the mediation analyses, these analyses indicate partial mediating effects of closeness and intimacy on the relation between avoidance dimension of attachment and relationship satisfaction, but no significant mediating effect of self-disclosure.

*Split by sex*. The same mediating analyses as described above were conducted separately for men and women. The anxiety dimension of attachment did not significantly predict the mediators, so no further analyses were conducted with this dimension. The mediating effect of closeness on the relation between the avoidance dimension of attachment and satisfaction was equivalent for both men and women, $R^2$ = .35 and .34 , respectively. That is, closeness was a significant partial mediator for both men, Sobel = -2.55, $p < .01$, and women, Sobel = -3.31, $p < .001$. Self-disclosure was not a significant mediator for either sex. However, there was a sex difference in mediation by intimacy. Although intimacy significantly mediated the relation between avoidance dimension of attachment and relationship satisfaction for women ($R^2$ = .37; β = .33, $p < .001$), Sobel = -4.36, $p < .001$, this mediation was not significant for men ($R^2$ =.33; β = .08, $p$ = n.s.), Sobel = -.96, $p$ = n.s.

*Split by relationship type.* The mediation effects on the relation between the avoidance dimension of attachment and relationship satisfaction were also examined separately for same-sex friendships and dating relationships. As with the overall sample, a significant mediating effect of closeness was found in both same-sex friendships ($R^2$ = .37; β = .18, $p < .01$), Sobel = -2.53, $p < .01$, and dating relationships ($R^2$ = .35; β = .34, $p < .001$), Sobel = -4.19, $p < .001$. In addition, the mediating effect of intimacy was significant in both same-sex friendships ($R^2$ = .38; β = .24, $p < .001$), Sobel = -3.13, $p < .002$, and dating relationships ($R^2$ = .34; β = .37, $p < .001$), Sobel = -4.18, $p < .001$. On the other hand, self-disclosure was not a significant mediator in either same-sex friendships ($R^2$ = .34; β = .02, $p$ = n.s.), Sobel = -.19, $p$ = n.s., or dating relationships ($R^2$ = .27; β = .13, $p$ = n.s.), Sobel = -1.50, $p$ = n.s.

### *ANOVAs*

For all of the following analyses of variance (ANOVAs), all participants were classified into one of the four attachment style groups (secure, preoccupied, dismissing, and fearful) by following steps described by Brennan et al. (1998). This attachment category was used as a between-subject variable.

#### *Relationship Satisfaction*

Hypothesis 5 predicted that securely attached individuals would feel more satisfied with their relationships than insecurely attached individuals. A between-subjects ANOVA was conducted to compare individuals with the four attachment styles on relationship satisfaction.[6] An effect of attachment on relationship satisfaction was significant, $F$ (3, 366) = 34.91, $p < .001$. A planned contrast was performed in order to compare satisfaction of secure individuals to that of insecure individuals (the other three groups). This contrast was significant, $t$ (366) = 8.66, $p < .001$. As predicted, secure individuals ($M$ = 6.08, $SD$ = .89) reported significantly higher satisfaction than fearful ($M$ = 4.88, $SD$ = .75), preoccupied ($M$ = 5.65, $SD$ = .83), and dismissing individuals ($M$ = 5.31, $SD$ = 1.00). When this contrast was conducted separately for men and women, it was significant for both men, $t$ (154) = 6.98, $p < .001$, and women, $t$ (205) = 5.86, $p < .001$. In addition, when the contrast was examined separately for same-sex friendships and dating relationships, it was significant for both friendships, $t$ (184) = 6.81, $p < .001$, and dating relationships, $t$ (90.31) = 4.18, $p < .001$. Thus, individuals with a secure attachment style reported significantly higher relationship satisfaction than those with insecure attachment styles regardless of sex and relationship type.

#### *Self-Disclosure*

*Overall sample*. Hypothesis 9 stated that secure individuals would report the highest

self-disclosure, followed by preoccupied, and then dismissing and fearful individuals. A between-subjects ANOVA was conducted with the four attachment style groups as the independent variable and self-disclosure as the dependent variable.[7] A significant effect of attachment was found, $F$ (3, 366) = 68.29, $p < .001$. Two sets of planned contrasts were tested in order to compare (a) the secure group with three insecure groups and (b) the preoccupied group with the two avoidant groups (i.e., fearful and dismissing). The first contrast was significant, $t$ (366) = 10.21, $p < .001$. As predicted, the secure group ($M$ = 4.49, $SD$ = .47) had significantly higher scores on self-disclosure than the other three attachment groups: preoccupied ($M$ = 4.41, $SD$ = .49), fearful ($M$ = 3.63, $SD$ = .69), and dismissing ($M$ = 3.46, $SD$ = .85) groups. Furthermore, the second contrast was significant, $t$ (366) = 9.60, $p < .001$. Consistent with my predictions, preoccupied individuals reported higher self-disclosure than fearful and dismissing individuals.

*Split by sex*. The same contrasts described above were examined separately for men and women. The first contrast, comparing secure individuals with insecure individuals on the level of self-disclosure, was significant for both men, $t$ (153) = 7.18, $p < .001$, and women, $t$ (165.87) = 7.00, $p < .001$. In addition, the second contrast, comparing preoccupied individuals with fearful and dismissing individuals, was also significant for both men, $t$ (153) = 6.64, $p < .001$, and women, $t$ (104.11) = 6.69, $p < .001$. Therefore, Hypothesis 9 was supported regardless of the participants' sex.

*Split by relationship type*. The contrasts were examined separately for same-sex friendships and dating relationships. The first contrast was significant for both friendships, $t$ (164.28) = 8.82, $p < .001$, and dating relationships, $t$ (151.70) = 7.64, $p < .001$. Furthermore, the second contrast was also significant for friendships, $t$ (58.56) = 7.18, $p < .001$, and dating relationships, $t$ (112.91) = 6.57, $p < .001$. Thus, securely attached

individuals reported the highest level of self-disclosure among four attachment groups, followed by preoccupied individuals, and then fearful and dismissing individuals, regardless of relationship type.

*Equity Components*

*Overall sample*. In order to examine the equity components of Hypothesis 11, five univariate ANOVAs were conducted with attachment styles as the independent variable and the raw equity score or each of four equity components (own input, partner's input, own outcome, and partner's outcome) as dependent variables.[8] The ANOVA was not significant for raw equity scores, $F$ (3, 358) = 1.45, $p$ = n.s. On the other hand, the ANOVAs were significant for the four equity components: own input, $F$ (3, 367) = 5.72, $p < .001$; own outcome, $F$ (3, 364) = 8.08, $p < .001$; partner's input, $F$ (3, 366) = 12.57, $p < .001$; and partner's outcome, $F$ (3, 367) = 3.96, $p < .008$. Planned contrasts were performed for each equity component in order to test Hypothesis 11, which is visually presented in Figure 3. Comparing secure and preoccupied groups with fearful and dismissing groups, the planned contrasts were significant for own input, $t$ (367) = 3.72, $p < .001$, and partner's outcome, $t$ (367) = 2.94, $p < .003$. These results indicate that as predicted, secure and preoccupied individuals, who are low in avoidance, perceive higher own input and partner's outcome than fearful and dismissing individuals, who are high in avoidance. The contrast, comparing secure and dismissing groups with fearful and preoccupied groups, was also significant for own outcome, $t$ (364) = -2.57, $p < .011$, though it was in an opposite direction from what had been predicted. The contrast for partner's input was not significant, $t$ (366) = .36, $p$ = n.s., which indicates that there is no significant difference on partner's input across attachment categories. Thus, contrary to my prediction, secure and dismissing individuals, who are low in anxiety, did not differ in

partner's input and own outcome from fearful and preoccupied individuals, who are high in anxiety. Therefore, the model hypothesized in Figure 3 was only supported for one dimension: own input and partner's outcome.

*Split by sex*. The same sets of planned contrasts across attachment groups were conducted separately for men and women. The contrast on own input was significant for both men, $t$ (154) = 2.90, $p < .004$, and women, $t$ (206) = 3.05, $p < .003$. On the other hand, the contrast on partner's outcome was only significant for men, $t$ (154) = 3.01, $p < .003$, but not for women, $t$ (206) = 1.12, $p$ = n.s. Thus, secure and preoccupied groups significantly differed from fearful and dismissing groups on own input regardless of their sex, while the comparison among these groups on partner's outcome was only significant for men. The planned contrast on own outcome was only significant for women, $t$ (111.03) = -2.42, $p < .02$, and not significant for men, $t$ (153) = -1.05, $p$ = n.s. However, this significant contrast for women was in the opposite direction from my prediction, as it was in the overall sample. Finally, the contrast on partner's input was not significant for either men, $t$ (153) = 1.39, $p$ = n.s., or women, $t$ (206) = -1.01, $p$ = n.s. Therefore, secure and dismissing groups did not differ in own outcome and partner's input from fearful and dismissing groups, regardless of their sex. From all the contrasts reported in this section, a dimension of own outcome and partner's input in the model presented in Figure 3 was not significant for either men or women. On the other hand, the other dimension of own input and partner's outcome was fully supported among men, while it was only supported for own input, but not for partner's outcome, among women.

*Split by relationship type*. The sets of planned contrasts across attachment groups, which were described above, were conducted separately for same-sex friendships and dating relationships. The contrast on own input was significant for both friendships, $t$

(184) = 2.11, $p < .05$, and dating relationships, $t$ (160.45) = 3.00, $p < .005$. On the other hand, the contrast on partner's outcome was significant for dating relationships, $t$ (179) = 3.06, $p < .003$, but only marginally significant for friendships, $t$ (107.18) = 1.72, $p < .09$. The comparison of secure and preoccupied individuals with fearful and dismissing individuals in own input was significant regardless of relationship type, while the comparison of partner's outcome was only significant for dating relationships. The contrasts between secure and dismissing groups and fearful and preoccupied groups in own outcome and partner's input were not significant for either same-sex friendships or dating relationships.

### *Tests of Models*

Finally, the models presented in Figures 1, 2, and 4 were tested with hierarchical regressions. The first model based on Equity Theory (see Figure 1) is related to Hypotheses 1 through 4 and Research Question 1. The second model was based on Attachment Theory (see Figure 2), and this model deals with Hypotheses 5 through 10. Finally, the third model integrated Equity Theory and Attachment Theory (see Figure 4). Thus, this model is associated with all the hypotheses tested in this study.

#### *Equity Theory Based Model*

*Overall sample*. To test the model in Figure 1, underbenefiting and overbenefiting exchange orientations, communal orientation, and closeness were entered in Step 1, and the raw score of equity in Step 2. Satisfaction was used as the criterion variable. The standardized beta coefficients of each predictor and $R^2$ change in each step for overall sample are presented in Table 7. The model as a whole was significant for the overall sample, $F$ (5, 354) = 27.43, $p < .001$. Significant coefficients were found for underbenefiting exchange orientation (inversely), communal orientation, closeness, and

raw equity scores. Overbenefiting exchange orientation was not a significant predictor of satisfaction in this model. In addition, $R^2$ change was significant at Step 2, when raw global equity was entered. This indicates that equity significantly contributes to predict relationship satisfaction while controlling for variances of other predictors in this model.

*Split by sex*. The same model was tested separately for men and women. The standardized beta coefficients for both men and women are presented in Table 8. The model as a whole was significant for both men, $F$ (5, 145) = 13.49, $p < .001$, and women, $F$ (5, 198) = 14.81, $p < .001$. For men, significant predictors of satisfaction were underbenefiting exchange orientation (inversely) and closeness. On the other hand, significant predictors for women were communal orientation, closeness, and raw global equity. The significant contribution of equity, $R^2$ change at Step 2, was only significant for women. Thus, while closeness is a significant predictor of satisfaction regardless of sex, different predictors are important for men (i.e., underbenefiting exchange orientation) and women (i.e., communal orientation and raw global equity).

*Split by relationship type*. The model as described above was also tested separately for same-sex friendships and dating relationships. The model as a whole was significant for both friendships, $F$ (5, 176) = 16.49, $p < .001$, and dating relationships, $F$ (5, 169) = 14.15, $p < .001$. The standardized beta coefficients for both same-sex friendships and dating relationships are presented in Table 9. For friendships, significant predictors of satisfaction were underbenefiting exchange orientation (inversely), overbenefiting exchange orientation, communal orientation, and closeness. On the other hand, significant predictors for dating relationships were closeness and raw global equity. The significant contribution of equity made $R^2$ change at Step 2 significant only for dating relationships. Thus, while closeness is a significant predictor of satisfaction regardless of

relationship type, different predictors are also important for each relationship type.

*Attachment Theory Based Model*

For the model in Figure 2, the avoidance and anxiety dimensions of attachment were entered in Step 1, self-disclosure in Step 2, intimacy and closeness in Step 3, and satisfaction as the criterion. The overall model was significant for overall sample, $F$ (5, 360) = 50.03, $p < .001$, men, $F$ (5, 149) = 24.22, $p < .001$, and women, $F$ (5, 202) = 28.59, $p < .001$. The standardized beta coefficients for the overall sample are presented in Table 10, and separately for men and women in Table 11. Although the magnitude of beta coefficients was slightly different, significant predictors were consistent for overall sample, men, and women. Significant predictors of satisfaction included the avoidance dimension (inversely), the anxiety dimension (inversely), closeness, and intimacy. The overall model was also significant for same-sex friendships, $F$ (5, 181) = 31.79, $p < .001$, and dating relationships, $F$ (5, 173) = 22.44, $p < .001$. The standardized beta coefficients for same-sex friendships and dating relationships are presented in Table 12. Although the same predictors were significant for friendships as for the overall sample, the anxiety dimension of attachment was not a significant predictor of relationship satisfaction for dating relationships.

*Integrated Model*

To test the model in Figure 4, anxiety and avoidance dimensions of attachment were entered in Step 1, underbenefiting and overbenefiting exchange orientations and communal orientation in Step 2, the raw score of equity in Step 3, self-disclosure in Step 4, intimacy and closeness in Step 5, and satisfaction as the criterion variable. The model as a whole was significant for overall sample, $F$ (9, 346) = 30.86, $p < .001$, men, $F$ (9, 140) = 13.85, $p < .001$, and women, $F$ (9, 194) = 19.82, $p < .001$. The standardized beta

coefficients for overall sample are presented in Table 13, and separately for men and women in Table 14. Significant coefficients were found for the avoidance dimension (inversely), the anxiety dimension (inversely), raw global equity, closeness, and intimacy. Underbenefiting and overbenefiting exchange orientations, communal orientation, and self-disclosure were not significant predictors of satisfaction for the overall sample in this model. There were a few sex differences in predictors of this model. Underbenefiting exchange orientation was significant only for men, while raw global equity was significant only for women. In addition, although the overall model was significant for both same-sex friendships, $F$ (9, 172) = 18.13, $p < .001$, and dating relationships, $F$ (9, 164) = 14.82, $p < .001$, there were a few differences in predictors of this integrated model for same-sex friendships and dating relationships. The standardized beta coefficients for same-sex friendships and dating relationships are presented in Table 15. Avoidance dimension of attachment, closeness (marginally), and intimacy were significant for both friendships and dating relationships. On the other hand, anxiety dimension of attachment was only significant for friendships, while raw global equity was only significant for dating relationships.

$R^2$ for the integrated model in Figure 4 (.45) was greater than that of the model in Figure 1 (.26) and Figure 2 (.41), indicating that more satisfaction variance was explained in this integrated model than the other two models. Thus, an integrated model of Equity Theory and Attachment Theory best predicts relationship satisfaction among three models I proposed for the current study.

## Discussion

This study was designed to test the relations between relationship satisfaction and its predictor variables, including equity level, underbenefiting and overbenefiting exchange

orientations, communal orientation, closeness, intimacy, self-disclosure, and the avoidance and anxiety dimensions of attachment. I also tested three models to predict relationship satisfaction. In general, I found that the two dimensions of attachment, equity level, closeness, and intimacy were significant predictors of relationship satisfaction. These findings are closest to my proposed integrated model of Equity Theory and Attachment Theory. This study was the first to integrate predictors of satisfaction from these two theories. Furthermore, this study showed the importance of both equity level and attachment styles beyond other variables in predicting relationship satisfaction.

*Equity Theory*

As Equity Theory proposed, individuals in equitable relationships were more satisfied with their relationships than those in inequitable relationships. This finding is consistent with previous studies (Buunk & VanYperen, 1991; Cate et al., 1982; Roberto & Scott, 1986; Schreurs & Buunk, 1996; Traupmann et al., 1983). This relation applied to the overall sample in the current study regardless of participants' sex, relationship type (i.e., same-sex friendships or dating relationships), and the level of underbenefiting and overbenefiting exchange orientations and closeness. The finding of no moderating effect for underbenefiting exchange orientation (UEO) is contrary to past research (Buunk et al., 1993; Buunk & Van Yperene, 1991; Roberto & Scott, 1986). It was predicted that individuals with low UEO would feel highly satisfied with their relationships regardless of their equity level, while those with high UEO were expected to be more satisfied in equitable relationships than in inequitable relationships. However, in the current study satisfaction was higher in equitable relationships than inequitable relationships regardless of the level of UEO. This was consistent across participants' sex and relationship type.

There were a few notable differences between the current study and the previous

literature on the moderating effect of UEO on the relation between equity and satisfaction. For instance, Buunk et al. (1993) used the amount of help given to, and received from, the participants' boss at work to measure perceptions of reciprocity. In addition, their dependent variable was negative affect, not satisfaction. Thus, UEO moderated the relation between equity and negative affect in the relationship between bosses and subordinates at work place, but it did not generalize to satisfaction or to close relationships in the current study. Buunk and Van Yperen (1991) examined this relation in marriage. About 87% of their participants were married, and their mean age was 41 years. When I performed a 2 (high and low UEO groups) by 3 (underbenefited, equitable, and overbenefited groups) ANOVA on relationship satisfaction as Buunk and Van Yperen did, the moderating effect of UEO was still not significant. The underbenefited individuals with low UEO in the current sample reported much lower satisfaction, as low as underbenefited individuals with high UEO, than in the past study. This difference implies that underbenefited individuals are not satisfied with their relationships regardless of exchange orientation among a younger sample in more casual close relationships than marriage. On the other hand, for married and relatively older individuals, being underbenefited reduces satisfaction only when these individuals focus on reciprocity in their marriage.

My study showed that among individuals in inequitable relationships, overbenefited individuals felt more satisfied with their relationships than underbenefited individuals, as found in the past research (Buunk & VanYperen, 1991; Cate et al., 1982; Traupmann et al., 1983). However, this relation was affected by three moderating variables: underbenefiting exchange orientation (UEO), overbenefiting exchange orientation (OEO), and communal orientation. In going beyond previous research, I distinguished between

UEO and OEO and found a significant moderating effect of OEO in addition to that of UEO. Overbenefited individuals reported higher relationship satisfaction than underbenefited individuals only when they also had low UEO, high OEO, and/or high communal orientation. Thus, those who tend to be concerned with giving benefits back to their partner after receiving them in order to avoid being overbenefited (i.e., high OEO) and giving benefits in response to their partner's needs (i.e., high communal orientation) are more satisfied with their relationships when they get more benefits from their partner than their partners get from them. On the other hand, individuals who tend not to be concerned with receiving benefits back after giving them in order to avoid being underbenefited (i.e., low UEO) are more satisfied with their relationships when they perceive themselves to be in equitable or overbenefiting relationships rather than in underbenefiting relationships. Satisfaction among those who expect immediate reciprocity in order to avoid being underbenefited (i.e., high UEO) was higher in equitable relationships than in inequitable relationships and did not differ whether they were overbenefited or underbenefited. Significant moderation of UEO was consistent with Buunk et al. (1993), Buunk and VanYperen (1991), and Roberto and Scott (1986), but the pattern was a little different. Past researchers found that relationship satisfaction was higher in equitable relationships than inequitable relationships for individuals with high UEO, while satisfaction was high regardless of the equity level for those with low UEO. In the current study, satisfaction for individuals with low UEO was higher in equitable and overbenefiting relationships than in underbenefiting relationships.

The current study tested a research question concerning the relation between underbenefiting and overbenefiting exchange orientations and relationship satisfaction. Overall, the past research findings of general exchange orientation were replicated with

UEO in the present study, but not with OEO. Although both UEO and OEO deal with the individual's tendency to be concerned with reciprocity of benefits, the reasons or motivations to do so are different. Since different results were found for UEO and OEO in the current study, it is important to distinguish between the two types of exchange orientations as Sprecher (1998) argued. By distinguishing the two types of exchange orientation, it might open up a further understanding of exchange orientations. In addition, since not much research has been conducted on OEO, future researchers should examine OEO where the general exchange orientation has been used.

I found a significant moderating effect of communal orientation on the relation between raw equity scores and relationship satisfaction. This result was consistent with a previous study (Buunk et al., 1993), where the linear relation between raw equity and negative affect was found only among individuals with high communal orientation. This relation makes sense, considering what it means for individuals with high communal orientation to receive a lot of benefits from their partner. These individuals tend to give benefits or provide help when their partner is in need or when they want to show concern for their partner. Therefore, it is very likely that they perceive benefits they get from their partner as partner's concern for themselves. The more benefits they receive, the more concern they perceive their partner to have toward themselves. Thus, individuals with high communal orientation feel more satisfied in overbenefiting relationships than in equitable and underbenefiting relationships.

The significant moderating effects of UEO, OEO, and communal orientation were only found among women. This sex difference makes sense because raw equity scores were related to relationship satisfaction only for women, but not men. The significant correlation between raw equity scores and satisfaction among women was only true when

women also had low UEO, high OEO, and/or high communal orientation. On the other hand, no consistent relation between raw equity scores and satisfaction was found for men regardless of UEO, OEO, and communal orientation. Thus, UEO, OEO, and communal orientation should be considered at the same time when examining the relation between equity and satisfaction for women, but not for men.

Finally, the predicted moderating effect of closeness was not significant. Medvene et al. (2000) found that individuals with high closeness overall had higher satisfaction than those with low closeness, while the differences between high and low closeness groups was much larger in inequitable conditions than equitable. They argued that this is because individuals including the other in the self (i.e., very close to the partner) tend to perceive their partner's benefits as their own, thus being overbenefited and underbenefited in the relationship does not matter for these people as much as for individuals with low closeness. The findings of the current study were in the predicted direction. That is, the difference in satisfaction between equitable and inequitable relationships was greater for individuals with low closeness than for those with high closeness, though not statistically significant. This lack of significance in the current study may be because the mean score of closeness in this study (4.43) was lower by about one point on a 7-point scale than in Medvene et al.'s study (5.58). Thus, participants in this study might not be close enough to their partner as needed to perceive their partner's benefits as their own. The participants in my study did not report as high closeness as those in Medvene et al.'s study possibly because the average age was a little higher in the previous study (23 years) than in my study (20 years). Thus, although participants in both studies were university students, those in the previous study were older and felt closer to their relationship partner, which may have made the moderating effect of closeness in my study

non-significant.

A significant positive correlation between communal orientation and satisfaction was consistent with the findings reported by Jones and Vaughan (1990), Thornton (1998), and Zak et al. (1999). The more communally-oriented individuals were, the more satisfied they were with their relationship. By showing concern for their partner, individuals with high communal orientation might perceive more concern from their partner in general or in response to their need. Therefore, it is worth examining perceptions of partner's communal orientation when testing the relation between one's communal orientation and relationship satisfaction.

I created and tested a model based on past research related to Equity Theory. According to the model, underbenefiting exchange orientation (UEO), overbenefiting exchange orientation (OEO), communal orientation, and closeness predict equity, which in turn leads to relationship satisfaction. My study was the first to test UEO, OEO, communal orientation, and closeness together to determine their moderating effects on the relation between equity and satisfaction. In addition, there had been no research which distinguishes between UEO and OEO in friendships. For the overall model, UEO, communal orientation, closeness, and equity were significant predictors of relationship satisfaction. On the other hand, OEO did not significantly predict satisfaction when other predictors were controlled. As Sprecher (1998) found, it might be partner's OEO that is important for one's relationship satisfaction. In order to test this possibility, future researchers should include partner's responses to examine predictors of relationship satisfaction. In addition, it would be worthwhile to test both partner's responses and participants' perception of partners in order to examine whether it is more important for their partners to actually have those traits or for individuals to perceive their partners to

have these traits.

I was also the first to compare the model based on Equity Theory across sex and relationship type. In fact, significant predictors in this model were different across participants' sex and relationship type. For men UEO and closeness were the only significant predictors of relationship satisfaction, while for women communal orientation, closeness, and raw equity scores were significant. Thus, if men (1) do not focus on reciprocity of benefits to avoid being underbenefited and (2) feel close to their partner, these men will feel most satisfied with their relationships. On the other hand, if women (1) tend to give benefits in response to partner's needs, (2) feel close to their partner, and (3) receive more benefits relative to their contributions than their partner, these women will feel most satisfied with their relationships.

In addition, in same-sex friendships UEO, OEO, communal orientation, and closeness significantly predicted satisfaction, while in dating relationships, only closeness and raw equity scores contributed to predict satisfaction. Thus, if same-sex friends (1) do not focus on reciprocity of benefits to avoid being underbenefited, (2) tend to be concerned with reciprocity of benefits to avoid being overbenefited, (3) tend to give benefits in response to friend's needs, and (4) feel close to their friend, these friends will feel more satisfied with their friendships than those who lack one or more of these characteristics. On the other hand, if dating partners (1) feel close to their partner and (2) receive more benefits relative to their contributions than their partner, they will feel more satisfied with their dating relationships than those who do not feel close to their partner and/or do not receive more benefits relative to their contributions than their partner. In summary, same-sex friends are concerned with reciprocity of benefits and closeness, while dating couples are more concerned with closeness and overall equity. It is

noteworthy that the norm of reciprocity is important for same-sex friends to feel satisfied, but not for dating couples.

*Attachment Theory*

As Attachment Theory predict, individuals with a secure attachment style felt more satisfied with their relationships than those with insecure attachment styles. This was true regardless of participants' sex and relationship type. This finding was consistent with previous studies (Bippus & Rollin, 2003; Feeney, 1994; Keelan et al., 1998; Kirkpatrick & Davis, 1994; Koski & Shaver, 1997; Pistole & Clark, 1995; Simpson, 1990; Stackert & Burisik, 2003). In addition, closeness and intimacy were significantly related to relationship satisfaction, which was consistent with past research (Aron et al., 1992; Schreurs & Buunk, 1996; Yela, 2000). This study contributed to the past literature by examining mediating effects of closeness, intimacy, and self-disclosure together on the relation between attachment and relationship satisfaction. Closeness and intimacy significantly mediated the relation between avoidance dimension of attachment and relationship satisfaction. Thus, the avoidance dimension first negatively leads to closeness and intimacy, and then these variables significantly predict relationship satisfaction.

Similarly to the findings in Emmers-Sommer (2004), Hendrick (1981), Hendrick et al. (1988), and Keelan et al. (1998), high relationship satisfaction was related to high self-disclosure. In addition, there were significant differences on self-disclosure across four attachment styles. Secure individuals reported the highest self-disclosure, followed by preoccupied, then fearful and dismissing individuals. This was consistent with the past studies (Keelan et al., 1998; Koski & Shaver, 1997; Pistole, 1993). However, contrary to my prediction based on Keelan et al. (1998), self-disclosure did not significantly mediate

the relation between avoidance dimension of attachment and relationship satisfaction. This might be because Keelan et al. measured the self-reported *amount* of self-disclosure, while I asked participants' *willingness* to disclose. Thus, the amount of self-disclosure mediates the relation between attachment and satisfaction, while the willingness to disclose is not a significant mediator on this relation. In order to clarify this inconsistency, future researchers should measure both the amount and willingness of self-disclosure to test the mediating effect of self-disclosure on the relation between attachment and satisfaction.

Another possibility is the use of different attachment measures. While I used a two-dimensional measure, Keelan et al. used ratings on four categories of attachment styles. When mediation analyses were conducted, they coded attachment as either secure or insecure and used this categorization as a dummy variable. Thus, the results of their study indicate self-disclosure mediates the relation between security of attachment and satisfaction. On the other hand, I used the avoidance and anxiety dimensions of attachment separately for mediation analyses of self-disclosure, which indicates that self-disclosure does not mediate the relation between avoidance and satisfaction. In fact, when the product of avoidance and anxiety dimensions was computed and used as a predictor in order to make similar attachment scores as Keelan et al.'s study, self-disclosure significantly mediated the relation between attachment and satisfaction, Sobel = -3.39, $p < .001$. Thus, when attachment is considered as a dimension ranging from security to insecurity, self-disclosure is a significant mediator. However, when avoidance and anxiety dimensions are separately used as predictors, self-disclosure does not mediate the relation between attachment and satisfaction.

A model based on Attachment Theory proposed that the avoidance and anxiety

dimensions would predict self-disclosure, which would lead to closeness and intimacy. I predicted that closeness and intimacy would then lead to relationship satisfaction. This study was the first to examine this model. The overall model was significant, though self-disclosure was not a significant predictor of relationship satisfaction. This could be due to the fact that self-disclosure – satisfaction relation was significantly mediated by closeness, Sobel = 6.98, $p < .001$, and intimacy, Sobel = 8.42, $p < .001$. In addition, since self-disclosure significantly mediated the relation between attachment and satisfaction when the product of two dimensions of attachment were used, the overall model was tested again with the overall attachment dimension instead of the avoidance and anxiety dimensions. In this analysis, self-disclosure was a significant predictor of relationship satisfaction at the step when self-disclosure was entered into the model, $\Delta R^2 = .02$, $\beta = .17$, $p < .001$, and it became non-significant after closeness and intimacy were entered into the model. Thus, when the avoidance and anxiety dimensions of attachment were used, these two dimensions led to closeness and intimacy, which in turn predicted relationship satisfaction. On the other hand, when the overall dimension of attachment (i.e., ranging from security to insecurity) was used in the model, the attachment significantly predicted self-disclosure, which led to closeness and intimacy. Closeness and intimacy finally predicted relationship satisfaction. This pattern was consistent across participants' sex and relationship type.

*Integration of Equity Theory and Attachment Theory*

The relation between equity and attachment was also examined in the current study. Although this relation has been examined in one previous study (Grau & Doll, 2003), my research contributed to the literature by testing this relation using the four-category measure of attachment. In addition, Grau and Doll included only romantic relationships,

and not friendships. Thus, the current study was the first to examine the relation between equity and attachment in same-sex friendships. Regardless of whether I used avoidance and anxiety dimensions or the four categories of attachment, the relation between equity and attachment was not significant. This could be because more than half (i.e., 65.2%) of participants reported they were in an equitable relationship and there was not large variability on the raw equity scores. When examining specific equity components, the results were mixed. As predicted, own input and partner's outcome were higher among secure and preoccupied individuals (i.e., low avoidance) than dismissing and fearful individuals (i.e., high avoidance). The contrast for own input was significant regardless of participants' sex and relationship type, while the contrast for partner's outcome was only significant for men and dating relationships. On the other hand, the contrasts for partner's input and own outcome, which compared secure and dismissing individuals (i.e., low anxiety) to preoccupied and fearful individuals (i.e., high anxiety), were not significant regardless of participants' sex and relationship type.

Post hoc analyses showed that for all equity components, low avoidance groups (i.e., secure and preoccupied) scored higher than high avoidance groups (i.e., fearful and dismissing). In addition, equity components were higher than the midpoint of the scale (i.e., 4) for all attachment groups: own input (*M*s = 5.09 – 5.45), own outcome (*M*s = 4.72 – 5.41), partner's input (*M*s = 5.00 – 5.51), and partner's outcome (*M*s = 4.72 – 5.17). This indicates that all attachment groups exchange benefits with their partner at moderately high level, but secure and preoccupied individuals do so at higher level than fearful and dismissing individuals. This is contrary to Grau and Doll's (2003) study. They found that individuals with high anxiety (i.e., preoccupied) perceived lower partner's input and own outcome than own input and partner's outcome, while those with high

avoidance perceived their relationships as equitable at low level of exchange. This contradiction might be due to the use of different measures of equity components. Although questions for the four components were the same, the positive characteristics or contributions were different. It is possible that ratings of different characteristics change the amount of the four equity components.

Regression analyses showed that both equity and attachment significantly predicted relationship satisfaction in the overall sample while controlling for moderators and mediators. However, there were a few differences worth mentioning across participants' sex and relationship type. First, equity and intimacy predicted satisfaction among women, but not among men. Second, own outcome, partner's outcome, and anxiety dimension of attachment were three largest contributors to predict relationship satisfaction in same-sex friendships, but none of these were significant in dating relationships. Third, equity and avoidance dimension of attachment predicted satisfaction in dating relationships, but not in same-sex friendships. Thus, the process of becoming satisfied in their close relationships is quite different, depending on the participants' sex and relationship type. Therefore, future research on relationship satisfaction should examine friendships and romantic relationships separately or test differences between these two types of relationships.

An integrated model based on both Equity Theory and Attachment Theory was examined. This model proposed that the avoidance and anxiety dimensions of attachment would lead to underbenefiting exchange orientation (UEO), overbenefiting exchange orientation (OEO), and communal orientation, which in turn would influence equity. Equity was then predicted to lead to self-disclosure, followed by closeness and intimacy. Finally, closeness and intimacy were predicted to influence relationship satisfaction. In

this model, UEO, OEO, and communal orientation were not significant. This is understandable because these variables did not moderate the relation between raw equity scores and satisfaction. Thus, although UEO and communal orientation were correlated with relationship satisfaction, they did not predict satisfaction when the intercorrelations with other predictors were controlled. In addition, self-disclosure was not a significant predictor in the model. However, similar to the model based on Attachment Theory, self-disclosure significantly predicted relationship satisfaction when the avoidance and anxiety dimensions of attachment were replaced with the product of the two. Taking the results in this study together, a revised model to predict relationship satisfaction is presented in Figure 5. It consists of the overall attachment in Step 1, raw equity scores in Step 2, self-disclosure in Step 3, and closeness and intimacy in Step 4. This model should be tested with SEM in the future research in order to determine whether this model is plausible. In addition, each path should be tested with predictors manipulated in hypothetical scenarios in order to draw causal conclusion.

Different predictors in this model were significant in same-sex friendships and dating relationships. In same-sex friendships, avoidance and anxiety dimensions of attachment, closeness, and intimacy were significant predictors of satisfaction. On the other hand, in dating relationships, avoidance dimension of attachment, raw equity scores, closeness, and intimacy predicted satisfaction. That is, anxiety dimension of attachment was only significant for same-sex friendships, while raw equity scores were only significant for dating relationships.

Although attachments affect all of our close relationships, fewer studies had tested the relation between attachments and relationship satisfaction in friendships than in romantic relationships. The current study showed that although the avoidance and anxiety

dimensions of attachment were higher in dating relationships than same-sex friendships, the avoidance dimension was important in predicting relationship satisfaction not only in dating relationships but also in same-sex friendships, and the anxiety dimension predicted satisfaction only in friendships. Thus, attachment styles specific to friendships should be investigated in more detail in the future research.

*Limitations and Future Research*

Despite the contributions of the current study, there are some limitations. First of all, using university students as participants limited the diversity of age and marital status, which might impact some variables measured in this study. Future research should try to use participants of various age ranges and marital status. Second, as in most survey studies, causal conclusions cannot be drawn from the findings of this study. It would be interesting to see if manipulating attachment and equity in hypothetical scenarios produces similar results as this study. Finally, this study is limited to North American culture. It will be worthwhile to examine the same variables in different cultures. For instance, it is possible that in collectivistic cultures underbenefited individuals feel more satisfied with their relationships than overbenefited individuals because the feeling of guilt associated with receiving too much benefit from close others is more striking in these cultures than in individualistic cultures.

As past studies found (e.g., Kirkpatrick & Davis, 1994; Koski & Shaver, 1997), partner's attachment styles are related to one's satisfaction in close relationships. In order to expand the models examined in this study, future research might want to examine both partners of close relationships and include partner's responses and perceptions of each other. This model will be able to test the influence of partner's ratings on predictors of one's satisfaction in a particular relationship. Finally, predictors of relationship

satisfaction could be grouped as individual factors and relational or dyadic factors. Individual factors are more fundamental than relational factors, and partners bring individual factors into their relationships. Thus, a model could be drawn as follows: individual factors (e.g., attachment styles, exchange and communal orientations) will affect relational factors (e.g., equity level, self-disclosure, intimacy, and closeness), which in turn will influence the level of satisfaction. This model should be examined in future research.

*Conclusion*

In summary, both equity and attachment styles are associated with relationship satisfaction. Individuals who are in an equitable relationship were most satisfied with their relationship, followed by overbenefited and underbenefited individuals. One of the contributions of my study is that it was the first to test the moderating effects of exchange orientations, communal orientation, and closeness together on the relation between equity and satisfaction. My research indicates that the positive relation between raw equity scores and relationship satisfaction was true only for those individuals who have low underbenefiting exchange orientation, high overbenefiting exchange orientation, and high communal orientations. Closeness did not moderate the relation between equity and satisfaction. These findings indicated that Equity Theory was supported overall, but it cannot be generalized to many individuals when individual differences are taken into account. Since there could be some mediating variables, such as one's attributions for experiences in his/her relationships, between equity level and relationship satisfaction, it is worthwhile to test these in future research. Another contribution of this study regarding Equity Theory is that no studies have tested underbenefiting and overbenefiting exchange orientations in friendships. In addition, the current study showed that underbenefiting

exchange orientation was negatively correlated with relationship satisfaction, but overbenefiting exchange orientation was not significantly related to satisfaction. Thus, it is important to distinguish between these two types of exchange orientation in the future research.

It is a very consistent finding, including the current study, that secure individuals are more satisfied with their relationships than insecure individuals. This was shown in comparisons of the level of satisfaction across attachment categories and in the relations between attachment dimensions and satisfaction. Past studies have found the relations among attachment, closeness, intimacy, and relationship satisfaction, but they have not examined mediating effects. The current study contributes to the research in this area by examining these effects as predictors of relationship satisfaction. In addition, I tested the attachment-satisfaction relation among same-sex friends in addition to dating partners for which most past research on attachment has been conducted.

To date, there is only one study testing the connection between equity and attachment styles (Grau & Doll, 2003). Although it was a first step to understanding the association, my research expanded Grau and Doll's study by distinguishing between the two groups of avoidant individuals and using four-category attachment styles. Although Equity and Attachment Theories are well-established, well-known, theories in predicting relationship satisfaction, no previous research has examined which theory is a better predictor of satisfaction. According to the results in my study, attachment better predicts relationship satisfaction than equity, which was indicated by larger standardized betas of attachment dimensions than equity while controlling for other predictor variables. I tested models predicting satisfaction based on Equity Theory and Attachment Theory separately and an integrated model. This integrated model summarized the findings from past

research and has never been tested. My research indicates that the model based on Equity Theory was supported overall, except that overbenefiting exchange orientation was not a significant predictor of satisfaction. The model based on Attachment Theory was also supported especially when the overall attachment scores were used instead of two dimensions of attachment styles. The larger R-squared of the model based on Attachment Theory than that of the model based on Equity Theory provided additional support for the argument that Attachment Theory better predicts relationship satisfaction than Equity Theory. The integrated model showed that underbenefiting and overbenefiting exchange orientation and communal orientation did not significantly predict relationship satisfaction. However, the integrated model explained the largest amount of variance in relationship satisfaction compared to the other two models. Based on my findings, I have proposed a final revised model which should be tested in future research. Closely examining and revising these models will help to better understand how high relationship satisfaction is generated and what type of individuals feel high or low satisfaction in their relationships.

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Footnotes

[1] Three engaged and four married individuals responded to a questionnaire about dating relationships. Since there were no large differences in further analyses with and without these participants, their data was retained in order to keep higher statistical power.

[2] Independent-sample t-tests were conducted in order to compare means of all predictor variables and relationship satisfaction between individuals reporting about their current dating relationship and those reporting about their past dating relationship. Since there were 18 different comparisons, the significance level was adjusted to .002 (i.e., .05/18). Significant differences were found for the following variables: satisfaction, $t$ (149) = 8.03, $p < .001$; closeness, $t$ (148) = 3.50, $p < .001$; intimacy, $t$ (148) = 3.64, $p < .001$; and avoidance dimension of attachment, t (149) = - 4.43, $p < .001$. Individuals reporting about their current dating relationship had higher satisfaction ($M$ = 5.82, $SD$ = .82), higher closeness ($M$ = 4.80, $SD$ = 1.44), higher intimacy ($M$ = 5.79, $SD$ = .97), and lower avoidance ($M$ = 2.54, $SD$ = .96), compared to those reporting about their past dating relationship (satisfaction, $M$ = 4.67, $SD$ = .94; closeness, $M$ = 3.91, $SD$ = 1.67; intimacy, $M$ = 5.16, $SD$ = 1.14; and avoidance, $M$ = 3.24, $SD$ = .97).

[3] Given the number of correlations examined in this analysis (i.e., 13 correlation coefficients), the alpha level was adjusted in order to control Type I error rate. Even with the adjusted level of significance ($\alpha = .05/13 = .0038$), all correlations, which were reported as significant, remained significant.

[4] There were a few outliers inspected by the Mahalanobis distances. Since $R^2$ and standardized betas changed little with and without these outliers in the regression model, the data from these participants were included in the analysis in order to keep statistical power.

[5] Given the number of analyses conducted, the significant moderating effect of communal orientation on squared equity scores and relationship satisfaction could be due to Type I error.

[6] Levene's test on homogeneity of variances was not significant, indicating that homogeneity of variances assumption was not violated for this analysis.

[7] Levene's test on homogeneity of variances was significant, $F$ (3, 366) = 13.19, $p < .001$, which indicates that variances of self-disclosure were unequal across four attachment groups. Since the group sizes were not equal (i.e., largest/smallest = 2.31), this assumption was not robust. A secure group had the largest sample size ($n$ = 155) and the smallest variance, so the ANOVA was liberal. This could be due to the highly skewed distribution of self-disclosure (skewness = -1.01). Square root and log transformation did not make the shape of the distribution any closer to normal.

[8] Levene's tests on homogeneity of variances were not significant for four equity components. However, it was significant for the raw equity score, $F$ (3, 358) = 3.06, $p < .05$. This indicates that variances of the raw equity score were unequal across four attachment groups. Since the group sizes were not equal (i.e., largest/smallest = 2.31), this assumption was not robust. A secure group had the largest sample size ($n$ = 155) and the smallest variance, so the ANOVA was liberal. Any liberal test statistics make the actual alpha level greater than the specified significance level. In other words, it is more likely to find significance with liberal statistics than with non-liberal statistics. The ANOVA on raw equity scores was not significant, so the violation of homogeneity assumption was not a serious problem in this study.

Table 1. Means and Standard Deviations for Total Sample.

| | Total | |
|---|---|---|
| Variables | *M* | *SD* |
| Raw Global Equity Score | –0.11 | 1.02 |
| Squared Global Equity Score | 1.05 | 2.21 |
| Closeness | 4.43 | 1.53 |
| Satisfaction | 5.61 | 0.99 |
| Own Input | 5.31 | 0.70 |
| Own Outcome | 5.07 | 0.90 |
| Partner's Input | 5.30 | 0.76 |
| Partner's Outcome | 5.01 | 0.85 |
| Own Benefit [a] | 0.96 | 0.16 |
| Partner's Benefit [b] | 0.96 | 0.17 |
| Ratio of Benefits [c] | 1.05 | 0.34 |
| Self-Disclosure | 4.10 | 0.76 |
| Intimacy | 5.41 | 1.12 |
| Communal Orientation | 3.79 | 0.52 |
| Underbenefiting Exchange Orientation | 2.92 | 0.57 |
| Overbenefiting Exchange Orientation | 3.76 | 0.42 |
| Avoidance Dimension | 2.77 | 1.00 |
| Anxiety Dimension | 3.17 | 1.13 |

Note: [a] Own benefit was calculated by dividing own outcome by own input.

[b] Partner's benefit was calculated by dividing partner's outcome by partner's input.

[c] Ratio of benefits was calculated by dividing own benefit by partner's benefit.

Table 2. Mean Differences between Men and Women.

| Variables | Men | | Women | | | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *df* | *t* |
| Raw Global Equity Score | –0.03 | 0.96 | –0.16 | 1.05 | 357 | 1.14 |
| Squared Global Equity Score | 0.91 | 2.14 | 1.12 | 2.20 | 357 | –0.90 |
| Closeness | 4.37 | 1.57 | 4.48 | 1.51 | 365 | –0.68 |
| Satisfaction | 5.52 | 0.92 | 5.68 | 1.03 | 365 | –1.48 |
| Own Input | 5.40 | 0.78 | 5.26 | 0.62 | 366 | 1.88$^{+}$ |
| Own Outcome | 5.02 | 0.97 | 5.11 | 0.85 | 363 | –0.86 |
| Partner's Input | 5.22 | 0.79 | 5.36 | 0.74 | 365 | –1.69$^{+}$ |
| Partner's Outcome | 5.02 | 0.90 | 5.00 | 0.83 | 366 | 0.18 |
| Own Benefit [a] | 0.94 | 0.15 | 0.98 | 0.15 | 363 | –2.44* |
| Partner's Benefit [b] | 0.97 | 0.19 | 0.94 | 0.15 | 365 | 1.77$^{+}$ |
| Ratio of Benefits [c] | 1.01 | 0.39 | 1.07 | 0.30 | 362 | –1.65 |
| Self-Disclosure | 3.90 | 0.81 | 4.24 | 0.70 | 365 | –4.28*** |
| Intimacy | 5.11 | 1.22 | 5.63 | 0.98 | 292.84 | –4.41*** |
| Communal Orientation | 3.63 | 0.55 | 3.91 | 0.47 | 366 | –5.28*** |
| Underbenefiting Exchange Orientation | 2.93 | 0.58 | 2.90 | 0.57 | 367 | 0.45 |
| Overbenefiting Exchange Orientation | 3.71 | 0.42 | 3.79 | 0.41 | 367 | –1.73$^{+}$ |
| Avoidance Dimension | 2.96 | 0.99 | 2.62 | 0.99 | 367 | 3.21** |
| Anxiety Dimension | 3.18 | 1.11 | 3.15 | 1.15 | 367 | 0.23 |

Note: [a] Own benefit was calculated by dividing own outcome by own input.

[b] Partner's benefit was calculated by dividing partner's outcome by partner's input.

[c] Ratio of benefits was calculated by dividing own benefit by partner's benefit.

$^{+}p < .10$, $*p < .05$, $**p < .01$, $***p < .001$

Table 3. Mean Differences between Same-sex Friendships and Dating Relationships

| Variables | Same-sex Friendships | | Dating Relationships | | | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *df* | *t* |
| Raw Global Equity Score | 0.11 | 0.86 | –0.33 | 1.12 | 333.79 | 4.23*** |
| Squared Global Equity Score | 0.75 | 1.99 | 1.36 | 2.38 | 346.30 | –2.64** |
| Closeness | 4.48 | 1.46 | 4.37 | 1.61 | 368 | 0.69 |
| Satisfaction | 5.97 | 0.78 | 5.23 | 1.04 | 335.28 | 7.70*** |
| Own Input | 5.30 | 0.72 | 5.32 | 0.69 | 369 | –0.35 |
| Own Outcome | 4.91 | 0.95 | 5.24 | 0.81 | 366 | –3.54*** |
| Partner's Input | 5.33 | 0.74 | 5.27 | 0.79 | 368 | 0.77 |
| Partner's Outcome | 4.84 | 0.88 | 5.17 | 0.80 | 369 | –3.80*** |
| Own Benefit [a] | 0.93 | 0.16 | 0.99 | 0.15 | 366 | –3.78*** |
| Partner's Benefit [b] | 0.92 | 0.17 | 0.99 | 0.16 | 368 | –4.47*** |
| Ratio of Benefits [c] | 1.06 | 0.38 | 1.03 | 0.30 | 365 | 0.79 |
| Self-Disclosure | 4.04 | 0.80 | 4.16 | 0.72 | 368 | –1.53 |
| Intimacy | 5.44 | 1.15 | 5.38 | 1.08 | 367 | –0.97 |
| Communal Orientation | 3.79 | 0.51 | 3.79 | 0.54 | 368 | –0.07 |
| Underbenefiting Exchange Orientation | 2.89 | 0.58 | 2.95 | 0.56 | 370 | –1.08 |
| Overbenefiting Exchange Orientation | 3.77 | 0.42 | 3.75 | 0.41 | 370 | 0.40 |
| Avoidance Dimension | 2.63 | 0.97 | 2.90 | 1.02 | 370 | –2.63** |
| Anxiety Dimension | 2.84 | 1.06 | 3.49 | 1.09 | 370 | –5.79*** |

Note: [a] Own benefit was calculated by dividing own outcome by own input.

[b] Partner's benefit was calculated by dividing partner's outcome by partner's input.

[c] Ratio of benefits was calculated by dividing own benefit by partner's benefit.

$^{**}p < .01$, $^{***}p < .001$

Table 4. Correlation Coefficients between Relationship Satisfaction and Predictor Variables

| Predictor Variables | *df* | *r* |
|---|---|---|
| Raw Global Equity Score | 359 | .17** |
| Squared Global Equity Score | 359 | –.31*** |
| Closeness | 366 | .46*** |
| Intimacy | 366 | .47*** |
| Self-Disclosure | 366 | .36*** |
| Communal Orientation | 366 | .21*** |
| Underbenefiting Exchange Orientation | 368 | –.19*** |
| Overbenefiting Exchange Orientation | 368 | .08 |
| Avoidance Dimension | 368 | –.54*** |
| Anxiety Dimension | 368 | –.29*** |

Note: **$p < .002$, ***$p < .001$

Table 5. Summary of Simultaneous Regression Analysis for Variables Predicting Satisfaction

| Predictors | Overall β | Men β | Women β | Friendship β | Dating Relationship β |
|---|---|---|---|---|---|
| Raw Global Equity | .17*** | .06 | .24*** | –.01 | .15** |
| Closeness | .14** | .13 | .10 | .06 | .12 |
| Own Input | .04 | .05 | .01 | .02 | .03 |
| Own Outcome | –.01 | .10 | –.08 | .28** | .02 |
| Partner's Input | .34*** | .25** | .38*** | .16* | .38*** |
| Partner's Outcome | –.14** | –.22* | –.07 | –.27*** | –.03 |
| Intimacy | .18** | .17$^{+}$ | .20** | .19* | .23** |
| Self-Disclosure | –.08 | –.07 | –.00 | .02 | .03 |
| Communal Orientation | .06 | –.00 | .08 | .06 | –.02 |
| Underbenefiting Exchange Orientation | .01 | –.10 | .06 | –.06 | –.03 |
| Overbenefiting Exchange Orientation | –.02 | .08 | –.07 | .11$^{+}$ | –.13$^{+}$ |
| Avoidance Dimension | –.26*** | –.26* | –.22** | –.16 | –.18* |
| Anxiety Dimension | –.19*** | –.22** | –.19** | –.26*** | –.05 |
| *N* | 360 | 178 | 177 | 181 | 174 |
| $R^2$ | .52 | .54 | .55 | .57 | .57 |

Note: $^{+}p < .08$, $*p < .05$, $**p < .01$, $***p < .001$

Table 6. Hierarchical Regression Analyses Using Avoidance Dimension of Attachment (Step 1) and Mediators (Step 2) as Predictors of Relationship Satisfaction for Overall Sample

| | Step 1 | | | Step 2 | |
|---|---|---|---|---|---|
| | β | $R^2$ | | β | $\Delta R^2$ |
| | | .30*** | | | .04*** |
| Avoidance | –.55*** | | Avoidance | –.43*** | |
| | | | Closeness | .24*** | |
| | | .30*** | | | .02*** |
| Avoidance | –.55*** | | Avoidance | –.42*** | |
| | | | Intimacy | .20*** | |
| | | .30*** | | | < .01 |
| Avoidance | –.55*** | | Avoidance | –.57*** | |
| | | | Self-Disclosure | –.04 | |

Note: ***$p < .001$

Table 7. Hierarchical Regression Analysis Summary for Testing a Model among Overall Sample based on Equity Theory

| Variable | | UEO[a] | OEO [b] | Communal Orientation | Closeness | Raw Global Equity |
|---|---|---|---|---|---|---|
| Step 1 | | | | | | |
| $R^2$ | .23*** | | | | | |
| β | | –.14** | .05 | .10$^{+}$ | .41*** | |
| Step 2 | | | | | | |
| $\Delta R^2$ | .04*** | | | | | |
| β | | –.15** | .08 | .13* | .39*** | .19*** |

Note: [a] Underbenefiting Exchange Orientation, [b] Overbenefiting Exchange Orientation

$^{+}$ $p < .08$, * $p < .05$, ** $p < .01$, ***$p < .001$

Table 8. Hierarchical Regression Analysis Summary for Testing a Model Separately for Men and Women based on Equity Theory

| Variable | | UEO[a] | OEO [b] | Communal Orientation | Closeness | Raw Global Equity |
|---|---|---|---|---|---|---|
| Men ($N$ = 179) | | | | | | |
| Step 1 | | | | | | |
| $R^2$ | .31*** | | | | | |
| β | | –.32*** | .12 | .08 | .34*** | |
| Step 2 | | | | | | |
| $\Delta R^2$ | .01 | | | | | |
| β | | –.32*** | .13$^{+}$ | .10 | .34*** | .07 |
| Women ($N$ = 178) | | | | | | |
| Step 1 | | | | | | |
| $R^2$ | .21*** | | | | | |
| β | | –.02 | < .01 | .12$^{+}$ | .34*** | |
| Step 2 | | | | | | |
| $\Delta R^2$ | .06*** | | | | | |
| β | | –.03 | .04 | .15* | .42*** | .26*** |

Note: [a] Underbenefiting Exchange Orientation, [b] Overbenefiting Exchange Orientation

$^{+}$ $p < .10$, * $p < .05$, ** $p < .01$, ***$p < .001$

Table 9. Hierarchical Regression Analysis Summary for Testing a Model based on Equity Theory: Same-Sex Friendships and Dating Relationships

| Variable | | UEO[a] | OEO [b] | Communal Orientation | Closeness | Raw Global Equity |
|---|---|---|---|---|---|---|
| Friendships ($N$ = 182) | | | | | | |
| Step 1 | | | | | | |
| $R^2$ | .32*** | | | | | |
| β | | –.23*** | .18* | .21** | .31*** | |
| Step 2 | | | | | | |
| $\Delta R^2$ | < .01 | | | | | |
| β | | –.23*** | .18* | .20** | .31*** | –.02 |
| Dating Relationships ($N$ = 175) | | | | | | |
| Step 1 | | | | | | |
| $R^2$ | .26*** | | | | | |
| β | | –.04 | –.05 | –.06 | .49*** | |
| Step 2 | | | | | | |
| $\Delta R^2$ | .03** | | | | | |
| β | | –.06 | –.02 | .08 | .47*** | .19** |

Note: * $p < .05$, ** $p < .01$, ***$p < .001$

Table 10. Hierarchical Regression Analysis Summary for Testing a Model among Overall Sample based on Attachment Theory

| Variable | | Avoidance Dimension | Anxiety Dimension | Self-Disclosure | Closeness | Intimacy |
|---|---|---|---|---|---|---|
| Step 1 | | | | | | |
| $R^2$ | .34*** | | | | | |
| β | | –.51*** | –.19*** | | | |
| Step 2 | | | | | | |
| $\Delta R^2$ | <.01 | | | | | |
| β | | –.51*** | –.19*** | –.01 | | |
| Step 3 | | . | | | | |
| $\Delta R^2$ | .07*** | | | | | |
| β | | –.33*** | –.23*** | $-.11^{+}$ | .21*** | .22*** |

Note: $^{+}$ $p < .07$ *** $p < .001$

Table 11. Hierarchical Regression Analysis Summary for Testing a Model based on Attachment Theory among Men and Women

| Variable | | Avoidance Dimension | Anxiety Dimension | Self-Disclosure | Closeness | Intimacy |
|---|---|---|---|---|---|---|
| Men ($N$ = 181) | | | | | | |
| Step 1 | | | | | | |
| $R^2$ | .40*** | | | | | |
| β | | –.52*** | –.27*** | | | |
| Step 2 | | | | | | |
| $\Delta R^2$ | <.01 | | | | | |
| β | | –.48*** | –.28*** | –.06 | | |
| Step 3 | | | | | | |
| $\Delta R^2$ | .05*** | | | | | |
| β | | –.34** | –.32*** | –.06 | .20* | .17$^{+}$ |
| Women ($N$ = 185) | | | | | | |
| Step 1 | | | | | | |
| $R^2$ | .32*** | | | | | |
| β | | –.52*** | –.14* | | | |
| Step 2 | | | | | | |
| $\Delta R^2$ | <.01 | | | | | |
| β | | –.52*** | –.14* | –.00 | | |
| Step 3 | | | | | | |
| $\Delta R^2$ | .10*** | | | | | |
| β | | –.30*** | –.17** | –.09 | .17** | .31*** |

Note: $^{+}$ $p < .07$, *** $p < .001$

Table 12. Hierarchical Regression Analysis Summary for Testing a Model based on Attachment Theory: Same-Sex Friendships and Dating Relationships

| Variable | | Avoidance Dimension | Anxiety Dimension | Self-Disclosure | Closeness | Intimacy |
|---|---|---|---|---|---|---|
| Friendships ($N$ = 187) | | | | | | |
| Step 1 | | | | | | |
| $R^2$ | .39*** | | | | | |
| β | | –.52*** | –.22*** | | | |
| Step 2 | | | | | | |
| $\Delta R^2$ | <.01 | | | | | |
| β | | –.45*** | –.24*** | .10 | | |
| Step 3 | | | | | | |
| $\Delta R^2$ | .08*** | | | | | |
| β | | –.26** | –.30*** | –.03 | $.12^{+}$ | .32*** |
| Dating Relationships ($N$ = 179) | | | | | | |
| Step 1 | | | | | | |
| $R^2$ | .27*** | | | | | |
| β | | –.52*** | –.06 | | | |
| Step 2 | | | | | | |
| $\Delta R^2$ | .01 | | | | | |
| β | | –.43*** | –.07 | .13 | | |
| Step 3 | | | | | | |
| $\Delta R^2$ | .11*** | | | | | |
| β | | –.20* | –.09 | –.01 | .26*** | .28** |

Note: $^{+}p < .07$, $*p < .05$, $**p < .01$, $***p < .001$

Table 13. Hierarchical Regression Analysis Summary for Testing an Integrated Model among Overall Sample

| Variable | | Avoidance Dimension | Anxiety Dimension | UEO[a] | OEO [b] | CO [c] | Raw Global Equity | Self-Disclosure | Closeness | Intimacy |
|---|---|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | | | | | | |
| $R^2$ | .35*** | | | | | | | | | |
| β | | -.52*** | -.20*** | | | | | | | |
| Step 2 | | | | | | | | | | |
| $\Delta R^2$ | <.01 | | | | | | | | | |
| β | | -.53*** | -.19*** | -.02 | .01 | -.02 | | | | |
| Step 3 | | | | | | | | | | |
| $\Delta R^2$ | .04*** | | | | | | | | | |
| β | | -.53*** | -.17*** | -.03 | .04 | .01 | .21*** | | | |
| Step 4 | | | | | | | | | | |
| $\Delta R^2$ | <.01 | | | | | | | | | |
| β | | -.50*** | -.18*** | -.03 | .03 | .01 | .21*** | .04 | | |
| Step 5 | | | | | | | | | | |
| $\Delta R^2$ | .06*** | | | | | | | | | |
| β | | -.34*** | -.22*** | -.02 | .03 | .02 | .19*** | -.07 | .17*** | .23*** |

Note: [a] Underbenefiting Exchange Orientation, [b] Overbenefiting Exchange Orientation, [c] Communal Orientation

$^{+}p < .08$, $*p < .05$, $**p < .01$, $***p < .001$

Table 14. Hierarchical Regression Analysis Summary for Testing an Integrated Model among Men and Women

| Variable | | Avoidance Dimension | Anxiety Dimension | UEO[a] | OEO [b] | CO [c] | Raw Global Equity | Self-Disclosure | Closeness | Intimacy |
|---|---|---|---|---|---|---|---|---|---|---|
| Men ($N$ = 179) | | | | | | | | | | |
| Step 1 | | | | | | | | | | |
| $R^2$ | .39*** | | | | | | | | | |
| β | | -.52*** | -.27*** | | | | | | | |
| Step 2 | | | | | | | | | | |
| $\Delta R^2$ | .03$^{+}$ | | | | | | | | | |
| β | | -.47*** | -.22** | -.16* | .13$^{+}$ | -.01 | | | | |
| Step 3 | | | | | | | | | | |
| $\Delta R^2$ | .01 | | | | | | | | | |
| β | | -.47*** | -.21** | -.16* | .14$^{+}$ | <.01 | .09 | | | |
| Step 4 | | | | | | | | | | |
| $\Delta R^2$ | < .01 | | | | | | | | | |
| β | | -.43*** | -.22** | -.17* | .13 | < \|.01\| | .09 | .07 | | |
| Step 5 | | | | | | | | | | |
| $\Delta R^2$ | .04** | | | | | | | | | |
| β | | -.27*** | -.30** | -.14* | .12 | -.03 | .06 | -.04 | .17* | .18$^{+}$ |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Women ($N$ = 177) | | | | | | | | | | |
| Step 1 | | | | | | | | | | |
| $R^2$ | .32*** | | | | | | | | | |
| β | | -.52*** | -.15** | | | | | | | |
| Step 2 | | | | | | | | | | |
| $\Delta R^2$ | .01 | | | | | | | | | |
| β | | -.53*** | -.18** | .08 | -.07 | < .01 | | | | |
| Step 3 | | | | | | | | | | |
| $\Delta R^2$ | .07*** | | | | | | | | | |
| β | | -.52*** | -.17** | .06 | -.03 | .04 | .26*** | | | |
| Step 4 | | | | | | | | | | |
| $\Delta R^2$ | < .01 | | | | | | | | | |
| β | | -.49*** | -.17** | .06 | -.03 | .04 | .27*** | .05 | | |
| Step 5 | | | | | | | | | | |
| $\Delta R^2$ | .08*** | | | | | | | | | |
| β | | -.27** | -.20*** | .06 | -.04 | .10 | .25*** | -.05 | .15* | .30*** |

Note: [a] Underbenefiting Exchange Orientation, [b] Overbenefiting Exchange Orientation, [c] Communal Orientation

$^{+}p < .08$, $*p < .05$, $**p < .01$, $***p < .001$

Table 15. Hierarchical Regression Analysis Summary for Testing an Integrated Model: Same-Sex Friendships and Dating Relationships

| Variable | | Avoidance Dimension | Anxiety Dimension | UEO[a] | OEO [b] | CO [c] | Raw Global Equity | Self-Disclosure | Closeness | Intimacy |
|---|---|---|---|---|---|---|---|---|---|---|
| Friendship ($N$ = 182) | | | | | | | | | | |
| Step 1 | | | | | | | | | | |
| $R^2$ | .40*** | | | | | | | | | |
| β | | -.53*** | -.23*** | | | | | | | |
| Step 2 | | | | | | | | | | |
| $\Delta R^2$ | .03* | | | | | | | | | |
| β | | -.45*** | -.20** | -.10 | .14* | .06 | | | | |
| Step 3 | | | | | | | | | | |
| $\Delta R^2$ | < .01 | | | | | | | | | |
| β | | -.45*** | -.20** | -.10 | .14* | .06 | .01 | | | |
| Step 4 | | | | | | | | | | |
| $\Delta R^2$ | < .01 | | | | | | | | | |
| β | | -.39*** | -.21** | -.10 | .13* | .05 | .02 | .09 | | |
| Step 5 | | | | | | | | | | |
| $\Delta R^2$ | .06*** | | | | | | | | | |
| β | | -.24* | -.27*** | -.09 | .10 | .04 | < .01 | -.02 | $.12^{+}$ | .27*** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dating Relationship | | | | | | | | | | |
| ($N$ = 174) | | | | | | | | | | |
| Step 1 | | | | | | | | | | |
| $R^2$ | .29*** | | | | | | | | | |
| β | | -.53*** | -.06 | | | | | | | |
| Step 2 | | | | | | | | | | |
| $\Delta R^2$ | .01 | | | | | | | | | |
| β | | -.55*** | -.04 | < \|.01\| | -.08 | -.05 | | | | |
| Step 3 | | | | | | | | | | |
| $\Delta R^2$ | .05*** | | | | | | | | | |
| β | | -.55*** | -.03 | -.03 | -.02 | -.03 | .24*** | | | |
| Step 4 | | | | | | | | | | |
| $\Delta R^2$ | .02* | | | | | | | | | |
| β | | -.42*** | -.03 | -.03 | -.06 | -.06 | .23*** | .21* | | |
| Step 5 | | | | | | | | | | |
| $\Delta R^2$ | .08*** | | | | | | | | | |
| β | | -.20* | -.06 | -.03 | -.05 | -.02 | .20*** | .07 | .15* | .31*** |

Note: [a] Underbenefiting Exchange Orientation, [b] Overbenefiting Exchange Orientation, [c] Communal Orientation

$^{+}p < .08$, $*p < .05$, $**p < .01$, $***p < .001$

Figure 1. A Hierarchical Regression Model of Relationship Satisfaction based on Equity Theory.

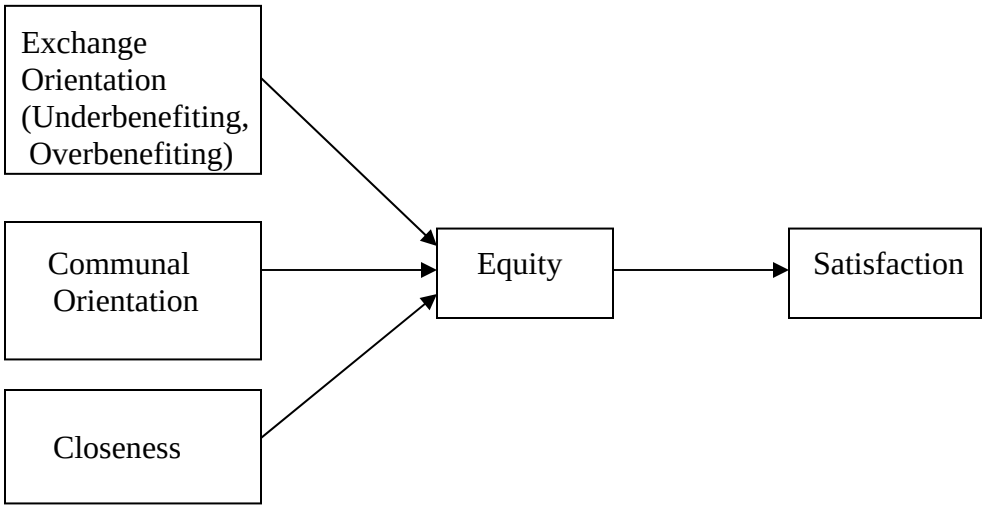


Figure 2. A Hierarchical Regression Model of Relationship Satisfaction based on Attachment Theory.

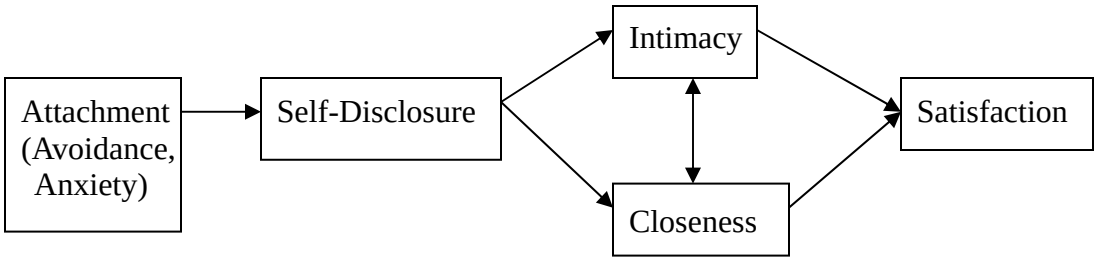


Figure 3. Predictions on the Relation between Equity and Attachment Styles based on both Grau and Doll's (2003) Predictions and Findings and an Integrated Model of Adult Attachment Styles Presented by Brennan et al. (1998).

| Model of Other<br>*Avoidance*<br>**Own Input and Partner's Outcome** | | Model of Self<br>*Anxiety*<br>**Partner's Input and Own Outcome**<br><br>Positive<br>*Low*<br>**High** | Negative<br>*High*<br>**Low** |
|---|---|---|---|
| | Positive<br>*Low*<br>**High** | Secure<br>**Equitable** with **greater** amount of exchange<br><br>**Predicted and found** in Grau and Doll's study | Preoccupied<br>**Underbenefited**<br><br>**Predicted and found** in Grau and Doll's study |
| | Negative<br>*High*<br>**Low** | Dismissing<br>**Overbenefited**<br><br>Grau & Doll's **prediction** on **avoidant** individuals | Fearful<br>**Equitable** with **lower** amount of exchange<br><br>Grau & Doll's **finding** on **avoidant** individuals |

Figure 4. An Integrated Hierarchical Regression Model of Relationship Satisfaction based on both Equity Theory and Attachment Theory.

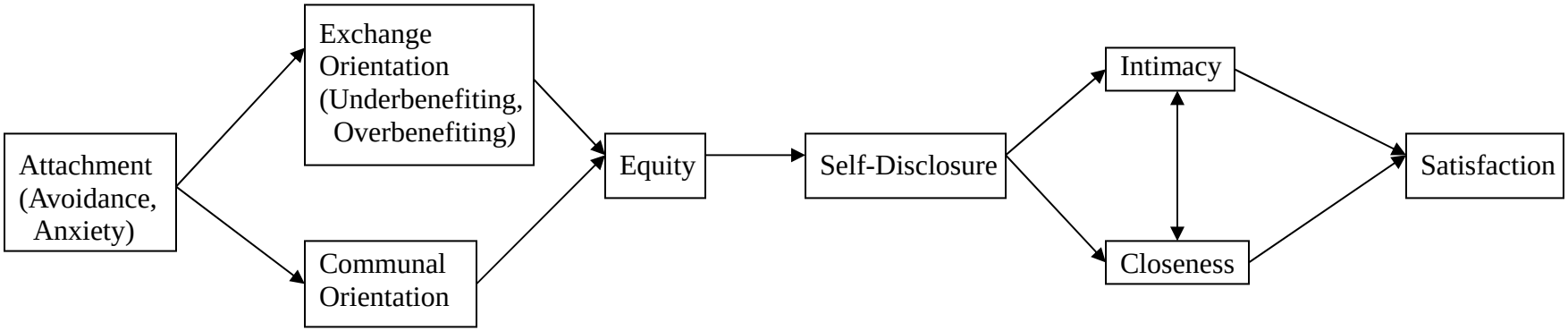
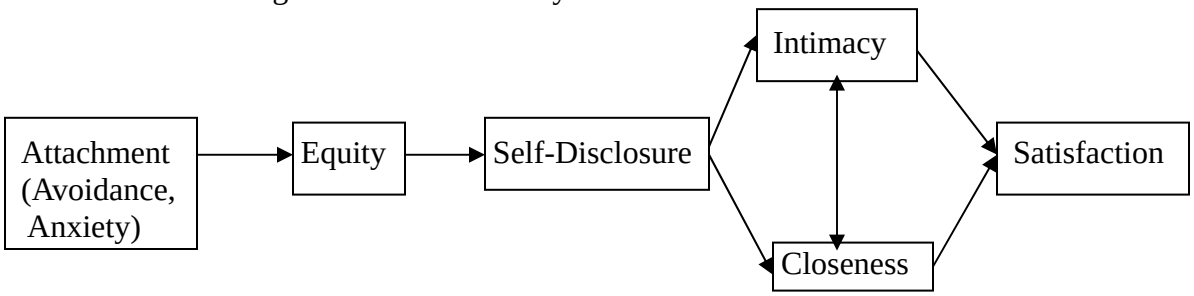


Figure 5. A Final Proposed Hierarchical Regression Model of Relationship Satisfaction based on the Findings in the Current Study.



Appendix A

For each of the following qualities, please rate each item by circling the number which best describes **your characteristics**, where 1 = strongly disagree and 7 = strongly agree.

| | |
|---|---|
| 1. I am strong minded and self-assured. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 2. I am ambitious. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 3. I am physically attractive. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 4. I am intelligent with an all-around education. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 5. I am sociable and pleasant to be with. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 6. I am successful. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 7. I am committed to the relationship. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 8. I am dependent. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 9. I am leading an interesting and varied life. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 10. I am popular and have many friends. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 11. I conform to my partner. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |

Appendix B

The following items describe the qualities your partner might be contributing to your romantic relationship. Please circle the number which best describes **how much you benefit from each item**, where 1 = strongly disagree and 7 = strongly agree.

| | |
|---|---|
| 1. I benefit from my partner being strong minded and self-assured. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 2. I benefit from my partner being ambitious. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 3. I benefit from my partner being physically attractive. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 4. I benefit from my partner being intelligent with an all-around education. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 5. I benefit from my partner being sociable and pleasant to be with. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 6. I benefit from my partner being successful. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 7. I benefit from my partner being committed to the relationship. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 8. I benefit from my partner being dependent. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 9. I benefit from my partner leading an interesting and varied life. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 10. I benefit from my partner being popular and having many friends. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 11. I benefit from my partner conforming to myself. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |

Appendix C

For each of the following qualities, please rate each item by circling the number which best describes **your partner's characteristics**, where 1 = strongly disagree and 7 = strongly agree.

| | |
|---|---|
| 1. My partner is strong minded and self-assured. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 2. My partner is ambitious. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 3. My partner is physically attractive. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 4. My partner is intelligent with an all-around education. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 5. My partner is sociable and pleasant to be with. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 6. My partner is successful. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 7. My partner is committed to the relationship. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 8. My partner is dependent. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 9. My partner is leading an interesting and varied life. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 10. My partner is popular and has many friends. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 11. My partner conforms to myself. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |

Appendix D

The following items describe the qualities you might be contributing to your romantic relationship. Please circle the number which best describes your impressions on **how much your partner benefits from each item**, where 1 = strongly disagree and 7 = strongly agree.

| | |
|---|---|
| 1. My partner benefits from me being strong minded and self-assured. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 2. My partner benefits from me being ambitious. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 3. My partner benefits from me being physically attractive. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 4. My partner benefits from me being intelligent with an all-around education. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 5. My partner benefits from me being sociable and pleasant to be with. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 6. My partner benefits from me being successful. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 7. My partner benefits from me being committed to the relationship. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 8. My partner benefits from me being dependent. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 9. My partner benefits from me leading an interesting and varied life. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 10. My partner benefits from me being popular and having many friends. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |
| 11. My partner benefits from me conforming to my partner. | 1 2 3 4 5 6 7<br>Strongly Disagree Strongly Agree |