

# Are There “His” and “Hers” Types of Interdependence? The Implications of Gender Differences in Collective Versus Relational Interdependence for Affect, Behavior, and Cognition

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In a recent review, S. E. Cross and L. Madson (1997) forwarded that many gender differences in social experience and behavior may be better understood through consideration of gender differences in independence and interdependence. In the current studies an expansion of the model to include both relational and collective aspects of interdependence was investigated (see R. F. Baumeister & K. L. Sommer, 1997). On the basis of the literature regarding gender differences in affect, behavior, and cognition, it was hypothesized that women would focus more on the relational aspects of interdependence, whereas men would focus more on the collective aspects of interdependence. Five studies in which gender differences in self-construals, emotional experience, selective memory, and behavioral intentions were examined supported the expansion of the model to include both relational and collective aspects of interdependence.

The focus of gender research has recently begun to shift from documenting the existence and extent of gender differences to exploring the origin of those differences (Eagly, 1995). Numerous theories have been advanced to explain the documented gender differences in emotion, motivation, cognition, and social behavior. Prevalent in psychology are theories proposing that gender differences arise from and reflect status differences between men and women (e.g., Geis, 1993; Ridgeway & Diekema, 1992), arise from the different social roles that men and women have traditionally assumed (Eagly, 1987), and exist primarily in the context of social interaction (e.g., Deaux & Major, 1987; West & Zimmerman, 1991). Indeed, many developmental psychologists argue that to some extent children grow up in gender-segregated separate cultures in which different norms exist for social behavior. These different norms are then carried into adult social interaction (e.g., Hoffman, 1972; Maccoby, 1990; Maltz & Borker, 1982; Tannen, 1990).

Recently, Cross and Madson (1997) argued that many empirically demonstrated gender differences can be seen as reflecting fundamental differences in independence and interdependence. Specifically, it was argued that whereas men are relatively more independent, women are relatively more interdependent. Independent and interdependent individuals differ in the extent to which the self is defined as separate from, versus connected to, others (Markus & Kitayama, 1991).

## Independent Versus Interdependent Self-Construals

An independent self-construal is thought to arise from a belief in the inherent separateness of individuals (Markus & Kitayama, 1991). The normative goal of an individual who is primarily independent has been posited to be “finding oneself,” or discovering and expressing what makes one separate and unique from others (Baumeister, 1998). Accordingly, others are important as standards of reflected appraisals or sources of verification of the self (Markus & Kitayama, 1991).

In contrast, an interdependent self-construal is thought to arise from a belief in the fundamental embeddedness of every individual in a larger social whole (Markus & Kitayama, 1991; Triandis, 1989). The normative goal of interdependent individuals has been posited to be the formation and maintenance of social relationships and the fulfillment of one’s place in larger society (Markus & Kitayama, 1991). Individuals with interdependent self-construals are most strongly defined in terms of the public aspects of their lives, with social relationships and roles forming the largest component of self-identity (Lebra, 1976; Markus & Kitayama, 1991). Through this emphasis on social relationships and roles in self-definition, others become directly linked with the self-concept. For example, implicit in a self-definition of *mother* is the existence of a son or daughter.

Cross and Madson (1997) argued that American culture encourages the development of a more interdependent focus in women and of a more independent focus in men. They theorized that this interdependent focus is then reflected in affect, social behavior, and cognitive processing.

## Are Women More Interdependent?

Gender differences in socialization have been detected from infancy onward (Bell & Carver, 1980; Culp, Cook, & Hourley, 1983; Shakin, Shakin, & Sternglanz, 1985). Not only are boys and girls socialized differently, but they are often socialized sepa-

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rately.<sup>1</sup> Children begin to be segregated by gender at a very young age and continue to interact in gender-segregated environments for much of childhood (Maccoby, 1988). Indeed, there is evidence that both parents and the public school system encourage gender-typed activities and sex segregation (Lytton & Romney, 1991; Thorne, 1986).

A great deal of evidence supports the premise that girls' socialization encourages them toward the interdependent tasks of forming and maintaining close relationships. For example, parents emphasize sensitivity to the feelings of others more with girls than with boys (Dunn, Bretherton, & Munn, 1987; Fivush, 1992). Girls' social interactions are characterized more by cooperation, intimate friendships, and efforts to maintain interpersonal harmony, whereas boys' interactions are instead more likely to be characterized by demonstrations of dominance and competitiveness (Maccoby, 1990). Finally, girls are more likely to form pair bonds and report intimacy as an important factor in forming relationships (Broderick & Beltz, 1996; Clark & Bittle, 1992; Jones & Costin, 1995). In sum, girls and boys are socialized differently and often separately; girls are encouraged to emphasize close relationships to a greater extent than boys.

Thus, it is no surprise that there is evidence that women's self-construals are more relational than men's. For example, when asked to spontaneously describe themselves, girls make more references to close relationships, whereas boys make more references to their general place among large groups of people (McGuire & McGuire, 1982). In an analysis of adolescent self-concept, Rosenberg (1989) found that girls were more likely to value characteristics that related to sensitivity to specific others and interpersonal harmony, whereas boys were more likely to value characteristics related to competitiveness and social dominance. These differences are evident in adults as well; women rate relational aspects of identity as more important to them than do men (Thoits, 1992).

Furthermore, in their review of the literature, Cross and Madson (1997) presented a compelling argument that many gender differences in affect, motivation, and cognition may be a reflection of women's greater interdependence, defined by Cross and Madson as a heightened concern with close relationships. For example, in their review of the literature concerning gender differences in affect, they cited evidence that women described interpersonal problems as a source of distress more than did men (Pratt, Golding, Hunter, & Sampson, 1988; Walker, de Vries, & Trevethan, 1987). Linking hypothesized gender differences in interdependence to motivation, Cross and Madson (1997) argued that in comparison with men, women's behavior was relatively more motivated by the goal of maintaining intimate relationships. They cited evidence that women were more likely to discuss interpersonal topics such as personal feelings and problems, whereas men were more likely to discuss less personal topics such as sports and politics (Aries & Johnson, 1983; Caldwell & Peplau, 1982; Davidson & Duberman, 1982; Fox, Gibbs, & Auerbach, 1985; Heatherington et al., 1993; Johnson & Aries, 1983; McFarland & Miller, 1990). Finally, in evaluating gender differences in cognition, Cross and Madson cited evidence that women attended to information related to relationships more than did men (Josephs, Markus, & Tafarodi, 1992; Ross & Holmberg, 1992) and that men were more attuned to information related to social dominance (e.g., Maccoby, 1990; Sidanius, Pratto, & Bobo, 1994).

## Are Men Less Interdependent?

Although American society may place relatively greater emphasis on the importance of relationships for women, it does not necessarily follow that interdependence, more broadly defined as an awareness and concern with one's connection with others, is unimportant for men. Indeed, an interpretation of men as decidedly noninterdependent would be difficult to reconcile with the thesis that belongingness is a fundamental human need (Baumeister & Leary, 1995). The need to belong has been described as a need for frequent, nonaversive interactions with others that is characteristic of all human beings. For example, social deprivation affects mental health (Bowlby, 1969, 1973; Harlow, Harlow, & Suomi, 1971), physical health (Kiecolt-Glaser et al., 1984; see Gardner, Gabriel, & Diekmann, in press, for review), and the likelihood of suicide (Trout, 1980) for both men and women. Is it possible to reconcile the fundamental importance of belongingness to human functioning with the clear evidence that men appear to be focused on relationships to a far lesser degree than women?

One possible reconciliation could be achieved through an expansion of Cross and Madson's (1997) model to include more than the relational aspect of interdependence; it is possible that men's interdependent needs may be fulfilled differently than women's. In their analysis of belonging as a basic human need, Baumeister and Leary (1995) argued that these needs might be filled in a number of interchangeable ways (i.e., the substitution postulate). Perhaps men and women fulfill their belongingness needs in different ways and thus are focused on different aspects of interdependence.

Brewer and Gardner (1996) described three distinct aspects of self-construal, two of which reflected an interdependent focus. The *personal aspect* was described as the self-construal derived from individual attributes and preferences (e.g., being athletic or intelligent). This aspect corresponds to the independent self as described by Markus and Kitayama (1991) and Cross and Madson (1997). The *relational aspect* of self-construal was described by Brewer and Gardner as being derived from close relationships with specific others (e.g., being Amanda's best friend or Ruben's daughter). This aspect corresponds to the aspect of the interdependent self focused on in Cross and Madson's review. Finally, the *collective aspect* was described as being derived from group memberships and affiliations (e.g., being an American or a member of the Alpha Alpha Alpha sorority). The collective aspect was also considered to reflect a more interdependent focus by Brewer and Gardner and is similar to the concept of social identity as described in both social identity theory and self-categorization theory (Hogg & Abrams, 1988; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987).

The bulk of the literature cited by Cross and Madson (1997) addressed the relational aspect of interdependence, comparing goals, behavior, and emotions involving close, often dyadic relationships with those involving independence or individualism. In a comment on Cross and Madson (1997), Baumeister and Sommer (1997) expanded on Cross and Madson's theory to include the collective aspects of interdependence. Baumeister and Sommer offered an extension of Cross and Madson's analysis of gender

<sup>1</sup> Throughout this article, we will refer to "boys" or "girls" if the research participants were under the age of 18.

differences by arguing that men have the same motivation for connectedness as women, but that motivation is expressed by having a higher number of large group associations instead of more intimate dyadic relationships. In other words, they posited that men and women do not differ in the importance of having an independent or interdependent focus per se, but rather in the aspect of interdependence that is important. Baumeister and Sommer argued that whereas women tend to invest in a number of close, often dyadic relationships, men tend toward investing in a larger sphere of social relationships. From Brewer and Gardner's (1996) perspective, then, women should maintain a more chronically accessible relational focus, whereas men should maintain a more chronically accessible collective focus.

The expansion of interdependence to include both relational and collective aspects may be necessary to fully describe gender differences in self-construal and social behavior. If interdependence is limited to a focus on close relationships, then women undoubtedly appear to be more interdependent. As Cross and Madson (1997) argued, from an early age, women are more likely to define the self in terms of their close relationships and behave in ways that are supportive of those relationships. Men, on the other hand, do not define themselves in terms of close relationships as readily and often behave in ways that enhance personal status or success rather than in ways that maintain or deepen their relationships.

A reexamination of the literature that includes collective aspects of interdependence, however, reveals that men are strongly attuned toward these group aspects of social relations. For example, although girls tend to describe themselves more in terms of interdependent roles in close relationships, boys actually exceed girls in the collective aspect of interdependence; they describe themselves more in terms of group memberships than do girls (McGuire & McGuire, 1982). On the one hand, from an early age, boys are more likely to congregate in larger groups; for example, they tend to take part in sports activities that rely on teams (Maccoby, 1990). Boys have larger social networks than do girls (Belle, 1989; Berndt & Hoyle, 1985) and more coordinated group activities (Benenson, Apostoleris, & Parnass, 1997). Girls, on the other hand, are more likely to form pair bonds and report intimacy as being an important factor in forming relationships (Broderick & Beltz, 1996; Clark & Bittle, 1992; Jones & Costin, 1995). Indeed, even status- or dominance-oriented behaviors can be reinterpreted to reflect a collective orientation. Baumeister and Sommer (1997) argued that because large groups contain status differences, successful membership in collectives requires an awareness of those differences and a desire to acquire and maintain status. Therefore, many of the behaviors that Cross and Madson interpreted as reflecting chronically accessible independent focus in men could alternatively be seen as reflecting chronically accessible collective focus.

### Overview of the Current Studies

The current research was designed to examine the relationship between interdependence and gender and to examine whether an expansion of interdependence to include both relational and collective aspects would be fruitful in understanding gender differences. Are men truly more independent than women, as might be predicted by Cross and Madson (1997)? Or instead, do men and women differ not in independence versus interdependence per se but rather in the aspect of interdependence that is most valued, as

suggested by Baumeister and Sommer (1997)? Finally, how might these differences be reflected in self-construals, emotional experiences, cognition, and social behavior?<sup>2</sup>

### Study 1

Cross-cultural differences in independent and interdependent self-construals have commonly been examined using the Twenty Statements Test (Kuhn & McPartland, 1954). In this task, participants are asked to complete 20 statements beginning with the words "I am." Researchers have found that members of interdependent Eastern cultures complete the sentence fragments with more interdependent descriptors than do members of independent Western cultures. Similarly, members of independent Western cultures complete sentence fragments with more independent descriptors than do members of interdependent Eastern cultures (Cousins, 1989; Markus & Kitayama, 1991).

The first experiment was designed to examine any differences in men's and women's self-construals using the Twenty Statements Test (Kuhn & McPartland, 1954). Male and female participants were asked to supply 20 statements describing themselves. The statements were then coded as describing independent, relational, or collective aspects of the self or as "non-self" (e.g., referring to transient states such as "I am hungry"). If men and women differ in a general emphasis on independence versus interdependence, then men should spontaneously supply more independent self-descriptors than women. However, if men and women differ instead in the aspect of interdependence that is emphasized, then men and women should supply equal numbers of independent self-construals, but men should supply more collective self-descriptors than women, and women should supply more relational self-descriptors than men.

### Method

*Participants.* Participants were 18 male and 18 female European American undergraduates at a large Midwestern university who participated in partial fulfillment of a research requirement.

*Materials and procedure.* Participants were asked to complete 20 sentence fragments beginning with the words "I am" (Kuhn & McPartland, 1954). Demographic information was then collected from the participants; they were debriefed and thanked for their participation.

### Results and Discussion

The self-descriptors were coded by two independent coders who were blind to the experimental hypotheses. They coded the statements as being either independent, (e.g., "I am intelligent"), relational (e.g., "I am the youngest daughter in my family"), collective (e.g., "I am in a sorority"), or non-self statements (e.g., "I am almost finished with this experiment"). The coders' evaluations matched on 92% of the judgments, with the remaining 8% resolved by discussion. Because of individual differences in the total num-

<sup>2</sup> Because the focus of Cross and Madson's review was on members of Western culture, and because differences have been found in self-construal between Asian American and European American undergraduates (Gardner, Gabriel, & Lee, 1999), an attempt was made to study only European American participants. This was successful in all but the second study, in which demographic information pertaining to race was not collected.

ber of self-descriptors supplied (range = 17–20), proportions for independent, collective, and relational self-descriptors were calculated by dividing the number of each type of self-descriptor by the total number of relevant self-descriptors. These proportions were then arcsine transformed to correct for distributional skew. Proportions of relational and collective self-descriptors were summed to provide an index of general interdependent self-descriptors.

First, an analysis was performed on the proportion of interdependent descriptors overall.<sup>3</sup> If men and women differ in their interdependence more generally, then women should spontaneously supply a greater proportion of self-descriptors that mention relationships and groups. A *t* test using gender was not significant, however ( $p > .5$ ); men ( $M = .17, SD = .12$ ) and women ( $M = .19, SD = .13$ ) reported an equal number of general interdependent self-descriptors. Thus, there was no evidence that women maintained a more generally interdependent self-construal than did men.

In the next analysis we examined the expanded model of interdependence by investigating gender differences in the aspect of interdependence that was emphasized in the self-descriptors. A 2 (gender: male, female)  $\times$  2 (type of interdependence: relational, collective) analysis of variance (ANOVA) was performed. A main effect was found for type of interdependent self-descriptor,  $F(1, 34) = 11.56, p < .005$ . Across all participants, a higher proportion of relational self-descriptors ( $M = .12, SD = .90$ ) was supplied than collective self-descriptors ( $M = .06, SD = .75$ ). Importantly, this main effect was qualified by a significant interaction with gender,  $F(1, 34) = 13.44, p = .001$ . As illustrated in Figure 1, whereas women provided a higher proportion of relational self-descriptors ( $M = .16, SD = .90$ ) than did men ( $M = .80, SD =$

.80), men provided a higher proportion of collective self-descriptors ( $M = .80, SD = .80$ ) than did women ( $M = .40, SD = .50$ ). These results suggest that the self-construals of men and women differed not in whether they were generally more independent or interdependent but rather in a differential emphasis on the aspect of interdependence that was most important.

In sum, the findings of Study 1 supported the expanded model of interdependence and Baumeister and Sommer's (1997) hypothesis that men and women possess different foci for their interdependence. Participants in this study showed no gender differences in the overall proportions of interdependent self-construals that were generated but did show differences in the type of interdependent self-construals that were generated. Consistent with Cross and Madson's (1997) review, women provided a greater number of self-definitions that included close relationships. However, as Baumeister and Sommer (1997) might have predicted, men provided a greater number of self-definitions that included group memberships, implying that the collective aspect of interdependence may have been more important for them than for women. Importantly, neither men nor women were provided predominantly more interdependent self-descriptors: Most self-descriptors were independent in nature. This is consistent with findings that independence is the default self-construal for both male and female Americans (Gardner, Gabriel, & Lee, 1999).

Although these findings appear to support the hypothesis that men focus on collective aspects of interdependence whereas women focus on more relational aspects of interdependence, there is an alternative explanation for men's greater collective self-construals. It is possible that men's collective self-construals did not necessarily reflect collective interdependence per se but rather served as a shorthand means of conveying trait information about the self. For example, although we interpreted supplying a Greek affiliation as reflecting a collective orientation, it could also be interpreted as a means of conveying that the individual shares the traits (e.g., fun-loving, social) that are typical of that organization. If this was true, then men's higher proportion of collective self-descriptors are ambiguous and should not be interpreted as collective interdependence. For this reason, a second study was designed to assess gender differences in interdependence using relational and collective questionnaires that could not be interpreted as reflecting trait information.

## Study 2

Study 2 was designed to investigate gender differences in relational versus collective aspects of self-construal using questionnaires that clearly and unambiguously measured the importance of relational versus collective aspects of identity. To this end, we administered scales designed to measure independence (Singelis, 1994), relational interdependence (the Relational Interdependence Self-Construal [RISC] Scale; Cross, Bacon, & Morris, 1999), and collective interdependence (a modification of the RISC Scale that measures collective self-construal). If the collective descriptors

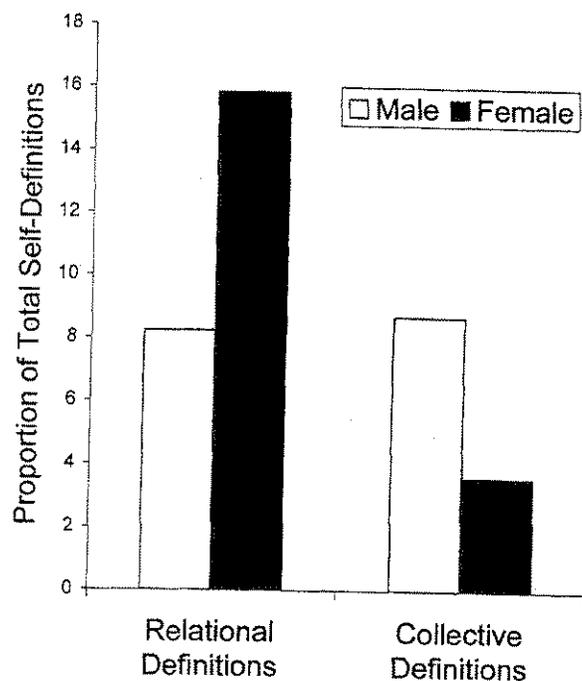


Figure 1. Gender differences in the proportion of relational and collective self-definitions.

<sup>3</sup> Because of the ipsative nature of proportion scores, analyses were conducted on the proportions reflecting general interdependence, as well as each specific aspect of interdependence, rather than on a comparison of independent and interdependent proportions.

provided in Study 1 were merely a shorthand means of conveying independent trait information about the self rather than a reflection of collective interdependence, then we should not replicate this gender difference by using the collective self-construal measure in which the focus on collective interdependence is explicit and unambiguous (e.g., "When I am in a group, it often feels to me like that group is an important part of who I am"). If, however, the collective descriptors instead reflected a more collective orientation, then men should possess higher scores on the collective interdependence scale, women should possess higher scores on the relational interdependence scale, and there should be no gender differences on the independence scale. We predicted the pattern of results would be in congruence with the expanded interdependence model.

Additionally, measures of masculinity and femininity were collected (Spence & Helmreich, 1978). If relational interdependence reflects, as we assert, a more "feminine" focus, and if collective interdependence reflects a more "masculine" focus, then we might expect distinct and specific correlations between the interdependence scales and measures of masculinity and femininity. Specifically, if these are indeed functionally distinct constructs that are linked to masculine and feminine ways of expressing interdependence, then not only should men score higher on the collective self-construal scale and women higher on the relational self-construal scale, but collective interdependence should be correlated with masculinity but not femininity and relational interdependence should be correlated with femininity but not masculinity.

### Method

**Participants.** Participants were 38 male and 40 female undergraduates at a large Midwestern university who participated in partial fulfillment of a research requirement.

**Materials and procedure.** Participants were told that they were participating in a study of personality. They were asked to fill out Singelis's (1994) independence scale to measure independence, Cross and colleagues' (Cross et al., 1999) RISC Scale to measure relational interdependence, a modified RISC Scale designed to assess collective interdependence (CISC), and Spence and Helmreich's (Spence & Helmreich, 1978) personal attributes questionnaire to measure masculinity and femininity. The CISC Scale borrowed all 10 items from the RISC, but all references to close relationships were altered to refer to groups. For example, "When I feel close to someone, it often feels to me like that person is an important part of who I am" was changed to "When I am in a group, it often feels to me like that group is an important part of who I am" (see Appendix A for the exact items).

### Results and Discussion

Independence ( $\alpha = .69$ ), collective ( $\alpha = .90$ ), relational ( $\alpha = .90$ ), masculinity ( $\alpha = .27$ ), and femininity ( $\alpha = .77$ ) scores were calculated for each participant. In addition, to test the hypothesis that men and women differ in level of independence versus interdependence, we combined the relational and collective scales to form one general interdependence scale ( $\alpha = .92$ ).

To test whether men and women differed in general levels of independence versus interdependence, we conducted a 2 (type of scale: independence vs. interdependence)  $\times$  2 (gender of participant) repeated measures ANOVA. The interaction between scale and gender was not significant ( $F = 0.05$ ). Men and women did not differ in independence ( $M_s = 4.92$  vs.  $4.70$ ,  $SD_s = 0.67$

vs.  $0.72$ , respectively) versus interdependence ( $M_s = 5.05$  vs.  $4.90$ ,  $SD_s = 0.87$  vs.  $0.82$ , respectively).

To test whether men and women differed in specific aspects of interdependence, we computed a 2 (type of scale: relational vs. collective)  $\times$  2 (gender of participant) repeated measures ANOVA. As predicted by the expanded interdependence model, the interaction between scale and gender was significant,  $F(1, 69) = 5.08$ ,  $p < .05$ . As Figure 2 illustrates, whereas women scored higher on the relational scale than did men ( $M_s = 5.39$  vs.  $5.26$ ,  $SD_s = 0.99$  vs.  $0.96$ , respectively), men scored higher on the collective scale than did women ( $M_s = 4.86$  vs.  $4.41$ ,  $SD_s = 1.14$  vs.  $0.93$ , respectively). Combined with the lack of gender differences in general independence and interdependence, these results suggest that, as with Study 1, men and women differed in the aspect of interdependence that was most important rather than the general interdependence of the self.

In addition, correlations were computed between scores on the masculinity and femininity scales and scores indicating levels of relational and collective interdependence. If collective and relational interdependence represent functionally distinct constructs linked to masculinity and femininity, then scores on the masculinity scale should be related to a collective orientation, and scores on the femininity scale should be related to a relational orientation. Indeed, correlational analyses revealed that femininity was correlated with a relational orientation ( $r = .30$ ,  $p = .01$ ) but not with a collective orientation ( $r = .18$ ,  $p > .13$ ), whereas masculinity was correlated with a collective orientation ( $r = .25$ ,  $p < .05$ ) but not with a relational orientation ( $r = .07$ ,  $p > .5$ ). Taken in combination, then, the results of Study 2 revealed that men and women rate the importance of relational versus collective aspects

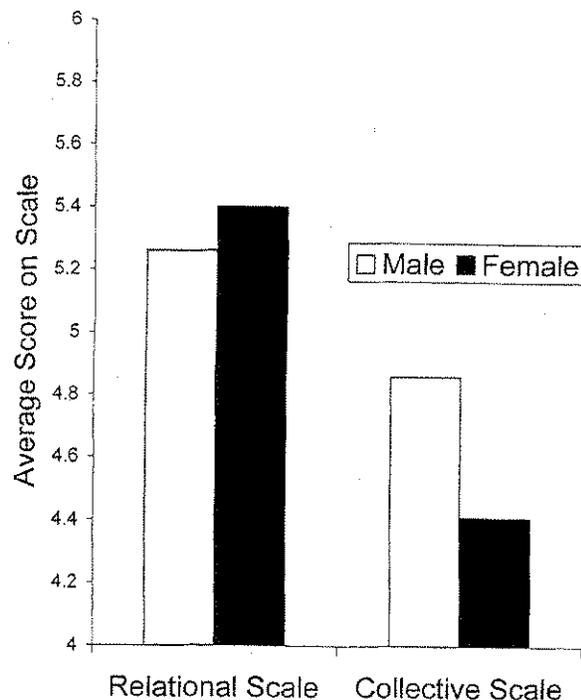


Figure 2. Gender differences in scores on the relational and collective self-construal scales.

of interdependent identity differently and that these importance ratings are moderately correlated with endorsements of femininity or masculinity, respectively.

In sum, the combined findings of Studies 1 and 2 supported the expanded model of interdependence and Baumeister and Sommer's (1997) hypothesis that men and women possess different foci for their interdependence. Men appear to possess a more collective self-construal, whereas women appear to possess a more relational self-construal. Moreover, the results of Study 2 demonstrate that the greater collective self-construals found for men in Study 1 were not merely a shorthand means of conveying trait information but truly reflect that the self is defined in a more collective manner. Finally, the finding that differences in self-construal were related to masculinity and femininity supports our contention that relational and collective interdependence represent distinct masculine and feminine forms of interdependence.

Although these findings supporting the expanded model of gender differences in interdependence were intriguing, the question of whether and how these differences might be reflected in other gender differences remained. Studies 3, 4, and 5 were therefore designed to assess whether the differences found in men's and women's interdependent self-construals would be mirrored in differences in affect, cognition, and behavioral intentions.

### Study 3

Study 3 was designed to examine whether gender differences in selective memory for emotional events would also reflect different foci for interdependence. In their review of the literature, Cross and Madson (1997) cited research demonstrating that women's emotional experiences were more centered on close relationships than were men's (e.g., Stayer, 1986; Kessler & McLeod, 1984; Shields, 1995). Emotional memories for group activities and experiences were not examined in these studies, however. There is some evidence that men and women may differ in the emotional focus placed on close relationships or groups (e.g., Coats & Feldman, 1996). Therefore, it may be the case that whereas women report more emotional experiences centered on close relationships, men may report more emotional experiences centered on collectives.

Thus, in Study 3 we explicitly tested differential recall for independent, relational, and collective emotional experiences. Men and women were asked to recall and describe a happy or sad event. These descriptions were then classified as independent, relational, or collective on the basis of the type of event that triggered the emotional response. Because participants were asked to write about just one emotional experience and were given a short time to recall the experience, it was assumed that the type of memory recalled would be representative of the sorts of emotional triggers that were accessible and important to the participants. If the genders differ in overall independence and interdependence, then women should be more likely to spontaneously report more interdependent events (e.g., having a fun or disappointing social interaction). However, if the genders differ instead in the aspect of interdependence that is most important, then equal numbers of men and women should report independent events, but more women than men should report relational events and more men than women should report collective events. Given the findings of the first two studies, we predicted that men and women would not

differ in the likelihood of selective recall for independent events but would instead differ in the likelihood of selective recall for collective versus relational events.

### Method

*Participants.* Participants were 27 male and 40 female undergraduates at a large Midwestern university who participated in partial fulfillment of a research requirement.

*Materials and procedure.* Under the guise of conducting a study concerning the relationship between memory and emotion, we asked participants to describe a single emotional event in their lives. Half of the participants were told to recall a happy event, and the other half, a sad event. They were given 12 min to recall and write about the event.

### Results and Discussion

The scenarios were rewritten so that all gender references were removed (e.g., if the scenario referred to a "boyfriend," that was changed to "romantic partner"; likewise, any mention of "fraternity" was changed to "Greek organization") and were typed so that any handwriting cues to gender could be eliminated. This was done so that any implicit theories about gender could not affect coding. Two coders then rated the events as being independent (i.e., having a positive or negative experience that occurred independent of others, such as receiving a good or bad grade on an exam), relational (i.e., having a positive or negative experience that occurred with a close other such as a friend, romantic partner or family member, e.g., a romantic evening or the death of a close relation), or collective (i.e., having a positive or negative experience that occurred in the context of a collective, such as a sports team winning a game or a negative experience with a Greek organization). The coders' agreement was 91%, with the remaining 9% resolved by a third coder also blind to gender. Because initial analyses revealed no effects for valence (happy vs. sad experience), the analyses reported here collapse across that variable.

The hypothesis that the gender differences in self-construals seen in Study 1 would also be mirrored in selective memory for emotional experiences was explored using Pearson's chi-square to investigate whether the proportion of men and women recalling each type of emotional event was significantly different from what would be expected given the proportions of men and women in our study. Our sample was 40% male and 60% female, thus, these were the percentages specified in the chi-square analyses. First, we explored whether a gender distribution different from that expected from the sample occurred in the memory for the independent emotional experiences. Of the 16 independent experiences that were spontaneously reported, 8 were provided by men and 8 by women. This 50/50 distribution did not significantly differ from the 40/60 expected from our sample,  $\chi^2(1, N = 67) = 0.68, p > .40$ . Next, we examined the gender distribution in the relational emotional experiences. Of the 41 relational experiences that were spontaneously reported, 12 were provided by men and 29 by women. This 29/71 distribution was marginally different from the 40/60 distribution expected by chance from our sample,  $\chi^2(1, N = 67) = 1.98, p = .15$ , and was in the predicted direction of women reporting more relational emotional experiences. Next, the gender distribution of collective experiences was examined. Of the 10 collective experiences that were spontaneously reported, 7 were

provided by men and 3 by women. This 70/30 distribution was significantly different from that expected by chance from our sample,  $\chi^2(1, N = 67) = 3.75, p < .05$ , and supported the hypothesis that men would report more collective emotional experiences. Finally, the interaction chi-square computed for the  $2 \times 2$  table of gender of participant and type of interdependent memory (collective or relational) was significant,  $\chi^2(1, N = 67) = 5.71, p < .05$  (please see Figure 3).

These results were thus consistent with the prior findings that men and women emphasize different aspects of interdependence. When the participants were asked to recall an emotional experience, no gender differences were found in the proportion of men and women recalling independent experiences. However, the distribution of men and women recalling relational and collective emotional experiences differed such that relational emotional events were recalled with somewhat greater frequency by women, and collective emotional events were recalled with greater frequency by men. Thus, these results extend those of Studies 1 and 2 by illustrating that gender differences in aspects of interdependence important to the self are reflected in gender differences in selective memory for emotional experiences.

This bias in recall for affective events is open to two equally plausible interpretations. First, as we suggested, this bias in memory may be due to the differential importance or salience in memory of emotional events that involve collectives for men and relationships for women. However, it may also be the case that collective and relational events do not hold any specific memorial advantage for men and women, respectively, but that the memory

bias simply reflects differential frequencies of events in memory; men may simply have more collective events to draw on, whereas women may have more relational events to draw on. Importantly, neither interpretation is inconsistent with the expanded model of interdependence; in both cases they reflect a collective bias for men and a relational bias for women. However, they do have different implications.

If gender differences in memory for emotional events existed simply because of different frequencies, then it was the situations themselves that men and women were in that differed: Men tended to be in more situations that involved collectives, whereas women tended to be in more situations that involved relationships. However, if there was a gender difference in the memorial advantage given to relational and collective events, then not only might men and women differ in the types of situations that they are in, but their focus in these situations may be different. Men may be more attuned to the collective aspects of a situation, whereas women may be more attuned to the relational aspects of a situation. This is important, because it implies that identical situations may be remembered and interpreted very differently by men and women because of differences in interdependence. To explore this possibility, we designed Study 4 to examine whether collective and relational events held a memorial advantage for men and women even when frequencies were held constant.

#### Study 4

Study 4 was designed to investigate gender differences in selective memory for social information. Past research has consistently demonstrated that constructs important to the self often guide information processing and that information relevant to those constructs will be shown a memorial advantage (Gardner, Pickett, & Brewer, in press; Higgins & Tykocinski, 1992; Markus, Smith, & Moreland, 1985). For example, Higgins and Tykocinski (1992), using a "diary" reading paradigm, showed that an individual's chronic self-guides changed the type of information that was later recalled about a target person. Using an adaptation of Higgins and Tykocinski's diary paradigm, Gardner, Pickett, et al. (in press) demonstrated that participants whose need to belong had been temporarily heightened as a result of social rejection selectively remembered more social and fewer individual events from a student's diary. Thus, this selective memory paradigm appears to be sensitive to both chronic and situationally induced processing biases.

This diary-reading paradigm was used for assessing selective memory: Diary entries containing independent, relational, and collective information were presented to participants who were later given an unanticipated recall task. We expected consistent gender differences in selective memory despite the equal frequencies with which the independent, relational, and collective information was presented. Specifically, if men and women were attuned toward the aspects of the social environment that reflected or fulfilled their interdependence needs, then we would expect no gender differences in recall of the independent events, but women would show selective memory for the relational events, and men, for the collective events.

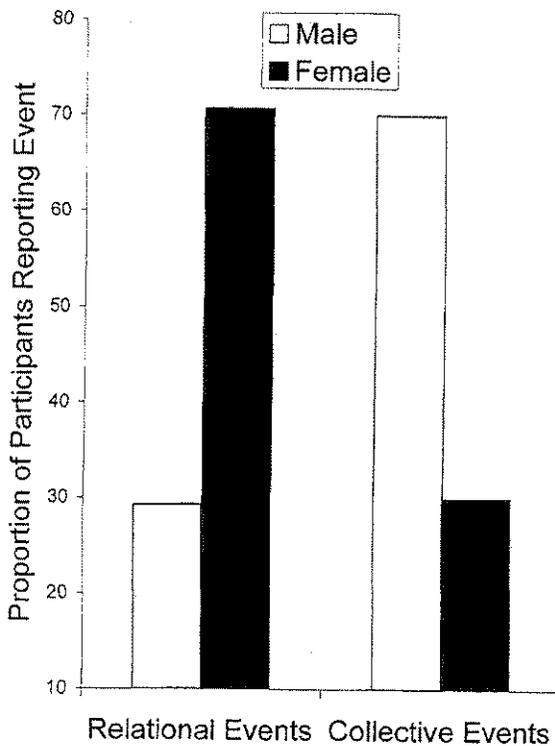


Figure 3. Gender differences in the proportion of relational and collective emotional events that were spontaneously reported.

## Method

**Participants.** Participants were 49 male and 47 female undergraduates at a large Midwestern university who participated for partial fulfillment of a research requirement.

**Materials and procedure.** Participants read a computerized "diary" of a student ostensibly as part of an impression formation experiment. The gender of the diary writer was matched to that of the participant. Thus, the content of the diaries was the same for men and women, except women believed the diary was written by a woman, whereas men believed it was written by a man. Therefore, any gender references (e.g., fraternities vs. sororities) were gender matched.

Participants were presented with four pages from the diary on a computer screen and were asked to read the events of the diary slowly and carefully in order to form an impression of the person about whom they were reading. After 25 s, participants were free to move to the next screen (i.e., the next page of the diary) by pressing the space bar. Thus, the task was self-paced. Each page contained 6 relevant diary entries presented in a random order on the page; of these entries, 2 described independent behaviors that dealt with events irrelevant to intimate relationships or collectives (e.g., "I went to the dentist and had 3 cavities—ugh"), 2 described relational behaviors (e.g., "My roommate and I went out on the town tonight and had a really great time together"), and 2 described collective behaviors (e.g., "All of us in my fraternity [sorority] have been working really hard on the Greek Week Community Drive—and today we placed first out of all the Greek organizations!").<sup>4</sup> Thus, participants read a total of 8 diary entries of each type and 24 entries in all (see Appendix B for exact items).

The events in the diary were selected to be relatively gender neutral in importance; the relational events dealt with roommates, friends, and romantic partners, and the collective events dealt with campus groups, Greek organizations and college affiliations. For example, a group of five undergraduate student raters did not perceive a man to be more likely than a woman to belong to a student chorus or a Greek organization nor a woman to be more likely than a man to spend time with a roommate or go on vacation with a brother. Finally, where it seemed we could not avoid some differential gender appropriateness in behaviors, we ensured that they were gender matched in both the relational and collective sets (e.g., although one collective item dealt with the diary writer being excited about the university's basketball team going to a championship playoff, which may be seen as more "male," it was matched by a collective item concerning a fear that the student choir was angry at the diary writer, which may be seen as more "female"). All of this ensured that any differences in recall could not be attributed to the fit between an item and the gender of the imaginary diary writer.

After completing the diary task, participants completed two filler tasks. The first task was a brief questionnaire that asked a series of questions concerning their experience with the computer (e.g., did they feel rushed, was it difficult to read the behaviors on the screen?). Participants were given 4 min to answer the items on that questionnaire. Next, in what they were told was a test of verbal abilities, participants were given 8 min to create as many words as possible from the words *crustacean* and *librarian*. After both filler tasks were completed (taking 12 min total), participants were given a surprise memory task in which they were asked to recall as many of the items from the diary as possible.

## Results and Discussion

Each participant's total number of items remembered was tallied, and the numbers of independent, relational, and collective items recalled were recorded separately.<sup>5</sup> To correct for any individual differences in memorial ability, we calculated proportions by dividing the number recalled of each type of event (independent, relational, collective) by the total number of events recalled.

Thus, indexes were created for each participant that reflected the proportion of an individual's memory of the diary that was relegated to independent, relational, and collective events. The proportions of relational and collective events were summed to provide an index of the proportion of general interdependent events recalled. Analyses were performed on arcsine transformed data to correct for any skew in the proportions.

To determine whether men and women differed in their overall memory for the general interdependent events, we conducted a *t* test comparing the recall of men and women for these events.<sup>6</sup> This test was nonsignificant ( $p > .5$ ;  $M_s = .70$  vs.  $.67$ ,  $SD_s = .12$  vs.  $.11$ , for men vs. women, respectively).

To evaluate whether men and women differed in the type of interdependent items remembered, we performed a 2 (gender)  $\times$  2 (interdependent event: relational, collective) ANOVA. A main effect was found for the type of interdependent event recalled,  $F(1, 94) = 67.44$ ,  $p < .001$ , revealing that relational items ( $M = .42$ ,  $SD = .11$ ) had an advantage in memory as compared with collective items ( $M = .27$ ,  $SD = .10$ ). Importantly, this effect was qualified by a significant interaction with gender,  $F(1, 94) = 8.93$ ,  $p < .005$ . As Figure 4 illustrates, women showed relatively greater selective memory than did men for the relational events ( $M_s = .44$  vs.  $.40$ ,  $SD_s = .13$  vs.  $.10$ , respectively), whereas men showed relatively greater selective memory than women for the collective events ( $M_s = .30$  vs.  $.24$ ,  $SD_s = .10$  vs.  $.08$ , respectively). Once again, the aspects of interdependence that were differentially important for women's and men's self-construals were mirrored in their perceptions and representations of the social world.

In sum, the results of Study 4 were consistent with those of the prior three studies. No gender differences were found in selective memory for independent items, but gender affected the type of interdependent items that were recalled. As predicted, women recalled a greater proportion of the relational events than did men; likewise, men recalled a greater proportion of the collective events than did women. As selective memory differences such as these have been interpreted in the past to reflect differences in the chronic or situational representation of the self (Higgins & Tykocinski, 1992), these results are consistent with Studies 1 and 2, which showed that men and women differ in the emphasis placed on relational versus collective aspects of identity. Further, these results imply that the gender differences in the aspects of interdependence that are emphasized by men and women may act as filters on perceptions of the social world. Because of higher relational interdependence, women may be more likely to attend to and remember information relevant to relationships. Similarly, because of higher collective interdependence, men may be more

<sup>4</sup> The diary entries were also balanced across valence, with equal numbers of positive and negative behaviors of each type.

<sup>5</sup> Because of the objective and clear-cut nature of the recall task, a simple tally by one person is sufficient. The research assistant, who was blind to the experimental hypothesis, merely counted the behaviors of each type that were recalled.

<sup>6</sup> Once again, analyses were conducted only on the proportions of memory reflecting general interdependence, as well as each specific aspect of interdependence, rather than on a comparison of independent and interdependent proportions because of the ipsative nature of proportion scores.

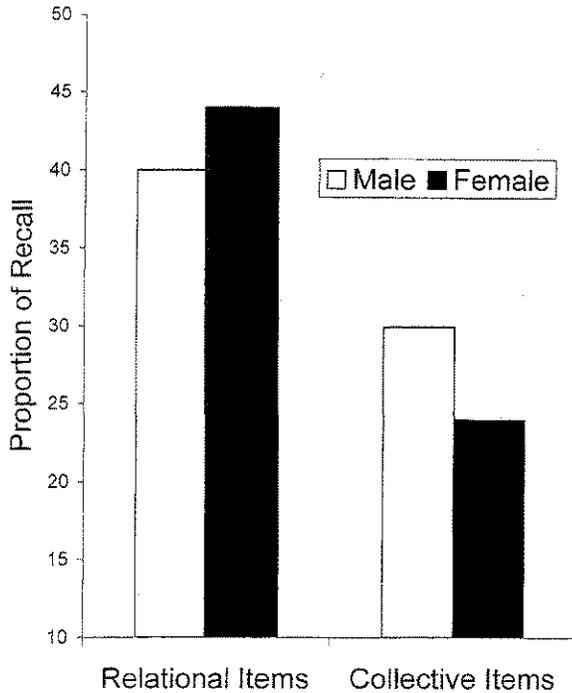


Figure 4. Gender differences in the proportion of recall relegated to the relational and collective items of another student's diary.

likely to attend to and remember information that is relevant to groups.

Thus, the first four studies demonstrated that men and women differ in the extent to which they are relational and collective, in the extent to which they describe themselves as relational and collective, and in terms of their memory for relational and collective emotional events and controlled information. Although these studies have presented a consistent and compelling demonstration of gender differences in interdependent focus, there is one important component that has not yet been addressed, a component that may indeed be at the very heart of interdependence: a willingness to put the good of others above the good of the self.

### Study 5

The final study was designed to explore whether gender differences in behavioral intentions would also mirror gender differences in interdependence. Male and female participants were asked how they would behave in situations in which the well-being of others (either a close friend or an important group) was in conflict with their own personal well-being. Given the outcome of the first four studies, we predicted that both genders would be equally likely to indicate that they would benefit themselves overall, but men should be more likely to indicate that they would benefit a collective, and women, a close friend.

### Method

**Participants.** Participants were 68 male and 69 female undergraduates at a large Midwestern university who participated on a voluntary basis.

**Materials and procedure.** Participants were approached in the student union at Northwestern University. The experimenter approached all individuals seated alone. Participants were asked if they would be willing to assist in a research project by reading two scenarios and answering two questions about each scenario. They were told that participation would take about 5 min. Approximately 80% of the people approached agreed to participate.

Participants read two brief scenarios in which they were asked to imagine that they were in a particular situation and that they had to decide what they would feel like doing (desire to behave) and what they would do (behavioral intention). The scenarios were generated with the assistance of two Northwestern undergraduates and were then screened by a group of five Northwestern undergraduates, who were asked to choose those scenarios that best reflected a collective versus a relational dilemma. The behavioral intention question was included to see under what circumstances men and women would neglect their own desires for the good of others.

In addition, it was essential to establish that all of the behaviors (independent, relational, and collective) would be equally compelling and attractive to both men and women. Otherwise, gender differences in behavioral intention might not reflect gender differences in the willingness to put the good of others above the good of the self but gender differences in attractiveness of behaviors. For example, if going to a concert was simply more desirable for one gender than the other, then helping a friend instead of going to a concert might reflect differences in the evaluation of the concert rather than differences in the desire to put the good of others in front of the good of the self. Two methods were used to establish that the behaviors were equally compelling for men and women. First, 25 Northwestern undergraduates (12 women and 13 men) rated their desire to perform the four behaviors (the two independent behaviors and the relational and collective behaviors) independently, that is, when a forced choice was not required between the self and others (e.g., they were asked to rate the desirability of attending a concert by their favorite band). Two repeated measures ANOVAs revealed that the men and women did not differ in how desirable they found the independent and relational events involved in the relational dilemma ( $F = .23$ ) or the independent and collective events involved in the collective dilemma ( $F = .30$ ). Thus, we could be confident that any difference in behavioral intention would be due to gender differences in willingness to put relations or collectives before the self as opposed to gender differences in the desirability of the behaviors. Second, a desire-to-behave question was included in the actual study as an additional check on the attractiveness of behaviors.

The first scenario pitted the good of the individual against the good of a collective. Participants were asked to imagine that they were guarding "the rock" for an organization to which they belonged, and although their shift was over and they had to attend an important review session for a class, their replacement had not shown up. The rock is a well-known rock on campus that university organizations can paint to publicize upcoming events, and dominance of the rock is highly valued by campus organizations. Use of the rock can be reserved ahead of time but can also be "stolen" by other organizations if left unguarded. Thus, the individual would need to decide between staying and guarding the rock or going to a review session for an exam in a class they desperately needed help in.

The second scenario pitted the good of the individual against the good of a close friend. Participants were asked to imagine that they were on the way to a highly anticipated concert when they spotted a close friend standing on the side of the road next to a car with its hood up. They had to decide whether to stop and drive their friend (who had not seen them) to a service station 20 miles back (and thus miss much of the concert) or attend the concert. After reading each scenario, participants indicated on a 7-point scale ranging from 1 (*benefiting the self*) to 7 (*benefiting others*) which behavior they would be most likely to do (behavioral intention) and which they would feel more like doing (desire to behave). Participants were then debriefed and thanked for their participation with a piece of candy.

### Results and Discussion

If men and women differed in independence, then men would be more likely to choose goals that benefited themselves rather than goals that benefited others. To evaluate that possibility, we averaged the responses to both scenarios, and two independent sample *t* tests were performed on behavioral intention and desire to behave. No differences were found between men and women in either behavioral intention ( $p > .9$ ;  $M = 4.31$  and  $4.34$ ,  $SDs = 1.45$  and  $.99$ , respectively) or the desire to behave ( $p > .4$ ;  $M = 4.02$  and  $4.13$ ,  $SDs = 1.45$  and  $1.30$ , respectively). Therefore, there were no overall differences between male and female participants in general desire or intention to benefit the self over others.

To ensure that the scenarios presented were equally compelling for men and women, we performed a 2 (gender of participant)  $\times$  2 (type of scenario: collective or relational) ANOVA on desire to behave. A main effect was found for type of scenario,  $F(1, 114) = 22.71$ ,  $p < .001$ . Overall, participants felt more like benefiting themselves in the collective dilemma ( $M = 3.2$ ,  $SD = 1.98$ ) than in the relational dilemma ( $M = 4.5$ ,  $SD = 2.07$ ). This might have been due to students at an academically oriented university evaluating the consequences of receiving a low grade on an exam. Importantly, the interaction between gender of participant and type of behavior was not significant ( $p > .85$ ). Men and women did not differ in the degree to which they felt like benefiting themselves versus others in either the collective or the relational dilemma (for men vs. women, respectively: in the collective dilemma,  $M_s = 3.12$  vs.  $3.24$ ,  $SDs = 2.06$  vs.  $1.91$ ; in the relational dilemma,  $M_s = 4.40$  vs.  $4.60$ ,  $SDs = 2.08$  vs.  $2.08$ ). This supports our pretest data, which indicated that the scenarios were equally compelling for both men and women.

To determine whether men and women would differ in their actual behavioral intentions, we performed a 2 (gender of participant)  $\times$  2 (type of scenario: collective or relational) ANOVA on behavioral intention. A main effect was found for type of scenario,  $F(1, 114) = 167.84$ ,  $p < .001$ . Overall, participants indicated that they would be more likely to behave in a manner that would benefit themselves in the collective dilemma ( $M = 2.91$ ,  $SD = 1.9$ ) than in the relational dilemma ( $M = 5.73$ ,  $SD = 1.53$ ). Once again, this may be due to students at an academically oriented university evaluating the consequences of receiving a low grade on an exam. More importantly, the interaction between gender of participant and type of behavior was significant,  $F(1, 114) = 5.32$ ,  $p < .05$ . As illustrated in Figure 5, men were more likely than women to place the good of the group above personal gain in the collective dilemma ( $M_s = 3.15$  vs.  $2.67$ ,  $SDs = 2.04$  vs.  $1.73$ , respectively), whereas women were more likely than men to place the good of their friend over personal gain in the relational dilemma ( $M_s = 6.0$  vs.  $5.47$ ,  $SDs = 1.23$  vs.  $1.75$ , respectively).

To summarize, when put in a behavioral dilemma, men and women did not differ in their general intentions to behave in ways that would benefit themselves versus benefit others. However, women were more likely than men to put their own personal desires aside to assist a friend, whereas men were more likely to put their personal desires aside to help their group. The findings of this study thus imply that gender differences in the relational and collective interdependence are mirrored in behavioral intentions.

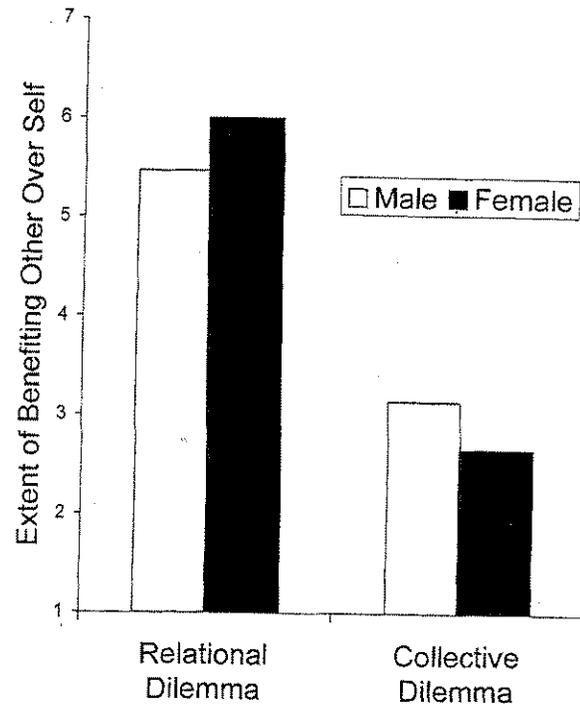


Figure 5. Gender differences in behavioral intentions to place the good of others before personal gain in relational and collective dilemmas.

### General Discussion

We began this research wishing to examine whether an expansion of interdependence to include both relational and collective aspects would add to the prior research concerning gender differences in interdependence. This expansion appears to be a fruitful avenue for understanding the different ways in which men and women view themselves in relation to the larger social world. Across five studies, we found consistent evidence that implied that men and women differ not in a focus on independence versus interdependence per se but rather in the aspect of interdependence that is focused upon.

Importantly, this work represents an expansion rather than a rejection of Cross and Madson's (1997) model. Recall that Cross and Madson hypothesized that women maintain more relational self-construals than do men and that this relational focus is reflected in gender differences in affect, motivation, and cognition. All five studies supported this hypothesis. Women indeed describe themselves in more relational terms, score higher on a measure of the relational self-construal, report more emotional experiences linked to relationships, appear attuned to information pertaining to the relationships of others, and are motivated to behave in ways that maintain close relationships. The data also clearly point out the fruitful nature of the expansion of the model to include the collective aspect of interdependence proposed by Baumeister and Sommer (1997). Men describe themselves in more collective terms, score higher on a measure of collective self-construal, report more emotional experiences linked to groups, appear attuned to information pertaining to the group memberships of

others, and are motivated to behave in ways that support their groups. Furthermore, our data also support Baumeister and Sommer's contention that men and women do not differ in their emphasis on independence: No gender differences were detected in overall interdependence versus independence in any of the studies. Thus, the findings are also parsimonious with previous findings that individualistic dimensions of the self often show cultural but not gender differences, whereas relational aspects of the self often show gender but not cultural differences (Kashima et al., 1995).

The differences in men's and women's interdependence can be readily understood through a social roles interpretation of gender differences (Eagly, 1987). Women's social roles of raising children emphasize relationships. Conversely, men's traditional social roles, such as fighting in wars and working outside the home, may be roles that emphasize groups or collectives. Women's and men's predominance in those roles should cause them to be seen as more relational and collective, respectively. Because people often comply with societal expectations (Eagly, 1987), the differing social roles may explain why women emphasize more relational and men more collective aspects of the social environment.

Although social role theory makes an interesting and compelling argument, evolutionary theory is also consistent with gender differences in aspects of interdependence. For example, women who possessed better relational skills may have been better equipped to care for and protect offspring, and thus their offspring may have had increased odds of survival. Further, Tiger (1969) argued that survival in early societies would necessitate men bonding in task-oriented groups so they could coordinate the complex task of hunting for large prey. That type of large-group bonding may have made it more likely that men would retain genetic tendencies toward group loyalty and collective skills.

In an elaboration of the evolutionary argument, Baumeister and Sommer (1997) argued that relational skills in women and collective skills in men would be beneficial in attracting mates, a primary component of evolutionary theory. The central tenet to their theory was that traditionally men have acquired status through their place in a larger society. Men with a more collective orientation would be better able to acquire that status. Because status increases men's access to women (Buss, 1995), men with a more collective orientation would have had greater access to women. Women, however, traditionally acquired status through connections to men who had status in society. Therefore, intimate relationships with men both increased a woman's reproductive success and imbued her with power. In addition, men remained in their groups or tribes for life, whereas women changed groups with marriage. Thus, men's success would have depended on their skills in negotiating a social network that surrounded them throughout life, whereas women's success would have depended on their bond to their husband, their primary link to the larger society to which they belonged.

We find both the social roles explanation and the evolutionary account of the gender differences in self-construal and social behavior compelling and intuitively appealing. Future research would be necessary to better identify both the evolutionary and the cultural contributions. We suspect that, as with many social behaviors, both evolutionary and cultural factors may play a role in establishing the gender differences in relational and collective orientations.

Regardless of the underlying causes for the gender difference in interdependence, the implications of that difference are quite compelling. For example, Baumeister and Sommer (1997), in their analysis of the literature, outlined how gender differences in aggression and altruism might be explained by differences in the aspects of interdependence that are emphasized by men and women. A more relational orientation would inhibit direct aggression because direct aggression could hamper (to say the least) a close relationship. However, aggressive behavior may be used to establish status or maintain position in a large collective and thus could be beneficial for an individual with a collective orientation. Likewise, research on altruism has demonstrated that men are more likely than women to help a stranger (Eagly & Crowley, 1986). Baumeister and Sommer argued that the "stranger" often used in the literature is frequently a fellow member of a collective, such as another student at the same university, an age cohort, or a gender-matched person. If strangers are often seen as members of the same collective, then the gender difference in helping behavior can be interpreted as men being more likely than women to help group members, precisely the difference we found in behavioral intentions in Study 5.

In sum, an acknowledgment of gender differences in the importance of different aspects of interdependence may lead to a greater understanding of the ways in which men and women view the social world. This expansion of interdependence to include aspects that men value highly represents the largest departure of the current theory from conventional theories of gender differences. The analysis of women as being highly relational is central to many theories of gender difference and has enjoyed broad acceptance (e.g., Cross & Madson, 1997; Eagly, 1987; Markus & Oyserman, 1989). It is the treatment of men as being more collective than women that is new and thus has the potential for providing new insights.

The desire to be connected and intimate with other people is primary and essential to the human experience (Baumeister & Leary, 1995). The present research has established that this important component of existence, interdependence, is different for men and women: Women are more focused on the close relationships that they are part of, whereas men are more focused on the groups to which they belong. We believe that understanding these differences in how men and women view themselves and their relationships to others has the potential to illuminate more of the mechanisms that contribute to a wide array of gender differences in social behavior.

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## Appendix A

### The Relational Interdependence Self-Construal Scale (Cross, Bacon, & Morris, 1999) Modified to Measure Collective Interdependence

1. The groups I belong to are an important reflection of who I am.
2. When I am in a group, it often feels to me like that group is an important part of who I am.
3. I usually feel a strong sense of pride when a group I belong to has an important accomplishment.
4. I think one of the most important parts of who I am can be captured by looking at the groups I belong to and understanding who they are.
5. When I think of myself, I often think of groups I belong to as well.
6. In general, groups I belong to are an important part of my self-image.
7. Overall, the groups I belong to are unimportant to my sense of what kind of person I am. (reverse scored)
8. If a person insults a group I belong to, I feel personally insulted myself.
9. My sense of pride comes from knowing I belong to groups.
10. When I join a group, I usually develop a strong sense of identification with that group.

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## Appendix B

## Independent, Relational, and Collective Diary Entries From Study 4

*Day 1*

My girlfriend [boyfriend] totally flirted with someone else tonight and practically ignored me. I don't know how seriously I should take it.

My intramural soccer team won its final game in the regular season—now we get to compete for the intramural championship.

I received the highest grade in the class on my English paper.

I went to the post office and bought stamps so I could mail out the rent check.

I received a package in the mail from my brother, and it was full of these hilarious pictures from our last vacation together.

I got a haircut I absolutely can't stand.

My Irish heritage is really important to me, but when I went to the student Irish Association they acted like I didn't really belong there, like they thought I didn't fit in.

*Day 2*

I went to the dentist and had 3 cavities—ugh.

My roommate and I went out on the town tonight and had a really great time together.

I bought an instant lottery ticket and won \$19.

My best friend blew me off. We had made weekend plans, but I guess he [she] just totally ignored them.

I forgot to bring the music for a really important practice session for the student choir I sing in (we're going to competition soon)—boy, was everyone mad at me.

I went to the grocery store.

I was elected as one of just a few brothers [sisters] in my fraternity [sorority] to represent us on the Greek council.

*Day 3*

My roommate and I got into an argument tonight over the room being such a mess—I don't know if we're ever going to stop fighting about the same old stuff.

A \$5 bill fell out of my pocket and blew away before I could grab it. I rode the bus in to work.

I have been running for only a few weeks, but today I ran 2 miles and wasn't even really winded.

I'm usually pretty proud to be a college student, but I was reading an editorial in the student paper—it seems that no matter how hard we try, my university just gets no respect in the business world.

It occurred to me today that my relationship with my girlfriend [boyfriend] is going pretty well—we seem happier than most couples.

All of us in my fraternity [sorority] have been working really hard on the Greek Week Community Drive—and today we placed first out of all the Greek organizations!

*Day 4*

My fraternity [sorority] did really terribly in the Greek Week skit night—in fact, we probably came in dead last.

I took a long and peaceful walk in the beautiful weather today.

My best friend and I trounced the rest of the dorm in the Ping-Pong championship.

I ordered a cheeseburger and some fries for lunch today.

I forgot all about my older sister's birthday—I think I really let her down, and I don't know if she'll accept my apology.

It looks like my university's basketball team is going to the Final Four!

I overslept and got to my chemistry midterm late; I'm sure I failed.

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