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# When You and I Are "We," You Are Not Threatening: The Role of Self-Expansion in Social Comparison

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Many theories of self-evaluation emphasize the power of social comparison. Simply put, an individual is thought to gain esteem whenever she or he outperforms others and to lose esteem when he or she is outperformed. The current research explored interdependent self-construal as a moderator of these effects. Two studies used a priming task to manipulate the level of self-construal and investigate effects of social comparison in dyadic (Study 1) and group situations (Study 2). Both studies demonstrated that when the target for comparison is construed as part of the self, his or her successes become cause for celebration rather than costs to esteem. Additionally, gender differences in chronic relational and collective self-construals moderated the patterns of social comparison in a form similar to that of priming relational and collective self-construals.

> There's always something about your success that displeases even your best friends.
>
> —Mark Twain

In the above quote, Twain succinctly expressed a view of human nature that is consistent with the more cynical implications of social comparison theory for self-evaluation and affective responding. Social comparison theory (Festinger, 1954) is nearing its 50th birthday, and in the half century since its publication, has provided a rich theoretical basis for explaining both when and how others' performance will be of use to aid self-understanding.

Although Festinger's (1954) original thesis focused primarily on how the skills and attributes of others may be used as an aid to more accurate understanding of the self, the subsequent boom in social comparison research that began in the 1970s has focused as much or more on the biased use of social comparison to seek favorable, self-enhancing information (e.g., Goethals, 1986; Wood, 1989). Robust evidence has demonstrated that comparisons with more successful others can often reduce esteem, whereas comparisons with less successful others often enhances esteem (e.g., Aspinwall & Taylor, 1993; Morse & Gergen, 1970). Further, the need to maintain positive self-views has been shown to drive individuals to shift relationships, preferences, and reference groups in an attempt to protect the self from unflattering comparisons (e.g., Gibbons, Benbow, & Gerrard, 1994; Marsh, 1987; Mussweiler, Gabriel, & Bodenhausen, 2000; Taylor & Lobel, 1989; Tesser, 1988). In other words, self-enhancement motives frequently overwhelm the desire for accurate self-knowledge and dominate the social comparison process.

The impact of self-enhancement motives on the process and outcomes of social comparison has been robustly demonstrated in both dyadic and group settings. For example, self-evaluation maintenance theory (SEM) emphasizes these effects at the dyadic level and proposes that whenever a close other (e.g., sibling) performs well in a self-relevant domain self-esteem suffers (Tesser, 1980, 1988). To avoid these painful consequences, individuals have been shown to willfully bias the process of social comparison by purposefully undermining (Tesser & Smith, 1980), projecting poor performance for (Tesser & Campbell, 1982), or psychologically distancing themselves (Tesser, 1980) from successful close others to protect the self.

Similarly, the frog pond effect (FPE) emphasizes the interplay of self-enhancement and social comparison at a group level and proposes that being a "big frog in a small pond," or a success in a relatively unsuccessful group, is preferred because whenever the successes of other members of an individual's group (e.g., a team) outshine the individual's own successes, that individual feels poorly as a result of comparison (Davis, 1966). This too can lead to esteem-protecting biases and actions that affect both the individual and the group (Chen, Brockner, & Katz, 1998; Marsh, 1987; McFarland & Beuhler, 1995).

Indeed, results from both of these areas are so robust as to present almost a fundamental truth in social psychology: When an attribute or skill is important to the self, being outperformed, even (perhaps especially) by close others, hurts. It appears that Twain's

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rather cynical view was on target—that even the best of friends may not entirely rejoice in each other's successes.

The current research presents a conceptual modification to this view, one that maintains the importance of self-enhancement needs in social comparison, but allows a more optimistic view of social interaction by expanding the notion of self to include close others in certain circumstances. We argue that the robust findings in both the SEM and FPE that point to the damaging effects of close others' successes reflect an emphasis on an independent sense of self, the chronically accessible self of individuals in Western cultures (e.g., Markus & Kitayama, 1991). The exclusion of others from the self-construal, inherent in an independent sense of self, may indeed foster social comparison and competition, but the exclusion of others from the self is not inevitable.

Converging lines of research in the areas of close relationships (e.g., Agnew, Van Lange, Rusbult, & Langston, 1998; Aron, Aron, Tudor, & Nelson, 1991; Aron & Fraley, 1999), altruism (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997), group identity (Brewer & Weber, 1994; Smith, Coats, & Walling, 1999; Smith & Henry, 1996; Tajfel & Turner, 1986), and cultural differences (Gardner, Gabriel, & Lee, 1999; Markus & Kitayama, 1991; Triandis, 1989) have pointed to the important role others may play in self-representation. For example, many cultural researchers have contrasted the North American view of the self as an independent entity with the self-representations of members of more collectivist cultures in which the self is represented as fundamentally interconnected with others (see Markus, Kitayama, & Heiman, 1997, for review). Members of individualist cultures strive to protect and enhance the unique autonomous self; members of collectivist cultures, in contrast, are strongly motivated to protect and maintain the relationships and group memberships that are so self-defining (Markus & Kitayama, 1991).

Even in individualistic cultures such as the United States, however, certain relationships or group memberships may become incorporated into the self-view. For example, Aron and colleagues (Aron & Aron, 1986; Aron, Aron & Smollan, 1992; Aron et al., 1991; Aron & Fraley, 1999) have demonstrated that in close intimate relationships, the self often includes overlapping connections with those closest to the individual, resulting in the other being treated as similar to the self. Indeed, Aron et al. (1991) demonstrated that a response-time measure of self–other overlap distinguished between close and nonclose relationships, and Aron and Fraley (1999) recently extended this work by demonstrating that the degree of self–other overlap even within a close relationship is associated with feelings of closeness and intimacy within that relationship. Similarly, research by Smith and colleagues (Smith & Henry, 1996; Smith et al., 1999) has recently shown that these processes of self–other overlap extend to important group memberships. Such evidence of overlap among self, close others, and in-groups might be expected given Brewer and Gardner's (1996) argument that three levels of self-definition—the individual, the relational, and the collective—are fundamental to any sense of self.

Moreover, existing connections with close others and important groups, as well as the consequences these connections hold for social processes, may be relatively easy to activate. As Smith and colleagues (1999) pointed out, representations of self, close others, and groups appear to be linked, richly interconnected through both paths that directly signify the relationship, as well as indirectly linked through shared traits and activities. In this context, it is perhaps unsurprising that these links may be activated to a greater extent in certain situations, and therefore the self has been shown to expand rather fluidly to include both relationships and group memberships as core representations (Brewer & Gardner, 1996; Trafimow, Triandis, & Goto, 1991). More importantly, values, motives and worldviews have been shown to shift correspondingly as a direct result of these shifts in self (e.g., Gardner et al., 1999; Lee, Aaker, & Gardner, 2000). Gardner and colleagues (1999) demonstrated that independent and interdependent self-construals coexist in every individual regardless of culture, to be used adaptively in different social situations. Indeed the data showed that situational activation (i.e., through priming) of the less culturally dominant aspects of self-representation was relatively easy in both a Western and an Eastern culture, and that shifts in values and social judgments were mediated by this shift in the self. In other words, despite culturally shaped chronic construals, the self also expanded or contracted in response to situational demands, resulting in one's preexisting connections with close others and groups to be more or less accessible as defining features of the self. Most important, this self-expansion appeared to play a causal role in determining the way in which information was processed.

Given the fluidity of self-construal, as well as the causal role it may play in information processing, it is probable that a large determinant of the outcome of comparison processes may be the current self-construal of the individual. We propose that when the self is expanded to include others as a part of the self, either chronically through close intimate relationships or situationally through activation of a more interdependent self, the outcomes of social comparison are altered. If the relationship or group membership is part of an expanded and interdependent self-construal, then the successes of these others, even in self-relevant domains, become less threatening.

In support of this assumption, recent research has shown cultural differences in self-enhancement in both dyadic and group comparisons. For example, Heine, Lehman, Markus, and Kitayama (1999) reviewed evidence that Japanese individuals show few self-enhancing biases when comparing their performance with the performance of others (see also Lee et al., 2000). Similarly, Chen et al. (1998) demonstrated that Chinese individuals had more favorable evaluations of an in-group that had outperformed them than did American individuals. Asian cultures have been thought to encourage chronically interdependent self-construals, lending support to the notion that the consequences of social comparison are different for those with expanded self-concepts.

Similar implications may be drawn from recent research by Beach and colleagues (Beach & Tesser, 1996; Beach et al., 1998) demonstrating that in close romantic relationships, the pleasantness of outperforming a romantic partner is reduced in areas known to be important to the partner. Beach et al. (1998) found across four studies that affective responses to the performance of a romantic partner were muted as compared with those of a stranger. In one study they found that for dating partners who reported low relationship satisfaction, a classic SEM pattern was found (e.g., outperforming a partner in a self-relevant domain was satisfying), whereas for those who reported high relationship satisfaction, the pleasures of outperforming the partner were muted. In a second study they found that husbands showed evidence of both the classic pattern (negative responses to being outperformed on a self-relevant domain) as well as some moderation by partner relevance (if the domain was important to the spouse, they reported

less negativity to being outperformed). Wives, on the other hand, did not show the typical SEM pattern, but reported less negativity overall to being outperformed by the spouse.

The work of Beach and colleagues (Beach and Tesser, 1996; Beach et al., 1998) may imply a role for the expanded self as a moderator of comparison processes. Both the interaction with relationship satisfaction and that with gender could potentially have been driven by naturalistic differences in self-expansion. Indeed, Aron and colleagues (Aron et al., 1992; Aron & Fraley, 1999) found that the expansion to include other in the self was correlated with factors known to be associated with relationship satisfaction. Additionally, Gabriel and Gardner (1999) recently demonstrated that women are more chronically focused on relational aspects of the self and thus may be more likely to incorporate their romantic partners as part of their self-construal (see also Cross & Madson, 1997). Thus, the work of Beach and colleagues may provide indirect evidence of self-construal differences at work.

Thus, converging results from investigations of social comparison processes in collectivist cultures and from research using romantic partners in the United States appear to bolster the hypothesis that self-expansion fundamentally alters social comparison and self-evaluation. The current research sought to test the moderating role of self-expansion in self-evaluation processes more directly. In two studies, we manipulated the extent to which others would be included in the self-construal through priming and observed responses to social comparison situations. We hypothesized that individuals who were primed to think of themselves in interdependent ways would shift from comparison (i.e., responding negatively to being outperformed by close others) to reflection (i.e., responding positively to being outperformed by close others) in either a dyadic (Study 1) or a group (Study 2) situation.

## Study 1: The Expanded Self and SEM

SEM theory (Tesser, 1980, 1988) proposes two processes, reflection and comparison, through which an individual's self-esteem may be respectively boosted or threatened by the success of a close other. The primary moderators in SEM are the self-relevance of the domain and the closeness of the relationship. In self-relevant domains, closeness magnifies comparison processes, whereas in irrelevant domains, closeness magnifies reflection processes. SEM theory also proposes that individuals strategically alter the perceived self-relevance of domains and/or relationship closeness to protect esteem. Support for SEM has been quite robust, and the powerful nature of SEM effects, and their clear replicability in certain paradigms, thus provide an excellent arena in which to investigate the potential effects of self-expansion.

The current study tested the moderating role of an expanded self-construal through a replication and extension of SEM effects in the "projected performance" paradigm of Tesser and Campbell (1982). In this paradigm, participants are asked to guess how a close other or a stranger is performing on tasks that vary in relevance to the participant, and the performance predictions are used as indicators of SEM processes.

Participants in the current study were asked to come to the experiment with a close friend, and they were met by an experimenter and a same-sex confederate who was a stranger to them. Under the guise of a problem-solving study, participants engaged in three types of problems on a computer: (a) questions proposed to tap analytic ability in a format similar to the Graduate Record Examination (GRE; this was pretested as a strongly relevant domain for our students), (b) questions concerning movie and music trivia from the early 1980s (pretested to be irrelevant), and (c) intuition questions in which they were told to guess how another participant did on the question. This third category allowed us to examine the projected performance participants expected as a function of the type of relationship and the relevance of the problem. Importantly, before the participants began the problem-solving portion of the exam, they were given a quick verbal problem-solving task that had been used in past studies (Gardner et al., 1999; Trafimow, Triandis, & Goto, 1991) to prime an expanded or interdependent sense of self. Half of the participants were randomly assigned to the expansion prime and the other half to a prime that left the self relatively independent.

Tesser and Campbell (1982) found that when participants were placed in this type of projected performance situation they predicted better performance for a friend than for a stranger on the irrelevant domain but reversed these predictions for the self-relevant domain, clearly showing the biased processes that characterize SEM. We expected to replicate this pattern of results in the control-prime condition. However, if the self expands to include close others, then their successes, even in self-relevant domains, should boost esteem rather than threaten it. Thus, for participants primed to hold an expanded sense of self, we expected to see higher performance projections for the friend, regardless of the self-relevance of the domain.

We were also interested in the moderating role of gender. Although Tesser and Campbell (1982) found classic SEM effects with women, across the SEM literature the effects are often found more strongly for men (see Beach et al., 1998; Tesser, 1988). In a recent review of the literature concerning gender and self-construal, Cross and Madson (1997) hypothesized that the gender differences found in the SEM literature could reflect the greater likelihood of women to incorporate close relationships as part of the self. It is thus possible that to the extent that women's self-construals are chronically relationally focused (Cross & Madson, 1997; Gabriel & Gardner, 1999), they might be less likely to suffer from a close friend's success across domains.

Finally, we took measures of the friendship closeness and expected the classic SEM pattern of closeness to be positively associated with comparison in the relevant domain for the control condition, with a reversal for those in the expanded-self condition. In other words, for those with an expanded view of the self, closeness should magnify reflection rather than comparison. This latter prediction would be the strongest test of the moderating role of self-representation in social comparison or reflection processes.

The design of the current study was thus a 2 (self prime: independent, interdependent) × 2 (self-relevance of skill; relevant GRE, irrelevant trivia) × 2 (type of relationship: friend, stranger) × 2 (sex) design, with prime manipulated between participants.

### Method

*Participants.* Sixty-one Northwestern undergraduates (31 women, 30 men) participated for partial course credit. Each of them was asked to bring in a close friend who was paid $7 for participating. Fifty-two (85%) of the participants brought in friends of the same sex, and the remaining 9 brought in opposite-sex friends. None were romantically involved. We asked participants to bring in close friends rather than romantic partners because of

concern that for many in romantic relationships, the partner would already be chronically incorporated into the self-view (e.g., Aron et al., 1991; Beach et al., 1998).

*Procedure.* Participants arrived with a close friend and were introduced to a same-sex stranger (confederate). The experimenter informed them the study was concerned with different types of problem-solving abilities and placed them in separate cubicles. They were then given the following instructions:

> Hello, and welcome to this experiment. As you know, we are interested in various types of problem solving under time-pressure: the types of problems will test analytic, recall, and intuitive skills. To test your analytic skills, questions similar to those on the Graduate Record Exam will be presented. To test your recall skills, questions concerning trivial events of the past will be asked (most will deal with entertainment). Finally, to test your intuition, you will be asked to guess how well another one of the participants has answered the same question you just answered. The program will give you instant feedback on your answers to the analytic and recall items, but cannot give you such feedback on your intuition because the computers are not networked, and therefore will not know what the other participants have answered.
>
> Try to answer each question as quickly as possible. Given this experiment concerns problem solving under time-pressure, it is very important that you answer according to your gut instinct. Never take more than 2 minutes to answer any of the analytic questions, and no more than 1 minute to answer the recall/entertainment or the intuition questions. The computer will be timing your responses.

Although the format of the paradigm was the same as Tesser and Campbell (1982), we changed the tasks to best fit the Northwestern participant population. Tesser and Campbell (1982) used social sensitivity as the relevant task and aesthetic judgment as the irrelevant task. In the current study, GRE analytic questions were presented to represent the relevant domain and entertainment trivia were presented as irrelevant to self-esteem. Of course, the intuition problems were meant to replicate the guessing task of Tesser and Campbell, and represented the primary dependent measure of projected performance. After receiving instructions, participants were then told to write their name on three copies of a sheet of paper that had room numbers on it. Participants were always placed in Room 2, their friends were placed in Room 1, and the confederate (stranger) was placed in Room 3. Each participant had a sheet of paper listing who was in each room.

Before the computer program that would present the problems began, participants were asked to fill out a quick test of "reading ability." This constituted the prime for self-expansion. All participants read a story concerning a general named Sostoras who had to choose a warrior to send to the king taken from research by Trafimow and colleagues (1991). Half of the participants were randomly assigned to the independent-control condition, in which the story ended when the general chose the warrior on the basis of his individual merits. Past research has shown that this type of priming in American participants is no different than a no-prime control group in the type of independent self-construal that results (Gardner et al., 1999). The other half read an ending in which the general chose the warrior on the basis of being part of his family. This prime has been shown to expand the self in American participants to include close relationships as part of the self-construal (Gardner et al., 1999; Trafimow et al., 1991). Both primes began with this paragraph:

> Sostoras, a warrior in ancient Sumer, was largely responsible for the success of Sargon I in conquering all of Mesopotamia. As a result, he was rewarded with a small kingdom of his own to rule. About 10 years later, Sargon I was conscripting warriors for a new war. Sostoras was obligated to send a detachment of soldiers to aid Sargon I. He had to decide who to put in command of the detachment.

The independent prime then continued with this paragraph, highlighting the individual merits of the chosen general:

> After thinking about it for a long time, Sostoras eventually decided on Tiglath who was a talented general. This appointment had several advantages. Sostoras was able to make an excellent general indebted to him. This would solidify Sostoras' hold on his own dominion. In addition, the very fact of having a general such as Tiglath as his personal representative would greatly increase Sostoras' prestige. Finally, sending his best general would be likely to make Sargon I grateful. Consequently, there was the possibility of getting rewarded by Sargon I.

In contrast, the interdependent prime continued with this paragraph, highlighting the family relationship of the chosen general:

> After thinking about it for a long time, Sostoras eventually decided on Tiglath who was a member of his family. This appointment had several advantages. Sostoras was able to show his loyalty to his family. He was also able to cement their loyalty to him. In addition, having Tiglath as the commander increased the power and prestige of the family. Finally, if Tiglath performed well, Sargon I would be indebted to the family.

After the paragraph, participants were asked whether they admired the main character in the paragraph, and circled either Yes or No.

Following the reading task (prime), the computer program began. Participants received eight analytic problems (taken from a GRE preparation booklet; Vlk, 1996) and eight movie-trivia problems, each with a forced-choice format in which they had to choose one of two answers. The GRE analytic problems were modified to be ambiguous, especially in the time that participants were allotted to complete each problem. For example,

> Spokesman for a chemical company to the residents of a nearby town: We have conducted tests and found no evidence that the fumes leaking from our waste disposal site are harmful to humans. There is no reason to be alarmed, much less to begin evacuating people from their homes.
>
> Which of the following questions would be the least relevant for the head of the residents' committee to direct to the company spokesman?
>
> 1. What steps are being taken to correct the situation?
>
> 2. What are the possible long term effects of exposure to the fumes?

The music and movie trivia problems were also selected to be obscure enough that participants would be unsure of their answers, the topics occurring when participants were toddlers or younger. For example,

> Patrick Swayze's first movie was named:
>
> 1. The Outsiders
>
> 2. Skatetown U.S.A.

All of the problems were chosen from a larger set of problems that had been pretested on a group of undergraduates ($N = 20$) who were asked to answer the questions and give ratings of how confident they were that their answers were correct (0% to 100% confident). Selected problems had confidence ratings below 50% across all pretest participants.

Each participant received feedback after each problem, indicating that they were correct on half of each type of trial. Additionally, after each problem they were told to guess whether the person in Room 1 (their friend) or Room 3 (the stranger) got the problem correct or incorrect. They guessed the performance of their friend on half the trials and the performance of the stranger on the other half of the trials. After all of the problems were completed, participants were asked to rank order the three types of problems (analytic, memory, and intuition) for personal importance ("How important is each of these domains to you personally?"), and answered questions rating their closeness to the person in Room 1 (friend)

and Room 3 (stranger) on 5-point scales ranging from 1 (*not at all close*) to 5 (*extremely close*). They were also asked to indicate their sex, age, and ethnicity. After these final questions, participants were debriefed, thanked, and dismissed.

### *Results and Discussion*

Fifty-nine of the 61 participants ranked their performance on the analytic problems as most personally important, with the other 2 participants ranking the intuition problems as most important. All participants ranked the trivia problems as least important. Next, the closeness ratings were entered into a repeated measures analysis of variance (ANOVA), using prime and sex as between-subjects measures. This analysis revealed that friends were indeed rated as closer ($M = 4.03$) than strangers ($M = 1.03$), $F(1, 57) = 546.45$, $p < .05$. No other effects emerged as significant. The proportion of problems of each type that participants reported believing that the friend or stranger had answered correctly was the primary dependent variable of projected performance. We expected to replicate the classic SEM pattern (higher projected performance for the friend than the stranger in the irrelevant domain, but higher for the stranger than the friend in the relevant domain) in the control-prime condition. If a relationship becomes a part of the self, however, then reflection could be favored over comparison even for self-relevant domains; thus we predicted that for the interdependent-prime condition, the performance of friends would be estimated to be higher across domains.

In other words, we hypothesized a Prime × Relationship × Relevance interaction, such that the patterns of projected performance consistent with SEM would be supported for the control prime, but not for the interdependent prime. Thus, we first conducted a 2 (prime) × 2 (type of relationship) × 2 (self-relevance of skill) repeated-measures ANOVA, with prime entered as a between-subjects factor. Indeed, the classic SEM interaction pattern of Relationship × Self-Relevance was not significant across the data set. However, as expected, a Prime × Relationship × Self-Relevance interaction emerged, $F(1, 59) = 11.30$, $p < .05$.[1]

Thus we next wished to examine whether the SEM interaction pattern would be replicated in the control-prime condition. We conducted the critical 2 (relationship) × 2 (self-relevance) ANOVA for participants in this condition and in follow-up planned comparisons. As expected, we replicated past research investigating SEM in this condition; the interaction was significant, $F(1, 28) = 7.74$, $p < .05$, and the means fell in the predicted pattern. Participants in this condition projected better performance for their friends ($M = 2.82$) than for the stranger ($M = 2.12$) in the low-relevance movie- and music-trivia task, $t(28) = 2.31$, $p < .05$, but reversed their projections for the high-relevance analytic-skills task ($Ms = 2.66$ and 3.11 respectively), $t(28) = -2.55$, $p < .05$. Thus, for participants in the control- (independent) prime condition, SEM appeared to be at work.

We next examined the data in the interdependence-prime condition. In this condition, we hypothesized that the self would expand to include the close relationship, and therefore SEM should not be evident. The 2 (relationship) × 2 (self-relevance) ANOVA for participants in this condition revealed a relationship main effect, $F(1, 31) = 17.69$, $p = .05$. As would be expected if self-expansion invoked a general shift to reflection over comparison, participants in this condition projected significantly better performance for their friends ($M = 3.31$) than for the stranger ($M = 2.34$) in the high-relevance analytic-skills task, $t(31) = 4.77$, $p < .05$, and marginally more for the less-relevant movie- and music-trivia task ($Ms = 2.50$ and 2.12, respectively), $t(31) = 1.51$, $p < .08$. This pattern is thus consistent with the notion that when the self is expanded to include close others, their successes, especially in self-relevant domains, become opportunities for reflection.

To further examine whether the primes significantly altered the pattern of comparisons with close others, we performed a 2 (prime) × 2 (self-relevance) ANOVA examining participants' projected performance for friends. The interaction emerged as significant, $F(1, 59) = 7.70$, $p < .05$, and the pattern of means supported the self-expansion view that priming the self to include close others should result in an increase in projected performance for close others on tasks that are important to the self. Participants who received self-expansion primes projected better performance for their friends on the self-relevant analytic task ($M = 3.31$) than did their control-primed counterparts ($M = 2.67$), $t(59) = 2.92$, $p < .05$. Priming did not significantly boost projected performance for friends on the trivia task.

We next turned to the issue of individual differences in chronic levels of including close others in the self. Recall that SEM effects are often stronger for men than women, and Cross and Madson (1997) and Gabriel and Gardner (1999) had hypothesized that this effect might be explained by gender differences in relational interdependence, as women consistently include close others as part of their self-definitions to a greater degree than men do. Were this the case, then in the control- (independent) prime condition, which does not significantly alter self-construal in American participants (Gardner et al, 1999), gender differences might be apparent such that men showed the effects more strongly than women, because of women's higher levels of chronic relational interdependence. Indeed, a 2 (sex) × (prime) × 2 (relationship) × 2 (self-relevance) repeated measures ANOVA with sex and prime entered as between-subjects factors revealed a four-way interaction, $F(1, 57) = 6.56$, $p < .05$, supporting the notion that gender differences in relational interdependence may have moderated the effects (see Figure 1). To better examine the patterns of this interaction, we analyzed the men and women separately.

We expected that for our male participants, who presumably maintained a relatively low level of relational interdependence, the three-way interaction among Prime × Relationship × Relevance would emerge strongly. In other words, men were expected to show SEM in the control-prime condition, but shift toward a reflection-based pattern in the interdependence-prime condition. Analyses conducted on the male participants supported this prediction: The three-way interaction emerged as significant, $F(1, 28) = 15.79$, $p < .05$ (see Figure 1, Panel A). Moreover, planned

[1] Additionally, a main effect for self-relevance of skill, $F(1, 57) = 14.07$, $p < .05$, emerged that showed participants believed that others would generally get more of the analytic questions correct than the movie and music trivia ($Ms = 2.86$ and 2.49, respectively). A main effect for relationship also emerged, $F(1, 57) = 13.81$, $p < .05$, revealing that participants projected better performance across domains for friends over strangers, but importantly this was qualified by a Relationship × Prime interaction, $F(1, 57) = 6.16$, $p < .05$, which demonstrated that, as predicted, participants generally favored friends over strangers only after being primed with the interdependent self. These effects were subsumed by the critical three- and four-way interactions discussed in the text.

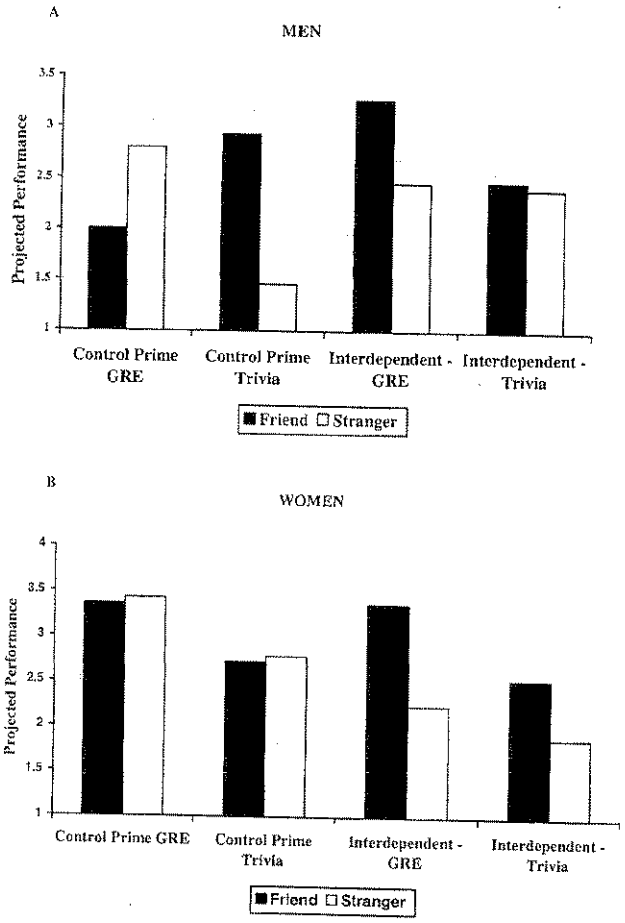


*Figure 1.* Projected performance for friends and strangers in two domains as a function of priming. The data for male participants are presented in Panel A, and the data for female participants in Panel B. Note that men in the control prime strongly demonstrate the standard self-evaluation maintenance theory (SEM) effect, whereas men in the interdependent prime show a reversal of this effect. Women fail to show a significant SEM effect in either condition, because of chronically higher levels of relational interdependence. GRE = Graduate Record Examination.

contrasts showed that men in the control-prime condition projected poorer performance for friends than for strangers on the self-relevant task ($M$s = 2.00 and 2.80), $t(14) = -3.06$, $p < .05$. However, men in the self-expansion prime condition showed a reverse pattern, projecting better performance for friends than for strangers on the self-relevant task ($M$s = 3.27 and 2.47), $t(14) = 3.37$, $p < .05$. Thus for men, priming the expanded self strongly boosted their projections for friends on the self-relevant task; the difference between the control prime and the interdependence prime was significant, $t(28) = 5.10$, $p < .05$.

Women, in contrast, were expected to maintain a relatively high level of relational interdependence even in the control-prime condition (Cross & Madson, 1997; Gabriel & Gardner, 1999). Thus we did not expect the priming manipulation to affect their judgments as strongly. Indeed, analyses conducted on the female participants did not reveal the three-way interaction among Prime × Relationship × Relevance, $F < 1$ (see Figure 1, Panel B). Instead, a relationship main effect was evident, $F(1, 29) = 7.25$, $p < .05$. Unlike their male counterparts, they projected similarly high performance for their friend in the self-relevant domain across primes ($M$s = 3.36 and 3.35), $t(29) < 1$.

The combined results appear to strongly support the hypothesis that when the self is expanded, self-evaluation maintenance is fundamentally altered. We found the classic pattern of comparison in relevant domains and reflection in irrelevant domains only for those who had an independent sense of self, specifically men in the control-prime condition. In contrast, when participants were primed to hold an interdependent sense of self, reflection processes became dominant. These results thus lend credence to the notion that when the self is expanded, the self and close other are treated in a similar fashion (Aron et al., 1991).[2]

Of course, an additional test of our thesis would be to examine the relationship between closeness and comparison in the relevant domain. SEM theory (Tesser, 1988) predicts a positive correlation between closeness and comparison in a self-relevant domain—the closer the relationship, the stronger the comparison process. Alternatively, self-expansion theory (Aron et al., 1991) would predict a negative correlation between closeness and comparison in a self-relevant domain, because within this model, the closer the relationship, the greater the opportunity for reflection. We thus used linear regression to examine the relationship between reported closeness (range = 1–5) and the extent of comparison in the self-relevant domain (operationalized as the projected performance of the stranger on the analytic problems minus the projected performance of the friend). We used the extent of comparison as a dependent variable, and entered prime, reported closeness, and their interaction into the equation.[3] As predicted, the interaction emerged as significant, $t(57) = 3.71$, $p < .05$. For participants who received the independent-self prime, the correlation between closeness and comparison was positive and marginally significant, $r(29) = .31$, $p = .05$, suggesting that in this condition, the positive relationship predicted by SEM was potentially supported. In contrast, for participants who received the interdependent prime, the negative relationship between closeness and comparison as predicted by self-expansion theory was evident, $r(32) = -55$, $p < .05$. The magnitude and direction of the latter correlation, and the significant interaction between prime and closeness in the regression analysis, place clear boundary conditions on the classic SEM notion that the closer the relationship, the greater the extent of comparison in a self-relevant domain. Instead, the relationship between closeness and comparison appears to depend on the level of the self-representation of the individuals involved. Specifically,

[2] Obviously, any dimension that varies in self-relevance can vary in partner relevance as well. Because the current study manipulated self-relevance in a nonsubtle way (GRE versus movie trivia), it is assumed that both self- and partner relevance were highest in the GRE condition. We thus are unable to disentangle any potential effects of self-relevance from partner relevance in the current study, but refer interested readers to Beach et al. (1998) for an excellent examination of partner relevance.

[3] To ensure that the results using the difference score were not driven by a single variable (e.g., friend's scores or stranger's scores) we additionally conducted regressions on the difference score partialing out friend score and stranger score. Both interactions remained significant. Moreover, the relationship did not appear to be moderated by sex; the interaction between closeness and prime remained significant when the regressions were performed on the male and female data separately.

when the self is construed at an independent level, self-evaluation maintenance is suggested, and closeness may be positively associated with comparison; however when the self expands to include close others, the closeness of the relationship becomes negatively related to comparison.

Given our current thesis concerning the moderating role of self–other overlap in social comparison, one might wonder why relationship closeness alone would not result in reflection in the control condition. One possible explanation is that shifts in self-construal cause a shift in the way individuals think about close others and closeness more generally. Markus and Kitayama (1991) stated that one major difference between independent and interdependent selves is the way in which close relationships are conceptualized. An independent self-view, by requiring self and other to be represented as separate entities, encourages one to consider the individual attributes of both, making similarities and differences evident. In contrast, an interdependent self-view encourages a merging of self and other and a focus on the relationship as a whole.

Taken in this light, *closeness* in the independent-self condition may be based on features such as the similarity of attributes shared between the two individuals. After all, perceived similarity in values, preferences, and personality is often a powerful force in inducing attraction and liking (Byrne, 1971; Byrne, Clore, & Smeaton, 1986). Of course, similar others are also those most likely to evoke social comparison (Festinger, 1954; Suls and Wills, 1991; Wood, 1989), and indeed, similarity has been used as a manipulation of closeness in past SEM studies (see Tesser, 1988, for review). Thus if one aspect of closeness for individuals with an independent self-view is similarity between the self and close other, social comparison would be expected to be heightened. For individuals maintaining a more interdependent self-view, however, closeness may be based more on the merger between self and other, thus making comparison less relevant and reflection more probable. Although speculative, this explanation fits with the prior literature concerning interdependent self-construal as well as with prior SEM research. If different features of close relationships are salient to individuals with different self-views, then one might expect either comparison or reflection as a function of whether similarity of attributes or self–other merging were more accessible bases of closeness.

Taken in combination, the results of Study 1 are strongly supportive of the moderating role of self-representation in social comparison processes. They also further illustrate the fluidity of self-representation, the ease with which the self may expand to include close others in certain situations, as well as the consequences of those shifts. We had chosen to use friends rather than romantic partners in the prior study on the basis of the belief that the relationship with romantic partners would often already be incorporated into the self (Aron et al., 1991; Beach et al., 1998), and we wanted to be able to manipulate self-expansion. We also wished to explore the possible interplay of chronic and situational differences in self-construal, and thus examined gender as a moderator of these effects. Given the chronic gender differences in aspects of the interdependent self that have been found in past research (Cross & Madson, 1997; Gabriel & Gardner, 1999), we thought women would be less likely to show SEM with a close friend in general. Indeed, results for women were consistent with the hypothesis that women are focused on the relational aspects of the self to a significantly larger degree than men. Gabriel and Gardner (1999) had shown that this difference is reflected in women's self-descriptions, emotional memories, attention to information, and behavioral intentions. It now appears that this gender difference may also be expressed in social comparison situations involving close others. In fact, we would argue that it is because of this strong relational orientation in women that SEM effects have often been absent or muted in women as compared with in men (see Cross & Madson, 1997, for review).

However, the gender interaction found in Study 1, although not posing a problem for our conceptualization, does nonetheless pose a problem for testing the generality of self-expansion as a moderator of social comparison processes. For that reason, we ran a second study, designed to test comparison and reflection in a domain in which men rather than women would have a chronically expanded sense of self. Gabriel and Gardner (1999) noted that whereas American child socialization practices encourage girls to develop close dyadic relationships, these same practices encourage boys to engage in team and group activities. As a result, women focus on the *relational* aspects of interdependence to a significantly greater degree than men do, but men focus on the *collective* aspects significantly more than women do (see also, Baumeister & Sommer, 1997; Gardner et al., 2001). Thus, if we could design a test in which the comparison was not between self and close other, but rather between self and group, the expansion effects observed in Study 1 in men should be observed in women. To that end, we designed the second study to use the FPE (Davis, 1966; Marsh, 1987).

## Study 2: The Expanded Self and the FPE

The FPE (Davis, 1966; Marsh, 1987) refers to the phenomenon by which membership in an in-group whose success outshines one's own may threaten esteem, whereas membership in a less successful in-group may provide a boost to esteem. Davis (1966) and Marsh (1987) both were interested in explaining why students' self-evaluations of academic competence were affected more strongly by their relative standing than their absolute performance, and argued that individuals wish to be a "big frog" in a "small pond" because of the effects on self-evaluation and esteem. Although this effect may not seem particularly surprising given the ubiquity and power of social comparison processes (Festinger, 1954), the FPE stands in stark contrast to an equally robust social phenomena, that of gaining esteem from in-group successes (e.g., Cialdini et. al., 1976).

Indeed, one central component of social identity theory (Tajfel & Turner, 1986) is that an individual's self-evaluation is partly determined by the positivity of the groups to which he or she belongs, and that people strive to maintain positive evaluations of their groups. Thus, according to social identity theory, when an activity is relevant to an individual's self-evaluation, the individual should wish his or her group to do well. Because the FPE relies on comparisons between self and in-group that could favor either comparison (wanting to do well relative to the in-group) or reflection (wanting the in-group to do well regardless of personal performance) the FPE shares similarities with SEM (Tesser, 1988) in that both allow an opposition between comparison and reflection processes in determining how others' successes affect individual self-esteem.

Multiple lines of research are relevant to the FPE and its potential moderation by incorporating the in-group as part of the

self. For example, Brewer and Weber (1994) demonstrated that the distinctiveness of an in-group may tune one toward comparison or reflection processes. They demonstrated that when faced with a successful or unsuccessful in-group member, participant's own self-views contrasted with the in-group member's performance (indicating comparison) when the in-group was presented as a majority group, but assimilated to the in-group member's performance (indicating reflection) when the in-group was presented as a minority group and thus was optimally distinct. Brewer's (1991) optimal distinctiveness theory proposes that the distinctiveness of the group is a key determinant of social identity, and Brewer and Weber's data suggest that a shift in social identification may shift the nature and outcomes of comparison processes as well.

A more direct investigation of the moderation of the FPE by group identification was conducted by McFarland and Beuhler (1995). They reported that individual differences in collective self-esteem (the extent of valuing an in-group identity) moderated the FPE. Specifically, when faced with feedback that they had personally done well but their in-group was performing badly (e.g., that they were a big frog in a small pond), participants with high collective self-esteem were less pleased with their outcomes than were those with low collective self-esteem. Similarly, participants with high collective self-esteem were less displeased with performing badly when their group was performing well. Thus the FPE was attenuated for members of the in-group that had high collective self-esteem.

Finally, in a recent cultural examination of the FPE, Chen et al. (1998) demonstrated that the FPE was muted in members of a collectivist culture (China). Given the robust cultural differences in group-based self-definition (e.g., Markus & Kitayama, 1991), this study supplies strong, albeit indirect, evidence for our hypothesis that differences in levels of collective self-construal may moderate the FPE.

The aforementioned studies, then, all appear to suggest that in situations in which we would expect an in-group to be incorporated into the self (e.g., in individuals with high collective self-esteem or members of collectivist cultures), reflection with the in-group rather than comparison may take place. Because the FPE measures the affective responses to an individual success (outperforming an in-group) versus failure (underperforming an in-group) in an important domain, reflection would be illustrated by a muting of affective responses (feeling less good after success and less bad after failure), rather than a reversal of affective responses (e.g., feeling better after failure than after success). In fact, in each of the prior studies, a reduced FPE was found for those participants who would have been more likely to construe the in-group as part of the self. However, none of the above studies manipulated self-construal directly, nor examined gender as a moderator of the FPE. The purpose of Study 2, then, was to manipulate collective self-construal and investigate the resulting effects in the frog-pond paradigm. The FPE, by presenting the same opposing processes as SEM, but at a collective rather than interpersonal level, provides a design in which we would expect a reversal of the gender effects seen in Study 1; in a collective domain women should show stronger effects of interdependence priming than men do.

The purpose of Study 2 was thus to examine self-expansion effects in a collective domain, specifically through using the frog-pond paradigm in which the self and the in-group are compared. We used a paradigm similar to that used in McFarland and Beuhler (1995) by giving students false feedback that they had scored well relative to other in-group members (Northwestern students) on an important attribute of emotional intelligence but that their in-group as a whole was scoring well below average, or alternatively that that they themselves had scored poorly relative to the in-group, but that the in-group as a whole was scoring well above average. These two conditions are those that exemplify the FPE by placing the performance of in-group and self in opposition. Between taking the "test" and receiving feedback, half of the participants were primed in a way designed to activate collective self-construals. Mood measures taken directly after the feedback served as the primary dependent variable. Thus the design of the current study was a 2 (self prime: independent, interdependent) × 2 (frog-pond: self better than group, group better than self) × 2 (sex) design, all between participants.

We expected a reversal of the gender effects seen in Study 1. If our interpretation of the gender difference in Study 1 was correct and men showed stronger effects of the prime as a result of gender differences in relational and collective interdependence, then in this collectively oriented frog-pond paradigm women should show stronger effects than men. We thus predicted a three-way interaction such that men, who maintain higher chronic levels of collective interdependence, would not show the strong comparison effects they had shown in Study 1 after control priming. Instead, they were expected to show an attenuated FPE in both priming conditions. Women, in contrast, were expected to show the strong comparison effects in the control-prime condition, as they maintain relatively low levels of chronic collective interdependence. Priming with collective interdependence, however, was expected to reduce the FPE in women. This pattern of results would thus lend support to the notion that women did not show SEM in the control condition of Study 1 (as well as in other SEM studies; Beach et al., 1998; Tesser & Campbell, 1982) because of chronic relational self-construal and would lend further credence to the notion that it is the extent of the other in the self, regardless of whether that other is a close friend, lover, or important group, that is tantamount to determining comparison or reflection processes.

## Method

*Participants.* Eighty-two Northwestern University undergraduates (40 women and 42 men) participated in this study for partial course credit. Participants were run in groups of 2 to 6.

*Procedure.* The procedure used was identical to that used in the second study of McFarland and Beuhler (1995), in both the ability tested (social perceptiveness) and the feedback given. In the current study, however, we "tested" social perceptiveness in a slightly different way. McFarland and Beuhler had used events in a fictitious individual's life; participants were then asked to answer questions in which they had to intuit the nature of the individual's childhood and current life situation. We used a yearbook-picture task that had been successfully used to provide false feedback concerning social perceptiveness in Mussweiler et al. (2000).

Participants were placed in individual computer cubicles. The computer instructed them that the purpose of the experiment was to assess emotional intelligence and reminded them that emotional intelligence was a very important attribute, recently featured on the television show *20/20* and the cover of *Time* because of its importance in predicting success in both work and relationships. The computer went on to inform them that they were about to take part in an ongoing study assessing emotional intelligence on a number of college campuses nationwide including both Northwestern University and the University of Chicago (a salient rival, thus encouraging them to think of Northwestern University as their in-group). They were told that 175 students at Northwestern University had already taken the test last

year, and that after the test, they would be given feedback concerning their own individual performance as well as the performance of Northwestern University students overall.

They were then instructed that the most important aspect of emotional intelligence was social perception, and that the test they would take would assess their social perceptiveness through asking them to predict the outcomes of another person on the basis of their photograph. They were then shown 12 photographs from a 1960s yearbook and were asked to predict whether the person in the photo had general high life satisfaction, had a satisfying family life, and was satisfied with his or her job using 5-point scales ranging from 1 (*not at all satisfied*) to 5 (*very satisfied*).[4]

After completing the social-perception test, they were asked to read a short paragraph and answer a question about the paragraph while the computer calculated their score. They were then given the control or interdependence prime from Study 1, altered slightly to prime more collective rather than relational self-construals. The collective interdependence prime emphasized more collective aspects of interdependence by having the general choose a warrior who shared a social identity with the general. Thus, the warrior was presented as someone who was not an intimate of the general's but instead was a member of the village, and thus would bring benefits to the village as a whole. The first paragraph of the collective-interdependence prime was identical to the primes used in Study 1, but the second paragraph was altered to highlight the collective relationship between Sostoras and the general. They were neither friends nor family, but rather were from the same community. The second paragraph read as follows:

> After thinking about it for a long time, Sostoras eventually decided on Tiglath who, while not an intimate of Sostoras, was an important member of his community. This appointment had several advantages. Sostoras was able to show loyalty to his community. He was able to cement their loyalty to him. In addition, having Tiglath as the commander increased the power and prestige of the community as a whole. Finally, if Tiglath performed well, Sargon I would be indebted to the whole community.

After the prime, participants answered the question, "How much do you admire Sostoras (the main character)?" and answered on a 4-point scale ranging from 1 (*not at all*) to 4 (*very much*).

In a preliminary study conducted with 62 Northwestern students (35 women and 27 men) given either the collective or control prime and then asked to define themselves in six statements, we found evidence that the collective prime was successful in activating collective aspects of self-construal. Participants primed with the collective-interdependence prime defined the self using more collective, or group-based, self-construals (e.g., "I am a member of Delta Gamma," $M = .30$) as compared with those who read the control prime ($M = .16$), $t(60) = 2.21$, $p < .05$. Moreover, as expected given gender differences in collective interdependence (Gabriel & Gardner, 1999; Gardner et al., 2001), the prime appeared to be more effective for women than for men. Women in the control-prime condition defined the self using fewer collective self-construals ($M = .11$) than did those in the collective prime ($M = .28$), $t(33) = -2.70$, $p < .05$. Men in the collective-prime condition, however, showed a nonsignificant increase in collective self-construals ($M = .33$) as compared with their control-prime counterparts ($M = .22$), $t(25) < 1$. Thus, the preliminary test of the prime revealed that it performed as we had hoped, successfully activating collective self-construals in women, who in the control-prime condition were less collective than men in both priming groups, $t(58) = 2.04$, $p < .05$. Men and women were not found to significantly differ in their rated admiration for Sostoras in either the independent-decision scenario ($M = 2.86$) or in the collective-decision scenario ($M = 2.94$).

After being primed independently or collectively, participants in the current study received immediate feedback. The feedback screens were adapted from McFarland and Beuhler (1995). Participants in the relative-success condition received a screen that said

> YOUR OWN PERFORMANCE LEVEL:
>
> Your score on the test was a 60.
>
> This score is 15 points higher then the average score of the Northwestern students who took the test last year. In addition, 85% of Northwestern students performed at or below your score, and 15% performed above your score.

They then received a screen that said

> NORTHWESTERN STUDENTS' PERFORMANCE LEVEL:
>
> It turns out that Northwestern students as a group are doing quite poorly on the test. The average score of the 175 Northwestern students who took the test last year was 45 out of 100 points. The highest score in the group was a 70, and the lowest was a 20.

Whereas, participants in the relative-failure condition received a screen that said:

> YOUR OWN PERFORMANCE LEVEL:
>
> Your score on the test was a 60.
>
> This score is 15 points lower then the average score of the Northwestern students who took the test last year. In addition, 15% of Northwestern students performed at or below your score, and 85% performed above your score.

They then received a screen that said:

> NORTHWESTERN STUDENTS' PERFORMANCE LEVEL:
>
> It turns out that Northwestern students as a group are doing quite well on the test. The average score of the 175 Northwestern students who took the test last year was 75 out of 100 points. The highest score in the group was a 100, and the lowest was a 50.

Conditions in which both the self and in-group did well or both the self and in-group did poorly were not included in the design, because in these conditions no differentiation of mood would be expected as a function of self-construal. One could feel happy when both self and in-group were performing well or disappointed when both were performing poorly on the basis of either one's individual performance or the in-group's performance. Thus, it was only the two feedback conditions used in the current study, in which the performances of self and in-group were presented in opposition, that allowed for a test of whether participants would show different levels of comparison or reflection with the in-group.

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[4] We ran a preliminary study with 51 Northwestern students (30 women, 21 men) to examine the effectiveness of the social-perceptiveness task and feedback in the absence of group-comparison information. In this study, participants took the test, were primed, and then were given high (75) or low (45) scores after which they completed a mood rating and an importance measure. Analyses showed that the test was perceived as important for both men and women (importance ratings were high, $M = 6.63$ on a 9-point scale, and did not statistically differ for men and women). Furthermore, perceptions of the importance of the test were not significantly altered by priming. Equally important, a 2 (prime: independent, interdependent) × 2 (outcome: success, failure) × 2 (sex: male, female) ANOVA conducted on the mood ratings revealed only one effect, a main effect for outcome, $F(1, 50) = 5.78$, $p < .05$, such that participants in the success condition reported being in a better mood ($M = 3.73$) than did those in the failure condition ($M = .74$). This reassured us that the test was believable. No other effects or interactions were significant in the preliminary study (all $Fs < 1$). Thus, when success or failure was presented as an objective score, without any social comparison information, neither gender of participant nor the type of prime appeared to significantly affect the affective responses to that success or failure.

Participants pushed the space key after reading each feedback screen to go on to the next screen.[5] After receiving the feedback, participants were asked to fill out a short affect scale taken from McFarland and Beuhler (1995). The six items consisted of happy, pleased, competent, proud, disappointed, and sad, and participants rated how much they were feeling each emotion on a 9-point scale ranging from 1 (*not at all*) to 9 (*extremely*) ($\alpha$ = .84). The affect scale served as our major dependent variable.

Participants also completed a modified seven-item self-evaluation measure asking questions such as "I feel confident about my abilities in this domain" and "I feel frustrated about my performance in this domain" on the same 9-point scale ($\alpha$ = .87). We measured individual self-evaluation, as we hoped to examine the relationship between perceptions of individual success and mood as a second dependent variable. We expected mood to be strongly based on individual success in the control condition in which participants were hypothesized to be comparing self and in-group, but that success would serve as less of a basis for mood in the interdependent condition, when both the performance of the in-group and the self would be taken into account.

Finally, participants completed a demographic questionnaire in which they reported their sex and ethnicity. Participants were then debriefed and given a gift of candy to remove any lingering negative mood effects of the false feedback.

### *Results and Discussion*

Mood was calculated by subtracting the average of the negative mood items (e.g., sad, disappointed) from the average of the positive mood items (e.g., happy, pleased). Thus higher positive numbers reflect more positive moods in response to the feedback.[6] Mood was then entered into a 2 (self prime: independent control, collective interdependent) × 2 (frog-pond: self better than in-group, in-group better than self) × 2 (sex) ANOVA. We hypothesized that in a collective social comparison, it would be women rather than men who showed a moderation of comparison by priming. Men, on the other hand, were expected to show a relatively small FPE in both the control- and collective-interdependence–prime condition as a result of their higher levels of collective interdependence more generally. Thus, we predicted a three-way interaction among prime, frog-pond condition, and sex such that women primed with collective interdependence would show a muted FPE as compared with those in the control-prime condition.

The predicted three-way interaction among prime, frog-pond condition, and sex emerged as significant, $F(1, 81) = 8.51$, $p < .05$.[7] To examine the pattern of the interaction, we next conducted the 2 (prime) × 2 (frog-pond) ANOVAs for the men and women separately. For our male participants, neither the frog-pond main effect nor the interaction with prime emerged as significant. Instead, as would be expected given men's chronic levels of collective interdependence, male participants appeared to maintain moderately positive affect both when the self was doing well and when the in-group was doing well (see Figure 2). For female participants, on the other hand, the frog-pond main effect was significant, $F(1, 40) = 49.79$, $p < .05$, as was the Prime × Frog-Pond interaction, $F(1, 40) = 10.27$, $p < .05$. Unlike their male peers, the female participants reported significantly better moods after being told they had outperformed a failing in-group ($M = 3.72$) than after underperforming a successful in-group ($M = -0.95$), $t(39) = 6.27$, $p < .05$. However, this effect was muted for those primed with collective interdependence (see Figure 2); female participants primed with interdependence reported less positive mood after outperforming their in-group as compared with their control-primed counterparts ($M$s = 2.92 vs. 4.51), $t(18) = 1.88$, $p < .05$, and more positive mood after underperforming their in-group compared with control-primed counterparts ($M$s = −2.36 vs. 0.33), $t(19) = -2.62$, $p < .05$.

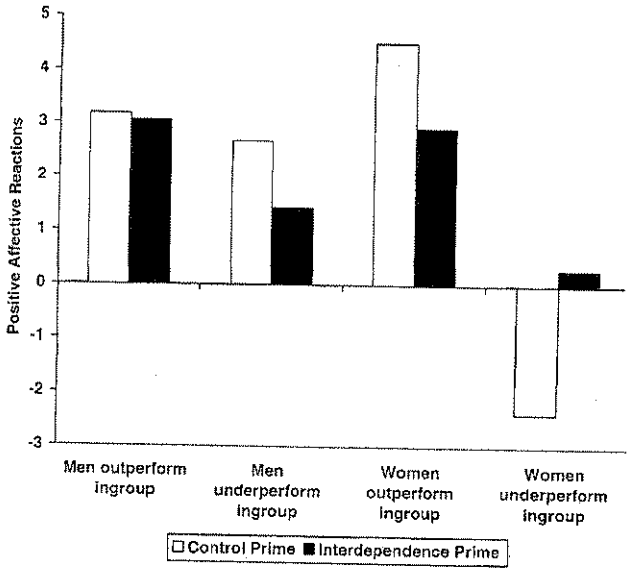


*Figure 2.* Affective reactions to frog-pond feedback as a function of prime and gender of participant. Note the strong frog-pond effect seen for women in the control-prime condition is muted in the interdependent-prime condition. Men fail to show a significant frog-pond effect in either condition, because of chronically higher levels of collective interdependence.

Thus, as predicted, women appeared to be more affected by the collective primes. Across these analyses, the smaller FPE for men, combined with the larger effect of the collective primes on the women, appears to support our hypotheses concerning the role played by collective interdependence in the FPE. It also bolsters our interpretation of the gender differences in Study 1.

Our final analysis was conducted to examine the extent to which participants' mood was based on their own individual self-evaluations of performance as measured by the specific state self-esteem scale (e.g., "I feel confident about my abilities in this domain"). The FPE, by definition, results from affect based pri-

[5] We recorded the time participants spent on each feedback screen and analyzed these times to ensure that participants spent similar time on the feedback concerning the self and the group across conditions. No statistically significant main effects or interactions for any of the independent variables emerged. Thus, we felt confident that differential attention to feedback was not a likely explanation of our results.

[6] Because positive and negative affect have sometimes been found to represent separate affective dimensions (see Cacioppo & Gardner, 1999, for review), we first analyzed the data for positive and negative mood separately. Because mirror image results emerged, we felt comfortable combining the two into a single mood measure.

[7] Additionally, a main effect for relative performance emerged, $F(1, 81) = 58.14$, $p < .05$; participants told that they outperformed their group reported more positive mood ($M = 3.42$) than those told that they were outperformed by their group ($M = 0.23$). A main effect for sex also emerged, $F(1, 81) = 4.06$, $p < .05$, showing men reported better moods in general ($M = 2.31$) than did women ($M = 1.34$).

marily on individual performance rather than in-group performance, thus resulting in more positive affect when the individual is doing well and the in-group is doing poorly compared with when the in-group is doing well and the individual is doing poorly. Given that priming with collective interdependence moderates the extent to which individuals are feeling positive or negative, we should also see evidence of an alteration in the relationship between self-evaluation and mood. In fact, a regression using prime and individual performance as a predictor of mood revealed a significant interaction, $t(81) = -2.55$, $p < .05$, such that self-evaluations of social perceptiveness predicted mood more strongly in the independent condition, $r(42) = .52$, than in the interdependent condition, $r(40) = .17$. Furthermore, in line with our gender results, when the data were analyzed separately by gender, the interaction was significant for women but not for men.

Taken in combination, the results of Study 2 provide further evidence of the moderating role of self-expansion in social comparison processes. We reversed the gender differences seen in the SEM paradigm by moving the comparison condition to one in which self and group rather than self and friend were compared and by altering the primes to activate collective rather than relational interdependence. Women in the control-prime condition replicated the FPE, reporting more positive affect after outperforming a failing in-group than after underperforming a successful in-group. However, after priming a more collective self-construal, women showed significant muting of the FPE. Further, in line with their greater chronic levels of collective interdependence, men failed to show a significant FPE even in the control condition.

## General Discussion

The results of the current studies provide evidence for the direct effects of self-expansion on social comparison processes. In two studies using existing paradigms from the SEM literature (Tesser & Campbell, 1982) and the frog-pond literature (McFarland & Beuhler, 1995) we replicated the usual effects of social comparison in the control-prime conditions, but showed significant moderation of these effects after the self-expansion primes. Participants in Study 1 who thought of relationships as part of the self, either because of gender or priming, favored a close friend over a stranger even in self-relevant domains, and this effect was positively correlated with the closeness of the relationship. Similarly, in Study 2, participants who thought of an in-group as part of the self, either because of gender or priming, showed less pleasure at outperforming their in-group if their in-group was doing badly in an important domain and less displeasure at underperforming their in-group if their in-group was doing well in an important domain.

The interactions with gender in both of these studies illustrate the important interplay between chronic and situational self-construals. Women were more likely to respond as if a close friend were chronically part of the self in the control condition of Study 1, whereas men were more likely to respond as if the in-group were chronically part of the self in the control condition of Study 2. These results mirror what has been found with chronic gender differences in interdependence focus in the past; in the absence of priming, women appear to be strongly attuned to the relational aspects of interdependence, listing relationships as self-defining, remembering relational events, and favoring close friends over the self. Men, in contrast, appear to be strongly attuned to the collective aspects of interdependence, listing group memberships as self-defining, remembering collective events, and favoring their in-groups over the self (see Gabriel & Gardner, 1999, for review). Moreover, in both of the current studies the gender differences in self-construal did not seem dependent on differences in closeness of the relationship or on a different understanding of group norms. Recall that no gender differences in closeness with the friend were found in Study 1, nor were gender differences found in reported admiration for the character who decided to use social identity as a criterion for promotion in the prime used in Study 2. Such gender differences in incorporation of a relationship or group into the self, in the absence of gender differences in explicit measures of relationship quality or group norms, mirror other findings concerning gender and the self (Cross & Madson, 1997; Gabriel & Gardner, 1999; Gardner et al., 2001).

The results of the current studies, then, further illustrate the power of these gender differences in self-construal by showing how they impact self-enhancement and social comparison processes as well. As such, the current studies may assist in interpreting gender differences found in past SEM studies (e.g., Beach et al., 1998; Tesser, 1980) by offering a probable mechanism, expanded self-construal, through which they occur. It is not that women are merely kinder or less likely to respond in self-protective ways to comparison information. Recall that in Study 2, it was the women who showed the greater pleasure at outperforming others and the greater disappointment at being outperformed in the control condition. Rather, it is the target of comparison that is important, and it is the extent to which that target is incorporated into the self that determines the response to social comparison processes. In both studies, when priming activated the less dominant self-construals—either the relational aspects in men (Study 1) or the collective aspects in women (Study 2)—gender differences were reduced.

We invoke the shifting nature of self-construal to explain the priming effects, although we did not measure self-construal directly in either of the key experiments. Thus it is possible that the primes merely shifted what information was attended to (e.g., biasing one to attend more to group than self-feedback in Study 2), or the impact this information had on responses (e.g., mood in Study 2), bypassing the self altogether. Although we recognize the absence of mediational tests as a limitation of these studies, we think this alternative interpretation is unlikely for several reasons. First, although this could plausibly explain the priming results of Study 2, it could not explain the results of Study 1 (in which no information was presented, but rather participants had to guess how well a friend and stranger were performing). Second, we had crude measures of the attention paid to both types of feedback (feedback concerning self and group) in Study 2, and these did not statistically differ as a function of prime (see Footnote 6). Third, although we did not measure self-construal as a function of prime directly in either study, the primes have been shown to alter self-construal in multiple other studies (Gardner et al., 1999; Gardner & Gabriel, 1999; Trafimow et al., 1991) including our own preliminary study investigating the collective prime for Study 2 of this article. Moreover, in past investigations of shifts in self-construal, the information processing consequences were shown to be mediated by these shifts (Gardner et al., 1999). Thus, it is unlikely the primes bypassed the self. Finally, an explanation that does not invoke differences in the self could not explain the gender differences found in the control conditions in both studies. However, past research supporting the chronically relational nature

of women's self-construals and chronically collective nature of men's self-construals explains these differences well. In sum, the most parsimonious explanation of the results as a whole requires a reliance on self-construal and the incorporation of others as part of that construal.

The current studies thus also underscore the continued coexistence of individual, relational, and collective aspects of the self (Brewer & Gardner, 1996). The "lone ranger" view of the self that has dominated social psychological theorizing in the past 20 years (see Markus & Kitayama, 1991, for review and criticism) has gradually been changing as a result of acknowledgment of cultural differences (e.g., Markus et al, 1997; Triandis, 1989) and the importance of social identities (Abrams, 1999; Turner, Oakes, Haslam, & McGarty, 1994). Current conceptions of the self are thus being slowly altered to one in which the self is recognized as a relatively fluid entity that is developed, maintained, and expressed in a richly social context (Baumeister, 1999; Gardner et al., 2000). Representations of the self are often constructed online in response to the social environment and appear to frequently include relationships and in-groups as overlapping representations (Smith et al., 1999).

The results presented here reinforce this burgeoning literature concerning the self as a social entity and reveal important implications for existing theory on the self's basic motives. Much of the current literature concerning self motives still holds self-enhancement to be preeminent (see Baumeister, 1999, for review). Our results place clear boundary conditions on this motive, pointing out both that the self is fluid rather than static and that the nature of current self-construal plays a large moderating role. The fluid and social nature of the self may also have important consequences for theories concerning fundamental processes underlying self-knowledge and self-regulation, to the extent that these theories are focused on the protection or enhancement of the autonomous, independent self.

By placing boundary conditions on self-enhancement motives, the current research also presents a less cynical view of human nature and social interaction than is portrayed in the existing self-evaluation literature. We are not always greedy and self-protective, eager to sabotage successful friends and pleased when we outshine our in-groups. Rather, when the self is expanded to include the targets of social comparison, whether because of chronic construal or through temporary expansion brought about through priming, self-evaluation shifts from emphasizing individualistic social comparison to more interdependent social reflection. It thus appears that Twain was wrong; when your friends include you in their self-views, your successes become pleasing indeed.

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Running Head: Friends and the Self

# How I See "Me" Depends on How I See "We":
# The Role of Attachment Style in Social Comparison

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