Gender Differences in Implicit Self-Esteem Following a Romantic Partner's Success or Failure

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This research examined the influence of a romantic partner's success or failure on one's own implicit and explicit self-esteem. In Experiment 1, men had lower implicit self-esteem when their partner did well at a "social intelligence" task than when their partner did poorly. Women's implicit self-esteem was unaffected by partner performance. Experiments 2 and 3 showed that Dutch men's implicit self-esteem was negatively affected by their romantic partner's success. In Experiment 4, we replicated Experiments 1–3 in both the academic and social domains, and in Experiment 5, we demonstrated that men's implicit self-esteem is negatively influenced by thinking about a romantic partner's success both when the success is relative and when it is not. In sum, men's implicit self-esteem is lower when a partner succeeds than when a partner fails, whereas women's implicit self-esteem is not. These gender differences have important implications for understanding social comparison in romantic relationships.

Keywords: implicit self-esteem, gender differences, social comparison

Imagine for a moment that your romantic partner experienced a great success, such as a promotion at work, being elected to a local office, or reaching a personal weight loss goal. How would that make you feel about yourself? Tesser's (1988) self-evaluation maintenance model (SEM) posits that a close other's success in a self-relevant domain can make people feel threatened, leading to (a) a feeling of distance from the close other, (b) downplaying the other's success, and (c) predicting poor future performance for the other (Tesser & Campbell, 1982; Tesser & Smith, 1980). The self-evaluation maintenance model, like other models of social comparison, accounts for situations in which one person is *outperformed* on some dimension.

The main idea of the SEM is that another person's success invites comparison of the self to the more (or less) successful other, which influences self-evaluations. The closer the relationship, and the more important the domain of comparison, the more one will engage in comparison and the more one's self-evaluations will be influenced (Tesser, 1988). In romantic relationships, how-

ever, not all successes for one partner imply a failure for the other partner. For example, your partner reaching his goal to lose weight would be a success for him but would not make him *more successful than you* if you were not trying to lose weight also.

While it makes sense that Tom might feel threatened if his girlfriend Jane *outperforms* him, it is less clear how Tom would feel about himself if Jane succeeds when they are not in direct competition with one another. This latter situation, which is likely to be common in the daily lives of our relationships, is the focus of the present research. In five studies, we examine how self-esteem is influenced by the success or failure of one's romantic partner.

We might imagine two possible outcomes for self-esteem resulting from a romantic partner's success. On one hand, a partner's success could lead to an increase in self-esteem (the "basking in reflected glory hypothesis"; Cialdini et al., 1976). Aron and Aron (1986) proposed that individuals in close relationships often perceive the self as including the resources, perspectives, and characteristics of their partner. Therefore, one's self-esteem might increase due to a partner's success or decrease due to a partner's failure. If Jane succeeds, Tom succeeds too. This prediction is also consistent with Beach, Tesser, Mendolia, and Anderson's (1996) extension of Tesser's (1988) self-evaluation maintenance model into the realm of marital relationships. The extended self-evaluation maintenance model posits that, although it could be negative to compare unfavorably to a romantic partner, that negativity is offset by empathetically sharing the partner's positive affect.

On the other hand, a partner's success could lead to a decrease in self-esteem (the "zero-sum game hypothesis") if we interpret "my partner is successful" as "my partner is *more successful than me.*" Upward social comparisons (comparing oneself unfavorably to a more successful other) have been shown to lead to unfavorable self-evaluations (see Collins, 1996, or Wood, 1989, for reviews).

Further, Beach et al. (1998) showed that the extended self-evaluation model fails in domains high in self-relevance; that is, even partners in committed relationships experience negative feelings when their partner outperforms them in a domain important to their self-concept.

A possible way to reconcile these competing hypotheses regarding responses to a partner's success or failure is to separately examine self-esteem outcomes for men and women. This is the focus of the present research. Although there is little direct evidence for gender differences, there is reason to suspect that women might react more favorably (the "basking in reflected glory hypothesis") and that men might react less favorably (the "zero-sum game hypothesis") to a partner's success. We further explicate this argument below.

Possible Gender Differences in Reactions to a Romantic Partner's Success or Failure

Using Tesser and Campbell's (1982) paradigm to examine gender differences in self-esteem maintenance, Gardner, Gabriel, and Hochschild (2002, Experiment 1) found evidence for self-esteem maintenance among men, but not among women. Men predicted poorer performance for a friend on a self-relevant task (GRE) than on an irrelevant task (trivia), whereas women did not show this pattern (see Pilkington, Tesser, & Stephens, 1991, for a similar gender difference). Gardner et al. reasoned that (a) women see themselves in terms of their relationships with close others to a greater degree than men do (Cross & Madson, 1997; Gabriel & Gardner, 1999), and (b) to the extent that a close other (e.g., close friend, romantic partner) is part of who they are, a close other's success, even in a self-relevant domain, does not pose a threat to their self-worth. In contrast, a close other's success in a self-relevant domain is a threat to men's self-esteem. This finding provides initial support for the hypothesis that a romantic partner's success would hurt men's, but not women's, self-esteem.

In addition to gender differences in including one's partner in the self, we believe that the success of the partner might harm men's self-esteem more than women's in part because men tend to value agentic traits (e.g., competence) more than women do (Guimond, Chatard, Martinot, Crisp, & Redersdorff, 2006; Helgeson, 1994). Researchers have found also that men tend to exaggerate their agentic traits, whereas women tend to exaggerate communal traits (Paulhus & John, 1998). To the extent that competence is a more central to men's self-perceptions than to women's, men's self-esteem is more likely to be negatively affected when their competence is in question.

Relatedly, men tend to be more competitive than women (Buss, 2004; Maccoby, 1998). Maccoby (2002) argues that, from a very young age, boys' playtime interaction tends to be marked by dominance-striving. Competition within social groups is a way for boys to "prove their worth." Young girls also pursue individual goals within social groups, but tend to do so while simultaneously striving to maintain group harmony. Liening, Mehta, and Josephs (in press) argue that men's greater competitiveness arises from a combination of patriarchal social structures, evolution benefitting aggressive men, and differences in the underlying biological mechanisms that drive men's and women's behavior.

A similar argument is that self-esteem might be impacted when one fails to fulfill the roles ascribed to one's gender. For men, this includes being independent, autonomous, and better than others (Josephs, Markus, & Tafarodi, 1992). Further, gender is strongly associated with widely shared stereotypes. Men are typically associated with success and competence; women are largely assumed to be less competent and less achievement-oriented; even when women are successful, their abilities are often downplayed by others (Eagly & Karau, 2002). Gender stereotypes would therefore suggest that it is more acceptable for a woman to have a successful male partner than it is for a man to have a successful female partner. Having internalized such stereotypes, men's self-esteem might be particularly threatened by a female partner's success.

Research Overview

In the present research, we examined gender differences in the influence of a romantic partner's success or failure on implicit and explicit self-esteem. Although the self-evaluation maintenance model has produced a considerable literature, the present research is unique in at least four ways.

First, in the present work we examine the effects of comparison on self-esteem, which is defined as an overall sense of personal worth. Most previous studies have not measured self-esteem as an outcome; instead, many use psychological distance and perceived validity and importance of the task as dependent variables (see Tesser & Martin, 2006, for a review).

Second, in the present work we set out specifically to test for gender differences in response to a romantic partner's success or failure. Research other than that by Gardner et al. (2002) has not directly, intentionally, and systematically investigated such gender differences. Because men and women have different social roles, different expectations for their close relationships, and different responses to competition, it is likely that men and women's self-esteem is differentially impacted by a romantic partner's success or failure.

Third, we test whether a romantic partner's success or failure influences one's own self-esteem, *even if no comparison information is available.* As mentioned previously, the literature on comparison within romantic relationships tends to focus on the outcome of one partner performing better or worse than the other rather than on reaction to a partner's success or failure in the absence of a comparison (Gardner et al., 2002; Lockwood, Dolderman, Sadler, & Gerchak, 2004; Pinkus, Lockwood, Schimmack, & Farnier, 2008). One exception is a study by McFarland, Buehler, and MacKay (2001; Experiment 3) where participants were asked to imagine a scenario in which a close, semiclose, or distant other performed well or poorly. The participant received either explicit comparison information (information about one's own performance and the other's performance) or implicit comparison information (information only about the other's performance). They found that negative affect was the highest when people made explicit comparisons with distant others and was lowest when people made implicit comparisons with close others. While this finding is somewhat inconsistent with the idea that men's self-esteem would be negatively impacted by the success of a romantic partner, the present research differs from that study in several ways. Most importantly, the sample in their study consisted of only 25% men (resulting in less than five men in each experimental condition—not enough to test for gender differences). Also, participants were asked to imagine the outcome of a close other, but not necessarily a romantic partner. And, more substantially, those re-

searchers measured (self-reported) affect as their dependent measure rather than (implicit) self-esteem. That those participants reported feeling happy for a close other who succeeds might indicate that people feel that they are *supposed* to feel happy about a close others' success.

This brings us to the fourth—and arguably the most important—way that the present work is different from previous research. Importantly, we examine explicit self-esteem (conscious, self-reported self-evaluations) *and* implicit self-esteem (self-evaluations that occur outside of conscious awareness). Implicit and explicit self-esteem have been argued to be independent constructs (Greenwald & Banaji, 1995) that uniquely predict different social behaviors (Bosson, Swann, & Pennebaker, 2000; Greenwald & Farnham, 2000; Jordan, Spencer, & Zanna, 2002; Spalding & Hardin, 1999).

Tesser (1988) argues that it is not useful to study self-esteem in the context of the self-evaluation maintenance model because reports of self-esteem require self-report and therefore have "limited utility" (p. 209; see also Tesser, 2000). Implicit self-esteem is important methodologically and theoretically because it bypasses some of the problems of self-report (e.g., social desirability concerns, lack of self-knowledge; see Nosek, 2005). For instance, social norms and personal values might prevent men's expression of a negative response to a partner's success (or positive response to her failure). However, an implicit measure of self-esteem could capture the feeling even if it goes unacknowledged and unreported (to the self or others). Thus, our prediction is that the success of the partner will hurt men's self-esteem more than women's when self-esteem is measured implicitly.

We conducted five studies to test our central hypothesis that a romantic partner's success will hurt men's—but not women's—implicit self-esteem. We also examined the consequences for partners' optimism about the future of their relationship (Study 4) and relationship satisfaction (Study 5). In Experiment 1, we gave participants false feedback about their partner's performance on a "test of social intelligence." After being told that their romantic partner had performed in the top 12% (success condition) or in the bottom 12% (failure condition) of undergraduates, participants' own implicit self-esteem was measured with an Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998). In Experiment 2, we tested our hypothesis with Dutch participants who described a time that their romantic partner had succeeded or failed. Experiment 3 used a Single-Category Implicit Association Test (SC-IAT: Karpinski & Steinman, 2006) to measure Dutch men's implicit self-esteem after describing a romantic partner's success or failure. Experiment 4 examined whether the domain of a partner's success or failure influenced implicit self-esteem for men and women and, finally, Experiment 5 tested the hypothesis that men will respond to "my partner is successful" in the same way that they respond to "my partner is *more* successful *than me*," suggesting a potential explanation for the finding of gender differences in (implicit) self-esteem following a romantic partner's success or failure.

Experiment 1

Participants

Participants were 32 undergraduate heterosexual dating couples from the University of Virginia (total $N = 64$). They participated either to partially fulfill a course requirement or for $8 payment.

The mean age of participants was 18.9 years ($SD = 1.52$). The average relationship length was 10 months and did not moderate any study results.

Design and Procedure

Partners were seated in separate, adjacent rooms when they arrived at the laboratory. They first completed demographic and relationship satisfaction items. Participants were asked to indicate their agreement with four statements designed to assess overall satisfaction with the romantic relationship. The items were (a) "I am happy with my current partner," (b) "I am optimistic about the future of this relationship," (c) "I have a strong relationship with my partner," and (d) "My relationship with my partner is rewarding." The items were answered on a 7-point scale ranging from (-3) *Strongly Disagree* to (3) *Strongly Agree* (Cronbach's alpha = .82).

Each participant was then given a test that was described as a "test of problem solving and social intelligence" (developed by Whitchurch & Wilson, 2007; see Appendix A for instructions and a sample item). The "test" consisted of five scenarios describing some difficulty an individual was having at home or work and the advice given by two different counselors about how the person might deal with that problem. Participants were told that there was a correct answer, determined by actual counselors, and that their total "problem solving and social intelligence" score was the number of times that they agreed with the advice chosen by the professionals and correctly predicted the outcome of the patient.

After taking a brief period of time to "score" the tests, the experimenter went to each partner individually and told them that their romantic partner had scored in either the top 12% of University of Virginia students (positive partner-feedback condition) or the bottom 12% of University of Virginia students (negative partner-feedback condition). The feedback was randomized across all participants, not across partners, meaning that some participants received the same feedback that their partner did and some participants received different feedback than their partner did. No information was given to the participants about their own performance. Extensive debriefing revealed that all but two participants believed the feedback. Data from those two participants were dropped from analysis. After receiving the feedback about their partner's performance, participants completed measures of their own implicit and explicit self-esteem (order counterbalanced across participants).

Dependent Measures

Implicit self-esteem. The Implicit Association Test (IAT; Greenwald et al., 1998) has been widely used as a measure of implicit self-esteem (e.g., Greenwald & Farnham, 2000) and other self-concepts (Asendorpf, Banse, & Mücke, 2002). The self-esteem IAT assesses associations among two concept categories (self and other) and two evaluative attributes (good and bad) by requiring that participants categorize stimulus items representing the four categories as quickly as possible using two keys of a computer keyboard. The IATs consisted of seven trial blocks following the recommendation of Nosek, Greenwald, and Banaji (2005). Analysis with the *D* algorithm (Greenwald, Nosek, & Banaji, 2003) had the following features: response latencies < 400

ms were removed, and trial latencies were calculated from the beginning of the trial until the time of a correct response. The IAT was scored such that positive scores indicate a stronger association between self + good and other + bad relative to self + bad and other + good; that is, higher scores indicate higher implicit self-esteem. The split-half IAT reliability was .68. No participants were excluded for too-high error rates (greater than 40% on any block or greater than 30% overall).

Explicit self-esteem. Global explicit self-esteem was measured using the Rosenberg (1965) Self-Esteem Scale (RSE). The RSE consists of 10 statements related to overall feelings of self-worth. The items were answered on a 4-point scale ranging from (1) *Strongly Disagree* to (4) *Strongly Agree* (Cronbach's alpha = .77).

Results and Discussion

Relationship satisfaction. Overall, participants reported being quite satisfied with their romantic relationship ($M = 1.37$, $SD = 0.61$), and there was no difference in relationship satisfaction for men ($M = 1.41$, $SD = 0.65$) compared to women ($M = 1.32$, $SD = 0.58$), $t(60) = 0.57$, $p = .57$, $d = 0.15$). Relationship satisfaction did not moderate any of the results reported below.

Implicit self-esteem. Because participants were nested within a couple, individual responses are not independent. Thus, we analyzed implicit self-esteem with a multilevel random coefficient model analysis using the HLM 6.04 program (Raudenbush, Bryk, & Congdon, 2004). The Level 1 (within-couple) equation was implicit self-esteem = β_0 + β_1*partner feedback condition + β_2*participant's gender + β_3*feedback-by-gender interaction + r. Feedback condition was coded such that partner negative condition was -1 and partner positive condition was $+1$. Gender was coded such that men were -1 and women were $+1$. There were no Level 2 (between-couple) level predictors. There were no main effects of gender ($\beta_2 = -0.047$, $SE = 0.037$), $t(58) = -1.29$, ns, or feedback condition ($\beta_1 = -0.027$, $SE = 0.038$), $t(58) = -0.714$, ns.

As predicted, however, there was a significant interaction between gender and feedback condition ($\beta_3 = -0.09$, $SE = 0.043$), $t(58) = -2.18$, $p < .05$. Men had marginally more positive self-esteem in the Negative Partner-Feedback condition ($M = 0.47$, $SD = 0.43$) than in the Positive Partner-Feedback condition ($M = 0.25$, $SD = 0.47$), $t(28) = 1.71$, $p = .08$, $d = 0.32$. There was not a significant difference in implicit self-esteem between those women in the Negative Partner-Feedback condition ($M = 0.39$, $SD = 0.26$) and those women in the Positive Partner-Feedback condition ($M = 0.51$, $SD = 0.30$), $t(30) = -1.20$, $p = .24$, $d = 0.22$. See Figure 1 for a graph of the implicit self-esteem results by condition.

Explicit self-esteem. We repeated the above HLM analysis with explicit self-esteem as the dependent variable. There were no main effects of gender ($\beta_2 = 0.002$, $SE = 0.032$), $t(58) = 0.08$, ns, or feedback condition ($\beta_1 = -0.028$, $SE = 0.032$), $t(58) = -0.89$, ns. As predicted, there was no interaction between gender and feedback condition on explicit self-esteem ($\beta_3 = .021$, $SE = 0.032$), $t(58) = 0.646$, ns. See Figure 1 for a graph of the explicit self-esteem results by condition.

In sum, receiving positive or negative feedback about one's romantic partner's performance on a test of intelligence did not
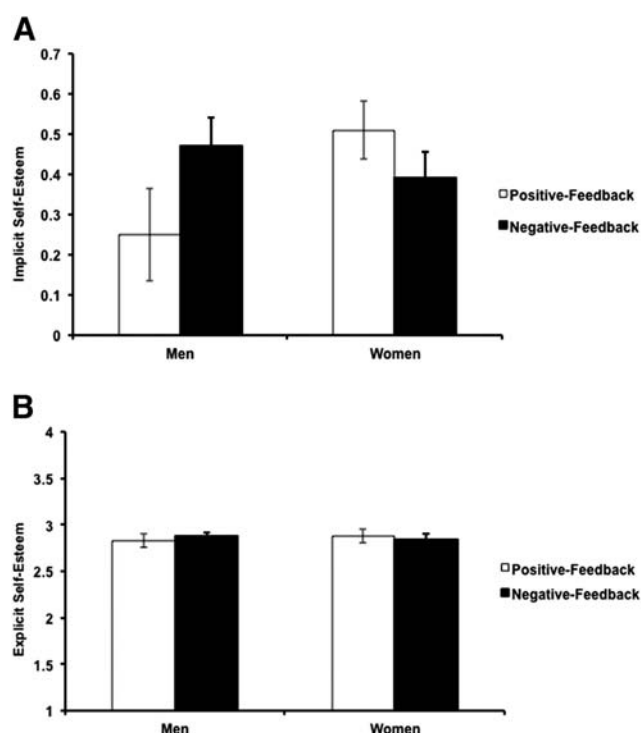

Figure 1. Implicit (IAT; A) and explicit (RSE; B) self-esteem in Experiment 1 by participant gender and type of feedback given about the romantic partner. Higher scores indicate higher self-esteem (explicit scale ranges from 1 to 4). Bars indicate the standard error around the mean. IAT = Implicit Association Test; RSE = Rosenberg Self-Esteem Scale.

affect the self-reported self-esteem of men or women. On the other hand, men who believed that their partner scored in the top percentile of participants had marginally lower implicit self-esteem than men who believed that their partner scored in the bottom percentile of participants.

Experiment 2

Most of the previous research on gender differences in social comparison comes from North America. Because men and women in the United States share cultural gender socialization and expectations about gender roles (Eagly & Wood, 1999), the gender differences we observed in this experiment might be specific to our American sample. In order to test the generalizability of gender differences in the effect of the partner's success or failure on one's self-esteem, we conducted the following two studies in the Netherlands. Although the United States and the Netherlands are both "Western" countries, they do differ in some potentially important ways. On the United Nations' (2011) Gender Equality Index, which ranks 187 nations on smallest-to-largest gender gap in five domains (educational attainment, labor force participation, parliamentary representation, adolescent fertility, and maternal mortality), the Netherlands was ranked 2 overall (and the United States ranked 47), though it is important to note that about 75% of Dutch working women are part-time workers (Bosch, Van Ours, & Van der Klaauw, 2009). Conducting this research with the Dutch sample simply makes our findings more generalizable than relying

solely on U.S. samples, and replicating our findings in this context would suggest that our findings are robust across different gender and achievement climates.

Participants

Participants were 122 undergraduate students from Tilburg University (99 women, 23 men) who indicated that they were in a heterosexual dating relationship. They participated to partially fulfill a course requirement or for €7 ($10) payment. The average length that participants had been in their romantic relationship was 6 months. Relationship length did not moderate any study result.

Design and Procedure

Upon arriving at the laboratory participants were told that the experiment was designed to study various influences on relationship satisfaction. To make the cover story more plausible, participants completed a wide variety of questionnaires about their relationship and about their partner, including the four relationship satisfaction items from Experiment 1. During the part of the study relevant to the current research, participants were told the following (manipulation in bold):

> There are different domains in which a person could succeed or fail. For example, someone at a party might be charming when meeting new people, but disastrous on the dance floor. Or someone could be great at solving algebra problems, but ruin every meal they try to cook. At this time, we would like for you to think and write about a time when your partner **succeeded (failed)** at something. It could be something big or small, but it should be a specific event that you consider to be a real **success (failure)**.

Underneath the last line of instructions was a text box for the response. After writing about their partner's success or failure, participants completed the measure of their own implicit self-esteem and then the measure of their own explicit self-esteem.

Dependent Measures

Implicit self-esteem. The measure of implicit self-esteem used in this study was identical to that of Experiment 1. The IAT was scored such that positive scores indicate a stronger association between self + good and other + bad relative to self + bad and other + good; that is, higher scores indicate higher implicit self-esteem. The split-half IAT reliability was .59. No participants were excluded for too-high error rates (greater than 40% on any block or greater than 30% overall).

Explicit self-esteem. Participants reported their global self-esteem by responding to the question, "Overall, how bad or good do you feel about yourself" on a scale ranging from -3 (*Very Bad*) to $+3$ (*Very Good*). Previous research has shown that the single-item self-esteem measure like this is highly correlated with multiple-items self-esteem scales such as the Rosenberg Self-Esteem Scale (rs > .70 in Robins, Hendin, & Trzesniewski, 2001).

Results and Discussion

Relationship satisfaction. Overall, participants reported being quite satisfied with their romantic relationship ($M = 1.42$, $SD = 0.62$), and there was no difference in relationship satisfac-

tion for men ($M = 1.34$, $SD = 0.94$) compared to women ($M = 1.43$, $SD = 0.53$), $t(119) = 0.61$, $p = .54$, $d = 0.12$). Relationship satisfaction did not moderate any of the results reported below.

Implicit self-esteem. A 2 (Participant Gender: Male or Female) × 2 (Condition: Partner-Success or Partner-Failure) between-subjects analysis of variance (ANOVA) was used to test the effect of thinking about one's romantic partner succeeding or failing on one's own implicit self-esteem. There was no main effect of gender on implicit self-esteem $F(1, 121) = 0.64$, $p = .43$, $\eta_p^2 = .01$. There was a significant main effect of condition on implicit self-esteem such that participants had higher implicit self-esteem after thinking about a time when their partner failed ($M = 0.62$, $SD = 0.34$) than after thinking about a time when their partner succeeded ($M = 0.55$, $SD = 0.32$), $F(1, 121) = 4.90$, $p = .03$, $\eta_p^2 = .04$.

Most important, replicating Experiment 1, the main effect of condition on implicit self-esteem was qualified by a significant interaction between participant gender and condition, $F(1, 121) = 4.84$, $p = .03$, $\eta_p^2 = .04$ (see Figure 2). Men had significantly higher implicit self-esteem after thinking about a time when their partner failed ($M = 0.71$, $SD = 0.43$) than after thinking about a time when their partner succeeded ($M = 0.37$, $SD = 0.23$), $t(21) = 2.23$, $p = .04$, $d = 0.99$. Women, on the other hand, had no difference in implicit self-esteem after thinking about a time when their partner failed ($M = 0.62$, $SD = 0.32$) than after thinking about a time when their partner succeeded ($M = 0.62$, $SD = 0.32$), $t(97) = 0.01$, $p = .99$, Cohen's $d < 0.001$.
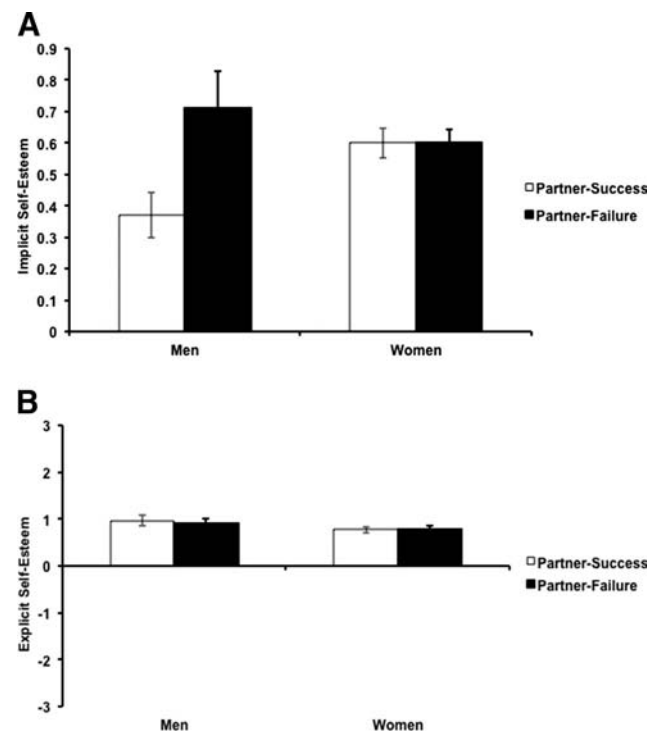

Figure 2. Implicit (IAT; A) and explicit (single-item; B) self-esteem in Experiment 2 by participant gender and the type of partner-outcome imagined. Higher scores indicate higher self-esteem (explicit scale ranges from -3 to 3). Bars indicate the standard error around the mean. IAT = Implicit Association Test.

Explicit self-esteem. A 2 (Participant Gender: Male or Female) × 2 (Condition: Partner-Success or Partner-Failure) between-subjects ANOVA was used to test the effect of thinking about one's romantic partner succeeding or failing on one's own explicit self-esteem. There were no main effects of gender, $F(1, 120) = 1.79$, $p = .18$, $\eta_p^2 = .02$, or feedback condition, $F(1, 120) = 0.07$, $p = .80$, $\eta_p^2 = .001$. As expected, there was no gender-by-feedback condition interaction in predicting explicit self-esteem, $F(1, 120) = 0.12$, $p = .73$, $\eta_p^2 = .001$ (see Figure 2).

In sum, the results of Experiment 2 replicated the pattern of results from Experiment 1 in the Netherlands. Like American men, Dutch men who thought about their romantic partner's success had lower implicit self-esteem than men who thought about their romantic partner's failure.

Experiment 3

A possible limitation of the first two studies is that the IAT used to measure implicit self-esteem is a relative measure; it measures self + good associations *relative to* other + good associations. Although it has been shown that "other" is a useful category for self-esteem IATs (Pinter & Greenwald, 2005; but see Karpinski, 2004), and the "other" stimuli in the current research were designed to represent a nonspecific other, it could be argued that participants had their romantic partner in mind as the other while completing the IAT. In that case, what looks like decreased implicit self-esteem for men who thought about a time that their partner succeeded could actually reflect a stronger other + good association rather than a weaker self + good association. Experiment 3 was designed to address this alternative explanation with a nonrelative measure of implicit self-esteem.

Participants

Participants were 53 male undergraduate students from Tilburg University.[1] After finishing an unrelated study, men who indicated that they were in a heterosexual dating relationship were asked to participate in this experiment for an additional €2 ($3). The average length that participants had been in their romantic relationship was 10.8 months.

Study Design and Procedure

Participants were asked to write about a time that their romantic partner succeeded or failed following the instructions and procedure described in Experiment 2.

Dependent Measures

Implicit self-esteem. Participants' implicit self-esteem was measured using a single-category Implicit Association Test (SC-IAT; Karpinski & Steinman, 2006). The SC-IAT measures the strength of evaluative associations (good/bad) with a single attitude object (Self). A SC-IAT score was computed by log-transforming latencies of the critical trials, removing errors and nonresponses removed, and averaging the remaining latencies. Data from one participant was not used because of a too-high error rate (greater than 30% overall). A self-esteem SC-IAT score was obtained by subtracting the self + good block response times from the self + bad block response times so that a positive scores indicates a stronger association between the self + good relative to the self + bad.

Explicit self-esteem. As in Experiment 2, participants reported their overall self-evaluation by responding to the question, "Overall, how bad or good do you feel about yourself" on a scale ranging from −3 (*Very Bad*) to +3 (*Very Good*).

Results and Discussion

Relationship satisfaction. Overall, participants reported being quite satisfied with their romantic relationship on the same relationship satisfaction scale used in Experiments 1 and 2 ($M = 1.80$, $SD = 1.20$). As in Experiments 1 and 2, relationship satisfaction did not moderate any of the results reported below.

Implicit self-esteem. An independent samples t test was conducted to determine the influence of thinking about one's romantic partner succeeding or failing on men's own implicit self-esteem. As expected, men who thought about a time that their partner failed had significantly higher implicit self-esteem ($M = 0.40$, $SD = 0.39$) than men who thought about a time that their partner succeeded ($M = 0.18$, $SD = 0.38$), $t(50) = 2.03$, $p = .048$, Cohen's $d = 0.57$.

Explicit self-esteem. Replicating the findings from Experiments 1 and 2, there was not a significant differences in men's explicit self-esteem based on whether they thought about a time that their partner succeeded ($M = 0.93$, $SD = 1.79$) or failed ($M = 0.71$, $SD = 2.16$), $t(51) = 0.41$, $p = .68$, Cohen's $d = 0.11$.

By using a Single-Category IAT as the dependent measure we were able to demonstrate unambiguously that men who thought about their romantic partner's success had lower implicit self-esteem than men who thought about their romantic partner's failure. Removing the "Other" category makes it clear that it is the self -evaluation that shifts based on imagined partner success or failure.

Experiment 4

In the first three experiments, we did not examine whether the domain of a partner's success or failure would affect participants' reaction to the partner's success or failure. In Experiment 1, we only assessed participants' reaction to the partner's success or failure in the "social intelligence" test. In Experiments 2 and 3, participants were allowed to write on any domains in which their partner either succeeded or failed. It is quite possible that, consistent with the self-evaluation maintenance model (Tesser, 1988), men might show a particularly competitive attitude toward their partner in one domain (e.g., intelligence) more than another domain (e.g., social relationships).[2] We

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[1] We sampled only male participants in this experiment primarily for pragmatic reasons. Participants were tested individually and were paid for their participation (rather than being part of the general participant pool). Because we had already demonstrated that women's implicit self-esteem does not differ based on partner success/failure, our priority was to disentangle the effect for men.

[2] We have data from an unpublished study in which we ask 45 men how relevant social and academic success are to their self-esteem ("How relevant is social success to your self-esteem?" and "how relevant is academic success to your self-esteem"?) on 7-point scales ranging from (1) "*Very irrelevant*" to (7) "*Very relevant*." Men report that academic success ($M = 5.93$, $SD = 1.23$) is more relevant to their self-esteem than social success ($M = 5.42$, $SD = 1.39$), paired $t(44) = 2.20$, $p = .03$. The correlation between the two items was $r = .30$, $p = .03$.

conducted Experiment 4 to test whether the domain of a partner's success/failure (i.e., an intellectual domain vs. social domain) would moderate the gender differences in the effect of a partner's success on one's implicit self-esteem. Further, we collected data online, which allows us to test our hypotheses with an older and more diverse sample of participants. Finally, in addition to implicit and explicit self-esteem, we also examined whether imagining a partner's success or failure would influence participants' views about the future of their romantic relationship, which would show that the gender differences have important consequences for relationships.

Participants

Participants were volunteers at the Project Implicit research website (https://implicit.harvard.edu) who were randomly assigned to this study from the available pool of approximately 30 studies. In all, 236 women and 93 men completed our study (M_{age} = 28.4 years; $M_{relationship\ length}$ = between 3 and 4 years). Of the 329 total participants, all were U.S. citizens; 10% were Hispanic/Latino, 74% were not Hispanic/Latino, and 16% did not answer the question about their ethnicity. A separate question assessed participant race; 5.8% were African American, 7.3% were Asian American, 73.3% were white, and 13.6% were another race or did not report their race.

Study Design and Procedure

At the beginning of the study, participants were told that the experiment was designed to study various influences on relationship satisfaction. After answering the four relationship satisfaction items used in the previous experiments, participants were told the following (manipulation in bold):

> There are different domains in which a person could succeed or fail. For example, someone at a party might be charming when meeting new people, but disastrous on the dance floor. Or someone could be great at solving algebra problems, but ruin every meal they try to cook. At this time, please focus only on **the intellectual, academic (social, interpersonal)** domain. We would like for you to think and write about a time when your partner **succeeded (failed)** at something in that realm. It could be something big or small, but it should be a specific event that you consider to be a real **success (failure)**.

Underneath the last line of instructions was a text box for the response. Participants then completed the implicit and explicit self-esteem measures.

Dependent Measures

Implicit self-esteem. The measure of implicit self-esteem used in this study was identical to that of Experiments 1 and 2. The IAT was scored such that positive scores indicate a stronger association between self + good and other + bad relative to self + bad and other + good; that is, higher scores indicate higher implicit self-esteem. The split-half IAT reliability was .61. Eleven participants (3%) were excluded for too-high error rates (greater than 40% on any one block or greater than 30% overall).

Explicit self-esteem. Participants again reported their global self-esteem by responding to the question, "Overall, how bad or good do you feel about yourself" on a scale ranging from −3 (*Very Bad*) to +3 (*Very Good*).

Prediction about relationship future. Participants were asked to indicate their agreement with the statement, "I believe my romantic partner and I will still be together five years from now" on a scale ranging from −3 (*Strongly Disagree*) to 3 (*Strongly Agree*).

Results and Discussion

Relationship satisfaction. Overall, participants reported being quite satisfied with their romantic relationship (M = 2.13, SD = 1.18), and there was no difference in relationship satisfaction for men (M = 2.26, SD = 0.94) compared to women (M = 2.08, SD = 1.18), $t(328)$ = −1.24, p = .21, d = −0.16). Relationship satisfaction did not moderate any of the results reported below.

Implicit self-esteem. A 2 (Participant Gender: Male or Female) × 2 (Condition: Partner-Success or Partner-Failure) × 2 (Domain: Academic or Social) between-subjects ANOVA was used to test the effect of thinking about one's romantic partner succeeding or failing on one's own implicit self-esteem. There was no main effect of gender on implicit self-esteem; men (M = 0.55, SD = 0.42) and women (M = 0.58, SD = 0.33) did not differ in overall implicit self-esteem, $F(1, 318)$ = 0.53, p = .47, η_p^2 = .002. There was a significant main effect of condition on implicit self-esteem such that participants had higher implicit self-esteem after thinking about a time when their partner failed (M = 0.61, SD = 0.34) than after thinking about a time when their partner succeeded (M = 0.23, SD = 0.37), $F(1, 318)$ = 7.96, p = .01, η_p^2 = .03.

Consistent with Experiments 1 to 3, however, the main effect of condition was again qualified by the interaction between participant gender and condition, $F(1, 318)$ = 5.33, p = .02, η_p^2 = .03 (see Figure 3). Men had higher implicit self-esteem after thinking about a time when their partner failed (M = 0.67, SD = 0.35) than after thinking about a time when their partner succeed (M = 0.43, SD = 0.46), $t(87)$ = 2.79, p = .01, d = 0.59. Women, on the other hand, had no difference in implicit self-esteem after thinking about a time when their partner failed (M = 0.57, SD = 0.32) compared to when their partner succeeded (M = 0.59, SD = 0.35), $t(228)$ = −0.036, p = .72, d = 0.06.

There was a main effect of the domain of the romantic partner's success or failure (regardless of whether they were in the success or failure condition) such that participants who thought about their partner's outcome in the academic domain had higher implicit self-esteem (M = 0.62, SD = 0.36) than those who thought about their partner's outcome in the social domain (M = 0.54, SD = 0.36), $F(1, 317)$ = 6.45, p = .01, η_p^2 = .03. However, the domain of the romantic partner's success or failure did not interact with gender or condition to influence implicit self-esteem (all η_p^2s < .001).

Explicit self-esteem. A 2 (Participant Gender: Male or Female) × 2 (Condition: Partner-Success or Partner-Failure) × 2 (Domain: Academic or Social) between-subjects ANOVA was used to test the effect of thinking about one's romantic partner succeeding or failing on one's own explicit self-esteem (see Figure 3). As in the previous experiments, there were no main effects of gender, condition, or domain in predicting explicit self-esteem, nor did any variable interact with any other variable to predict explicit self-esteem (all η_p^2s < .001).
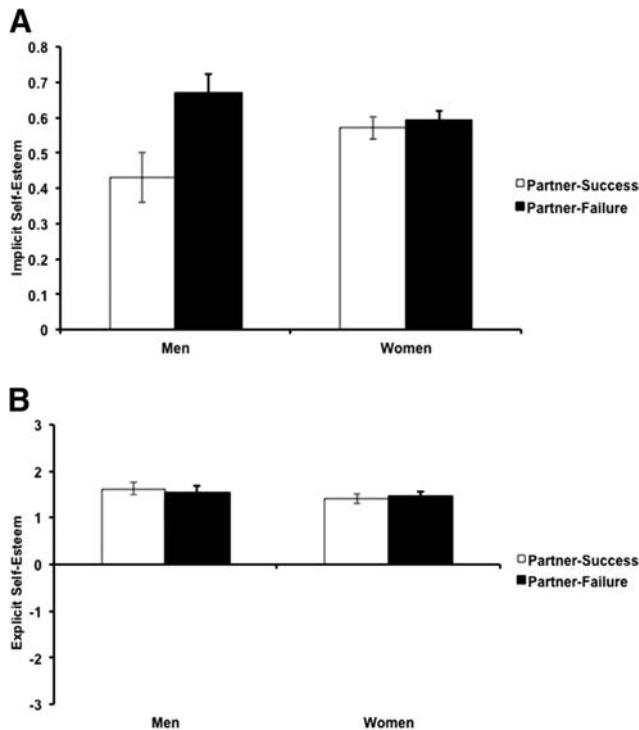
Figure 3. Implicit (IAT; A) and explicit (single-item; B) self-esteem in Experiment 4 by participant gender and the type of partner-outcome imagined (collapsed across domain type). Higher scores indicate implicit self-esteem (explicit scores range from −3 to 3). Bars indicate the standard error around the mean. IAT = Implicit Association Test.

Prediction about the future of the relationship. A 2 (Participant Gender: Male or Female) × 2 (Condition: Partner-Success or Partner-Failure) × 2 (Domain: Academic or Social) between-subjects ANOVA was used to test the effect of thinking about one's romantic partner succeeding or failing on one's prediction that they will still be in a romantic relationship with their partner in 5 years. As predicted, there was a significant interaction between gender and condition, $F(1, 325) = 6.32$, $p = .01$, $\eta_p^2 = .02$. Although there were not differences in the simple effects, the overall pattern of the interaction suggests that predictions about the future of the relationship are pushed in opposite directions for men and women. When women thought about a time that their partner succeeded ($M = 2.34$, $SD = 1.28$) there was a trend in the direction of being more optimistic than when they thought about a time that their partner failed ($M = 2.11$, $SD = 1.55$), $t(226) = 1.22$, $p = .22$, $d = 0.16$. On the other hand, when men thought about a time that their partner succeeded ($M = 2.09$, $SD = 1.47$) there was a trend in the direction of being less optimistic than when they thought about a time that their partner failed ($M = 2.50$, $SD = 1.22$), $t(86) = 1.42$, $p = .15$, $d = -0.30$.

In sum, replicating the pattern of results from Experiments 1–3, men who thought about their romantic partner's success had lower implicit self-esteem than men who thought about their romantic partner's failure, regardless of whether the success/failure was in the intellectual, academic domain or the social, interpersonal domain. Further, men who thought about their partner's success were

less optimistic about their romantic relationship in the future than men who thought about their partner's failure.

Experiment 5

The previous studies were designed to induce participants to think about a noncomparative partner-success or partner-failure; that is, we instructed them to think about a time that their partner succeeded or failed, but we said nothing about their own performance in that situation. However, because men are generally more competitive than women (Buss, 2004), it is possible that when men think of a partner's success, they are automatically prompted to think of their own failure. So, we might expect to see similarly sized effects for a condition in which men think about a time that a partner succeeded and a condition in which when men think about a time that a partner succeeded *and they personally failed*. Alternatively, we might expect that there would be a bigger decrease in men's (and women's) implicit self-esteem when they think about a time that their partner succeeded and they personally failed because a comparative focus invites attention to one's own negative performance. We tested these competing hypotheses in Experiment 5 with the addition of a direct comparison condition. Other changes in this experiment were that (a) relationship satisfaction was measured after the manipulation (rather than before) so that it could be used as a dependent measure, (b) we measured baseline implicit and explicit self-esteem in a group of participants who did not write anything about their romantic partner prior to measurement, and (c) explicit self-esteem was measured with the Rosenberg Self-Esteem Scale (RSE) as in Experiment 1.

Participants

Participants were volunteers at the Project Implicit research website (https://implicit.harvard.edu) who were randomly assigned to this study from the available pool of approximately 30 studies. In all, 137 women and 191 men completed our study ($M_{age} = 30.7$ years; $M_{relationship\ length} = 7$ years). Of the 328 total participants, all are U.S. citizens; 86.77% were not Hispanic/Latino, 8.1% were Hispanic/Latino, and 5.2% did not answer the question about their ethnicity. A separate question assessed participant race; 8.0% were African American, 5.8% were Asian American, 78.0% were white, and 8.2% were another race or did not report their race.

Study Design and Procedure

At the beginning of the study, participants were simply told that we are interested in understanding romantic relationships. Participants were then randomly assigned to one of five writing conditions where they were asked to write about (a) a time that your partner succeeded (Partner-Success), (b) a time that your partner failed (Partner-Failure), (c) a time that your partner succeeded and you failed (Partner-Better), (d) a time that your partner failed and you succeeded (Partner-Worse), (e) a typical day (control). Participants in the two noncomparative conditions (Partner-Success and Partner-Failure) saw the following (manipulation in bold):

> In the next part of the study, we would like for you to think about a time that your romantic partner **failed (succeeded).** There are different domains in which a person could succeed or fail. For example, someone at a party might be charming when meeting new people, but

disastrous on the dance floor. Or someone could be great at solving algebra problems, but ruin every meal they try to cook. It could be something big or small, but it should be a specific event that you consider to be a real **failure (success)** for your partner.

Participants in the two comparative conditions (Partner-Better and Partner-Worse) saw the following:

> In the next part of the study, we would like for you to think about a time that your romantic partner **failed (succeeded)** at something that you **succeeded (failed)** at. There are different domains in which a person could succeed or fail. For example, someone at a party might be charming when meeting new people, but disastrous on the dance floor. Or someone could be great at solving algebra problems, but ruin every meal they try to cook. It could be something big or small, but it should be a specific event that you consider to be a real **failure (success)** for your partner and **success (failure)** for you.

Underneath the last line of instructions was a text box for the response. Participants then completed the implicit and explicit self-esteem measures.

Dependent Measures

Implicit self-esteem.   The measure of implicit self-esteem used in this study was identical to that of Experiments 1, 2, and 4. The IAT was scored such that positive scores indicate a stronger association between self + good and other + bad relative to self + bad and other + good; that is, higher scores indicate higher implicit self-esteem. The split-half IAT reliability was .64. Twenty participants (6.0%) were excluded for too-high error rates (greater than 40% on any one block or greater than 30% overall).

Explicit self-esteem.   As in Experiment 1, explicit self-esteem was measured using the Rosenberg (1965) Self-Esteem Scale (Cronbach's alpha = .88).

Relationship satisfaction.   Participants were asked to indicate their agreement with eight statements regarding their satisfaction with their relationship on a scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Cronbach's alpha was .84. Examples

are items such as "I am happy with my current relationship" and "I often think about ending my relationship" (reverse coded). See Appendix B for the full list of relationship satisfaction items.

Results and Discussion

Analysis strategy.   We separately tested our hypotheses for implicit and explicit self-esteem and for men and women. For each sex we conducted a 2 (Outcome Condition: Partner-Success or Partner-Failure) × 2 (Comparison Condition: Comparative or Noncomparative) between-subjects ANOVA without the control condition. When there were significant main effects or interactions, we conducted single degrees-of-freedom contrasts to test the predicted differences against the control condition (as suggested by Jaccard, 1998; see Lammers, Galinsky, Gordijn, & Otten, 2012, for an example). See Figures 4 and 5 for all means by condition.

Men's implicit self-esteem.   To test the influence of comparative and noncomparative partner outcome on men's implicit self-esteem, we conducted a 2 (Outcome Condition: Partner-Success or Partner-Failure) × 2 (Comparison Condition: Comparative or Noncomparative) between-subjects ANOVA. Replicating the findings of the previous studies, there is the predicted main effect of outcome condition, $F(1, 128) = 4.96$, $p = .03$, $\eta_p^2 = .037$. Men who think about a time that their partner failed have higher implicit self-esteem ($M = 0.63$, $SD = 0.34$) than men who think about a time that their partner succeeded ($M = 0.50$, $SD = 0.38$).

The implicit self-esteem of men in the control condition ($M = 0.60$, $SD = 0.39$) falls between the implicit self-esteem of men in the partner-success ($M = 0.50$, $SD = 0.38$) and partner failure ($M = 0.63$, $SD = 0.34$) conditions, but does not differ significantly from either, $t(115) = 1.38$, $p = .16$, $d = 0.26$, and $t(105) = 0.42$, $p = .68$, $d = 0.08$, respectively. The slightly bigger effect of partner-success might indicate that thinking about a partner's success has a more negative effect on men's implicit self-esteem than thinking about a partner's failure has a positive effect on men's implicit self-esteem; however, this conclusion is tentative
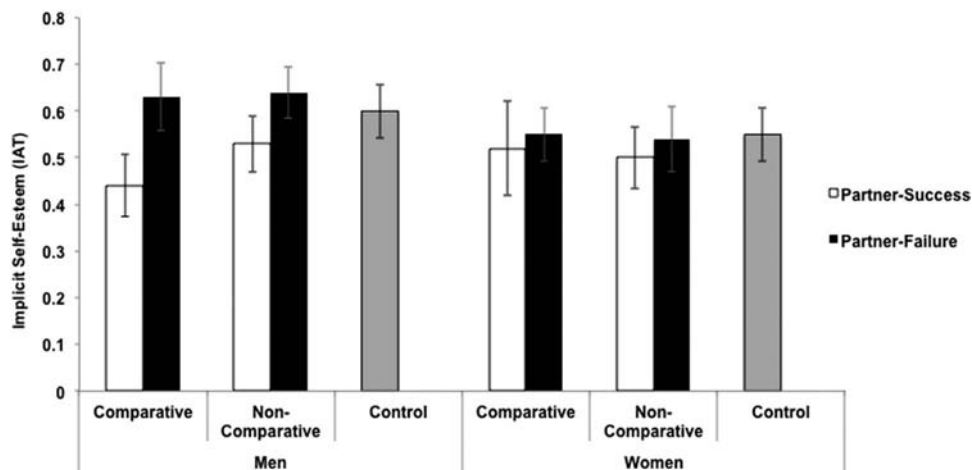

Figure 4.   Implicit (IAT) self-esteem in Experiment 5 by participant gender, partner outcome, and outcome type. Higher scores indicate higher implicit self-esteem. Bars indicate the standard error around the mean. IAT = Implicit Association Test.
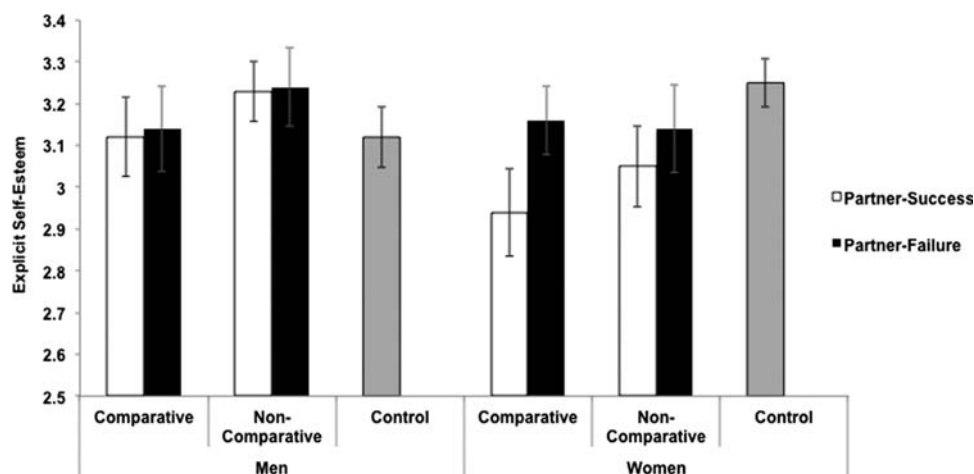
Figure 5. Explicit (RSE) self-esteem in Experiment 5 by participant gender, partner outcome, and outcome type. Higher scores indicate higher explicit self-esteem (scores range from 1 to 4). Bars indicate the standard error around the mean. RSE = Rosenberg Self-Esteem Scale.

given that neither condition differs significantly from the control condition.

There is no main effect of comparison condition, $F(1, 128) = 0.62$, $p = .43$, $\eta_p^2 = .005$, and no interaction between outcome condition and comparison condition, $F(1, 128) = 0.35$, $p = .56$, $\eta_p^2 = .003$. The lack of interaction indicates that thinking about a comparative and noncomparative partner success produced equally strong decreases in implicit self-esteem.

Women's implicit self-esteem. To test the influence of comparative and noncomparative partner outcome on women's implicit self-esteem, we conducted a 2 (Outcome Condition: Partner-Success or Partner-Failure) × 2 (Comparison Condition: Comparative or Noncomparative) between-subjects ANOVA. Replicating Experiments 1–4, for women, there is no main effect of outcome condition, $F(1, 93) = 0.28$, $p = .60$, $\eta_p^2 = .003$, there is no main effect of comparison condition, $F(1, 93) = 0.03$, $p = .87$, $\eta_p^2 < .0001$, and there is no interaction between them, $F(1, 93) = 0.01$, $p = .94$, $\eta_p^2 < .0001$. That is, unlike men, even when women were explicitly asked to think of the time when their partner succeeded *and* they themselves failed, their implicit self-esteem was not decreased.

Men's explicit self-esteem. To test the influence of comparative and noncomparative partner outcome on men's explicit self-esteem, we conducted a 2 (Outcome Condition: Partner-Success or Partner-Failure) × 2 (Comparison Condition: Comparative or Noncomparative) between-subjects ANOVA. Replicating Experiments 1–4, there is no main effect of outcome condition, $F(1, 127) = 0.01$, $p = .91$, $\eta_p^2 < .0001$; there is no main effect of comparison condition, $F(1, 127) = 1.15$, $p = .29$, $\eta_p^2 = .009$; and there is no interaction between them among men also, $F(1, 127) = 0.001$, $p = .98$, $\eta_p^2 < .0001$.

Women's explicit self-esteem. To test the influence of comparative and noncomparative partner outcome on women's explicit self-esteem, we conducted a 2 (Outcome Condition: Partner-Success or Partner-Failure) × 2 (Comparison Condition: Comparative or Noncomparative) between-subjects ANOVA. Again replicating Experiments 1–4, for women, there is no main effect of

outcome condition, $F(1, 93) = 1.99$, $p = .16$, $\eta_p^2 = .021$, there is no main effect of comparison condition, $F(1, 93) = 0.14$, $p = .71$, $\eta_p^2 = .002$, and there is no interaction between them $F(1, 93) = 0.58$, $p = .58$, $\eta_p^2 = .003$.

Men's relationship satisfaction. A 2 (Outcome Condition: Partner-Success or Partner-Failure) × 2 (Comparison Condition: Comparative or Noncomparative) between-subjects ANOVA revealed a significant main effect of outcome condition such that men who thought about a time that their partner failed reported being more satisfied with their romantic relationship ($M = 6.39$, $SD = 1.31$) than men who thought about a time that their partner succeeded ($M = 6.03$, $SD = 1.81$), $F(1, 127) = 4.23$, $p = .04$, $\eta_p^2 = .032$.

These main effects were qualified, however, by an interaction between outcome condition and comparison condition, $F(1, 127) = 6.32$, $p = .01$, $\eta_p^2 = .047$. Men in the comparative condition reported being more satisfied with their romantic relationship when they thought about a time that their partner failed (and they personally succeeded; $M = 6.52$, $SD = 0.81$) relative to when they thought about a time that their partner succeeded (and they personally failed; $M = 5.21$, $SD = 2.50$), $t(43) = 2.30$, $p = .03$, Cohen's $d = 0.70$. Men in the noncomparative condition did not report a difference in relationship satisfaction based on whether they thought about a time that their partner failed ($M = 6.33$, $SD = 1.51$) or a time that their partner succeeded ($M = 6.46$, $SD = 1.19$), $t(84) = 0.45$, $p = .66$, Cohen's $d = -0.10$.

Women's relationship satisfaction. 2 (Outcome Condition: Partner-Success or Partner-Failure) × 2 (Comparison Condition: Comparative or Noncomparative) between-subjects ANOVA revealed no significant main effect of outcome condition, $F(1, 93) = 0.23$, $p = .64$, $\eta_p^2 = .002$, or of comparison condition, $F(1, 93) = 0.71$, $p = .71$, $\eta_p^2 = .001$, on women's self-reported relationship satisfaction. There was, however, an interaction between outcome condition and comparison condition, $F(1, 93) = 6.38$, $p = .01$, $\eta_p^2 = .064$.

Women in the comparison condition who thought about a time that their partner failed (and they personally succeeded; $M = 6.52$,

SD = 1.26) did not differ in relationship satisfaction from women in the comparison condition who thought about a time that their partner succeeded (and they personally failed; M = 5.95, SD = 1.64), $t(43)$ = 1.32, p = .19, Cohen's d = 0.40. On the other hand, women in the noncomparative condition reported being more satisfied with their relationship after thinking about a time that their partner succeeded (M = 6.55, SD = 0.85) compared to thinking about a time that their partner failed (M = 5.71, SD = 1.71), $t(50)$ = 2.35, p = .02, Cohen's d = −0.66.

The results of this study replicated the pattern of results from the previous four studies, again demonstrating that men who thought about their romantic partner's success had lower implicit self-esteem than men who thought about their romantic partner's failure. Further, this effect on implicit self-esteem is similar for men who thought about a time that their partner succeeded and men who thought about a time that their partner succeeded *and they personally failed.* The lack of difference lends some support to the idea that men interpret "my partner is successful" as "my partner is more successful than me." That is, there is some evidence that men automatically interpret a partner's success as their own (relative) failure, although there was a nonsignificant tendency for the effect to be larger when the linkage between the partner's success and one's own failure was made explicit. As in the previous studies, neither men's or women's explicit self-esteem was affected by comparative or noncomparative partner outcome.

General Discussion

To our knowledge, the present research is the first demonstration that feedback about a romantic partner's performance can influence one's own implicit self-esteem. As predicted, we found that men's implicit self-esteem was lower when their partner succeeded than when their partner failed, whereas women's implicit self-esteem was not affected among American college students (Experiment 1). This finding was replicated in the Netherlands (Experiments 2 & 3), and with large samples of Internet participants who were older and more diverse than college student samples (Experiments 4 & 5). Interestingly, men's implicit self-esteem was lowered when their partner succeeded (relative to when their partner failed) in domains that were higher (academic) *and* lower (social) in relevance to their sense of self.

So why would men show reduced implicit self-esteem following their romantic partner's success? While we know that upward comparisons with more successful others can threaten self-evaluations (Collins, 1996; Wood, 1989) and that comparison effects tend to be stronger in close relationships (Tesser, 1988), participants in the first four studies were not asked to think about a time that their partner outperformed them, just one where their partner did well. One possibility is that, because men are generally more competitive than women (Buss, 2004), men are more likely than women to interpret a partner' success as indicating that they are not as good as their partner. The results from Experiment 5 provide support for this idea by showing that thinking about a time that the partner succeeded in a domain in which they personally failed impacts men's implicit self-esteem to the same extent as does thinking about a time that the partner succeeded. That is, there is some evidence that men automatically interpret a partner's success as their own (relative) failure.

Mussweiler, Ruter, and Epstude (2004) proposed that one of the primary factors that determines whether a self-evaluation will be assimilated toward another person or contrasted away from another person is whether one is focused on similarity or dissimilarity. If one engages in a comparison process of dissimilarity testing, focusing on ways in which he is different from his partner, contrast is likely to occur. On the other hand, if one engages in a comparison process of similarity testing, focusing on ways in which he is similar to his partner, assimilation is likely to occur. One possibility to test in future research is that men are more likely than women to focus on dissimilarity and women are more likely than men to focus on similarity. This would be consistent with previous findings that women are more concerned with communal behavior and with smoothing social interactions than men are (Cross & Madson, 1997; Gabriel & Gardner, 1999; Maccoby, 2002). So, if men are more likely to engage in dissimilarity testing than women are, it would make sense that we would see more contrast (which in this case would be implicit self-esteem decreasing down as a result of a romantic partner's success).

There are at least two other reasons why thinking about a partner's success might lead to decreased implicit self-esteem for men. One is that positive self-evaluation derives in part from fulfilling roles typically ascribed to one's gender (Josephs et al., 1992). There are strong gender stereotypes where men are typically associated with strength, competence, and intelligence; a partner's success, especially if it is construed as an own failure, is not compatible with the stereotype and could negatively impact self-esteem. Men portray themselves as being more competent than they actually are (Paulhus & John, 1998); being reminded of a time that their partner was successful might pose a threat to their own view of themselves, thus lowering their implicit self-esteem. There is an idea that women are allowed to bask in the reflected glory of her male partner and to be the "woman behind the successful man," but the reverse is not true for men. Support for this idea comes from the finding that women report higher levels of relationship satisfaction when they think about at time that their partner succeeded relative to a time that their partner failed, but men do not. Further, it suggests that (implicit or explicit) gender stereotyping and beliefs about appropriate gender roles might moderate the effect.

Similarly, having a partner who experiences a success might hurt men's implicit self-esteem because ambition and success are qualities that are generally important to women when selecting a mate (Buss, 2004; Wilbur & Campbell, 2010). So thinking of themselves as unsuccessful might trigger men's fear that their partner will ultimately leave them. Experiment 4 showed that men who thought about their partner's success were less optimistic about the future of the relationship than men who thought about their partner's failure. This idea is consistent with the risk regulation model (Murray, Holmes, & Collins, 2006), which says that people in romantic relationships must balance the goal of seeking closeness with a romantic partner against the risk of minimizing potential pain and rejection. When people (especially those low in self-esteem) perceive a threat to the self or to the relationship, they react by distancing themselves from their partner. It is possible that thinking about a romantic partner's success automatically triggers a fear in men that they are not good enough for their partner, which is then overridden by their more considered responses. This response might not be entirely off the mark as it was found in Study

5 that women do indeed feel more satisfied with their relationship when they think about a partner's success compared to when they think about a partner's failure.

It is important to reiterate that the partner's outcome only influenced men's implicit self-esteem. Men's explicit self-esteem was unaffected by partner outcome in all five studies, suggesting that a partner's success increases associations between self and bad (and/or failure increases association between self and good). There are (at least) two reasons why only implicit self-esteem would be affected by a partner's success or failure. One is a self-presentation explanation (Paulhus & John, 1998); men might not want to admit that they feel bad about their own competence when their partner succeeds. Another explanation is that men are simply unaware that their partner's success or failure impacts their positivity toward the self. We are quite good at both protecting our sense of self and protecting our romantic relationships without conscious awareness that we are doing so. It seems likely that, for the reasons described above, a partner's success hurts men's self-esteem but that other processes quickly kick in to override the blow. This could help to reconcile the current research with previous findings that show an increase in positive affect following a romantic partner's success (e.g., McFarland et al., 2001); perhaps the positive feelings that are reported serve to override the negativity of upward comparison. This is not to say, however, that implicit self-esteem is unimportant. A considerable body of research shows that implicit self-esteem, like other attitudes, does predict behavioral outcomes (see Greenwald, Poehlman, Uhlmann, & Banaji, 2009, for a review).

Limitations and Future Directions

Before concluding, it is important to acknowledge some of the notable limitations of our research. First, although we conducted experiments in the Netherlands and the United States, both are relatively Western, educated, industrialized, rich, and democratic (WEIRD) societies (Henrich, Heine, & Norenzayan, 2010). It is important to test whether the gender differences we observed will generalize more traditional societies. Secondly, our implicit self-esteem was assessed with IAT and its variant. It is desirable to extend our research on other measures of implicit self-esteem such as the name-letter effect (Kitayama & Karasawa, 1997; Pelham, Mirenberg, & Jones, 2002). Finally, although we collected data from noncollege student samples, the mean age of our participants was fairly young. An interesting future direction would be to look at the effects of partner success or failure on men who are older and who have been married longer. It is possible that the gender difference observed in these studies could be due to a difference between testosterone levels in men and women. As testosterone goes down with age (Ellison et al., 2002), and with marriage and parenting (Gettler, McDade, Feranil, & Kuzawa, 2011; Gray, Kahlenberg, Barrett, Lipson, & Ellison, 2002), it would be interesting to observe that a romantic partner's success has less adverse effects on the self-esteem of men who are older, married, and who have children.

In sum, men's implicit self-esteem is lower when a partner succeeds than when a partner fails, whereas women's implicit self-esteem is not. The results of the present studies have important implications for our understanding of self-esteem and romantic relationships. That is, a romantic partner's success in her life not only could lower men's implicit self-esteem but also could alter men's perception about their romantic relationship in the future. Further research should address whether men are less optimistic about the future of the relationship after thinking about a romantic partner's success because they plan to end the relationship themselves or because they think their partner will end the relationship. Because relationships are an important part of one's overall well-being (Oishi, 2012; Ryff & Keyes, 1995), and because commitment is one of the primary factors influencing whether a person stays in a relationship (Rusbult, 1983; Wieselquist, Rusbult, Foster, & Agnew, 1999), understanding the influence of a partner's success or failure on the self can be important for understanding what makes a successful relationship in the long run.

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Appendix A

Instructions and Sample Question From the Problem-Solving and Social Intelligence Test Used in Experiment 1 to Provide False Feedback to Participants About Their Romantic Partner's Performance

Instructions

The following pages contain real questions from people who were in counseling, followed by two answers to their questions from counselors. This questionnaire is actually a tool used as part of a large, ongoing project to train counseling psychologists. For the training sessions, counselors brought questions written by their clients, and each counselor gave advice to the questions. An expert group of psychologists judged one answer to be superior to the other, in terms of how insightful and helpful it was. The clients were contacted a year later to check on their outcomes, and this study found that the counselors were often able to predict the outcome of the clients a year earlier. There is some evidence that this test can be given to people in general as a measure of their intelligence and problem solving skills.

Your task is to determine which piece of advice to each question was chosen by the group of expert psychologists as the best and to predict what ended up happening to the people who wrote the questions. Though all the advice options may seem sensible, expert psychologists have preferred one over the other in each case.

Please read the questions from the clients, the answers from the two counselors, and then answer the following questions by marking your answer on the answer sheet provided.

Sample Question

I worked really hard for ten years in my last job, and then got a new boss who was a lazy, nasty pig. He made my life miserable, and then fired me. I tried to appeal, but the company actually supported this cretin! I can't help being resentful that after years of service, in a few months someone could come in and sabotage my career. I am so hurt. I just hate this guy! When an interviewer asks me why I was let go from my last job, how do I respond without sounding angry at my old employer even though I feel that I was treated horribly and unjustly fired?

Counselor A:

If you've been let go or fired unjustly, it's only natural to feel resentful. Regardless of the situation, it will not be appropriate to

(*Appendices continue*)

display your feelings about it in an interview. Whatever it takes, you absolutely must resist all urges to tell an interviewer about your negative experience. The interviewer isn't going to be impressed with anyone who badmouths a former boss. If you feel powerless, cheated, angry, or any other strong, negative emotions, realize that after some time has gone by, you have got to let go and move on. If you don't deal with these strong emotions and purge your negativity before you go to an interview, you are going to give your real feelings through your body language and tone of voice. Make up your mind to close this unhappy chapter in your book of life and get moving to a new, better phase.

Counselor B:

Practice your "story" since you know you'll be questioned about your former job. I believe it's best to just be calm, honest, and diplomatic. You can always say that when management changed, your expectations for the job no longer matched and that both you and your boss felt you'd be better off seeking a new position that better matched your vision, style, and skills. Put a positive spin on a negative experience by showing what you have learned from it. If there was a personality conflict or clash of work styles, you can always say that you've grown a lot from the experience and that this will help you to be a better, more flexible employee in your

next position. Finally, to show that there are no hard feelings, it's good to say something positive about your experience with the former employer. For example, you can always mention specific skills or experienced you gained or talk about other managers who inspired you to focus on where you'd fit best in another organization. Then follow up with "this is one of the main reasons why I am so keenly interested in your organization," emphasizing that you really want *this* job, not just any job.

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1. Which counselor's advice did the expert psychologists prefer?
    A   B

2. Did this client find a job within 2 months of being fired?
    Yes   No

3. Did this client contact her former employer regarding her termination?
    Yes   No

4. Did this client return to work at the original company?
    Yes   No

Appendix B

Items Used to Measure Relationship Satisfaction in Experiment 5 ($\alpha = .87$)

1. I am happy with my current romantic partner.

2. I have a strong relationship with my romantic partner.

3. My relationship with my romantic partner is rewarding.

4. I am optimistic about the future of my romantic relationship.

5. I often consider ending the relationship with my partner.

6. I often imagine being with someone other than my partner.

7. My romantic partner often annoys me or gets on my nerves.

8. I find my romantic partner attractive.