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

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*The self-concept is a social, flexible construct that shifts in response to the salience of a relationship partner. Three related experiments found that the tendency to pursue closeness in relationships (as measured by attachment style) served as a moderator of the shift. Specifically, individuals who avoid closeness in relationships became less similar to salient friends via contrast effects, whereas those who pursued closeness in relationships became more similar to salient friends via assimilation effects. Results are discussed in terms of their implications for the nature of the self-concept and the importance of friendships.*

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**Keywords:** *self-concept; friendship; social comparison; attachment style; close relationships*

Each friend represents a world in us, a world not possibly born until they arrive, and it is only by this meeting that a new world is born.

—Anais Nin

The idea that the self-concept is socially constructed harkens at least as far back as William James (1890), who stated, “A man has as many social selves as there are individuals who recognize him” (p. 294). To put it in a more contemporary theoretical context, the active or working self-concept varies as a function of the relationship partner (Markus & Kunda, 1986). For example, close others can activate schemas for interacting with those others and may trigger relationship-specific interpersonal goals (Baldwin, 1992; Fitzsimons & Bargh, 2002; Shah, 2003). Consistent with James’s hypothesis, the current research proposes that the self-concept is a social, flexible entity that shifts due to the presence of relationship partners.

Furthermore, we propose that the direction of the shift is contingent on the level of intimacy pursued in the relationship; individuals who pursue close relationships should become more similar to salient relationship partners via assimilation processes, whereas individuals who avoid closeness in relationships should become less similar to salient relationship partners through contrast effects.

## ASSIMILATION AND CONTRAST IN CLOSE RELATIONSHIPS

Self-concept shifts due to social comparison can either be contrastive (the self becomes less similar to the salient other) or assimilative (the self becomes more similar to the salient other). Determining when and why assimilation versus contrast effects occur has been a major focus of recent research on social comparison (for a review, see Taylor, Wayment, & Carrillo, 1996). One important moderator appears to be the nature of the relationship between the target and the perceiver. Specifically, when the perceiver has a close, intimate relationship with the target, assimilation of traits and attributes is likely to occur (e.g., see Aron, Aron, Tudor, & Nelson, 1991, for indirect evidence, and see Pelham & Wachsmuth, 1995, for more direct evidence). However,

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when the target is not close to the perceiver, contrast effects become more likely (Dijksterhaus et al., 1998). Similarly, when judging their own attractiveness, people tend to contrast themselves with someone who differs from them on other irrelevant traits but assimilate to a person who is perceived as similar on those same traits (Brown, Novick, Lord, & Richards, 1992). Finally, Stapel and Koomen (2001) showed that merely priming the concept of "we" increases assimilation in social comparison, whereas priming the concept of "I" facilitates contrast. In summary, there is converging evidence that relationship closeness moderates the tendency to assimilate versus contrast social comparison targets.

#### INDIVIDUAL DIFFERENCES IN RELATIONSHIP CLOSENESS

Although all people form relationships with others (Baumeister & Leary, 1995), people differ in their desire to pursue closeness in those relationships (Bartholomew, 1990; Bowlby, 1973). If relationship closeness moderates the tendency to assimilate versus contrast the characteristics of others, then individuals who seek closeness in relationships should be more likely to assimilate the characteristics of relationship partners, whereas individuals who avoid intimacy in relationships should be more likely to show evidence of contrast. Bartholomew (1990) identified four major relationship styles for adults. Individuals with two of these styles, secure and preoccupied, perceive others as trustworthy and caring, and therefore tend to pursue closeness in relationships. Individuals with the other two styles, fearful and dismissing, perceive others as rejecting and uncaring, and therefore tend to avoid closeness in relationships (Bartholomew & Horowitz, 1991). Thus, secure and preoccupied people differ from fearful and dismissive people in their desire for relationship closeness; secure and preoccupied people seek closeness, whereas fearful and dismissing people actually avoid it. Therefore, we predicted that individuals with secure and preoccupied attachment styles (hereafter referred to as nonavoidant attachment styles) will tend to perceive themselves as more similar to salient relationship partners. On the other hand, individuals with fearful and dismissing attachment styles (hereafter referred to as avoidant attachment styles) will likely compare and contrast themselves to salient others and see the self as less similar to salient relationship partners.<sup>1</sup> Due to the critical role of relationship closeness in moderating the effects, this should only apply to relationships with a minimal level of closeness. Because most people have a multitude of relationships with at least a minimal level of closeness (e.g., friends, family members, romantic partners), each individual should have a large number of selves, each reflecting a unique constellation of traits and attributes based on those specific relationships. The current research focused on friendships

because friendships encompass the bulk of most individuals' social networks and the majority of social interactions (Fisher, 1982).

#### ATTACHMENT STYLE AND SELF-CONCEPT

Attachment theorists have long observed that relationships affect the self-concept (Bowlby, 1973; Hazan & Shaver, 1987). According to Bowlby (1973), interactions with close others who are available and supportive facilitate the formation of a "secure base," which provides the self with the confidence to interact comfortably with the world by developing models of others as trustable and the self as lovable (Bartholomew, 1990; Mikulincer, Hirschberger, Nachmias, & Gillath, 2001). Thus, close relationships can cause stable, long-term changes in the self-concept (e.g., Mikulincer & Shaver, 2001).

By focusing on temporal changes in the self-concept, the current model compliments recent work on attachment that implements social-cognitive methodologies to examine temporary, short-term effects of attachment activation. For example, priming thoughts of others who function as secure bases activates one's secure base schema, which then temporarily shifts feelings about the world and self (e.g., Baldwin, 1994; Cohen, Towbes, & Flocco, 1988; Mikulincer et al., 2001; Mikulincer & Shaver, 2001). Nonetheless, there are important differences between past research on priming attachment security and the current model. First, there is no reason to believe that activating a friend necessarily activates a secure base. Relationships can be close and intimate without functioning as secure bases (Mikulincer, Gillath, & Shaver, 2002). Second, priming a secure base leads to positive feelings in general (Mikulincer & Shaver, 2001) or positive self-conceptions (e.g., Baldwin, 1994; Pierce & Lydon, 1998). There is no evidence, for instance, indicating that priming a secure base would make people feel more similar to an unintelligent or unsociable close other (as the current model predicts). Finally, priming a secure base functions the same way for people regardless of attachment styles (Mikulincer & Shaver, 2001), whereas the current model predicts a crucial moderation of attachment style on self-concept.

Of interest, and more germane to the current work, the attachment literature has examined how attachment style moderates the similarity between the self and others (Mikulincer, Orbach, & Iavnieli, 1998). That research argues that different self-regulation styles related to attachment style lead to differences in perceived self-other similarity. Specifically, avoidant people's deactivating strategy leads to an underestimation of their similarity to others, whereas anxious-ambivalent persons' hyperactivating strategy leads to an overestimation of their similarity to significant others (and secure people should show no systematic distortion of self-other

similarity). Because they are reactions to negative circumstances, both of these differences emerge primarily under conditions of threat. Mikulincer and colleagues (1998) repeatedly demonstrated these effects: Avoidant participants saw themselves as less similar to ingroup members and general others than did anxious-ambivalent participants (Studies 1, 2, & 3). However, these differences were only significant when either the relationship with the person or something about the situation was negative (Studies 4 & 5). These differences also were driven by shifts in both the self-concept and perceptions of others (Study 6). Thus, there is evidence that attachment style can influence perceptions of self-other similarity.

However, the phenomenon described by Mikulincer and colleagues differs from the current model in a crucial way: Mikulincer et al. (1998) argue that differences in self-regulation lead to differences in self-perception, whereas the current model proposes that avoidance of intimacy moderates these perceptions of self-other similarity. This distinction is important for two main reasons. First, the key role of avoidance of intimacy in our model means that both secures and preoccupieds should see the self as more similar to salient friends, whereas Mikulincer and colleagues only find that preoccupieds see the self as similar to others. Second, because our model is related to the intimacy level in relationships, it should only occur in relationships that have at least a minimal level of intimacy, such as friendships. Mikulincer and colleagues demonstrate their phenomenon, on the other hand, with a large range of targets, including confederates and "general others." Thus, the current model provides a unique perspective of the self in relation to others.

#### SPECIFIC HYPOTHESES AND OVERVIEW OF EXPERIMENTS

Three experiments are presented that test whether the tendency to pursue intimacy in relationship moderates contrast versus assimilation of relationship partners. Specifically, we propose that individuals who avoid intimacy (those with avoidant attachment styles) become less similar to salient relationship partners (Hypothesis 1), whereas those who pursue intimacy (those with nonavoidant attachment styles) become more similar to salient relationship partners (Hypothesis 2). Finally, due to the critical role of intimacy in the model, these effects should apply only to relationships with a minimal level of intimacy (Hypothesis 3). The first experiment tested the first two hypotheses. Participants provided information about two friends and about the self. In a later session, the working self-concept was assessed after participants wrote about a time spent with one of the friends. It was predicted that the working self-concept would shift to be more (for nonavoidant) or less (for avoidant) similar to

the salient friend. The second experiment tested all three hypotheses by replicating the first, but adding a condition in which half of the participants wrote about an acquaintance instead of a friend. It was predicted that only participant primed with a friend would show the original assimilation and contrast effects. The third experiment tested the implications for behavior. Participants wrote about either an intelligent or an average friend and then completed an ostensible intellectual task. It was predicted that avoidant participants would perform worse after thinking about the intelligent friend, whereas nonavoidant participants would perform better. In all experiments, attachment style was assessed to differentiate between people who pursue versus avoid close relationships (Bowlby, 1969/1982).

#### EXPERIMENT 1: SHIFTING SELF-CONCEPTS AS A FUNCTION OF SALIENT FRIENDS

##### *Overview*

The first experiment was designed to test the hypothesis that when a particular friend is salient, nonavoidant people perceive themselves as more similar to that friend than they otherwise might, whereas avoidant people perceive themselves as less similar to that friend than they otherwise might. To test those hypotheses, participants' self-contruals were assessed before and after they wrote about a close friend.

##### *Method*

*Participants and design.* Undergraduates at the State University of New York (SUNY) at Buffalo (47 men, 69 women) participated in the study for partial fulfillment of a research requirement. Most participants (77%) were Caucasian; the remainder were predominantly African American and Asian (average age = 19 years). Nine participants did not complete all of the measures and were excluded. The experiment employed a 2 (session: 1 or 2)  $\times$  2 (friend: A or B)  $\times$  2 (attachment style: nonavoidant or avoidant) mixed-model design with the first two factors as within-subject variables.

*Procedure and materials.* Participation occurred in two sessions. During the first session, participants were asked to list two friends who differed a great deal from one another but to whom they were equally close (e.g., friend A and friend B). Definition of *friend* was left up to the participant. Next, participants listed all the traits on which their two friends differed and rated the degree to which friend A, friend B, and the self possessed each of the traits on a scale ranging from 1 (*does not possess at all*) to 9 (*extremely possesses*). Participants then rated their feelings toward both friends on a scale from 1 (*extremely negative*) to 11 (*extremely positive*). Participants were asked to rate their overall feelings toward each friend, the best they

had ever felt toward each friend, and the worst they had ever felt toward each friend. Next, participants completed Bartholomew and Horowitz's (1991) four-item Attachment Scale by indicating on a scale from 1 (*not at all*) to 9 (*extremely*) the extent to which each of four paragraphs described their general relationship styles and then picked which of the four styles most accurately described them. The four paragraphs corresponded to the attachment styles of secure, dismissive, preoccupied, and fearful. The wording of Bartholomew and Horowitz's (1991) descriptions was modified slightly so as to refer specifically to friendships.<sup>2</sup> Finally, participants signed up for a second experimental session.

The second experimental session occurred exactly 1 week later. Participation occurred in private cubicles on computers. To re-create the experience of being in the company of a close friend, participants were asked to recall and write about a time they spent with friend A that was typical of the times that they spent together (and they were provided with friend A's name to ensure they were thinking about the right friend). It was emphasized that participants should try to recall as much of the experience as they could. They were then given 8 min to write about the experience. Next, participants were asked to rate the extent to which a number of traits were applicable to themselves on a scale ranging from 1 (*does not possess at all*) to 9 (*extremely possesses*). For each participant, the specific traits he or she had listed during the first session as being traits on which the two friends differed were included among the traits to be rated. Participants then supplied demographic information, were debriefed, thanked, and dismissed.

### Results

Fifty-three participants classified themselves as nonavoidant. The remaining fifty-four participants classified themselves as avoidant. We first tested whether friend A and friend B were rated as equally good friends. Paired sample *t* tests were performed on overall ratings of the two friends, ratings of the best feelings toward the friends, and ratings of the worst feelings toward the friends. We predicted no differences in feelings toward the friends. However, friends A and B did differ on overall ratings (9.87 vs. 9.39, respectively),  $t(106) = 3.27$ ,  $p < .05$ , best ratings (10.48 vs. 10.00, respectively),  $t(106) = 2.44$ ,  $p < .01$ , and worst ratings (5.37 vs. 4.37, respectively),  $t(106) = 3.78$ ,  $p < .05$ . Thus, it seems as if participants tended to list the more liked of the two first (i.e., as friend A).

During the first session, participants listed between 3 and 10 traits on which their friends differed. Across all participants, an average of 6.73 traits were listed. For each trait listed, there were ratings of friend A, friend B,

and the self at the first session and the self at the second session. We were interested in how similar to friend A and friend B the self was seen at times 1 and 2. Because our main interest lies in the overall similarity between the salient friend and the self, distance scores were computed using a multidimensional scaling technique. By conceptualizing ratings of trait possession as points in a multidimensional space, we were able to take into account all the distances between trait ratings of the friend and the self simultaneously, thus eliminating error due to the averaging of various difference scores. These scores were computed using a common statistical formula of Euclidean distances<sup>3</sup> (see Mielke & Berry, 2001). Because this value results in a score of dissimilarity, the inverse was taken to reflect similarity. This procedure was done for time 1 and time 2 scores separately.

Next, we examined our main hypotheses, that avoidant participants would become less similar to a salient friend, whereas nonavoidant participants would become more similar to that friend. To do so, we examined similarity of the friend to the self in a 2 (friend: A or B)  $\times$  2 (session: 1 or 2)  $\times$  2 (attachment: avoidant or nonavoidant)  $\times$  2 (gender: male or female) mixed-model analysis of covariance (ANCOVA) with the first two variables manipulated within and anxiety scores and number of traits entered as covariates.<sup>4</sup> Although no predictions were made for gender, it was included in the model in an exploratory fashion. Because no main effects or interactions were found for gender, it was not included in any further analyses. As predicted, a significant three-way interaction emerged between session, friend, and attachment style, indicating that attachment style did moderate similarity toward friends,  $F(2, 103) = 7.18$ ,  $p = .009$ .

Next, we assessed whether these differences in self-concept shifts might be due to differences in feelings toward friend A and friend B. As previously mentioned, participants reported more positive feelings toward friend A than toward friend B. Thus, it was possible that the difference in self-concept between time 1 and time 2 was due to nonavoidant participants becoming more similar to a liked friend and avoidant participants becoming less similar to a liked friend. To examine that possibility, a composite variable of favorability of feelings toward friend A in relation to friend B was computed by summing the differences in overall, best, and worst feelings toward friends A and B separately. That estimate was then entered as a covariate in the analysis of attachment style, session, and friend. If the effects were driven by differences in attitudes, we would expect the effects to significantly diminish. However, the interaction remained significant,  $F(2, 102) = 7.05$ ,  $p = .009$ , demonstrating that

the effect was not driven by differences in liking between the two friends.

In addition, we wanted to examine whether the differences in self-concept shifts were due to differences in the nonavoidant versus avoidant participants' attitudes toward their friends. In other words, perhaps the effects were not due to differences in avoidant and nonavoidant individuals' propensity to form close friendships but instead to differences in liking of their friends and thus in motivation to be like their friends. To examine this possibility, independent sample *t* tests were conducted comparing nonavoidant and avoidant participants on their overall ratings, best ratings, and worst ratings of friends A and B. Only ratings of the worst feelings toward friend A were significantly different,  $t(105) = 2.09, p < .05$ . Avoidant participants had lower (more negative) ratings of their worst feelings toward their friends ( $M = 4.83$ ) than did nonavoidant participants ( $M = 5.92$ ). To ensure that previously reported differences were not due to differences in feelings toward friend A, worst feelings toward friend A was entered as a covariate in the analysis of attachment style, session, and friend. If the effects were driven by differences in attitudes toward friend A, we would expect the effects to significantly diminish. However, the interaction remained significant,  $F(2, 102) = 7.18, p = .009$ , demonstrating that the effect was not driven by differences between nonavoidant and avoidant participants' attitudes toward their two friends.

After testing alternative explanations of the three-way interaction, we were ready to further explore the interaction. To do so, two separate 2 (session: 1 or 2)  $\times$  2 (attachment: avoidant or nonavoidant) ANOVAs were run examining similarity to friend A and friend B. As predicted, participants did not differ in similarity to friend B (the friend who was not primed) based on attachment style and session. However, they did differ in their similarity to friend A (the friend who was primed),  $F(1, 104) = 9.90, p = .002$ . Nonavoidant participants saw themselves as more similar to friend A after writing about him or her at time 2,  $t(52) = 2.17, p < .05$ . Conversely, avoidant participants perceived the self as less similar to friend A after writing about him or her,  $t(53) = -2.27, p < .05$  (see Figure 1).

Finally, we examined all four attachment styles (secure, preoccupied, dismissive, and fearful) separately. Although we found significant effects when examining the avoidant versus nonavoidant attachment, it could be that our effects were driven by one attachment style (e.g., the preoccupieds) instead of by avoidance versus nonavoidance, per se. However, an examination of the means of the four attachment styles supported our hypotheses. Secures were more similar to friend A after being primed with him or her (.2109 vs. .1876), as were

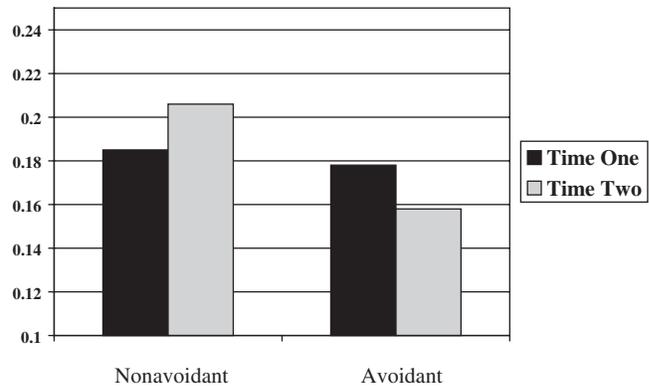


Figure 1 Similarity of self to a friend as a function of salience of the friend and attachment style.

preoccupieds (.1743 vs. .1643). Conversely, dismissives were less similar to friend A after being primed with him or her (.1744 vs. .1869), as were fearfuls (.1513 vs. .1739). Thus, our examination of the means confirmed that all attachment styles reacted as predicted.

#### Discussion

The results of the first experiment supported our hypothesis that when a friend is made salient, shifts in the self-concept occur. Specifically, nonavoidant participants came to see themselves as more similar to a friend after writing about the friend. In contrast, avoidant individuals came to see themselves as less similar to a friend after writing about the friend. In short, nonavoidant participants showed an assimilation effect, whereas avoidant participants showed contrast. We hypothesized that this difference is due to different relationship strategies: Avoidant individuals avoid closeness in relationships, whereas nonavoidant individuals pursue closeness.

Although the first experiment supports the central tenets of the model, it does not speak to the specificity of the effects. We hypothesized that attachment style should only moderate social comparison effects when the relationship in question exists at least at a minimal level of intimacy. Experiment 2 was designed to test this assumption and to replicate the main findings of Experiment 1.

#### EXPERIMENT 2: DO ACQUAINTANCES FUNCTION LIKE FRIENDS?

##### Overview

The goal of the second experiment was to examine the specificity of the effects reported in the first experiment. Because avoidance of intimacy is the key variable separating participants who become more similar to salient friends and those who became less similar to

salient friends, we hypothesized that attachment style should only moderate social comparison of a relationship partner with whom there is at least a minimal level of intimacy. To test this hypothesis, we primed some participants to think about a casual acquaintance rather than a friend. Otherwise, Experiment 2 was patterned very closely after Experiment 1.

### Method

*Participants and design.* Undergraduates at SUNY Buffalo (52 men, 114 women) participated for partial fulfillment of a research requirement. Most of the participants were Caucasian (66%); the remainder was African American (9%) and Asian (16%). The average age of participants was 18. Twelve participants did not complete all of the measures and were dropped from further analyses. The experiment employed a 2 (session: 1 or 2)  $\times$  2 (target: friend or acquaintance)  $\times$  2 (attachment style: nonavoidant or avoidant)  $\times$  2 (prime: friend or acquaintance) mixed-model design with the first two factors as within-subject variables.

*Procedure and materials.* The procedure differed only slightly from that of Experiment 1. First, during session 1, instead of writing about two friends who differed from one another, participants were asked to think about a friend and an acquaintance who differed from one another. An acquaintance was defined as someone the participants knew well, interacted with regularly, did not dislike, but did not consider a friend. A pretest of 14 undergraduates confirmed that participants were all able to think of such a person. Pretest data also showed that participants spent more time with their friends, knew them better, and liked them better than acquaintances. Because we were concerned that such extraneous differences between friends and acquaintances could function as alternate explanations of whatever differences emerged, we measured those variables to assess their influence.

During the second session, half of the participants wrote about the friend, whereas the other half wrote about the acquaintance. The rest of the procedure exactly mirrored Experiment 1.

### Results

Sixty-two participants classified themselves as nonavoidant. The remaining 95 participants classified themselves as avoidant. During the first session, participants listed between 3 and 10 traits on which their friend and acquaintance differed (listing an average of 7.78 traits). The same multidimensional technique used in Experiment 1 was used to calculate similarity to the friend and to the acquaintance at both times 1 and 2.

We first tested whether there were differences in how well participants knew the friend and acquaintance, in

how much time they spent with them, and in how much they liked them. Paired sample *t* tests revealed that participants knew friends better than acquaintances (6.38 vs. 3.59, respectively),  $t(156) = 24.11$ ,  $p < .001$ , liked the friends more than the acquaintances (9.52 vs. 7.30, respectively),  $t(156) = 11.08$ ,  $p < .001$ , and spent more time with their friends than their acquaintances (5.29 vs. 2.60, respectively),  $t(156) = 19.25$ ,  $p < .001$ . We used the differences of ratings of knowing, liking, and spending time with the two targets as covariates in further analyses.

Next, we examined our main hypothesis that only participants who wrote about a close friend would show the effects observed in Experiment 1. First, we examined the entire model in a 2 (relationship: friend or acquaintance)  $\times$  2 (session: 1 or 2)  $\times$  2 (attachment: avoidant or nonavoidant)  $\times$  2 (time 2 prime: friend or acquaintance)  $\times$  2 (gender: male or female) mixed-model ANCOVA with the first two variables manipulated within-subjects and anxiety scores and number of traits entered as covariates. Although no predictions were made for gender, it was included in the model in an exploratory fashion. Because no main effects or relevant interactions were found for gender, it was not included in any further analyses. As predicted, a significant four-way interaction emerged between essay, session, attachment style, and prime,  $F(1, 151) = 6.27$ ,  $p = .013$ . We replicated this analysis with differences of ratings of knowing, liking, and spending time with the two targets as covariates and the four-way interaction remained significant,  $F(1, 148) = 5.31$ ,  $p = .023$ . Thus, we were confident that those differences were not responsible for the interaction.

To decompose the four-way interaction, we divided participants into those who wrote about the acquaintance and those who wrote about the friend and performed two separate 2 (relationship: friend or acquaintance)  $\times$  2 (session: 1 or 2)  $\times$  2 (attachment: avoidant or nonavoidant) ANCOVAs. As predicted, a significant three-way interaction emerged for participants who wrote about the friend,  $F(1, 72) = 8.83$ ,  $p = .004$ . However, no significant main effects or interactions emerged for participants who wrote about the acquaintance (all  $ps > .18$ ). Thus, as we predicted, our effects were limited to targets who qualified as friends rather than acquaintances.

Next, we wanted to examine alternate explanations of the three-way interactions. Independent sample *t* tests were conducted comparing nonavoidant and avoidant participants on their knowing, time spent with, and liking of the friend and the acquaintance. Only ratings of the liking toward the friend,  $t(162) = 2.45$ ,  $p = .02$ , and the acquaintance,  $t(162) = 3.45$ ,  $p = .001$ , differed. Avoidant participants liked their friends ( $M = 9.24$ ) less than did nonavoidants ( $M = 10.02$ ). They also liked their acquaintances less ( $M = 6.91$ ) than did nonavoidants ( $M = 7.97$ ). To ensure that previously reported differences

were not due to differences in liking of the friend and acquaintance, those scores were entered as covariates into the three-way analyses. The interaction for people primed with friends remained significant,  $F(1, 71) = 8.34, p = .005$ , demonstrating that the effect was not driven by differences in liking. Furthermore, none of the main effects or interactions for individuals primed with acquaintances became significant or marginally significant (all  $p$ s > .1).

After testing alternative explanations of the three-way interactions, we were ready to further explore the significant three-way interaction of those primed with friends. To do so, two separate  $2$  (session: 1 or 2)  $\times$   $2$  (attachment: avoidant or nonavoidant) ANCOVAs were run, the first examining similarity to the acquaintance (as assessed via multidimensional scaling). Liking for the acquaintance was entered as a covariate into that analysis (along with anxiety and number of traits). As predicted, participants did not differ in similarity to acquaintance based on the interaction of attachment style and session ( $p = .42$ ). The second ANCOVA examined similarity to the friend and entered liking for the friend, anxiety, and number of traits as covariates. Replicating the findings of the first experiment, the interaction of attachment style and session was significant,  $F(1, 71) = 9.56, p = .003$ . Avoidant participants perceived the self as less similar to the friend after writing about him or her,  $t(48) = -2.19, p = .03$ . Nonavoidant participants did not significantly differ in how similar they saw themselves to the friend based on session, although the means were in the predicted direction ( $p = .49$ ) (see Figure 2).

Finally, we examined all four attachment styles (secure, preoccupied, dismissive, and fearful) separately to examine the possibility that our effects were driven by one specific attachment style instead of by avoidance versus nonavoidance, per se. An examination of the means of the four attachment styles supported our hypotheses. Secures who wrote about the friend were more similar to him or her at time 2 than time 1 (.2148 vs. .2096), as were preoccupied (.1900 vs. .1580). Conversely, dismissives who wrote about the friend were less similar to him or her at time 2 than time 1 (.2023 vs. .2769), as were fearfuls (.1783 vs. .1906). Thus, our examination of the means confirmed that all attachment styles reacted as predicted.

### Discussion

The results of Experiment 2 replicated the results of Experiment 1. Attachment style moderated the effects of close friends on the self-concept; avoidant and nonavoidant participants reacted differently to thinking about a friend. Specifically, avoidant participants became less similar to the primed friend. Similarly, although the means did not significantly differ from one

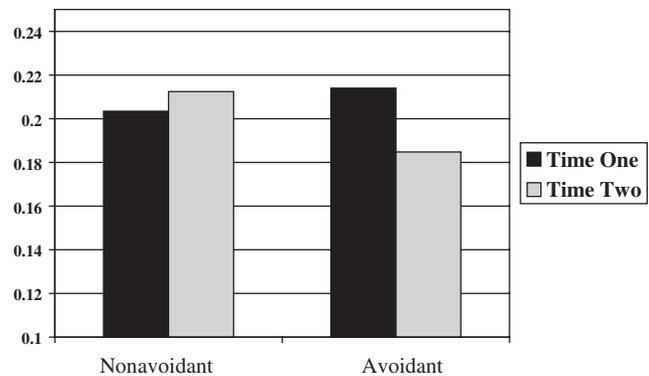


Figure 2 Similarity of self to a friend as a function of salience of that friend and attachment style.

another, nonavoidant participants became more similar to the primed friend, replicating the significant findings of the first experiment.

In addition to replicating the findings of the first experiment, Experiment 2 expanded on them by demonstrating that attachment style did not moderate the effects of nonfriends (acquaintances) on the self-concept. We predicted that attachment style would only be a significant moderator in relationships with a certain level of intimacy because avoidance of intimacy is the key variable on which nonavoidant and avoidant participants differ. Indeed, participants primed with acquaintances did not differ in similarity to the acquaintance even when differences in liking, knowing, and spending time with acquaintances versus friends were taken into account.

In this experiment, we also found that nonavoidant and avoidant individuals did differ in their attitudes toward their friends. However, as with the first experiment, that difference did not mediate the main findings. Even when we accounted for differences in liking, attachment style still predicted similarity to the friend when participants were primed with the friend.

Thus, the first two experiments provide evidence that friends lead avoidant participants to contrast traits relevant to those friends to the self, whereas they lead nonavoidant participants to assimilate traits relevant to those friends to the self. Could friends also affect one's actual behavior in addition to one's self-concept? There is a burgeoning body of research demonstrating that when traits are activated in the right contexts, they can automatically shift behavior relative to the trait (Carver, Ganellen, Froming, & Chambers, 1983; Dijksterhuis & Bargh, 2001; Dijksterhuis & van Knippenberg, 1998). For example, activating relevant traits has led participants to act more or less polite, walk more or less slowly, and be more or less helpful (Bargh, Chen, & Burrows, 1996; Fitzsimons & Bargh, 2002). Furthermore, trait acti-

vation can sometimes lead to contrast and other times to assimilation, resulting in behavior shifts that are inconsistent or consistent with the trait, respectively (Dijksterhuis, Spears, & Lepinasse, 2001). For example, because thinking about a social category typically leads to assimilation, thinking about a smart social category (university professors) results in better performance on a purported intelligence task. In contrast, because specific exemplars typically lead to contrast effects, thinking about a specific smart exemplar (Albert Einstein) results in worse behavior on the same task (Dijksterhuis & van Knippenberg, 1998).

The first two experiments indicated that individuals with nonavoidant attachment styles assimilate the traits of friends. Based on that finding and the previous literature, we predicted that thinking about a friend should lead nonavoidant individuals to behave more like their friends. Conversely, because avoidant individuals contrast the traits of friends, we predicted that thinking about a friend would lead nonavoidant individuals to behave less like their friends.

#### EXPERIMENT 3: BEHAVIORAL IMPLICATIONS OF SALIENT FRIENDS

##### *Overview*

Our model suggests that nonavoidant participants should perform better on the intellectual task after thinking about an intelligent friend than after thinking about an average friend. Conversely, avoidant participants should show the opposite tendency. To test these hypotheses, we assessed intellectual performance after participants wrote about either a highly intelligent or an average friend.

##### *Methods*

*Participants.* Undergraduates (83 men, 53 women) enrolled in introductory psychology courses at SUNY Buffalo received course credit for their participation. The average age of participants was 19. Of participants, 62% were Caucasian, with the remainder predominantly Asian and African American.

*Materials and procedure.* Sessions consisted of groups of three or four participants. First, participants were introduced to and trained on a task that ostensibly measured intelligence. The experimenter told them,

I am going to give you a sheet of paper that contains a list of categories. For example, a category may be Famous Females. I will also give you a letter of the alphabet, called the Key Letter, and an answer sheet. Your task will be to quickly think of an item for each category that begins with the letter I give you. So for example, if one of

your categories is Famous Females and your key letter is J, you could answer Julia Roberts.

Participants were then told that their responses would be scored on originality. Answers that were not replicated by any other participants would be worth more than those that were. Thus, they were encouraged to write the most creative responses they could. They were then given two practice trials. After each trial, participants read their responses aloud, were given (accurate) feedback on the originality of their responses, and were allowed to ask questions.

Next, each participant was led to a private cubicle with a computer. They were told that the computer would provide them with instructions for the rest of the study. Participants learned that the experimenters were interested in the relationship between personality and intelligence. They were then asked to provide the first names of both a very intelligent friend and a friend who was average or below average in intelligence. Next, participants were asked to answer, "Overall, how similar are you to the average [intelligent] friend?" "How much do you like the average [intelligent] friend?" and "How intelligent is the average [intelligent] friend" on a 7-point scale anchored from 1 (*not at all*) to 7 (*extremely*).

The priming manipulation involved having participants write about either the intelligent or average friend for 8 min, using the same instructions used in Experiments 1 and 2.

Next, participants were informed that their intelligence would be measured using a task similar to the one that they learned at the beginning of the experiment. It was emphasized that their performance on the two practice trials was not indicative of their intelligence because the task must be learned before it can adequately predict intelligence. Participants were reminded of the rules of the category task and were told that they would complete three different trials consisting of 12 categories each and that they would have 3 min for each trial. All participants received the same categories and the same letters.<sup>5</sup>

Following the category task, participants completed a number of filler tasks and then reported their attachment style using the same technique as in Study 1. Participants then completed demographic information and answered some questions that were unrelated to the current study. They were then debriefed and thanked for their participation.

##### *Results*

Performance on the intelligence task was computed by compiling a distribution of responses on each item from all 136 participants. Thus, we were able to see how many participants supplied each particular response for each item. For example, when asked to list a TV show

that began with the letter “A,” the most popular response was “All in the Family,” with 26 participants supplying that response. However, only 1 participant responded, “Andy Richter Controls the Universe.” For each response, participants were given a score corresponding to the number of people who supplied their response. The scores were then reverse scored. Thus, highest scores indicated the most original responses and low scores the most common. For example, the participant who wrote “Andy Richter Controls the Universe” received a score of 26 for that item. Participants who wrote “All in the Family” received a score of 1 for that item. Participants who did not supply a response, or supplied an illegible or incorrect response, received a score of 0 for that item. Items were then summed for each trial. Thus, each participant had a score from practice trials 1 and 2 and each of the three test trials. A sum of the three test trials was computed to represent performance on the task. The mean performance score was 405.99. Exactly half of the participants ( $n = 68$ ) classified themselves as nonavoidant, with the remaining 68 classifying themselves as avoidant.

Performance scores were entered into a 2 (friend: intelligent or average)  $\times$  2 (attachment style: nonavoidant or avoidant)  $\times$  2 (gender: male or female) between-subjects ANCOVA with anxiety scores and scores from the practice trials (to control for ability) entered as covariates.<sup>6</sup> There was a marginal main effect for gender,  $F(1, 126) = 3.31, p = .07$ . Male participants did better on the task (415.75) than did female participants (380.19). Because gender did not significantly interact with any of the other variables, however, it was dropped from all further analyses. The crucial two-way interaction was significant,  $F(1, 130) = 8.80, p = .004$ . As predicted, nonavoidant participants performed better on the intellectual task when they were primed with an intelligent as opposed to an average friend,  $t(64) = 7.77, p = .007$ . Although the means were not significant for avoidant participants, they tended to perform better when primed with a less intelligent friend,  $p = .19$  (see Figure 3).

Next, we wished to examine alternative explanations of the effects. For example, perhaps nonavoidant and avoidant participants differed in their perceived similarity to the friends, their attitudes toward the friends, or their perceptions of the intelligence of their friends, any one of which could have, in turn, driven the effect.  $t$  tests were conducted to examine these possible differences. Avoidant and nonavoidant participants did not differ in how similar they perceived themselves to be to the intelligent friend ( $t < 1$ ) or the average friend ( $t < 1$ ). In addition, they did not differ in their liking of the intelligent friend ( $t < 1$ ) or the average friend ( $t < 1$ ). Finally, they did not differ in how intelligent they perceived the average friend to be ( $t < 1$ ). However, avoidant participants

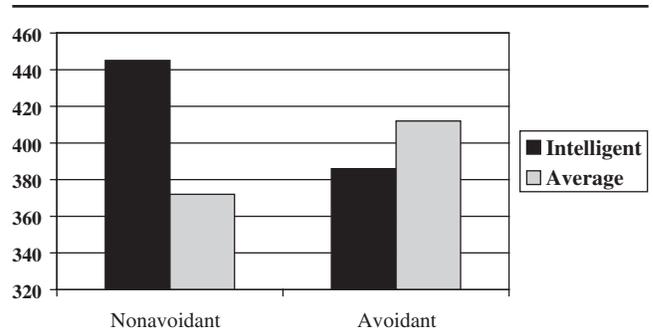


Figure 3 Performance on the intellectual task as a function of salience of friend and attachment style.

did tend to perceive their intelligent friend to be more intelligent (6.09) than did nonavoidant participants (5.84),  $t(134) = 1.90, p = .06$ . To ensure that the difference in perceived intelligence was not somehow responsible for the effects, perceived intelligence was entered as a covariate in the 2 (friend: intelligent or average)  $\times$  2 (attachment style: nonavoidant or avoidant) between-subjects ANCOVA examining performance. The crucial interaction remained significant,  $F(1, 130) = 9.68, p < .01$ . Thus, the differences in behavior were not due to differences in a priori perceptions of similarity of the friends to the self, liking of the friends, or perceptions of the intelligence of the friends.

Finally, as with the first two experiments, we wanted to ensure that individual attachment styles would yield the predicted patterns: contrast effects among avoidants and assimilating effects among nonavoidant individuals. Inspection of the means supported that hypothesis. Secure participants did better when primed with an intelligent friend ( $M_s = 446.93$  vs.  $376.83$ ), as did preoccupieds ( $M_s = 440.71$  vs.  $359.78$ ). Conversely, fearful participants did worse when primed with an intelligent friend ( $M_s = 403.14$  vs.  $420.23$ ), as did dismissives ( $M_s = 344.78$  vs.  $381.57$ ).

### Discussion

The third experiment examined the effects of a salient friend on actual behavior. As expected, attachment style moderated the effects of friends on behavior. Thus, friends not only lead to shifts in self-perception (Experiments 1 and 2) but they also lead to shifts in actual behavior. Nonavoidant participants who were primed with the intelligent friend performed better on the task than did those who were primed with the average friend. Furthermore, although avoidant participants' performance on the task was not significantly affected by the saliency of a friend, the direction of the means was consistent with a contrast effect (and consistent with the self-concept effects observed in Experiments 1 and 2).

Experiment 3 attempted to address alternative explanations of the findings in a number of ways. First, by focusing on a universally positive trait, intelligence, the likelihood that differences in the motivation to assimilate the friend led to the differences between non-avoidant and avoidant individuals was reduced; avoidant individuals should be no less motivated to be intelligent. In addition, nonavoidant and avoidant participants did not differ in their liking of the friends or in the a priori perceptions of similarity to the friends. Thus, those differences could not have driven the effects. Finally, although participants did differ in their perceptions of the intelligence of the intelligent friend, that difference did not mediate the effects. In summary, attempts to rule out alternative explanations were successful.

#### GENERAL DISCUSSION

The current research was designed to examine the effects of relationship partners on the working self-concept. Based on findings that level of closeness in relationships moderates the tendency to assimilate versus contrast salient others, it was hypothesized that individuals who pursue closeness in relationships (nonavoidant individuals) would become more similar to salient friends, whereas those who avoid closeness would become less similar to salient friends. The current experiments found support for those hypotheses. The first two experiments primed participants with a friend and found that the working self-concept shifted to be more similar (nonavoidants) or less similar (avoidants) to that friend as compared to a nonprimed friend (Experiment 1) or an acquaintance (Experiment 2). The second experiment also supported our hypothesis that attachment would only moderate similarity to others if there was a minimal level of intimacy in the relationship. In the final experiment, participants were primed with either an intelligent or an average-intelligence friend. Participants with nonavoidant attachment styles did better on an ostensible intelligence task when they were primed with an intelligent friend as compared to when they were primed with an average friend.

In all three experiments, the crucial interaction between attachment style and similarity to the friend was significant; avoidant individuals became less similar to a salient friend, whereas nonavoidant individuals became more similar. In addition, four out of the relevant six contrasts were significant. Nonavoidant individuals were significantly more similar to the salient friend in Experiments 1 and 3. Why were they not significantly more similar in Experiment 2? Most likely it was an issue of power. Experiment 2 was a replication of Experiment 1 and showed the exact same pattern of results for non-avoidant participants. The only difference was the power. In Experiment 1, there were 53 nonavoidant par-

ticipants in the relevant comparison, whereas in Experiment 2, there were only 29. Similarly, whereas avoidant participants were significantly less similar to the salient friends in Experiments 1 and 2, the difference was not significant in Experiment 3. Why did priming an intelligent friend not significantly adversely affect avoidant participants' performance? Perhaps the propensity for protecting the self from negative information kept participants from feeling bad about the self when thinking about a friend. Research has found that people will find ways to protect the self from negative information while reaping the benefits of positive information (e.g., Ditto & Lopez, 1992; Kunda, 1990; Liberman & Chaiken, 1992; Sedikides, 1993). Avoidant participants may be especially averse to bad performance on an intelligence task due to dismissives' high levels of mastery orientation (Bartholomew & Horowitz, 1991, but also see Carvallo & Gabriel, 2005). Because comparison with a smart friend would lead avoidants to do worse on a task, perhaps they worked to avoid such a shift. In support of that explanation, both avoidants and nonavoidants seem able to reap the positive effects of friends while avoiding the negative (Gabriel, Carvallo, & Tippin, 2005).

The current work contributes to the attachment literature by illustrating how chronic differences in attachment style can influence a basic social-cognitive effect. As with research on priming the secure base, the current research demonstrates important temporal effects of activating specific relationship partners on the self (e.g., Baldwin, 1994; Cohen et al., 1988; Mikulincer et al., 2001; Mikulincer & Shaver, 2001). Similarly, as with research on the impact of affect regulation on self-other similarity, the current work illustrates that attachment style can moderate perceived similarity of the self and others (Mikulincer et al., 1998). Thus, the current findings fit in well within the attachment framework and demonstrate the important temporal implications of chronic attachment style.

In addition, the current research also may increase understanding of the importance of friendship. Throughout the life span, people rank their friends among the things that matter most to them (Klinger, 1977) and enjoy time spent with friends more than time spent alone, with family, or with spouses (Larson & Bradney, 1988). In addition, people are more likely to list friends as giving meaning to their lives than family, religion, or occupation (Argyle, 1987). Although the positive effects of friendship are clear, the mechanism through which friends exert their positive influence has been less clear. The current research suggests that one such mechanism is the propensity of friends to provide the opportunity to express different aspects of the self. Specifically, the current research suggests that having intelligent friends or fun friends is not important just

because it provides an opportunity to be in situations in which one gets to engage in intellectual or fun activities but because it actually makes one feel more intelligent or fun. Furthermore, one need not choose between being intelligent or fun because people can have an unlimited number of friends and thus unlimited opportunities to expand the self. These opportunities to activate different aspects of self are important because the self is not simple and unitary but instead a complex network containing a plethora of sometimes conflicting traits, attributes, and beliefs (e.g., Greenwald, 1980; Markus & Kunda, 1986; Pelham, 1991).

Finally, although the current research only examined friendship, it is possible that other relationships may provide some of the same opportunities for the self. For example, romantic relationships can alter the self-concept (e.g., Aron, Paris, & Aron, 1995). However, not everyone has a romantic partner (whereas most people have at least one good friend) and the majority of people with a romantic partner have only one. Thus, the proposed ability of various friends to allow individuals to express different aspects of the self is less likely to be facilitated by romantic partners.

#### CONCLUSION

We began this report with the following quote from Anais Nin: "Each friend represents a world in us, a world not possibly born until they arrive, and it is only by this meeting that a new world is born." Indeed, the current research supports the contention that each friend activates a unique self; individuals who form close relationships become more similar to salient friends, whereas those who avoid close relationships become less similar to salient friends. In describing a self that shifts due to the perceived personality characteristics of relationship partners, the current research joins a growing body of research (e.g., Baldwin, 1992; Pelham & Wachsmuth, 1995; Shah, 2003) that characterizes the self as flexible and social at its core.

#### NOTES

1. A pretest was done to determine if nonavoidant individuals were more likely to form close, inclusive relationships as compared to avoidant individuals. Two hundred and six participants were given descriptions of the four attachment styles modified to directly relate to friendship (Bartholomew & Horowitz, 1991). Of the 206 participants, 124 identified themselves as nonavoidant and 82 as avoidant. Nonavoidant participants were more likely to include friends in the self, as measured by a version of the Relational Self-Concept Scale (Cross, Bacon, & Morris, 2000) modified to directly relate to friendship,  $t(159) = 2.94, p < .005$ . They also indicated that they felt closer to their friends,  $t(198) = 2.80, p < .01$ , and were more likely to experience joy when good things happened to their friends,  $t(197) = 1.85, p = .06$  (disparity in degrees of freedom is due to variation in the number of participants who completed each dependent variable). However, nonavoidant individuals were no more likely to spend time with their

friends,  $t < 1$ , and did not have a stronger need to belong, as measured by the Need to Belong Scale,  $t < 1$ .

2. Both categorical and continuous methods of measuring attachment style have been used. There is a trend toward using the continuous variables more and there is data indicating that it is the most accurate representation of attachment (Fraley & Waller, 1998). However, that research looked at general (not relationship-specific) patterns of attachment (Fraley & Waller, 1998) and the current work examines attachment within a certain type of relationship (i.e., friendship). In addition, the one existing article that looked at the effects of attachment style on perceived similarity of the self to others used categorical measures of attachment (Mikulincer et al., 1998). Thus, it was not clear to us which measurement would be more appropriate for our work, the categorical or the continuous. To be prudent, we measured attachment style both ways and ran analyses using both the categorical and the continuous variables. For the categorical measurement, participants who indicated that either the secure or preoccupied attachment style best described them were rated as nonavoidant, whereas those who indicated that the fearful or dismissive style best described them were categorized as avoidant. For the continuous variable, ratings of the degree to which the secure and preoccupied styles described them were subtracted from ratings of the degree to which the fearful and dismissing styles described them. Anxiety scores were calculated similarly; ratings of the secure and dismissing styles were subtracted from ratings of the fearful and preoccupied styles. Because attachment style reflects both avoidance of intimacy and anxiety about relationships, anxiety scores were entered as a covariate in all analyses (both the categorical and the continuous). In all three experiments, the continuous and categorical variables yielded very similar results. All of the same four-way, three-way, and two-way interactions were significant. In addition, the directions of the means and predicted means were the same and four out of the five significant contrast effects were confirmed with significant slopes. However, in all cases, the categorical variable yielded slightly stronger and more consistent results. Therefore, those are the results that are reported.

3. The analyses were done using the following equation:

$$\sqrt{\sum (X_i - \text{Self}_j)^2}$$

where X refers to either the value (trait rating) for friend A or friend B (whichever is applicable at the time),  $i$  is the specific trait (trait 1, trait 2, etc.) indicative of friend A or friend B's characteristics, and  $j$  is the specific trait (trait 1, trait 2, etc.) indicative of the self's characteristics.

4. The number of traits supplied was entered as a covariate in this and all analyses examining similarity of the self to the friends (Mielke & Berry, 2001). Results were highly similar with and without the covariate.

5. An independent sample assessed whether this task measures "intelligence." The task was described to 12 undergraduates at the State University of New York at Buffalo. Of that group, 92% (all but 1) believed that the task was related to intelligence.

6. Data also was analyzed using a repeated-measures ANCOVA with scores from the pretest and the main task as the repeated measure. Other than providing an extraneous main effect (participants had higher scores on the main task than on the pretest), results were almost identical, with the exact same significant interactions and contrasts.

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