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# Navigating the Interdependence Dilemma: Attachment Goals and the Use of Communal Norms With Potential Close Others

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Four studies investigated attachment in the context of new relationship development. Anxiously attached individuals overwhelmingly used communal norms and avoided using exchange norms when interacting with a potential close other; however, when a potential close other used communal norms, anxious individuals experienced increased interpersonal anxiety. Anxious individuals also used discrete communal behaviors to diagnose relationship potential. By contrast, secure individuals were more comfortable in potential communal situations. Moreover, implicit thoughts about closeness were associated with improved performance on a mental concentration task for secure individuals, whereas implicit closeness thoughts were associated with poorer performance for anxious individuals. Finally, avoidant individuals disliked the potential close other when the other used communal norms and downplayed relational motives for the other's communal behavior.

*Keywords:* attachment, communal, exchange, relationship development, interdependence dilemma

The need to establish close bonds is a basic human characteristic (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Maslow, 1962; Sullivan, 1953). The achievement of close bonds has been found to be associated with improved mental and physical well-being (House, Landis, & Umberson, 1988; Kiecolt-Glaser & Newton, 2001), whereas the failure to achieve closeness has been linked to mental (Bowlby, 1969; Davilia, Burge, & Hammen, 1997; Leary, 1990) and physical illness (Lynch, 1979) and suicide (Trout, 1980). Because of the central role that close relationships play in

the human experience, understanding the factors that are involved in the development of these bonds is an important endeavor.

At the outset of a relationship, there is a great deal of uncertainty: "Is the other person equally interested in developing a relationship?" "How do I communicate interest?" "Will I be rejected?" People want to demonstrate interest and commitment but are reluctant because trust is not yet established. Ironically, as Holmes (1991) noted, although feelings of trust influence one's level of involvement, trust cannot be assessed unless one is at least somewhat involved. Thus, one is presented with an *interdependence dilemma* in which the desire to express interest and commitment must be weighed against the risk of rejection. Importantly, though the ability to navigate the interdependence dilemma has consequences for relationship progress: If one is not willing to take a leap of faith, the relationship is unlikely to get off the ground. Although some find it relatively easy to deal with this uncertainty, others find it more difficult. What factors are associated with the ability to navigate the interdependence dilemma?

Attachment theory has made substantial contributions to the understanding of close relationships (Bowlby, 1969, 1973; Fraley & Shaver, 2000; Hazan & Shaver, 1987, 1994; Mikulincer & Shaver, 2003; Simpson & Rholes, 1998). Although considerable research has been conducted to investigate attachment in the context of established adult relationships, less research has been conducted to probe the role of attachment in the context of new relationship development. Yet the notion that attachment models play a part in new relationships, guiding interpersonal perceptions, expectations, and behaviors with new partners, is a basic assumption of adult attachment theory (Collins & Read, 1994; Fraley & Shaver, 2000; Hazan & Shaver, 1987; Mikulincer & Shaver, 2003; Pietromonaco & Feldman Barrett, 2000). The goal of this research was to explore attachment differences in the development of closeness, specifically with regard to the interdependence dilemma people face at the outset of a close relationship.

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### Close Relationships and the Use of Communal and Exchange Norms

What is a close relationship? One feature distinguishing close relationships from more casual relationships is the set of norms that govern the giving and receiving of benefits. According to Clark and colleagues (Clark, 1984a, 1984b; Clark & Mills, 1979; Clark, Mills, & Powell, 1986), close relationships, such as those between family members, friends, and romantic partners, are associated with communal norms, whereas more casual relationships, such as those between business partners, acquaintances, and strangers, are associated with exchange norms. Communal norms reflect a genuine concern for the welfare of the other. Benefits are given on the basis of need or to please, and people do not keep track of individual contributions. Giving help to or doing a favor for the other person does not necessitate that the other person reciprocate. Likewise, receiving help or a favor does not require one to respond in kind. By comparison, exchange norms reflect the idea that no obligation is felt toward the needs of the other person. Benefits are given in return for benefits received or with the expectation of repayment, and people tend to keep track of individual contributions. In essence, the use of communal norms means that benefits and aid are given freely and that if there is reciprocation, it is performed to meet the needs of the other person, whereas the use of exchange norms means that benefits and aid are not given freely and that receiving a benefit or aid calls for prompt reciprocation, preferably in kind, to eradicate the outstanding debt.

Clark and colleagues have found considerable support for this theory. In one study (Clark, 1984b), participants worked with a confederate on a task for a shared reward. On completion of the task, participants were responsible for dividing the reward between the two group members. The dependent variable was whether participants chose to work with the same color pen as or a different color pen from their partner. Choosing a different color pen more often than chance was thought to indicate exchange norms, as individual contributions would be clear, whereas choosing the same color pen more often than chance was thought to indicate the avoidance of exchange norms and the use of communal norms,<sup>1</sup> as individual contributions to the task would be obscured. Supporting Clark's theory, participants avoided using exchange norms when they believed friendship with their partner was possible—presumably to signal their interest in a relationship with the other person—but participants used exchange norms when they thought friendship was unlikely.

In a second study investigating the behavior of existing friends (communal condition) and strangers (exchange condition), Clark (1984b) found that whereas strangers generally chose to work with a different color pen from their partner (i.e., used exchange norms), pen choice for existing friends was random. It was theorized that the existing friends did not go out of their way to actively avoid using exchange norms because they had an established relationship and, therefore, should not need to send a message signaling interest in friendship (Clark, 1984b). It is important to note, however, that random pen choice is consistent with the use of communal norms because it suggests participants were not trying to keep track of individual contributions. In sum, these studies suggest that people avoid using exchange norms when the potential (and desire) exists for friendship with another person, presu-

ably to signal interest in a communal relationship, but people use exchange norms when the potential for friendship does not exist.

### New Relationship Development and the Interdependence Dilemma

Lydon, Jamieson, and Holmes (1997) conducted a series of studies focusing on the awkward position people face when they hope to establish a communal relationship with an acquaintance. These researchers found that when people desire a communal relationship with someone, consistent with Clark's (1984b) theory, they appear to know the communal script (i.e., give freely without concern for reciprocity), and they try to behave communally, for example, by going out of their way to do a favor for or help the potential friend. However, putting themselves on the line in this way creates anxiety, and to reduce their anxiety, people look for signs of interest and commitment ("Does he or she care about me?"), especially in patterns of social exchange. As Holmes (1991) noted, patterns of social exchange are often used to diagnose signs of caring because they yield information about the other's willingness to make personal sacrifices and to respond to one's needs. However, Holmes (1981, 1991) warned, this microlevel perspective on social exchange patterns and on the other's behavior can have the ironic effect of increasing feelings of vulnerability. Specifically, he argued, when people look to discrete behaviors to diagnose relationship potential, they tend to attach more meaning to those behaviors than is appropriate and, as a result, the importance of the behavior for the relationship becomes exaggerated; moreover, he stated, when discrete behaviors are analyzed in isolation, it tends to lead to perceived imbalances in what was given relative to what has been received (Holmes, 1981, 1991).

Thus, at the outset of a relationship, there is a strong desire for closeness but uncertainty about the other's motives, and this creates a great deal of anxiety. The hope is that the relationship will move forward, but for this to happen, feelings of anxiety and uncertainty need to be regulated. This leads to a vigilant monitoring of the other's behavior in an effort to confirm the other's interest and commitment. Ironically, though, this vigilant monitoring and microlevel perspective can perpetuate the very feelings of anxiety and uncertainty they are performed to control.

### Adult Attachment Theory

According to adult attachment theory, over the course of repeated interactions with significant others, individuals develop

<sup>1</sup> The distinction between the avoidance of the use of exchange norms and the use of communal norms is important. Simply not keeping track of individual contributions (indicated by random pen choice) is thought to reflect the use of communal norms, as it suggests participants were not anticipating using task contribution information when it came time to distribute the reward. By comparison, the active avoidance of the use of exchange norms (indicated by participants' choosing the same color pen significantly more often than chance) is thought to reflect an effort to avoid looking as though one would prefer an exchange relationship (Clark, 1984b). As Clark (1984b) stated, "when people are trying to form a communal relationship, they are not only concerned with following communal norms but also with avoiding any perception on others' parts . . . that they might prefer an exchange relationship" (p. 553).

mental models for close relationships that contain beliefs about whether the self is worthy of love and affection and whether others are trustworthy and reliable (Hazan & Shaver, 1987, 1994; Mikulincer & Shaver, 2003). Moreover, in addition to the importance of attachment models in guiding cognition, theorists have begun to stress the emotion and behavioral regulation properties of the attachment system when describing differences in attachment (Fraley & Shaver, 2000; Mikulincer & Shaver, 2003). Whereas adult attachment models have been conceptualized in different ways, current theory emphasizes a dimensional approach in which differences in attachment lie along the two dimensions of anxiety and avoidance (Brennan, Clark, & Shaver, 1998; Fraley & Waller, 1998).

Attachment anxiety is associated with a heightened desire for closeness and intimacy combined with concerns about attachment-figure (un)availability. Furthermore, attachment anxiety is theorized to be associated with the use of *hyperactivation strategies* that aim to secure attention from an unresponsive or inconsistently responsive attachment figure (Mikulincer & Shaver, 2003). Specifically, as Mikulincer and Shaver (2003) described, attachment anxiety is associated with hypervigilance and increased sensitivity to cues of acceptance and rejection, attachment figures are intensely monitored, and efforts are made to maintain contact with the attachment figure. Furthermore, as these researchers noted, attachment anxiety is associated with a preoccupation with self-worth, sensitivity to one's internal distress, and emotion-focused coping (e.g., ruminating over worries and concerns). Finally, because the attachment system is chronically engaged in the pursuit of attachment-related goals, individuals high in attachment anxiety tend to have few resources left for the pursuit of such nonattachment endeavors as exploration and affiliation (Mikulincer & Shaver, 2003).

Attachment avoidance, on the other hand, is associated with a strong need for independence and the tendency to minimize the importance of closeness. As Mikulincer and Shaver (2003) explained, attachment figures are seen as unreliable and unable to provide protection, and so, to deal with ensuing feelings of vulnerability, attachment needs are denied, and self-reliance is pursued. Thus, in contrast to attachment anxiety, attachment avoidance is associated with the use of *deactivation strategies* that function to prevent distress from the failure to attain closeness by shutting down the attachment system (Mikulincer & Shaver, 2003). In this case, monitoring of the attachment figure is avoided, and efforts are made to prevent confrontations with threatening information that could activate the attachment system and cause distress (Mikulincer & Shaver, 2003). In contrast to attachment anxiety, attachment avoidance is associated with distance coping in which efforts are made to suppress worries and concerns (Mikulincer & Shaver, 2003).

Finally, attachment security (reflecting low anxiety and low avoidance) is associated with comfort with closeness and autonomy and the use of primary attachment strategies (e.g., seeking closeness and support) in times of need, rather than the secondary strategies of hyperactivation or deactivation. Basically, a history of attachment-figure availability reinforces the beliefs that people are generally well intentioned and that the world is a safe place, thus allowing more securely attached individuals to develop new rela-

tionships and to engage in such non-attachment-related activities as affiliation and exploration (Mikulincer & Shaver, 2003).

### The Present Investigations

We believe the attachment system should be critical in guiding perceptions, expectations, and behaviors with potential relationship partners, especially with respect to navigating the interdependence dilemma. Although attachment models arise over the course of repeated interactions with significant others and primarily reflect expectations about close others, we believe they nevertheless should come into play with potential partners—that is, individuals with whom one would like to be close. Collins and Read (1994) argued that chronic attachment models should be especially influential in interpersonal situations in which little is known about the other person (also see Pietromonaco & Feldman Barrett, 2000). Interpersonal situations occurring at the outset of a relationship are ambiguous, and little is known about the other person; thus, people should be especially likely to draw on their working models of attachment to guide expectations and to gauge behavior. Collins and Read (1994) also noted that attachment models should come into play when the situation is relevant to chronic attachment goals (e.g., seeking acceptance or establishing independence). To the extent that people see these situations as opportunities to satisfy chronic attachment goals, attachment models and associated beliefs, plans, and strategies should come into play (Mikulincer & Shaver, 2003).

### Hypotheses

Situations involving the desire and opportunity for closeness should activate the chronic goals (for closeness and acceptance) and the hyperactivation strategies associated with attachment anxiety and should magnify the approach-avoidance conflict associated with this attachment orientation. Thus, we predicted that in potential communal situations (i.e., when interacting with an attractive, friendly, available partner), individuals high in anxiety and low in avoidance (*preoccupied*) would be especially likely to signal their interest in a communal relationship by avoiding the use of exchange norms. At the same time, given their uncertainty about the reliability of others and their chronic concerns about self-worth, anxious individuals should be most susceptible to interdependence dilemma concerns inherent in these situations. Interdependence dilemma concerns should also be particularly salient because, in contrast to their more secure counterparts, anxiously attached individuals' strong desire for closeness means they have more to lose if the relationship does not materialize. Thus, we predicted that, ironically, when the potential close other used communal norms, anxious individuals would feel especially anxious and uncertain ("Is this person really communicating interest in me?") and concerned about self-worth ("How am I coming across? Is this person attracted to me?"). Furthermore, given their uncertainty about others' interpersonal motives, anxious individuals should require greater reassurance and, thus, should be especially likely to focus on discrete events in an effort to diagnose relationship potential. Finally, anxious individuals' interpersonal uncertainty and anxiety should have consequences: In situations involving the possibility of closeness, anxiously attached individuals'

interpersonal concerns should interfere with their ability to engage in non-attachment-related activities.

Potential communal situations should also arouse the chronic goals and deactivation strategies associated with attachment avoidance. Highly avoidant individuals, especially those who are low in anxiety (*dismissive*), are distrustful of close others, desire independence and self-reliance, and prefer to maintain a distance between themselves and close others. Thus, it was predicted that avoidant individuals would use exchange norms with a potential close other to signal their aversion to intimacy and to establish boundaries. Similarly, when a potential close other communicated interest in closeness, it was theorized that although avoidant individuals would likely be concerned about the other encroaching on their independence, they might nevertheless regulate their distress by avoiding confrontations with these unpleasant thoughts. Thus, we predicted that when a potential close other signaled interest, avoidant individuals would disparage the other so as to avoid dealing with the possibility of closeness (if the other is seen as unattractive or unlikable, one does not have to think about what might happen in a relationship with that person). Finally, given their desire to downplay the importance of closeness, avoidant individuals should be less likely to make relational attributions for a potential close other's communal behavior.

In contrast to their more insecure counterparts, secure individuals should demonstrate greater interpersonal confidence in potential communal situations because of their positive beliefs about themselves and others. In contrast to their more anxious counterparts, secure individuals should be less desperate to communicate interest in closeness. That is, they might not feel compelled to go out of their way to signal interest in a close relationship because of their trust that the relationship would develop. Moreover, their interpersonal confidence should translate into greater tolerance for uncertainty, reducing the need to microscopically analyze the other's behavior for signs of interest. In contrast to their more avoidant counterparts, secure individuals should not feel threatened by another's interest in closeness because they are less concerned with preserving their independence. Thus, we predicted that in contrast to their more insecure counterparts, secure individuals would feel relatively comfortable when a potential close other expressed interest in closeness.

### Study 1

This study was designed to investigate the association between attachment and the use of communal and exchange norms with a potential close other. The procedure for this study was based on Clark's (1984b) paradigm. The participant and the confederate worked on a group task for a shared reward; the dependent variable was whether the participant chose to work with the same color pen as the confederate. Choosing a different color pen was considered indicative of exchange norms because individual contributions would be clear, whereas choosing the same color pen was considered indicative of the avoidance of exchange norms because individual contributions would be obscured. It was predicted that anxious individuals would go out of their way to avoid appearing exchange oriented (i.e., they would use the same color pen as their partner) to signal interest in closeness, whereas avoidant individuals would adopt an exchange orientation (i.e., they would use a

different color pen from their partner) to signal their aversion to closeness. Finally, it was predicted that although secure individuals might not actively avoid using exchange norms, nevertheless, they would not adopt an exchange orientation (i.e., their pen choice would be random).

### Method

#### Participants

Seventy university students volunteered to participate. Single participants were targeted to ensure that they would be available and interested in a communal relationship with the confederate (Clark, 1986). Three participants were excluded from the analyses because they used their own pen to work on the group task. Thus, there were 67 participants in the final sample (32 men and 35 women,  $M$  age = 19.5 years). Fifty-six participants described themselves as single, and 11 participants described themselves as dating.<sup>2</sup> Participants received either extra credit or \$10 (Canadian) for their participation.

#### Procedure

University students were recruited to participate in a study supposedly investigating group performance and monetary incentives. In trying to create the potential for a communal relationship, we followed Clark's (1984b, 1986) induction and had the participant interact with an attractive, opposite-sex partner (a confederate) who, the participant was subtly informed (see discussion of the group information sheet, below), was single and a recent transfer student. In addition, the participant and the confederate had a 2-min interaction in the hallway prior to entering the testing room, purportedly because the experimenter was running late. This interaction was designed to encourage a sense of connection between the participant and the confederate. During the interaction, the confederate attempted to engage the participant in a conversation first by asking whether the participant had ever participated in a psychology experiment and then continuing with casual conversation (e.g., asking, "Where are you from?", "What is your major?", etc.).

After the hallway interaction, the participant and the confederate were brought into the lab. In accordance with Clark (1984b), the participant and the confederate were told that the study was designed to investigate the effects of monetary incentives on group performance and attitudes and that they would be working on two group tasks for which they would be rewarded. They were further told that one participant would be in charge of dividing the reward from the first task and that the other participant would be in charge of dividing the reward from the second task. It was emphasized that they were free to divide the reward however they wanted (in actuality, they never divided the reward). The first group task was then explained. This task consisted of finding a series of number sequences imbedded in a matrix. Fifty cents would be given for each number sequence found. The participant was always in charge of dividing the reward on the first group task, and the confederate was always in charge of dividing the reward on the second group task (which never occurred).

The participant and the confederate were then informed that, to save time, they would be working separately so that one person could complete the personality questionnaires while the other began the first group task.

<sup>2</sup> The 11 dating participants were included in the analyses because participants were sometimes confused about what dating meant (i.e., the question did not specify dating one person exclusively). Including the dating participants did not alter the results. Although we targeted single participants in Studies 2, 3, and 4, those who described themselves as dating were included in the analyses.

The experimenter then escorted the confederate to a separate testing room and returned with an informed-consent form, the personality measures, and a group information sheet for the participant to complete. The group information sheet, which requested demographic information including relationship status and length of attendance at the university, was used to make salient the potential for a communal relationship with the confederate (see Clark, 1984b, 1986). Specifically, the group information sheet was given to the participant after the confederate had completed the top portion, indicating that she or he was single and a recently arrived transfer student. In this way, the participant was made aware that the confederate was available for a communal relationship.

After completing the personality measures, which included the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991), a measure of chronic attachment, and the group information sheet, the participant was given the first task, already partially completed by the confederate, to finish. Three red pens and three black pens were placed in a pen-holder on the participant's desk. The participant thus had the choice to work with either the same color pen as or a different color pen from the confederate (the confederate alternated working with either a red or black pen). The participant was allotted 4 min to work on the task, after which he or she was informed that the study was over, probed for suspicions, debriefed, and compensated.

*Measures*

The RQ (Bartholomew & Horowitz, 1991) consists of four short paragraphs describing the secure, preoccupied, avoidant-dismissive, and avoidant-fearful attachment styles. Participants rated the extent to which they resembled each of the four styles in their close relationships (i.e., relationships with parents, siblings, close friends, relatives, or romantic partners) based on a 5-point scale ranging from 0 (*not at all*) to 4 (*completely*). Participants also selected the one attachment style that best described how they felt in their close relationships. Following Fraley and Shaver (1997), we created composites of anxiety and avoidance by subtracting participants' dismissive ratings from their preoccupied ratings and by subtracting their secure ratings from their fearful ratings. We then standardized these composite scores.

*Results*

To investigate whether attachment was associated with participants' pen choice, we adopted two data-analysis strategies. First, participants were grouped according to their self-categorized attachment style, and the Pearson chi-square test was conducted to investigate whether pen choice was associated with chronic attachment. Following Clark (1984b), we also conducted difference of proportion tests to determine whether group differences in pen choice differed significantly from chance. Second, participants were grouped according to whether they chose the same color pen as or a different color pen from the confederate, and independent-samples *t* tests were conducted to investigate group differences on the continuous attachment scores (i.e., the anxious and avoidant composites and the individual attachment items). Finally, although we did not have specific predictions related to sex, we investigated whether sex was associated with the use of communal and exchange norms and whether sex qualified any of the findings, recognizing that sex was confounded with confederate.

*Categorical Analyses*

In this study, 39% of participants categorized themselves as secure, and 20%, 21%, and 20% categorized themselves as

avoidant-dismissive, preoccupied, and avoidant-fearful, respectively (one participant did not answer the attachment categorization item). The Pearson chi-square test revealed that pen choice was associated with attachment,  $\chi^2(3, N = 66) = 13.67, p < .005$  (see Table 1). Moreover, as predicted, the proportion of preoccupied participants who chose the same color pen (93%) was significantly greater than the proportion expected by chance (50%;  $Z = 3.22, p < .001$ ). With respect to the other three groups, pen choice did not differ significantly from chance. The proportion of secure participants who chose the same color pen (39%) was not significantly less than the proportion expected by chance ( $Z = 1.17, ns$ ), the proportion of dismissive participants who chose the same color pen (31%) was not significantly less than the proportion expected by chance ( $Z = 1.37, ns$ ), and the proportion of fearful participants (46%) who chose the same color pen was not significantly less than the proportion expected by chance ( $Z < 1, ns$ ). Finally, the Pearson chi-square test unexpectedly revealed a marginal effect for sex,  $\chi^2(1, N = 67) = 3.39, p = .066$ . Overall, men were slightly more likely to use communal norms (63%) than were women (40%).

*Continuous Analyses*

Inspection of the anxious and avoidant composites showed that those who chose the same color pen were more anxious,  $M(34) = .31$ , than those who chose a different color pen,  $M(33) = -.32, t(65) = 2.67, p = .01$ , but there was no difference between the same and different pen choice groups on the avoidant dimension ( $t < 1.5$ ). Analyses of the individual attachment items similarly found that those who chose the same color pen were more preoccupied ( $M = .41$ ) than those who chose a different color pen ( $M = -.42$ ),  $t(60.79) = 3.73, p < .001$ , whereas there were no differences between the same and different pen choice groups on attachment security, dismissive, or fearful ratings (all  $ts < 1.7$ ). It is interesting to note, however, that when we investigated whether sex qualified any of these findings, results revealed a significant interaction between sex and pen choice on dismissive ratings,  $F(1, 63) = 7.44, p < .01$ . Specifically, men who chose a different color pen were significantly more dismissive,  $M(12) = .84$ , than men who chose the same color pen,  $M(20) = -.10, t(63) = -2.76, p < .05$ , whereas dismissive scores did not differ for women as a function of pen choice ( $t < 1.2$ ).

*Discussion*

In sum, our predictions for the anxiously attached were supported: Preoccupied individuals were more likely to choose the

Table 1  
*Pen Color Choice as a Function of Attachment (Study 1)*

Attachment style	Pen color choice	
	Same	Different
Secure	10	16
Preoccupied	13	1
Avoidant-dismissive	4	9
Avoidant-fearful	6	7
Total	33	33

same color pen as their partner than one would expect by chance, and those who chose the same color pen as their partner were more anxious and more preoccupied. Thus, in accordance with Clark's (1984b) theorizing, these findings suggest that when interacting with an attractive, available, opposite-sex partner, anxiously attached individuals go out of their way to avoid appearing exchange oriented, presumably to signal interest in their partner.

The findings for the other three groups were less clear-cut. As predicted, pen choice for secure individuals was random; however, pen choice for fearful individuals was also random. Finally, although dismissive individuals were more likely to choose a different color pen than preoccupied individuals—suggesting their preference for an exchange orientation—contrary to our predictions, their pen choice was not significantly different from chance. Moreover, those who chose a different color pen were not more dismissive. That said, additional analyses revealed that men who chose a different color pen were more dismissive. However, very few women ( $n = 2$ ) categorized themselves as dismissive, making it difficult to investigate this effect for women.

On a related note, unexpectedly, women overall were slightly less likely than their male counterparts to use the same color pen as their partner; this may also have made it difficult to detect an association between women's avoidant attachment and the use of exchange norms (i.e., if women were less likely to use communal norms, dismissive women would have had to have been that much less communal). Why were women slightly less likely to use communal norms? If anything, one would expect women to be more communal. One possible factor may have been the confederate. Male and female participants interacted with different confederates; although we tried to select comparable confederates, slight differences (e.g., one confederate may have been liked more than the other) could have influenced participants' desire for closeness and their use of communal norms.

## Study 2

In Study 1, when interacting with an available, desirable partner, anxious individuals, compared with their more secure and avoidant counterparts, went out of their way to express interest in closeness, but how do anxious individuals respond when an available, desirable partner expresses interest in them? The goal of this study was to investigate the relationship between attachment and participants' response to the use of communal or exchange norms by a potential close other. In this study, we created a new psychological situation by modifying the procedures from Study 1. Specifically, the confederate worked on the group task after the participant, and the completed group task was returned to the participant, who was in charge of tabulating the results. In this way, the participant was able to see whether the confederate used the same or different color pen (experimental manipulation of communal vs. exchange norms). State feelings of interpersonal anxiety, partner liking, and partner perceptions were assessed.

It was theorized that whereas secure individuals would feel comfortable with a potential close other's use of communal norms, insecure (anxious and avoidant) individuals would feel more distressed. Anxious individuals have a strong desire for closeness but are uncertain about others' interest and tend to doubt their self-worth. As we have argued, anxious individuals should be espe-

cially susceptible to interdependence dilemma concerns in situations involving possible closeness because of their chronic interpersonal insecurities. Thus, it was predicted that, compared with the exchange condition, anxious individuals in the communal condition would experience more interpersonal anxiety because of the potential for closeness in this condition. Avoidant individuals, on the other hand, strive for independence and do not like it when others try to get too close. Thus, it was predicted that, compared with the exchange condition, avoidant individuals in the communal condition would respond to their partner's overtures with decreased liking and would try to cast their partner's communal behavior in a negative light. Finally, although situations involving possible closeness should be distressing to avoidant individuals given their preference for independence, avoidant individuals tend to suppress worries and concerns. Thus, we did not have specific predictions regarding avoidant individuals' affective response in this study.

## Method

### Participants

Sixty-three university students volunteered to participate. Single participants were targeted; 2 participants were excluded because they were in a serious relationship, and 2 participants were excluded because they suspected that their partner was a confederate. There were 59 participants in the final sample (26 men and 33 women, 50 single and 8 dating [1 participant did not answer this question],  $M$  age = 21.05 years). Participants were randomly assigned to the communal ( $n = 28$ ) or exchange conditions ( $n = 31$ ). Participants were given either extra credit or \$10 (Canadian) for their participation.

### Procedure

University students were recruited to participate in a study supposedly investigating personality, group performance, and incentives. As in Study 1, the participant had a 2-min interaction with an attractive, opposite-sex confederate on arrival at the testing session. After the interaction, the participant and the confederate were brought into the lab and were informed that they would be working on two group tasks for which they would be rewarded; when the first group task was completed, one person would be given the reward to divide between the members of the group, and when the second group task was completed, the other person would be given the opportunity to divide the reward. Different from Study 1, it was explained that even though participants would be working together on both tasks, because the study was interested in the effects of two different working conditions, they would be working in two separate rooms during the first task, so they would be unable to communicate, and they would be working in the same room during the second task. The group task, which was similar to the number matrix task used in Study 1, was then explained. Participants were told that they would be given 25¢ for each number sequence found. Again, the participant was responsible for dividing the reward on the first group task (the second group task never took place).

The participant was then escorted to a room next door, was given an informed-consent form to complete, and then began the first group task. The experimenter left and returned after 6 minutes with the group information sheet (similar to that used in Study 1), partially completed by the confederate, and the personality measures, which again included a measure of chronic attachment. The experimenter then brought the group task to the confederate, who used either the same color pen as (communal condition) or a different color pen from (exchange condition) the participant. (Although participants were not specifically told that their partner had an

option with regard to pen choice—primarily because it was difficult to convey this information without drawing attention to the importance of pens in the study—care was taken to display the pens on the participant's desk in an artificial manner so that the participant would assume that the other's desk space was similarly laid out.) The completed group task was then returned to the participant, who was instructed to tabulate how many number sequences the team had found. In this way, the participant was able to see whether the confederate used a pen of the same color or one of a different color. At this point, the participant was told that before beginning the second group task in which he or she would be working with the other participant in the same room, it was necessary to complete a social interaction prestudy questionnaire to control for individual differences in expectations about working together (Clark & Mills, 1979). The questionnaire assessed situational feelings of interpersonal anxiety (i.e., state affect and self-esteem), partner perceptions, and partner liking. After completing these measures, the participant was probed for suspicions, debriefed, and compensated.

### Measures

*Experience in Close Relationships scale (ECR; Brennan et al., 1998).* This 36-item questionnaire is designed to assess the two dimensions of attachment avoidance and anxiety. Avoidant items reflect comfort with closeness and dependency, and anxious items reflect anxiety about being abandoned. Participants indicate on a 7-point scale how much they agree or disagree with each item, in terms of how they experience romantic relationships. We added the ECR to this study because of the limitations associated with the RQ (i.e., assessment of discrete dimensions and categories). After reverse scoring items for which lower numbers reflected greater attachment avoidance or anxiety, we computed attachment avoidance and anxiety scores for each participant by taking the mean response on the 18 avoidance ( $\alpha = .90$ ) and 18 anxiety ( $\alpha = .90$ ) items. Avoidance and anxiety scores were not correlated,  $r(57) = .19, ns$ .

*Situational feelings of interpersonal anxiety.* To assess situational feelings of interpersonal anxiety, we created a composite that included state affect and aspects of state self-esteem. Specifically, the composite included the Anxious and Uncertain subscales from the Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1971). (These items were interspersed among items from the Depressed, Hostile, Happy, and Confident subscales of the POMS.) The composite also included the Appearance subscale from the State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991). Examples from this subscale include "I feel that others respect and admire me," "I feel good about myself," "I am pleased with my appearance right now," and "I feel unattractive" (this last item was reverse scored).<sup>3</sup> The Cronbach's alpha coefficient for the Anxious, Uncertain, and Appearance Self-Esteem subscales (reverse scored) was .73. To calculate the index, we summed participants' ratings from the Anxious and Uncertain subscales and subtracted their Appearance Self-Esteem rating (standardized scores were used in the calculation to adjust for scale differences in these measures).

*Partner perceptions and partner liking.* Partner perceptions and partner liking were assessed in the Social Interaction Prestudy Questionnaire. In this questionnaire, participants rated how well certain traits applied to their partner (the confederate). Because we were particularly interested in how avoidant participants would construe their partner's communal behavior, we selected traits from the Extended Personality Attributes Questionnaire (Spence, Helmreich, & Holahan, 1979), which taps positive communion (warm, helpful, and understanding), negative communion (spineless, fussy, and servile), positive agency (independent, competitive, and self-confident), and negative agency (arrogant, greedy, and hostile). Participants indicated their response by placing a slash through a line, anchored from 0 (*not at all*) to 50 (*completely*). Cronbach's alpha coefficients for communal-positive, communal-negative, agency-positive, and agency-negative composites were .78, .58, .36, and .66, respectively.

Participants also indicated the extent to which (a) they liked the person with whom they were working, (b) they would like to continue a conversation with that person on another occasion, (c) their partner was the kind of person they would want to have as a friend, and (d) their partner was the kind of person they would want to work with on another project by placing a slash through a line, anchored from 0 (*not at all*) to 50 (*completely*). We created a partner-liking score by taking participants' mean response to the four partner-liking items ( $\alpha = .87$ ).

### Results

This study was designed to investigate attachment differences in participants' response to the use of communal or exchange norms by a potential close other. The dependent variables were situational interpersonal anxiety, partner liking, and partner perceptions. It was predicted that attachment anxiety would be more strongly associated with interpersonal anxiety in the communal condition compared with the exchange condition, whereas attachment avoidance would be more strongly associated with partner liking (negative correlation) and negative partner perceptions in the communal condition compared with the exchange condition. To investigate these predictions, we used the Fisher  $z$ -transformation test (Cohen, Cohen, West, & Aiken, 2003) to compare the within-cell correlations between attachment and interpersonal anxiety, partner perceptions, and partner liking between experimental conditions.

#### *Attachment Anxiety and Interpersonal Anxiety*

Overall, attachment anxiety was associated with situational feelings of interpersonal anxiety across experimental conditions,  $r(57) = .58, p < .001$ . However, as predicted, the association between attachment anxiety and interpersonal anxiety was significantly greater in the communal condition,  $r(25) = .80$ , than in the exchange condition,  $r(28) = .37, Z = 2.59, p = .01$ .<sup>4</sup> Moreover, although avoidant attachment was also associated with interpersonal anxiety,  $r(57) = .37, p < .005$ , this association did not differ between experimental conditions,  $Z = 1.12, ns$ . It is important to note that the difference in the association between attachment anxiety and interpersonal anxiety in the communal and exchange

<sup>3</sup> Although the SSES taps performance, social competence, and appearance, it is thought that different components of state self-esteem should be affected by different experimental situations (Heatherton & Polivy, 1991). We focused on the appearance component because it was theorized that appearance concerns should be especially salient in the communal condition. That is, in both the communal and exchange conditions, participants expected to work on a task with their partner, and thus, performance and social interaction concerns should be salient. However, appearance concerns (e.g., "I feel unattractive") should be more salient in the communal condition than in the exchange condition given the potential for closeness and increased likelihood of being evaluated by another person on the basis of one's appearance in the communal condition.

<sup>4</sup> This effect was moderated somewhat by sex ( $p < .10$ ). Anxiously attached women experienced more interpersonal anxiety than their secure counterparts across conditions,  $r(31) = .53, p = .001$ , whereas for anxiously attached men, this relationship was weak in the exchange condition,  $r(11) = .35, ns$ , but very strong in the communal condition,  $r(11) = .92, p < .001$ .

conditions remained when controlling for attachment avoidance. That is, a comparison of the partial correlations between attachment anxiety and interpersonal anxiety (controlling for attachment avoidance) in the communal,  $r(24) = .77$ , and exchange conditions,  $r(27) = .39$ , remained significant ( $Z = 2.17, p < .05$ ).

### *Attachment Avoidance and Partner Liking and Partner Perceptions*

*Partner liking.* Overall, avoidant attachment was negatively associated with partner liking,  $r(57) = -.28, p < .05$ ; however, as predicted, this association was stronger in the communal condition,  $r(25) = -.54$ , than in the exchange condition,  $r(28) = -.02, Z = 2.12, p < .05$ . By contrast, attachment anxiety was not associated with partner liking,  $r(57) = -.03, ns$ . Moreover, attachment anxiety did not qualify the differential association between avoidant attachment and partner liking in the communal and exchange conditions. That is, a comparison of the partial correlations between attachment avoidance and partner liking (controlling for attachment anxiety) in the communal,  $r(24) = -.56$ , and exchange conditions,  $r(27) = -.02$ , remained significant ( $Z = 2.18, p < .05$ ). Finally, although this effect was not qualified by sex, men in general liked the female confederate more than women liked the male confederate,  $t(57) = 2.28, p < .05$ . (This finding supports our speculation in Study 1 that any sex differences may have been due to differences in male and female participants' liking of the confederates rather than sex per se.)

*Partner perceptions.* Overall, avoidant attachment was associated with ascribing more negative communal traits (e.g., servile) to the partner,  $r(56) = .31, p < .05$  (one participant did not respond to this question); however, as predicted, the association between avoidant attachment and perceptions of the partner's negative communal traits was stronger in the communal condition,  $r(25) = .56$ , than in the exchange condition,  $r(29) = .09, Z = 1.95, p = .051$ . Unexpectedly, attachment anxiety was also associated with negative communal partner perceptions,  $r(56) = .28, p < .05$ . Although this association did not differ between experimental conditions ( $Z = .70, ns$ ), controlling for attachment anxiety qualified the aforementioned association between attachment avoidance and perceptions of the partner's negative communal traits ( $Z = 1.58, ns$ ). No sex differences were found in the association between attachment avoidance and perceptions of the partner's negative communal traits. Finally, with respect to agency traits, avoidant attachment was associated with seeing the partner as more negatively agentic (e.g., greedy),  $r(57) = .28, p < .05$ , and less positively agentic (e.g., less independent),  $r(57) = -.31, p < .05$ , but these associations did not differ between experimental conditions.

### *Discussion*

As predicted, attachment anxiety was strongly associated with interpersonal anxiety when a potential close other used communal norms. Why were anxiously attached individuals not more distressed when their partner used exchange norms, as this might suggest their partner's disinterest in a communal relationship? We believe it is unlikely that the anxious participants interpreted their partner's exchange behavior as a rejection. The norm when inter-

acting with a stranger is exchange, so anxious individuals may have thought their partner's behavior in the exchange conditions (i.e., choosing to work with a different color pen) was consistent with the situation and thus did not take it as a personal slight. It was when the confederate deviated from the norm, expressing interest in closeness, that they felt especially anxious, uncertain, and concerned about their appearance. Thus, it appears that when opportunities arise for anxiously attached individuals to pursue their goals for closeness and acceptance, they experience more interpersonal anxiety.

Avoidant individuals had a very different response to the potential close other's use of communal norms. Attachment avoidance was associated with decreased partner liking in the communal condition, whereas there was no association between attachment avoidance and partner liking in the exchange condition. Thus, it was not simply that avoidant individuals disliked their partner; rather, they disliked their partner when their partner attempted closeness. Avoidant individuals value independence and self-sufficiency and prefer to keep a distance between themselves and close others; they also tend to avoid confrontation with worries or concerns. We believe their partner's communal overtures likely threatened avoidant individuals' need for self-reliance, and they responded by disparaging their partner.

Rather than response to possible closeness, an alternate explanation of the findings from this study is that the confederate's obscuring of contributions in the communal condition made it difficult for participants to divide the reward because each person's contribution to the task was ambiguous. We believe it is unlikely that this would explain anxious individuals' heightened interpersonal anxiety. Referring back to Study 1, the large majority of anxious individuals used the same color pen as their partner, and given that they were also responsible for dividing the reward in Study 1, they would have been presented with the same quandary. Avoidant individuals, on the other hand, may indeed have been perturbed when their partner used the same color pen because it made it difficult for them to divide the reward. However, given that distributing benefits on the basis of task contribution is an exchange norm, this would seem to support the notion that avoidant individuals prefer to operate from an exchange rather than a communal perspective.

These findings also shed light on Study 1. In Study 1, anxiously attached individuals chose to work with the same color pen as their partner more often than chance. In line with Clark's (1984b) theorizing, we interpret this behavior as an effort to signal interest in closeness by avoiding the use of exchange norms. An alternate explanation, however, is that anxiously attached individuals obscured contributions because they were concerned they would be evaluated negatively if they performed poorly. Study 2 suggests that this was not the case: Anxiously attached individuals had less interpersonal anxiety when their performance was distinguishable from their partner's performance (i.e., in the exchange condition).

In sum, Studies 1 and 2 suggest that situations involving the opportunity for closeness elicit an approach-avoidance conflict in anxiously attached individuals. In Study 1, anxiously attached individuals were more likely that their secure and avoidant counterparts to symbolically approach their partner, whereas in Study 2, attachment anxiety was associated with greater feelings of interpersonal anxiety following a potential close other's communal

overtures. We believe the confederate's communal behavior likely aroused anxious individuals' interdependence dilemma concerns ("Is this person interested in me?") and their deep-seated ambivalence about close others. On the one hand, given their desire for closeness, anxiously attached individuals were probably highly motivated to detect signs of interest in the other's behavior, but on the other hand, given their chronic uncertainty about others, their hopes may have been tempered by concerns that they would be found unworthy (Holmes, 1991). Avoidant individuals, by contrast, disparaged their partner when their partner used communal norms presumably because their partner's communal overtures threatened their desire for independence. Studies 3 and 4 were designed to explore these ideas.

### Study 3

A core prediction of the interdependence dilemma is that in potential communal situations, there is the desire for closeness but uncertainty about the other's motives and this uncertainty needs to be resolved for the relationship to move forward. Consequently, as Holmes (1991) noted, people seek confirmation about the other's motives, often using patterns of social exchange as a testing ground—that is, they look for evidence that the other genuinely cares as indicated by, for example, the other's use of communal norms ("Is the other responsive to my needs?"). As we have argued, because of their strong desire for closeness and their chronic uncertainty, anxiously attached individuals should be most susceptible to interdependence dilemma concerns. Indeed, Study 2 found attachment anxiety to be more strongly associated with feelings of interpersonal anxiety in situations involving the possibility of closeness. If anxious individuals are more susceptible to interdependence dilemma concerns, then they should be especially likely to engage in this process of uncertainty reduction, evaluating even relatively trivial behaviors for their diagnostic information about relationship potential. Indeed, the notion that anxiously attached individuals are especially alert to environmental cues conveying information about acceptance and rejection is also a central prediction of attachment theory (Fraley & Shaver, 2000).

The goal of Study 3 was to investigate the idea that potential communal situations arouse anxiety and uncertainty in anxiously attached individuals, which then sets in motion a need to microscopically analyze and diagnose the other's behavior—even trivial behaviors—for signs of interest and commitment. Moreover, we wanted to probe whether anxious individuals' hypervigilance and need to reduce uncertainty were associated with assigning greater relational significance to more trivial situations that are less clearly communal or whether this process would be more apparent in situations clearly suggestive of communal potential. Although everyone should respond with interdependence dilemma concerns when the behavior of the other is clearly suggestive of communal potential, we believe that even trivial behaviors should elicit interdependence dilemma concerns for the anxiously attached.

In this study, we departed from the laboratory methodology and instead used a guided-visualization, self-report methodology to assess preexisting potential communal relationships from participants' own social world. Moreover, although we sought to create the potential for a romantic relationship in Studies 1 and 2, some participants may have thought of the confederate as a potential

friend and not as a romantic prospect. Thus, in this study, participants were instructed to nominate someone with whom they hoped to establish a deeper relationship (a potential close other); the nature of that relationship (friendship vs. romantic) was left open, which allowed us to compare romantic versus nonromantic potentially communal relationships. Participants then visualized themselves in one of two scenarios. In one scenario, participants needed to borrow notes for a class they have missed, and the potential close other offered to loan them the notes; in the second scenario, the potential close other suggested being study partners and exchanging phone numbers. The offer to lend someone notes is a relatively trivial, mundane event that can be attributed to a variety of nonrelationship factors, whereas the suggestion to exchange phone numbers is less common and the motives for the behavior, we believe, are more suggestive of relationship potential. Affect, significance of the event for the future of the relationship, and relational attributions for the other's communal behavior were assessed.

It was hypothesized that overall, participants would believe the event had greater significance for the future of the relationship and would make more relational attributions when the potential close other suggested being study partners than when the potential close other offered to lend them notes. Similarly, with respect to affect, it was hypothesized that the study partner scenario would elicit less indifference and greater unease compared with the notes scenario because the prospect of closeness would arouse interdependence dilemma concerns.

Attachment, however, was hypothesized to moderate these effects. Secure individuals (low anxious and low avoidant) were predicted to be the baseline group—that is, they should infer greater significance and make more relational attributions in the less ambiguous study partner scenario than in the more trivial notes scenario. They should also experience less indifference and greater unease in the study partner scenario, in line with interdependence dilemma predictions. Anxious individuals, by comparison, should infer greater significance, make more relational attributions for the potential close other's behavior, and feel more uneasy regardless of scenario; that is, even the discrete communal behavior scenario should set in motion interdependence dilemma concerns. Finally, avoidant individuals should be less likely to infer significance and should make fewer relational attributions for the potential close other's communal behavior because of their tendency to downplay the importance of closeness; for the same reason, they should also be more indifferent to the potential close other's communal behavior. Lastly, it was predicted that avoidant individuals would be less happy in the notes scenario, in which they must rely on the other for help, because of their aversion to dependency.

### Method

#### Participants

Two hundred seventy-nine participants were recruited on a volunteer basis to complete one of two relationship surveys. Single participants were targeted to ensure participants were adequately interested in pursuing a relationship with their chosen person. We excluded 2 participants who were unable to nominate a potential close other, 23 participants who were insufficiently interested in developing a relationship with the potential

close other (i.e., their interest ratings were below the midpoint; these participants did not differ from the other participants in their attachment avoidance or anxiety scores), 1 participant who did not complete the attachment questionnaire, and 1 participant who was married, had known the potential close other for 30 years, and was more than 10 standard deviations above the mean participant age. Thus, 252 participants completed one of two relationship surveys (126 men and 125 women, 219 single and 32 dating,  $M$  age = 20.94 years). (There were missing data on some of the questions because of nonresponse; however, there were never more than 5 [2%] missing data points for the relational indices, which were the main dependent variables).

### Procedure

Prospective participants were asked if they would be interested in completing a survey about new relationship development. Participants were told that it was important to complete the survey in one sitting, alone, and in a quiet place. Agreeing participants completed an informed-consent form, were given the survey and an envelope, and were instructed to return the survey in the sealed envelope to ensure anonymity. Surveyors were unaware of the hypotheses when administering the survey, and participants were debriefed on returning the survey.

The survey began with a brief introduction, which stated that the goal of the research was to learn more about the development of new relationships. Participants were informed that the survey involved nominating someone with whom they were not currently friends but with whom they could imagine being close friends, visualizing themselves and this person in a scenario, and answering some questions about the scenario as well as some demographic questions and some personality measures. Participants were encouraged to fully immerse themselves in the scenario (e.g., by visualizing themselves and their chosen person in the situation, imagining the surroundings, etc.). Moreover, to help participants mentally simulate the experience, blank spaces were inserted throughout the scenario, and participants were instructed to write their chosen person's first name in the spaces provided.

After the introduction, participants were asked to think of a same-sex or opposite-sex acquaintance. Specifically, they were instructed to think of

Someone with whom you are not currently friends, but someone with whom you could imagine being close friends if you got to know each other better. This person could be a casual friend with whom you would like to establish a deeper friendship, or, possibly, a romantic relationship. . . . Although you are not close friends right now, you think you might really enjoy spending time together in the future. It remains to be seen how your relationship will develop.

Because of the nature of the scenarios (borrowing class notes and exchanging phone numbers to be study partners), participants were directed to select a peer, that is, someone relatively close in age, so that the scenario would be appropriate and realistic.

After selecting their chosen person but before going on to read the social interaction scenario, participants were instructed to visualize their chosen person. To aid in the visualization process, participants were presented with a series of questions about their chosen person (e.g., "What is it like being with this person?" and "How do you feel when you are with this person?"). The purpose of the guided visualization was to help participants immerse themselves so as to discourage top-of-the-head responses (Lydon et al., 1997). After the visualization, participants read one of the following two scenarios.

*Notes (relatively trivial communal behavior).* "Imagine that you and \_\_\_\_\_ are taking a class together. You have missed a few classes

since the last midterm and \_\_\_\_\_ has the notes for the classes you missed." After rating how comfortable they would feel in that situation, participants were asked to imagine that their chosen person had offered to lend them the notes.

*Study partner (less ambiguous gesture of friendship).* "Imagine that you and \_\_\_\_\_ are taking a class together. One day after class \_\_\_\_\_ gives you his or her phone number and suggests being study partners for the upcoming exam."

After reading the scenario, participants answered questions about their affective response, the significance of the event for the future of the relationship, and attributions for the potential close other's behavior (see *Measures*, below). At the end of the questionnaire, participants indicated (a) whether they were able to think of someone with whom they desired a deeper friendship, (b) how long they had known the person, (c) how interested they were in developing a relationship with the person, (d) what type (romantic or friendship) of relationship they desired, and (e) how realistic the scenario was to them. We also assessed chronic attachment (the measure was presented as a relationship style questionnaire) and demographic information at this point.

### Measures

*Significance of the event for the future of the relationship.* Participants rated, on a scale from 1 (*not at all*) to 7 (*a lot*), the extent to which they thought the event would say something about the progress of the relationship and how much closer they thought they would feel to their chosen person after the event compared with prior to the event. Using the same scale, participants also rated the extent to which they agreed with the following statements: "We will probably get closer," "This event cements our relationship," and "This event has no particular implications or significance for the relationship" (this item was reverse scored). An index of the significance of the event for the development of the relationship was created by averaging participants' responses to these five items ( $\alpha = .74$ ).

*Relational attributions for the potential close other's behavior.* Participants rated, on a scale from 1 (*disagree strongly*) to 7 (*agree strongly*), the extent to which they agreed with seven statements reflecting different attributions for their chosen person's behavior. A relational attribution composite was created by taking the mean of participants' relational attributions (i.e., "because he or she likes me [i.e., this event occurred because of the way this person feels about me]," "because he or she cares about me," "to become closer," and "as a gesture of friendship") and subtracting their situational attribution (i.e., "I don't think this event had much to do with who the other person is, or the way he or she feels about me; outside circumstances were probably the primary cause of this event").<sup>5</sup>

*Affect.* Participants rated how indifferent, uneasy, and happy they would feel in the situation described in the scenario, using a scale from 1 (*not at all*) to 7 (*extremely*).

*ECR (Brennan et al., 1998).* The 36-item questionnaire used in Study 2 was used to assess attachment avoidance ( $\alpha = .91$ ) and anxiety ( $\alpha = .91$ ).

<sup>5</sup> Participants also responded to a dispositional attribution statement ("because he or she is a nice person") and a self-interested attribution statement ("out of self-interest [i.e., to improve his or her standing in the class]"). However, these items were not included in the relational attribution composite because we believe they likely tapped participants' chronic beliefs about others and not simply beliefs about whether the behavior had meaning for relationship development. Indeed, there was no correlation between making relational attributions and making dispositional or self-interested attributions,  $r(245) = -.01$ , *ns*, and  $r(245) = .04$ , *ns*, respectively.

### Results

A series of hierarchical multiple regressions were conducted to investigate the influence of attachment anxiety and avoidance on participants' affective response to the potential close other's communal behavior, their beliefs about the significance of that behavior for relationship development, and the kind of attributions they made about the potential close other's communal behavior. Attachment anxiety and avoidance were standardized and entered in the first step of the regression along with scenario (notes vs. study partner; contrast coded as 1 and  $-1$ , respectively); the two-way interactions of attachment anxiety and avoidance, scenario and attachment anxiety, and scenario and attachment avoidance were entered in the second step; and the three-way interaction of scenario, attachment anxiety, and attachment avoidance was entered in the third step of the regression.

We also investigated whether the type of relationship participants thought about (friendship or romantic) or participants' sex influenced any of the dependent variables and whether relationship type or participants' sex qualified any of the effects of attachment and/or scenario. There were no significant main or interaction effects of relationship type on any of the dependent variables. Similarly, with one exception, there were no main or interaction effects of sex on any of the dependent variables. Specifically, attachment avoidance and attachment anxiety were negatively correlated with feeling uneasy for male participants, whereas women's uneasiness ratings were not correlated with avoidance or anxiety. Basically, highly avoidant or anxious men were less likely to report feeling uneasy compared with their less avoidant and less anxious counterparts.

### Relationship Characteristics

One hundred two participants thought of a potential friend, and 149 participants thought of a potential romantic partner (if participants selected both, they were categorized as seeking a romantic relationship because it was assumed that if participants indicated any interest in a romantic relationship, then that was their true preference). The mean interest in developing a relationship was 5.27 (range = 4.00–7.00). The mean relationship length was slightly less than a year and a half (497 days), and the median was approximately 6 and a half months (196 days; range = 1 day–11 years). The mean scenario realism score was 4.82 (range = 1.00–7.00). Attachment was not associated with the type of relationship participants were interested in developing (both  $t$ s < 1), nor was attachment associated with interest in developing a relationship, perceived scenario realism, or relationship length (all  $r$ s < .11). Relationship type, however, was associated with interest in developing a relationship,  $t(230.167) = 6.37, p < .001$ . Those seeking a romantic relationship were significantly more interested in developing a relationship with their chosen person ( $M = 5.56$ ) than were those seeking a friendship ( $M = 4.83$ ).

### Significance of Event for Relationship Development

Analyses investigating the composite measure of beliefs about the significance of the event for relationship development revealed an effect for scenario ( $B = -.43, sr = -.42, p < .001$ ). Partici-

pants inferred greater significance from the suggestion to be study partners than from the notes offer, providing construct validation for the two scenarios—that is, as intended, participants viewed the study partner scenario, which involved a less ambiguous instance of the potential close other's communal behavior, as having a greater impact on relationship development than the notes scenario. As predicted, however, analyses also revealed a significant effect for attachment anxiety ( $B = .17, sr = .17, p < .005$ ). Anxiously attached individuals inferred greater significance from the potential close other's communal behavior regardless of scenario. In addition, there was a marginal interaction between scenario and attachment anxiety ( $B = .10, sr = .09, p = .095$ ). Simple effects tests found that attachment anxiety was positively associated with beliefs about the significance of the event in the notes scenario,  $r(127) = .27, p < .005$ , but was not associated with significance beliefs in the study partner scenario,  $r(121) = .11, ns$ , primarily because everyone had more optimistic beliefs for the development of the relationship in the study partner scenario. Results also revealed an unexpected three-way interaction between scenario, attachment anxiety, and attachment avoidance ( $B = .12, sr = .11, p < .05$ ). This interaction is explained by the fact that for the notes scenario, high avoidant, low anxious (dismissive) participants were considerably less likely than their peers to believe that the event had significance for relationship development.

### Relational Attributions for the Potential Close Other's Behavior

Analyses investigating the relational attribution composite also revealed an effect for scenario ( $B = -.29, sr = -.29, p < .001$ ), again providing construct validation and suggesting that participants perceived their potential close other's suggestion to be study partners as more relationally motivated than the offer to lend them notes. There was also an interaction between scenario and attachment anxiety ( $B = .16, sr = .16, p < .01$ ; see Figure 1). Simple effects tests revealed that attachment anxiety was positively associated with relational attributions in the notes scenario,  $r(125) = .24, p < .01$ , but was not associated with relational attributions in

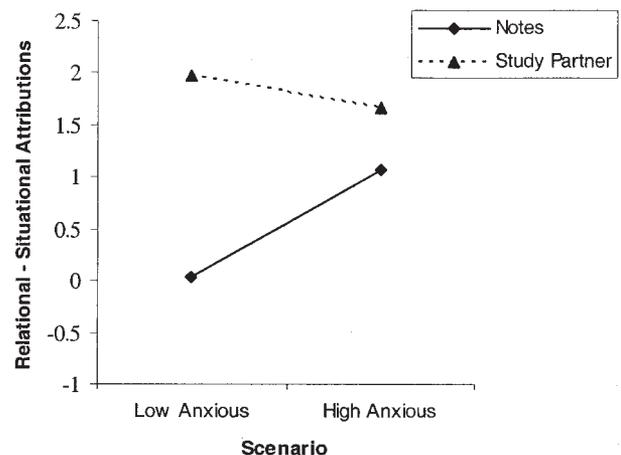


Figure 1. Relationship attributions (for potential close other's behavior) as a function of scenario and attachment anxiety (Study 3).

the study partner scenario,  $r(118) = -.10$ , *ns*, again, primarily because everyone made more relational attributions in the study partner scenario. Thus, similar to the significance of the event for relationship development analyses, anxiously attached individuals made more relational attributions regardless of the quality of the other's communal behavior. Finally, as predicted, analyses also revealed a negative association between attachment avoidance and making relational attributions ( $B = -.22$ ,  $sr = -.22$ ,  $p < .001$ ), suggesting avoidant individuals' reluctance to make relational attributions for the other's communal behavior.

### *Affective Response to Potential Close Other's Communal Behavior*

Overall, participants felt less indifferent ( $B = .20$ ,  $sr = .20$ ,  $p < .005$ ) and more uneasy ( $B = -.15$ ,  $sr = -.15$ ,  $p < .05$ ) in the study partner scenario than in the notes scenario. Again, this finding suggests that the study partner scenario had more emotional relevance for participants than did the notes scenario. The fact that participants were more uneasy in the study partner scenario also reinforces the notion that interdependence dilemma situations are associated with increased anxiety. As predicted, attachment anxiety was associated with feeling uneasy across scenarios ( $B = .13$ ,  $sr = .12$ ,  $p < .05$ ). Finally, avoidant attachment was associated with feeling more indifferent across scenarios ( $B = .13$ ,  $sr = .13$ ,  $p < .05$ ) and, interestingly, was also associated with feeling more uneasy across scenarios ( $B = .22$ ,  $sr = .22$ ,  $p = .001$ ). Moreover, results revealed a significant Scenario  $\times$  Avoidance interaction on happiness ratings ( $B = -.14$ ,  $sr = -.14$ ,  $p < .05$ ). As predicted, avoidant attachment was negatively associated with happiness ratings in the notes scenario,  $r(125) = -.21$ ,  $p < .05$ , in which participants received help from the other, but was not associated with happiness ratings in the study partner scenario,  $r(121) = .04$ , *ns*.

### *Discussion*

As predicted, overall, participants felt the suggestion to be study partners and exchange phone numbers was more significant for relationship development than the potential close other's offer to lend class notes; however, attachment moderated these effects. Anxious individuals, to a greater extent than their more secure counterparts, believed the event had significance for relationship development and were more likely to make relational attributions for the potential close other's communal behavior regardless of scenario. Even in the notes scenario, which involved a relatively mundane, trivial communal behavior, anxious individuals were more likely to detect evidence of caring and to use that behavior to diagnose relationship potential. Finally, avoidant individuals were less likely to make relationship attributions for the potential close other's behavior, reflecting their desire to minimize the importance of closeness and their more pessimistic expectations about others.

Interestingly enough, when we decomposed the relational attribution composite and investigated relational and situational attributions separately, although the pattern of results was the same, the Scenario  $\times$  Attachment Anxiety interaction only attained statistical significance for the situational attribution. This suggests that anxious individuals were somewhat more willing than others

to make positive relational attributions for the other's offer to lend them notes but that they were especially unwilling to discount the behavior as purely situational. That is, they appear to have been clinging to the notion that there must be some meaning in the gesture but at the same time were hesitant to conclude that the other was definitely interested in a relationship. These findings are consistent with the ambivalence that characterizes attachment anxiety and point to a possible source for the uncertainty anxious individuals evidenced in Study 2 in response to possible closeness. These findings are also consistent with Lydon et al.'s (1997) research, which found that when participants were faced with an interdependence dilemma, they were especially likely to believe that communal gestures had some implication for relationship development.

With respect to affect, overall, participants felt less indifferent in the study partner scenario suggesting that they perceived the offer to be study partners as having greater significance for the relationship. It is interesting to note that participants also felt more uneasy when the potential close other suggested being study partners. This finding is in agreement with Lydon et al. (1997), and we believe it is indicative of the feelings of uncertainty and anxiety people experience in association with the interdependence dilemma. Avoidant individuals, characteristically, reported feeling more indifferent to the potential close other's communal behavior across scenarios; they also felt more uneasy about the potential close other's communal behavior across scenarios. This indifference is consistent with avoidant individuals' tendency to downplay the importance of closeness, but their unease suggests that avoidant individuals are nonetheless uncomfortable with situations promoting closeness. Finally, avoidance was negatively associated with happiness in the notes scenario. This decreased happiness in response to a potential close other's helping behavior is consistent with the avoidant preference for self-reliance.

How do these findings illuminate Study 2? The anxiously attached assigned greater meaning and significance to possible communal overtures. They interpreted even a relatively trivial communal behavior as a sign of potential closeness. This is consistent with Holmes's (1991) predictions about chronic uncertainty in the context of the interdependence dilemma. Although everyone is thought to be susceptible to interdependence dilemma concerns—indeed, secure individuals also read meaning into the potential close other's behavior in this study—it appears that anxiously attached individuals, who are chronically uncertain, were more susceptible to interdependence concerns as evidenced by their tendency to hopefully latch onto even relatively trivial communal gestures. Unfortunately, as noted earlier, this microanalytic process may actually fuel the interpersonal anxiety anxious individuals are trying to regulate. The findings from Study 3 also shed light on the avoidant individuals in Study 2. The findings from Study 3 suggest that avoidant individuals have a strong desire to downplay the importance of closeness and that this may have contributed to their negative partner evaluations in Study 2. Finally, it is important to note that—at least in Study 3—avoidant individuals were not significantly less interested in developing a relationship with their chosen person than were their more secure or anxious counterparts, thus reducing the likelihood that the avoidants' response to the potential close other's communal be-

havior was simply due to insufficient interest in developing a relationship.

#### Study 4

In Study 1, we found that when interacting with a potential close other, anxious individuals went out of their way to signal interest in closeness. In Study 2, we found that ironically, when a potential close other signaled interest in closeness, attachment anxiety was associated with more interpersonal anxiety than when the potential close other acted more neutrally. The findings from Study 3 suggest that situations involving possible closeness elicit a great deal of uncertainty and that anxiously attached individuals may go into a mode of uncertainty reduction, looking for evidence of the other's interest and caring, even in more trivial communal behaviors. Taken together, Studies 1, 2, and 3 suggest that in potential relationship development situations, anxiously attached individuals are especially susceptible to interdependence dilemma concerns. What, however, are the implications of these interdependence dilemma concerns? A central prediction of attachment theory is the notion of a secure base. When attachment needs are met, people are free to engage in non-attachment-related activities (e.g., exploration); however, when the attachment system is chronically engaged in the pursuit of attachment goals (as is often the case with those who feel anxiously attached), fewer resources are available for non-attachment-related activities (Mikulincer & Shaver, 2003). The goal of Study 4 was to investigate the consequences of regulating concerns about closeness for anxious individuals' personal functioning.

In addition, although Study 3 investigated the kind of inferences and attributions people make about a potential close other's communal behavior, it was limited because of the self-report methodology used and because participants did not interact with a real person. Thus, in Study 4, we again explored how participants construed another's communal behavior; however, rather than asking participants explicitly about their perceptions, we decided to use an implicit measure. Not only do implicit measures avoid drawing attention to specific research questions but also they circumvent participants' self-presentation motives. Thus, in this study, we used a lexical decision task to assess the activation of attachment themes related to proximity–closeness and distance–rejection. Because the experimental manipulation concerned the possibility of closeness, it was hypothesized that closeness themes would primarily be activated; however, we also wanted to explore the possible activation of rejection concerns. A final goal of this study was to provide further evidence—using a different operationalization of the confederate's use of communal norms—that situations affording the possibility of closeness, compared with situations in which closeness is less likely, are distressing to anxiously attached individuals.

To meet these goals, we returned to the laboratory methodology and had participants again interact with an opposite-sex confederate in a study supposedly investigating cognitive abilities and distributive reasoning. Participants were informed that they would be performing some cognitive tasks (which included a task of mental concentration and a lexical decision task) and then answering some general knowledge (Trivial Pursuit; Hasbro, Inc., Pawtucket, RI) questions. In the communal condition, participants

were given the option to work as a team, and the confederate reached out to the participant and suggested working together for the Trivial Pursuit portion of the study. In the baseline performance-anxiety condition, participants were not given the option to work as a team but were simply informed that they would have to answer the Trivial Pursuit questions individually (hence, performance anxiety). We hypothesized that anxiously attached individuals would respond to the prospect of closeness in the communal condition with increased rumination and, consequently, poorer performance on the mental concentration task. By contrast, we predicted that secure individuals would not be distressed about the prospect of closeness in the communal condition—in fact, we thought that they might benefit from contact with a supportive other, resulting in enhanced performance. Finally, although we thought that avoidant individuals would likely be distressed about the prospect of closeness in the communal condition, we did not predict impaired performance on the mental concentration task because their typical coping response is to distance themselves from unpleasant thoughts.

In sum, all participants were expected to exhibit performance deficits on the mental concentration task in the performance-anxiety condition, but secure individuals' performance was expected to be facilitated in the communal condition, whereas anxiously attached individuals' performance was expected to be impaired in the communal condition. Moreover, it was predicted that secure and anxious individuals' performance on the mental concentration task in the communal condition would be differentially associated with proximity accessibility, with proximity accessibility being associated with better performance for the secure participants but worse performance for the anxious participants. By comparison, avoidant individuals' performance was not predicted to be affected by the communal condition because it was thought they would likely keep in check or suppress concerns about closeness.

#### Method

##### Participants

Sixty-nine male university students volunteered to participate in the study ( $M$  age = 19.7 years). Again, single participants were targeted (54 single and 15 dating). Participants were randomly assigned to either the communal ( $n = 32$ ) or the performance-anxiety condition ( $n = 37$ ) and received \$10 (Canadian) for their participation.

##### Procedure

As in the previous studies, the participant had a 2-min interaction with an attractive, opposite-sex confederate, who was also supposedly a participant. After the interaction period, the participant and confederate were brought into the testing room. The experimenter explained that the study was investigating cognitive abilities and distributive reasoning and that first they would be working on some cognitive tasks individually to assess mental concentration and then would be working on a Trivial Pursuit task. After being given a brief description of the Trivial Pursuit task (see *Experimental Manipulation*, below), the participant was escorted to a separate room and was left alone to complete an informed-consent form and a thought-listing task (unrelated to this study).

The experimenter returned after a few minutes with some personality measures (including the ECR) and the group information sheet for the

participant to complete. Once the participant had finished these items, the experimenter explained the d2 test (Brickenkamp, 1981), which was presented as a test of mental concentration. This test consists of a matrix of rows containing random sequences of the letters *d* and *p* with one, two, or no apostrophes above and/or below each letter; the objective is to go through each row and cross out all the *ds* with two apostrophes. The experimenter timed the participant as he worked on the d2 test. After completing a short evaluation form (see *d2 evaluation form*, below), the participant began the lexical decision task, which was also presented as a test of mental concentration. Under the pretext of checking on the other participant, the experimenter left so that the participant could work on the lexical decision task alone (participants completed the d2 test and lexical decision task in the absence of the confederate). The experimenter returned shortly after to probe for suspicions, debrief, and compensate the participant.

### Experimental Manipulation

**Communal condition.** In this condition, the participant and the confederate were informed that the second part of the study was investigating distributive reasoning and that they would be working on a task in which they would each be asked Trivial Pursuit questions. Moreover, they were told that they had the option to work with their partner on this task. Specifically, the experimenter said, "For this task, you have the option to work with your partner; so, if you choose to work with your partner, although each question will be directed at one of you, you will be able to help each other." The experimenter then paused, and the confederate looked at the participant, smiled, and suggested working together as a team, in this way expressing the desire to be communal. The experimenter confirmed that they would be working as a team on the Trivial Pursuit task (all participants agreed to work with the confederate) and asked if there were any questions. Finally, as in Studies 1 and 2, in this condition, the participant interacted with an attractive, opposite-sex partner (a confederate) who was presented as single and a recent transfer student, in this way increasing the desirability and perceived likelihood of a communal relationship with the confederate.

**Performance-anxiety control condition.** Our objective in designing this condition was to create a noncommunal condition—that is, an interaction in which the possibility of closeness was unlikely—however, we did not want participants to feel rejected by their partner. Thus, the participant and the confederate were informed that the second part of the study was investigating general knowledge and would involve a Trivial Pursuit game. In this condition, they were not given the option to work together; rather, they were told that the experimenter would be asking them the Trivial Pursuit questions individually and that each in turn would have the opportunity to answer the questions. Although the primary goal was to create a noncommunal condition in which the confederate did not express the desire to be communal by suggesting to work as a team, this meant having the participant work individually on the Trivial Pursuit task and answer questions in front of the confederate and experimenter. As a result, this condition was conceptualized as a performance-anxiety condition. Finally, in this condition, we followed Clark's (1984b) manipulation of an exchange relationship and presented the confederate as dating and not a transfer student to decrease the likelihood that the participant would see her as available for a communal relationship. The confederate was also slightly less talkative during the hallway interaction (i.e., she did not initiate a conversation, but if the participant asked her questions, she would respond, so as to not appear rude).

### Materials

**ECR (Brennan et al., 1998).** The 36-item questionnaire used in Studies 2 and 3 was used to assess attachment avoidance ( $\alpha = .91$ ) and anxiety ( $\alpha = .89$ ).

**The d2 mental concentration test (Brickenkamp, 1981).** This test consists of a matrix of 14 rows of random sequences of the letters *d* and *p* with one, two, or no apostrophes above and/or below each letter. Participants were instructed to cross out all the *ds* with two apostrophes and were given 15 s to go through each row (the experimenter timed participants with a stopwatch). Participants were instructed to work as quickly and accurately as possible. The d2 test is theorized to be an index of resistance against interference and has been used to assess rumination (Kuhl, 1981). Performance on the d2 test was calculated by summing the total number of hits (i.e., the total number of items crossed out) and subtracting the total number of mistakes (i.e., the number of non-d2s erroneously marked), in this way taking into account both errors of omission (i.e., the number of d2s missed) and errors of commission.

**The d2 evaluation form.** This questionnaire assessed participants' experience during the d2 test. Of interest, participants rated on a scale from 0 (*not at all*) to 4 (*extremely*) how much attention they devoted to the task and how much time they spent thinking about how well they were doing on the task by placing a slash through a line from 0% to 100%. An attention–distraction score was calculated by subtracting how much participants reported they were thinking about how well they were doing from how much attention they said they devoted to the d2 (higher numbers reflecting greater attention).

**Lexical decision task.** This task was used to assess the cognitive accessibility of proximity and distance–rejection themes. Participants were presented with a series of letter strings on a PC and were instructed to judge as quickly and as accurately as possible whether each letter string was a word or nonword by pressing the appropriate key on the keyboard. Participants were given 12 practice trials to familiarize themselves with the task, and then they began the 87 experimental trials.

Each trial began with a star presented in the middle of the screen, followed by the target stimulus after a pause of 500 ms. The target stimulus lasted on the screen for 1,000 ms during which participants indicated whether the target was a word or nonword. After they had indicated their response, a blank screen followed for 500 ms, and then, the next trial began. The target letter strings were taken from Mikulincer, Birbaum, Woddis, and Nachmias (2000) and consisted of 3 proximity words (*closeness, love, and affection*)<sup>6</sup> and 6 distance–rejection words (*separation, rejection, abandonment, distance, loneliness, and alone*). For exploratory purposes, we also included 5 coping strategy words (*intimacy, escape, worry, security, and control*), taken from Mikulincer (1998), which were theorized to reflect the coping strategies associated with different attachment orientations.<sup>7</sup> In addition, 9 communion and 9 agency words were included for pilot-testing purposes, along with 10 neutral words and 45 nonwords. The 10 neutral words had no positive or negative connotations and no link to proximity or rejection themes (e.g., *elephant, book, and picture*). The 45 nonwords were created by taking common English words and changing one letter. All words and nonwords were matched for number of letters, and trials were randomly ordered across participants. This task was programmed using E-prime and run on a Dell Pentium 3 XPS T700r PC.

<sup>6</sup> Mikulincer et al. (2000) used six proximity words; however, during pilot testing, three of these words (*kiss, hug, and caress*) were repeatedly mentioned as curious and out of place given the context of the study; thus, these words were dropped from the lexical decision task.

<sup>7</sup> It was thought that *worry* and *security* might be more accessible for the anxiously attached, whereas *escape* and *control* might be more accessible for the avoidantly attached, and that this might interact with experimental condition. However, no mean differences in reaction times (RTs) to these words were found, nor were any correlations between these RTs and mental concentration found as a function of attachment.

**Manipulation check.** After participants were debriefed, they rated the extent to which they (a) liked their partner, (b) were attracted to their partner, and (c) would like to be friends with their partner by placing a slash through a line ranging from 0 (*not at all*) to 100 (*very much*). Participants were given privacy to answer the questionnaire and were assured that their responses would remain anonymous and confidential. A composite manipulation check measure was created by averaging these three items ( $\alpha = .71$ ).

## Results

### Manipulation Check

The independent samples *t* test investigating the manipulation check composite revealed a significant difference between experimental conditions,  $t(67) = 3.48, p = .001$ . Supporting the experimental manipulation, those in the communal condition liked their partner more, were more attracted to their partner, and were more interested in a relationship with their partner,  $M(32) = 69.55$ , than those in the performance-anxiety condition,  $M(37) = 58.62$ . The interactive effects of experimental condition and attachment on attraction to partner were also investigated in an analysis of variance (ANOVA) after splitting the attachment dimension scores at the median. The ANOVA revealed a three-way interaction between condition, attachment anxiety, and attachment avoidance,  $F(1, 61) = 4.63, p < .05$ . Focused comparisons showed that low anxious–low avoidant participants and high anxious–high avoidant participants were more attracted to the confederate in the communal condition,  $M(7) = 77.19$  and  $M(9) = 70.30$ , respectively, than in the performance-anxiety condition,  $M(12) = 55.08$  and  $M(11) = 57.52$ , respectively,  $t(61) = 3.58, p < .001$ , and  $t(61) = 2.19, p < .05$ , whereas there were no between-condition differences in partner attraction for low anxious–high avoidant participants or for high anxious–low avoidant participants. There were no attachment group differences within the communal and performance-anxiety conditions.

### Mental Concentration–Rumination

To investigate the influence of condition and attachment on mental concentration–rumination a 2 (condition: communal vs. performance anxiety)  $\times$  2 (attachment anxiety: low vs. high)  $\times$  2 (attachment avoidance: low vs. high) ANOVA was conducted on participants' d2 scores (i.e., the sum of d2 hits minus mistakes).<sup>8</sup> The ANOVA investigating the effects of experimental condition and attachment anxiety and avoidance on d2 performance yielded a main effect for condition,  $F(1, 58) = 4.70, p < .05$ . Overall, performance was worse in the performance-anxiety condition,  $M(37) = 183.36$ , than in the communal condition,  $M(29) = 200.66$ ; however, this effect was qualified by an interaction between condition and attachment anxiety,  $F(1, 58) = 4.49, p < .05$ , but not by an interaction with avoidance ( $F < 1.5$ ).

As depicted in Figure 2, participants low in attachment anxiety in the communal condition performed significantly better,  $M(13) = 212.67$ , than their low anxious counterparts in the performance-anxiety condition,  $M(20) = 178.48, t(58) = 3.05, p < .01$ , and, importantly, also performed significantly better than their high anxious counterparts in the communal condition,  $M(16) = 188.64, t(58) = 2.05, p < .05$ . There was no difference between

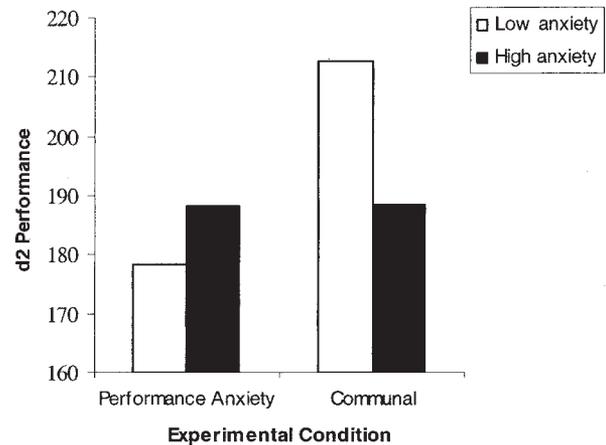


Figure 2. Mental concentration (d2 test performance) as a function of experimental condition and attachment anxiety (Study 4).

the low and high anxious participants in the performance-anxiety condition, nor was there a difference between conditions for the high anxious participants (both  $t$ s  $< 1.5$ ). Thus, as predicted, overall, participants were less able to concentrate in the performance-anxiety condition, suggesting their preoccupation with answering the Trivial Pursuit questions in front of their partner. However, whereas the communal condition facilitated performance for the more secure participants, it impaired performance for the more anxiously attached.

### Self-Reported Attention–Distraction

The ANOVA investigating the effects of condition and attachment on self-reported attention–distraction yielded a marginally significant interaction between condition and attachment anxiety,  $F(1, 61) = 3.32, p = .073$ . In the communal condition, high anxious participants reported being less attentive and more distracted,  $M(18) = 29.39$ , than their less anxious counterparts,  $M(14) = 62.36, t(61) = 2.04, p < .05$ . There were no other group differences ( $t$ s  $< 1.5$ ).

### Lexical Decision Analyses<sup>9</sup>

Drawing on Greenwald, McGhee, and Schwartz (1998), we recoded reaction times (RTs) on the lexical decision task less than 300 ms as 300 ms and RTs greater than 3,000 ms as 3,000 ms.

<sup>8</sup> Three participants with errors-of-commission scores (mistakes) greater than 60 (i.e., more than 4 standard deviations above the group mean of 5.75) were excluded from the d2 analyses because they most likely misunderstood the instructions to the d2 test. The fourth highest participant had an error-of-commission score of 17.

<sup>9</sup> Although native English speakers were targeted, 13 participants reported that English was their second language. One participant who rated his English proficiency as moderate (3 on a scale from 1 to 5) was dropped from the lexical decision analyses. The 12 remaining participants who

Overall, the error rates were low (the mean was 2.7%).<sup>10</sup> RTs for words with incorrect responses were replaced with the mean RT for that word. Error rates were not related to experimental condition or attachment. The mean RT across all conditions was 740.96 ms ( $SD = 146.84$ ).

Within-cell correlations were calculated to investigate the association between the accessibility of proximity or distance–rejection and d2 performance. Specifically, standardized residuals of the proximity and distance–rejection RTs were created using control word RT as the predictor (negative numbers reflecting quicker RTs and increased accessibility). Participants' d2 scores were also standardized (negative numbers reflecting poorer performance). The cross-products of these standardized scores were taken (e.g., the product of proximity accessibility and d2 score). We then conducted 2 (condition: communal vs. performance anxiety)  $\times$  2 (attachment anxiety: low vs. high)  $\times$  2 (attachment avoidance: low vs. high) ANOVAs on the within-cell correlations between (a) Proximity RT  $\times$  d2 Performance and (b) Distance–Rejection RT  $\times$  d2 Performance.<sup>11</sup>

The ANOVA investigating the correlation between proximity accessibility and d2 performance yielded a significant interaction between condition and attachment anxiety,  $F(1, 57) = 4.49, p < .05$ . In the communal condition, proximity accessibility was associated with better d2 performance for low anxious individuals,  $M(13) = -.69$ , but proximity accessibility was associated with poorer d2 performance for high anxious individuals,  $M(15) = .47, t(57) = 2.37, p < .05$ . Thus, in the communal condition, proximity accessibility facilitated performance for the less anxiously attached but impaired performance for the more anxiously attached.

In addition, a second interaction was found between attachment anxiety and avoidance independent of experimental condition,  $F(1, 57) = 4.29, p < .05$ . Among those high in anxiety, proximity accessibility was associated with increased performance for those low in avoidance,  $M(15) = -.46$ , but was associated with decreased performance for those high in avoidance,  $M(17) = .76, t(57) = 2.68, p < .01$ . Finally, there were no significant main or interaction effects of condition and/or attachment on the cross-product of distance–rejection accessibility and d2 performance (all  $F_s < 2.1$ ).

### Discussion

As predicted, performance on the mental concentration task was impaired for everyone in the performance-anxiety condition, but anxiously attached individuals also performed poorly in the communal condition. Secure participants, on the other hand, appeared to benefit from the communal condition—performing better than their anxious counterparts in the communal condition and better than their secure counterparts in the performance-anxiety condition. What was it about the communal condition that helped the secure but hurt the anxiously attached participants? Analyses looking at the association between d2 performance and proximity accessibility suggest that whereas thoughts about closeness facilitated the secure individuals' performance, these thoughts undermined the anxious individuals' performance. These findings high-

light the importance of a secure base: When secure participants interacted with someone who expressed liking and acceptance, as opposed to someone who was simply neutral, they went on to excel at the mental concentration task. Unfortunately, the potential for closeness did not have the same effect on their anxious counterparts. Anxious individuals ruminated even in response to a relatively positive interpersonal event—that is, an attractive, available other expressing interest in them. Finally, situations involving possible closeness did not trigger concerns about rejection for the anxiously attached, a point to which we return in the General Discussion.

Avoidant individuals did not exhibit performance deficits in the communal condition. Given that a core feature of avoidant attachment is discomfort when others try to get too close and that avoidant individuals liked their partner less when their partner worked as a unit in Study 2, it is likely that the confederate's suggestion to work as a team would have been somewhat distressing to the avoidant participants. However, avoidant attachment is associated with a deactivation of the attachment system, and avoidant individuals tend to cope with distress by suppressing their concerns, thus, their distress in the communal condition may not have compromised their performance on the mental concentration task.

### General Discussion

Our goal in conducting this research was to investigate whether attachment is related to people's ability to tolerate the uncertainty inherent in the early phases of relationship development. People who hope to establish a relationship try to follow the communal script to signal interest, but the desire to express interest is tempered by their uncertainty about the prospect for a relationship and the other's motives. Because differences in attachment reflect beliefs about whether the self is worthy of affection and whether others are trustworthy and reliable, it was theorized that attachment would be related to the ability to tolerate the interdependence dilemma. Overall, our predictions have been supported.

### Summary and Discussion of Findings

When anxiously attached individuals interacted with an attractive, desirable, opposite-sex partner, they obscured individual contributions to a group task. Drawing on Clark's (1984b) theorizing, we believe they did this to signal their interest in closeness (i.e., by obscuring individual contributions, they conveyed their preference for a communal relationship over an exchange relationship). The notion that anxiously attached individuals would go out of their way to signal interest in a communal relationship with a potential close other is consistent with their chronic desire for closeness and acceptance. These results are also in accord with Mikulincer and Nachshon's (1991) research findings that anxiously attached individuals are especially prone to self-disclosure and tend to self-

<sup>10</sup> Three real words and seven nonwords had exceptionally high error rates (greater than 15%) and consequently were dropped from the analyses. The real words that were dropped were not target words.

<sup>11</sup> We also looked at the effects of experimental condition and attachment on the accessibility of the proximity–closeness, distance–rejection, and control strategy words. These analyses yielded one marginal effect. There were no significant main effects or interactions.

reported that English was not their native language did not differ from the native English speakers on error rates ( $t < 1$ ) or RT ( $t < 1$ ).

disclose indiscriminately to strangers. Indeed, these researchers proposed that anxiously attached individuals use self-disclosure opportunities to merge with others. In the same way, anxiously attached individuals may have obscured contributions in the current investigation to symbolically merge with their partner. Yet were anxiously attached individuals obscuring contributions to avoid their partner's negative evaluation should they perform poorly on the group task? The findings from Study 2 suggest this explanation is unlikely. If anxious individuals were obscuring contributions to avoid negative evaluation, they should have been less anxious in the communal condition in Study 2 because their performance was indistinguishable from their partner's, but this was not the case.

So, when interacting with an attractive, desirable, opposite-sex partner, anxious individuals went out of their way to signal interest. However, when such a partner signaled interest by following the communal script, anxious individuals were not reassured. In Study 2, attachment anxiety was associated with greater interpersonal anxiety (i.e., state feelings of anxiety, uncertainty, and concerns about appearance) when a potential close other used communal norms (behaved as a unit) compared with when the other used exchange norms. In Study 4, anxiously attached individuals performed poorly on an unrelated mental concentration task when a potential close other expressed interest in closeness by suggesting to work as a team; moreover, results from the lexical decision task in Study 4 suggest that it was thoughts about closeness in particular that undermined anxious individuals' performance in the communal condition. Given that securing closeness is a chronic goal for anxiously attached individuals, why would they experience more interpersonal anxiety when a potential close other expressed interest in a communal relationship?

We believe that anxious individuals felt especially vulnerable in these potential communal situations and that this vulnerability led to increased feelings of anxiety, uncertainty, and concerns about how their partner would evaluate them. In Study 1, anxious individuals made greater overtures than their secure and avoidant counterparts; as a result, they may have felt more anxious about whether those overtures would be met with equal interest. That is, by putting themselves on the line this way, they had more to lose. On a related note, Vorauer, Cameron, Holmes, and Pearce (2003) found that anxious individuals tend to imbue their overtures to a potential romantic partner with increased significance and meaning. Even when they do not objectively make greater overtures, anxious individuals think they have communicated more interest because they believe others will take into account their inhibitions when judging their behavioral intentions. Thus, in the present investigation, when anxious individuals did make greater overtures, it is likely they felt especially vulnerable.

At the heart of the matter, we believe that situations involving possible closeness amplify anxious individuals' interpersonal ambivalence and elicit an approach-avoidance conflict leading to heightened feelings of interpersonal anxiety. Study 1 suggests that anxious individuals were looking for closeness in these encounters, and this may have led to an internal dialectic between their deepest hopes and fears (Holmes, 1991). On the one hand, their desire for acceptance should have led them to look for evidence of caring and to infer meaning from their partner's behavior—indeed, Study 3 suggests this was the case. In Study 3, anxiously attached

individuals inferred more meaning and were less likely to discount even relatively trivial communal behaviors as purely situational. On the other hand, it is likely that these judgments were guarded by feelings of vulnerability and the acute possibility that they may ultimately be found unworthy. As Holmes (1991) stated, “the specter of things going well reminds [uncertain] people of the costs of their being wrong” (p. 84). This idea is echoed in the attachment literature as well. For example, Mikulincer and Shaver (2003) speculated that for anxiously attached individuals, positive states may quickly bring to mind other instances in which things began well but ended badly.

Although Study 2 suggests that anxious individuals were concerned about evaluation, Study 4 did not find evidence that anxiously attached individuals were specifically concerned about rejection, so how and when might concerns about rejection come into play? Holmes (1991) described the interdependence dilemma as a dialectic that unfolds over time. People signal their interest and then look for signs of interest and commitment in the other's behavior; this back and forth continues as the relationship unfolds (or not, as the case may be). This research focused on the very early stages of relationship development, a point at which anxious individuals may have been quite hopeful. Perhaps research that focuses on interactions occurring later in relationship development would yield increased concerns about rejection because there is greater investment and, consequently, greater risk. Anxiously attached individuals' mounting interpersonal anxiety may eventually bias their perceptions in a negative direction. It may also be that in the same way that anxious individuals magnify relatively trivial positive behaviors in this process of uncertainty reduction, they also magnify relatively trivial negative behaviors. This notion is consistent with Fraley and Shaver's (2000) conceptualization of the anxiety dimension of attachment as being critically involved in the appraisal and monitoring of attachment related cues and the idea that individuals who are high in attachment anxiety have a low threshold for detecting cues of rejection and acceptance. Indeed, Campbell, Simpson, Boldry, and Kashy (2005) found support for this idea in a recent diary study in which it was found that anxious individuals tended to magnify both positive and negative relationship-relevant behaviors in their established relationships. Our research adds to this literature by showing that anxious individuals' vigilant monitoring of attachment-related behaviors occurs even in the context of potential new relationships.

In contrast to their more anxious counterparts, secure participants did not actively avoid using exchange norms when interacting with an attractive, available, opposite-sex partner, but importantly, they also did not use exchange norms (i.e., their pen choice was random). Secure participants also felt comfortable with the potential close other's use of communal norms. They were not distressed when their partner expressed the desire to be a unit (Studies 2 and 4), and in fact, they actually benefited from the communal condition in Study 4. Were secure participants simply not interested in a relationship with their partner? Because they were the most likely group to have a strong network of friends, secure participants may not have been especially motivated to form a new relationship. However, we believe this explanation is unlikely for a few reasons. First, in the current studies, we tried to create situations in which the potential for a close relationship was desirable and feasible. Drawing on Clark (1984b, 1986), we tar-

geted single participants and paired them with an attractive, opposite-sex confederate who was single and a recent transfer student. So, even if secure participants had several close friends, they were still not involved in a romantic relationship and thus should have been interested in the confederate. Second, secure participants did not differ from their anxious counterparts on partner liking (Studies 2 and 4) or interest in developing a relationship (Study 3). Finally, thoughts about closeness, love, and affection were associated with a dampening of rumination in Study 4. If secure participants were not at least somewhat interested, they should not have benefited from the potential for closeness in this study.

Rather than secure individuals being disinterested in their partner, we believe secure individuals' self-esteem, trust in others, and previous successful close relationship experiences account for their behavior in the present investigations. In contrast to their more anxious counterparts, in Study 1, secure individuals felt comfortable letting the situation unfold without a great deal of effort on their part. Indeed, secure individuals may have been more like the existing friends (whose pen choice was also random) in Clark's (1984b) original study. Clark (1984b) theorized that pen choice was random for existing friends because existing friends know they are friends, so there is no need to send a message conveying interest in closeness. In the current investigation, secure participants may have felt confident that the relationship would develop and, as a result, did not feel the need to go out of their way to make it happen. The findings from Study 3 also support this idea. Secure participants were less likely than their anxious counterparts to invest their potential close other's discrete communal behavior with increased significance for relationship development, suggesting that although they may have been interested in developing a relationship, they were not preoccupied with evaluating the meaning of discrete events and using that information to infer the other's motives and to diagnose relationship potential.

Another possible factor distinguishing the secure participants from their more anxious counterparts may have been the goals that were activated in our experimental situations. In a study looking at attachment and the pursuit of attachment and affiliation goals, Mikulincer and Selinger (2001) found that secure adolescents pursued attachment goals in attachment-appropriate contexts and affiliation goals in affiliation-appropriate contexts, whereas anxious adolescents focused exclusively on attachment goals and tended to pursue attachment goals in attachment and affiliation contexts. In the current studies, secure participants may have viewed these situations as opportunities to pursue affiliation goals, whereas anxious participants may have viewed them as opportunities to pursue attachment goals.

Finally, contrary to our predictions, when avoidant individuals interacted with a potential close other, overall, they did not use exchange norms. Perhaps avoidant individuals only feel the need to establish boundaries when they perceive that others are trying to get too close. Indeed, the findings from Study 2 suggest this may be the case. Compared with when their partner used exchange norms, when their partner tried to work as a unit (i.e., used communal norms), avoidant individuals liked their partner less. Perhaps avoidant individuals felt exploited when their partner used the same color pen; by obscuring how much each person contributed to the task, it would be easier for the confederate to freeload.

This hypothesis would be consistent with avoidant individuals' pessimistic beliefs about others; however, if this were the case, one would think avoidant individuals would have ascribed more negative agency traits (e.g., greedy) and not more negative communal traits (e.g., servile) to their partner in the communal condition. Avoidant individuals strive for independence, tend to downplay the importance of closeness, and use avoidance strategies to cope with concerns. It may be that when avoidant individuals enter situations involving possible closeness (situations that, in theory, should be distressing), they attempt to suppress the possibility of closeness. Consistent with this idea, in Study 3, avoidant individuals downplayed relational motives for the potential close other's communal behavior. Moreover, although they professed to be more indifferent to the potential close other's communal behavior in Study 3, avoidant attachment was associated with feeling uneasy in Studies 2 and 3, suggesting that their professed indifference may have been a façade. Indeed, this notion is in line with research suggesting that avoidant individuals' defensive strategies may actually be quite fragile (Mikulincer, Dolev, & Shaver, 2004).

### *Research Strengths and Limitations*

Three of the four studies presented had participants interact with a real person (a confederate), and behavioral responses were assessed; nevertheless, there were limitations to this approach. Studies 1 and 2 did not assess how participants were construing their behavior or the behavior of the confederate, mainly because of concerns about drawing attention to the research questions and possibly undermining participants' behavioral responses. Were participants intending to convey interest by obscuring contributions? Did they perceive their partner's communal behavior as an expression of interest? Study 3 shed some light on the kind of attributions participants were making and what meaning they saw in the potential close other's communal behavior. That said, we believe that although people use communal and exchange behaviors to convey how they feel about closeness, this may often occur at an implicit level; thus, explicitly asking participants about their intentions may provide limited information. The lexical decision task used in Study 4 is one way to examine the implicit cognitions and motivations that guide these interactions.

In addition, in our attempt to create a noncommunal condition that paralleled the communal condition in Study 4, concerns about performance were aroused, and anxious participants performed poorly in both conditions. Would they have performed poorly if they had simply been asked to do the d2 test without interacting with another participant? Although anxious participants did not perform more poorly than the secures in the performance-anxiety condition, it is possible that anxious individuals are generally poor at mental concentration tasks, and future research should be conducted to explore this possibility. Nonetheless, we believe the important finding from Study 4 is that unlike their more secure counterparts, anxious participants did not benefit from the communal condition—for them, thoughts about closeness, love, and affection did not dampen performance anxiety and rumination.

### *Theoretical Contributions and Future Directions*

A major proposition of attachment theory is that attachment models are carried forward into new relationships, guiding percep-

tions, expectations, and behaviors with new partners (Collins & Read, 1994); however, little is known about how the attachment system operates during the early phases of relationship development. This research establishes the importance of attachment at the outset of a relationship and points to some circumstances under which attachment models should come into play. Attachment models appear to be influential when little is known about what can be expected from the other person (Collins & Read, 1994; Pierce & Lydon, 2001; Pietromonaco & Feldman Barrett, 2000). The match between the situation and chronic attachment goals related to security attainment also appears to be important. Finally, behaviors related to the exchange of social commodities that are used to define the nature of the relationship appear to be associated with attachment.

One question arising from the current research is whether these findings apply to all close relationships, friendships, or romantic relationships in particular. To increase the chances that participants would desire a relationship with the confederate, the possibility of a romantic relationship was made salient. That said, as noted earlier, some participants may have thought of the confederate as a potential romantic partner, whereas others may have thought of the confederate as a friend. Study 3 spoke to this issue. Participants were allowed to nominate either a potential friend or potential romantic partner, and relationship type did not qualify the results, suggesting that the present findings would apply to close relationships in general. It is worth noting that participants were more interested in developing a romantic relationship in Study 3. Moreover, adult attachment relationships tend to be romantic (Fraley & Shaver, 2000; Hazan & Zeifman, 1999). Given this, we believe the present findings should be especially relevant to potential romantic relationships, but may also apply to close friendships, depending on the level of interest and the extent to which the other is perceived as a potential attachment figure.

Is attachment associated with the use of communal and exchange norms in established relationships? The early stages of a relationship are fraught with uncertainty, but in existing relationships, people presumably have established a certain level of trust and are more knowledgeable about their partner's intentions and level of commitment. That said, we believe attachment would similarly be associated with the use of communal and exchange norms in established relationships to the extent that satisfying chronic attachment goals continues to be important. Uncertainty may also be a critical factor. Perhaps if anxiously attached individuals felt particularly uncertain—for example, when making a major personal or relational decision—they may be especially likely to monitor their partner's discrete behaviors for reassurance.

### Concluding Comments

In conclusion, the early stages of a relationship are marked by uncertainty and an interdependence dilemma in which people must wager on the motives of the other person and decide whether being communal is worth the risk. They must also tailor their own behavior to communicate interest but not appear overly concerned with social transactions. Although people share the same script for close relationships, the belief structures and goals associated with chronic attachment orientations provide direction on how that script will be played out as the relationship unfolds.

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