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The Attachment System in Fledgling Relationships:

An Activating Role for Attachment Anxiety

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Abstract

Is it sensible to study attachment dynamics between potential romantic partners before they share a full-fledged attachment bond? The present data indicate that such an approach may reveal novel insights about initial attraction processes. Four studies suggest that the state-like experience of attachment anxiety has functional implications within fledgling (i.e., desired or undeveloped) romantic relationships, well before the formation of an attachment bond. Studies 1 and 3 reveal that attachment anxiety directed toward a particular romantic interest is elevated before (compared to after) participants report being in an established relationship. Studies 2 and 3 demonstrate that such partner-specific attachment anxiety predicts attachment-relevant outcomes in fledgling relationships, including proximity seeking, safe haven, secure base, passionate love, and other approach behaviors. These associations were reliable above and beyond (and were typically as strong as or stronger than) the effect of sexual desire. Finally, Study 4 presents evidence that partner-specific attachment anxiety may *cause* several of these attachment-relevant outcomes. Attachment anxiety seems to be a normative experience and may signal the activation of the attachment system during the earliest stages of romantic relationships.

[180 Words]

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Imagine that you have just tuned into a film that is already halfway over. The current scene depicts a man and woman lying in bed next to one another, talking softly, their noses gently brushing. If you also happen to be a scholar of adult romantic attachment, you might note the appearance of several key features indicating that these two protagonists have an attachment relationship (though you might want to keep these observations to yourself, lest your nonacademic viewing companions accuse you of destroying the mood with your bookish comments). These features would include the face-to-face, skin-to-skin, and ventral-ventral contact, the mutual gazing, nuzzling, kissing, and so forth (Hazan & Diamond, 2000; Hazan & Zeifman, 1994). Just before the scene draws to a close, you also notice that both protagonists exhibit significant anxiety about the prospect of separating—further evidence of attachment, of course. However, as the movie progresses, you quickly realize that these two characters have known one another for only a few days, effectively ruling out the possibility that they share a fully formed attachment bond.

Given your knowledge of the attachment literature, you may be incredulous that attachment behavior could emerge so early in a developing romantic relationship. Perhaps your disbelief can no longer be willingly suspended; after all, attachment bonds between romantic partners take years to form (Fraley & Davis, 1997; Hazan & Zeifman, 1994), and attachment and intimacy are believed by many scholars to play a relatively meager role compared to sexual desire in the early stages of romantic relationships (Hazan & Shaver, 1994; Sternberg, 1986). But does it truly strain the imagination to consider two individuals engaging in such attachment behaviors in the early stages of a romantic relationship? We suspect it does not, and this raises an intriguing but underexplored possibility: Perhaps attachment theory is capable of generating substantive predictions about romantic dynamics in relationships that are not yet characterized by a full-

fledged attachment bond. In this report, we explore fledgling¹ romantic relationships and the importance therein of *attachment anxiety*, a term which scholars use to refer to a need for reassurance, fear of abandonment, and intense preoccupation regarding romantic partners or attachment figures in general. Drawing from the theorizing of Bowlby (1959, 1969/1982, 1973), we predicted that the state-like experience of attachment anxiety would play a critical, functional role during opening stages of potential romantic relationships.

The Broad Applicability of Attachment Theory

Attachment theory has proven to be a remarkably generative conceptual framework for understanding established romantic relationships (for a review, see Mikulincer & Shaver, 2007). With regard to attachment anxiety in particular, countless studies have examined how and why the relationships of anxiously attached persons differ from those of securely attached individuals. To review but a small fraction of this work, anxiously attached individuals tend to view their partners as inattentive and reluctant to commit (Kunze & Shaver, 1994), form negatively biased interpretations of romantic partners' behavior (Collins, 1996), and overperceive the existence and negative impact of relationship conflict (Campbell, Simpson, Boldry, & Kashy, 2005). Furthermore, researchers have demonstrated the power of the attachment framework by extending it to other attachment-relevant but nonromantic domains such as volunteerism (Gillath et al., 2005), terror management (Mikulincer & Florian, 2000), and religion (Kirkpatrick, 1998).

Surprisingly, few studies have examined the implications of attachment theory within the earliest stages of romantic (or potential romantic) relationships (but see, e.g., Klohnen & Luo, 2003; Vorauer, Cameron, Holmes, & Pearce, 2003). Why have so few researchers extended attachment theory to the domain of initial romantic attraction? One reasonable hypothesis is that the attachment-relevance of fledgling relationships is limited compared to established relationships; such a state of affairs would make researchers understandably wary of broadly

applying attachment theory to the study of initial attraction. Given (a) that few desired romantic partners ultimately become attachment figures and (b) that it takes two years on average for a full-fledged attachment bond to develop (Fraley & Davis, 1997; Hazan & Zeifman, 1994), attachment dynamics may not be especially pertinent during the initial stages of romantic relationships.

On the other hand, there are reasons to suspect that fledgling relationships are attachment-relevant contexts. After all, bonds between romantic partners have to start somewhere, and therefore attachment concerns may frequently be salient during a relationship's early stages (see Hazan & Shaver, 1994). A handful of studies that examined attachment style and initial attraction offer some support for this speculation. For example, people report more initial attraction for partners who share their dispositional attachment style (Klohn & Luo, 2003), and anxiously attached individuals are more likely than nonanxious individuals to believe that their direct romantic overtures clearly communicate their attraction to a potential partner (Vorauer et al., 2003). In addition, individuals sometimes apply their attachment representations of past romantic partners to new potential romantic partners (Brumbaugh & Fraley, 2006). Some recent data have suggested that established romantic relationships may not even be *uniquely* attachment-relevant compared to fledgling relationships, at least as far as attachment anxiety is concerned (Eastwick & Finkel, 2006). In this study, participants' dispositional attachment anxiety correlated positively with their reports of the anxiety they would experience in response to a variety of anxiety-provoking romantic scenarios. However, these correlations were virtually identical whether the scenarios dealt with an established romantic partner or a new, potential romantic partner. In other words, when assessed as an individual difference, attachment anxiety appears to be about equally relevant to both established and fledgling relationships.

These findings suggest that it may ultimately be fruitful to explore attachment dynamics in the context of fledgling romantic relationships. However, most of the studies to date which have

examined attachment and initial attraction processes have focused on individual differences in attachment style. Of course, the individual differences component of the attachment behavioral system comprises just one portion (albeit a substantial one) of attachment theory. Other research has explored how the attachment system works adaptively or on average, often termed the *normative* component of attachment theory (Mikulincer & Shaver, 2007). We hypothesized that even these normative aspects would have relevance during the opening days and weeks of romantic relationships.

The Normative Component of Attachment

What does it mean to say that two individuals share an attachment bond? Researchers have typically assessed the existence and strength of attachment bonds by examining the extent to which a romantic partner, parent, sibling, or friend serves any of several known attachment functions (cf. Fraley & Shaver, 2000). These functions include: *proximity seeking*, which refers to behaviors designed to bring the self nearer to the attachment figure, *separation distress*, which refers to negative affect exhibited when the attachment figure is unavailable, *safe haven*, which refers to the desire to seek out the attachment figure for comfort and support, and *secure base*, which refers to the use of the attachment figure as a base from which one can explore the world (Hazan & Zeifman, 1994; Tancredy & Fraley, 2006). Two studies that examined these functions among romantic partners concluded that it takes approximately two years on average for a full-fledged attachment bond to form (Fraley & Davis, 1997; Hazan & Zeifman, 1994). Specifically, the data showed that once participants had been in a romantic relationship of two years in duration, they were likely to nominate their current partner as the person in their life who *most* satisfied all four of these functions.

It is entirely sensible to suggest that an attachment bond must be fostered over months and years before one's partner is unrivaled for all four attachment-related functions. It does not

necessarily follow, however, that these attachment functions play little or no role in romantic relationships until the bond is fully formed. Just as a fourth-grade student is in the process of being (but is not yet fully) educated, romantic partners might experience attachment processes before they are fully attached. For example, it could be a common experience that people in fledgling relationships imagine themselves ultimately forming an attachment relationship with the desired partner, and such an end state may be intensely desired and frequently contemplated. In fact, Tennov (1979) described how romantically infatuated individuals often reject sexual activity with the love object as the ultimate goal; rather, they long for moments of emotional union in which they can be physically close to and share longing gazes with the desired individual for an extended period of time. The attachment-like character of such a fantasy is striking. In fact, Hazan and Zeifman (1994) found that the proximity seeking and separation distress functions in particular were pronounced among romantic partners well before couples reached the two-year mark. Whereas a full-fledged attachment bond may take significant time to develop, it could still be true that any or all of the attachment functions are present and have theoretically meaningful correlates even during the earliest moments of a romantic relationship. The next sensible question is therefore: What are these correlates?

Attachment Anxiety as a Normative Experience

Although attachment anxiety in adulthood has most commonly been assessed as an individual difference, recent work has shown the value of assessing it as a state that may vary depending on the context. For one, this variation can be partner-specific: Many individuals who classify themselves as secure often behave in an anxious manner with certain significant others (Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996). These partner-specific attachment assessments tend to predict relationship-specific outcomes above and beyond (Pierce & Lydon, 2001), and sometimes even better than (Cozzarelli, Hoekstra, & Bylsma, 2000), dispositional

attachment styles. As a second example, individuals' global (i.e., not partner-specific) attachment orientations can vary over time, as evidenced by longitudinal studies of dispositional attachment change (e.g., Davila, Karney, & Bradbury, 1999; Davila & Sargent, 2003). Finally, these partner-specific and time-varying approaches can be combined: One recent study assessed partner-specific attachment anxiety over time and discovered that it interacted with beliefs that romantic partners are "meant to be" to predict forgiveness (Finkel, Burnette, & Scissors, 2007).

Given these demonstrations that attachment anxiety is unlikely to be an experience monopolized by dispositionally anxiously attached individuals, it is possible that attachment anxiety may at times play a normative, functional role. Indeed, in Bowlby's (1959, 1969/1982, 1973) original conception of attachment, anxiety serves to activate the attachment behavioral system and motivates infants to reestablish contact with an attachment figure. This proximity seeking behavior served an adaptive function throughout our evolutionary development; given the immaturity of human infants, prolonged separation from caregivers could have had life-threatening implications. By reestablishing contact with an attachment figure, an infant could restore its safety and achieve a reduction in anxiety. In other words, the normative component of attachment theory paints anxiety as a typical and functional emotional experience. Later experimental studies with infants confirmed much of Bowlby's theorizing: Infants exhibit intense protest when separated from an attachment figure (Ainsworth, Blehar, Waters, & Wall, 1978), and this distress increases the likelihood of proximity seeking behaviors (Ainsworth, 1973). Ainsworth's studies are memorable primarily for their explorations of individual differences in attachment style; nevertheless, it is important to note that even the securely attached infants exhibited anxiety when confronted with the "strange situation" laboratory procedure. Moreover, anxiety may serve a similar function in adults, as demonstrated by Fraley and Shaver's (1998) compelling adult analogue of the strange situation. In this study, romantic partners who were

facing an impending separation at an airport expressed more contact-seeking and contact-maintenance behaviors (e.g., extended hugging, mutual gazing) than did partners who were not separating. Thus, attachment anxiety appears to serve a motivational function in both infants and adults: It prompts proximity seeking behaviors directed toward an attachment figure, and when successful, these behaviors presumably help to alleviate the anxiety.

The Current Research

We have argued that (a) attachment concerns may be salient in relationships that are still developing; and (b) attachment anxiety is not only a dispositional orientation but also a state-like, normative, functional experience in established romantic relationships. Given these postulates, it is possible that the state-like experience of attachment anxiety might also have functional implications for developing romantic relationships. Just as attachment anxiety motivates approach and other attachment behaviors in established romantic relationships (and in infancy), might it inspire similar behaviors in romantic relationships that are not full-fledged attachment relationships?

The present set of four studies tested this empirical question by examining the role of partner-specific attachment anxiety within fledgling romantic relationships. We advanced two hypotheses. The first was that partner-specific attachment anxiety would be especially pronounced in desired relationships compared to established relationships (Studies 1 and 3). The very early stages of potential romantic relationships are often characterized by significant uncertainty, where individuals struggle to make sense of a desired partner's behavior toward the self and sift for evidence of reciprocation (Tennov, 1979). This uncertainty should be associated with those elevated feelings of worry and a desire for reassurance that are central to the experience of attachment anxiety. Presumably, partner-specific attachment anxiety decreases for most individuals when a relationship becomes "official", an event that connotes reciprocation.

For the second hypothesis, we drew from Bowlby (1959, 1969/1982, 1973) and suggested that the experience of partner-specific attachment anxiety signals the activation of the attachment behavioral system. Therefore, we sought correlational and experimental evidence that partner-specific attachment anxiety predicts attachment-relevant outcomes in desired relationships (Studies 2-4). These outcomes include emotions that promote romantic bonding, such as passionate love (Hatfield & Sprecher, 1986; Hazan & Diamond, 2000), as well as the four functions of attachment discussed above (proximity seeking, separation distress, safe haven, and secure base). As in the strange situation, we hypothesized that proximity seeking and other approach behaviors would be especially promising as dependent variables, but we were open to the possibility that the more “advanced” safe haven and secure base functions would be also predicted by partner-specific attachment anxiety. Finally, to make an especially forceful case that attachment anxiety is an important motivator in fledgling romantic relationships, it will be essential to demonstrate that anxiety has its effects above and beyond the effect of sexual desire, which is certainly powerful motivator of romantic pursuit in its own right.

Study 1

Even securely attached individuals experience attachment anxiety in the context of certain relationships (e.g., Baldwin et al., 1996; Pierce & Lydon, 2001). In a similar vein, we hypothesized that one normatively anxiety-provoking context is the desired or fledgling romantic relationship; such undeveloped relationships should have the power to draw out the anxious attachment in anyone. Empirically speaking, we expected to find that single individuals reporting on a desired romantic partner would evidence more partner-specific attachment anxiety compared to individuals reporting on a current romantic partner. We examined this question in 3 different samples using slightly differing measures of partner-specific attachment anxiety. In addition, for two of the three samples, we controlled for dispositional attachment anxiety to rule out the

alternative explanation that partner-specific anxiety appears to be elevated for desired relationships only because anxiously attached individuals are less likely to be involved in an established relationship.

Method

Participants

Sample 1 consisted of 371 participants, 265 of whom reported that they were currently involved in a romantic relationship (participant sex, age, and race were not reported). Participants attended Virginia Commonwealth University and completed the study in partial fulfillment of a course requirement.

Sample 2 consisted of 55 participants (32 women), 33 of whom reported that they were currently involved in a romantic relationship. Participants were 18.8 years old on average ($SD = 1.0$ years); 64% of participants defined themselves as Caucasian, 20% as Asian, 4% as African-American, 4% as Hispanic, and 8% as belonging to an unlisted racial or ethnic group. These participants attended Northwestern University and completed the study in partial fulfillment of a course requirement.

Sample 3 consisted of 60 participants (33 women), 22 of whom reported that they were currently involved in a romantic relationship. The experimenter approached individuals on or near the Northwestern University campus and asked them to participate in a brief study of romantic relationship experiences. Individuals who agreed to participate were 19.3 years old on average ($SD = 1.5$ years); 51% of participants defined themselves as Caucasian, 25% as Asian, 15% as African-American, 5% as Hispanic, 2% as Arab-American, and 1% as belonging to an unlisted racial or ethnic group.

Procedure

Participants reported whether or not they were currently involved in a romantic relationship. Then, they completed a measure of Partner-specific Attachment Anxiety with respect to either (a) their current romantic partner (if they were in a relationship) or (b) the person with whom they most desired to have a romantic relationship (if they were not currently in a relationship).

Materials

The three samples completed slightly different measures of *Partner-specific Attachment Anxiety (PSAnx)*. Participants in Sample 1 completed an 18-item PSAnx scale. The 18 items were the same used to assess attachment anxiety in the Brennan, Clark, and Shaver (1998) Experiences in Close Relationships (ECR) scale, but with an added reference to the romantic partner target (e.g., “I worry about being abandoned *by this person*”) and with all references to the general category “romantic partners” removed. Participants in Sample 2 completed one of two different 8-item PSAnx scales. Of these 16 items, 15 were adapted from the Brennan et al. (1998) scale as in Sample 1. The 16th item, “I feel uncertain about my partner’s true feelings for me”, was created for this study (item-total $r = .64$, see Study 3 for additional psychometric data on this item). Participants in Sample 3 completed an abbreviated 5-item version of the PSAnx measure from Sample 2 (“I need a lot of reassurance that ____ cares about me”, “I worry that ____ doesn’t care about me as much I care about him/her”, “I find that ____ doesn’t want to get as close as I would like”, “If I can’t get ____ to show interest in me, I get upset or angry”, and “I feel uncertain about ____’s true feelings for me”). All items in Study 1 were answered using 1 (*strongly disagree*) to 7 (*strongly agree*) scales.

The PSAnx measures were highly reliable: Sample 1 $\alpha = .91$, Sample 2 $\alpha = .86$ (Version A) and $\alpha = .91$ (Version B), and Sample 3 $\alpha = .81$. In addition, reliabilities were similar whether

participants were reporting on a current vs. desired relationship in Sample 1 (.91 vs. .92), Sample 2 (.88 vs. .84 for Version A, .86 vs. .95 for Version B), and Sample 3 (.75 vs. .84).

In addition, participants in Sample 2 completed the ECR (Brennan et al., 1998) measure of *Dispositional Attachment Anxiety* ($\alpha = .92$, $M = 3.45$, $SD = 1.02$) and *Avoidance* ($\alpha = .92$, $M = 2.96$, $SD = 0.87$) at an in-class group-testing session earlier in the quarter. Finally, participants in Sample 3 completed the Wei, Russell, Mallinckrodt, and Vogel (2007) abbreviated version of the ECR (anxiety $\alpha = .78$, $M = 3.68$, $SD = 1.12$; avoidance $\alpha = .71$, $M = 2.86$, $SD = 0.98$) immediately before reporting their relationship status. To avoid confusion, all ECR items that referred to “my partner” were altered to refer instead to “romantic partners”; we changed the ECR items in this manner for all studies reported in this manuscript.

Results

Figure 1 presents the means for Partner-specific Attachment Anxiety separately for participants who reported on a current vs. a desired romantic partner. Raw means are presented for Sample 1 (S1). For Sample 2 (S2), marginal means are reported controlling for Dispositional Attachment Anxiety and PSAnx scale version (A or B). For Sample 3 (S3), marginal means are reported controlling for Dispositional Attachment Anxiety.

For all 3 samples, participants reported greater PSAnx when considering a desired romantic partner compared to a current partner. In Sample 1, this difference was significant, $F(1,369) = 9.48$, $p = .002$, Cohen’s $d = .35$. In Sample 2, this difference was marginally significant, $F(1,51) = 3.34$, $p = .073$, Cohen’s $d = .50$, controlling for the effect of Dispositional Attachment Anxiety, $F(1,51) = 89.83$, $p < .001$, and PSAnx Version (A vs. B), $F(1,51) = 0.11$, $p = .740$. In Sample 3, this difference was significant, $F(1,57) = 4.39$, $p = .041$, Cohen’s $d = .55$, controlling for the effect of Dispositional Attachment Anxiety, $F(1,57) = 17.74$, $p < .001$. (See Table A1 for descriptive statistics and zero-order correlations for the variables in this study.)

We also explored whether Dispositional Attachment Anxiety and Avoidance and participant sex interacted with relationship status (coded 0 = desired, 1 = current) to predict PSAnx in Samples 2 and 3. The Dispositional Attachment Anxiety $\times$ relationship status and the Dispositional Attachment Avoidance $\times$ relationship status interactions were nonsignificant in both Samples 2 and 3 (four separate analyses). In other words, we found no evidence that the association between relationship status and PSAnx differed depending on participants' dispositional attachment orientation.

For the variable participant sex (coded male = -.5, female = .5 across studies), the participant sex $\times$ relationship status interaction was significant in Sample 2, $B = 1.60$, $t(51) = 2.63$, $p = .011$. Men reported significantly greater PSAnx when they were reporting on a desired compared to a current romantic partner, $\beta = -.45$, $t(21) = -2.32$, $p = .030$, but this association was nonsignificant for women, $\beta = .24$, $t(30) = 1.37$, $p = .182$. However, the participant sex $\times$ relationship status interaction was not significant in Sample 3, $B = -.86$, $t(56) = -1.17$, $p = .246$. The effect of relationship status on PSAnx was nonsignificant for men, $\beta = -.15$, $t(25) = -0.76$, $p = .456$, but women did report significantly greater PSAnx if they reported on a desired compared to a current romantic partner, $\beta = -.37$, $t(31) = -2.25$, $p = .032$. Thus, these data revealed inconsistent evidence for sex differences in the effect of relationship status on PSAnx.

Discussion

Study 1 provided support for the hypothesis that partner-specific attachment anxiety is elevated in desired compared to established romantic relationships. If a participant reported that, yes, he or she was currently involved in a romantic relationship, that participant evidenced less of a need for reassurance from his or her current romantic partner compared to someone who could not answer the relationship status question in the affirmative. In other words, a desired or fledgling romantic relationship may be an example of a context that is normatively attachment anxiety-

provoking. This assertion is bolstered by the finding that the mean difference in anxiety regarding a current versus a desired partner was not moderated by participants' dispositional attachment orientation. That is, the data did not suggest that only dispositionally anxiously attached individuals experience an increase in partner-specific attachment anxiety in the early stages of a potential relationship.

Of course, the uncertainty and worry that characterize partner-specific attachment anxiety are unlikely to dissipate completely once a relationship becomes official—after all, a romantic partner could in principle decide to dissolve the relationship at any time. Nevertheless, it seemed logical a priori that such anxiety would dissipate on average once participants could at least report that they were a member of a dating couple. Even so, since these data are cross-sectional, it is premature to draw any definitive conclusions from this study alone. For example, participants in this study did not report on the same target as both a desired and a current partner. One alternative possibility is that a given participant's most desired romantic partner could be objectively more desirable (and thus more anxiety-inspiring and out-of-reach) compared to the romantic partner that same participant eventually obtains. This prediction would generate the same pattern of data found in Study 1 without suggesting that fledgling romantic relationships are normatively anxiety-provoking. Study 3 uses a longitudinal design in which participants report on the same target over time to address this alternative explanation.

Study 2

Given the data from Study 1 alone, it is reasonable to question whether such elevated feelings of worry and preoccupation about *desired* romantic partners truly constitute attachment anxiety. However, a demonstration that these feelings predict attachment-relevant outcomes in desired relationships would make a stronger case that attachment anxiety is the appropriate label for this construct. It is well established that anxiety activates the attachment behavioral system and

motivates approach in infancy² (Bowlby, 1959, 1969/1982, 1973) and toward adult romantic partners (Fraley & Shaver, 1998). As noted by Hazan and Shaver (1994): “Within attachment theory, anxiety is a signal to get closer” (p. 10). Therefore, we hypothesized that partner-specific attachment anxiety would predict a variety of approach-related emotions and behaviors (e.g., proximity seeking) directed toward desired romantic partners. Should this hypothesis be confirmed, it would (a) extend the relevance of the attachment behavioral system to the domain of initial romantic attraction and (b) imply a functional role for partner-specific attachment anxiety in fledgling relationships.

In this study, we asked single participants to complete a number of items regarding three people in whom they experienced romantic interest. These items assessed partner-specific attachment anxiety and an array of dependent variables, including: (a) the Attachment Features and Functions scale (Tancredy & Fraley, 2006), which was derived from the WHOTO scale (Fraley & Davis, 1997) and the Attachment Network Questionnaire (Trinke & Bartholomew, 1997) and was specifically designed to assess attachment functions; (b) the Passionate Love Scale (Hatfield & Sprecher, 1986); and (c) a set of approach items generated specifically for this study. We asked participants to report on three targets (as opposed to one) in order to capture a broader slice of participants’ romantic lives; all participants were indeed able to nominate three interests. In addition, given that we intend to argue that partner-specific attachment anxiety is a distinct motivator of these approach-related emotions and behaviors, all analyses were replicated after including two covariates in the statistical model: sexual attraction and dispositional attachment anxiety. The inclusion of these two covariates would enable us to make a stronger claim that the state-like experience of attachment anxiety is a unique predictor of approach and other attachment behaviors in the early stages of potential romantic relationships.

Method

Participants

Participants were 67 Northwestern University students (37 female); 45 of them completed the experiment in partial fulfillment of a course requirement, whereas the remaining 22 were paid \$6. Age and race information was collected for the 45 unpaid participants only. These participants were 18.5 years old on average ($SD = 0.8$ years), and 71% of them were Caucasian, 14% were Asian, 7% were African-American, 4% were Hispanic, and 4% belonged to an unlisted racial or ethnic group. All participants reported that they were not currently involved in a romantic relationship.

Procedure

Participants first completed the ECR (Brennan et al., 1998) measure of Dispositional Attachment Anxiety ($\alpha = .92$) and Avoidance ($\alpha = .91$). Forty participants completed this measure several weeks earlier during an in-class group-testing session, and the remaining 27 completed it just after arriving at the experimental session; these 27 participants were given a filler task after completing the ECR but before beginning the remaining questionnaires. Paid vs. unpaid and early vs. late ECR participants did not differ significantly either (a) in their means for Partner-specific Attachment Anxiety or the dependent variables or (b) in their associations between Partner-specific Attachment Anxiety and the dependent variables. Therefore, analyses reported below were conducted on the entire sample.

At the experimental session, the experimenter handed each participant a questionnaire that verified that he or she was not currently in a romantic relationship. In addition, this questionnaire asked participants to report three targets of their romantic attraction. Specifically, participants were told to provide the initials of “the person you would most desire to have a romantic relationship with”, “the person you would next-most desire to have a romantic relationship with if you were not involved with the person whose initials you reported in #1”, and “the person you

would next-most desire to have a romantic relationship with if you were not involved with the person whose initials you reported in #1 or #2”. We refer to these three targets as Target 1, Target 2, and Target 3, respectively. Finally, participants indicated how long they had known each of these 3 targets. On average, participants had known Target 1 for 22.5 months ($Mdn = 7$ months), Target 2 for 20.8 months ($Mdn = 6$ months), and Target 3 for 20.8 months ($Mdn = 9$ months).

Participants then responded to several items on a computer; each item referenced one of the three targets. Participants completed nine blocks of items in total: Three of the blocks assessed Partner-specific Attachment Anxiety and Avoidance toward Targets 1, 2, and 3, respectively, three of the blocks assessed Attachment Features and Functions and Approach Tendencies toward Targets 1, 2, and 3, respectively, and three of the blocks assessed Passionate Love and Sexual Desire toward Targets 1, 2, and 3, respectively. The blocks were presented in a random order, and the items within each block were presented randomly. Once all nine blocks had been completed, participants were debriefed and thanked.

Materials

All items in Study 2 were assessed on 1 (*strongly disagree*) to 7 (*strongly agree*) scales. All partner-specific items referred to one of the three targets using the notation “[person 1]”, “[person 2]”, or “[person 3]”. Participants held on to the original questionnaire with each target’s initials so they could refer to it throughout the study.

In the first block of items, participants completed a 19-item measure of *Partner-specific Attachment Anxiety (PSAnx)* regarding each of the three targets; as in Study 1, this measure was adapted from the 18-item Brennan et al. (1998) scale and included the new item “I feel uncertain about [person x]’s true feelings for me” from Study 1 ($\alpha = .94$). In addition, participants completed an 18-item measure of *Partner-specific Attachment Avoidance (PSAvoid)*; e.g., “I prefer

not to show [person x] how I feel deep down”, $\alpha = .89$) regarding each of the three targets that was similarly adapted from the Brennan et al. (1998) dispositional avoidance measure.

In the second block of items, participants completed the 16-item *Attachment Features and Functions* measure (Tancredy & Fraley, 2006) regarding each of the three targets. This measure contains 4 separate subscales assessing *Proximity Seeking* (e.g., “It is important to me to see or talk with [person x] regularly”, 2 items, $\alpha = .79$), *Separation Distress* (e.g., “[person x] is a person whom I do not like to be away from”, 5 items, $\alpha = .86$), *Safe Haven* (e.g., “[person x] is the first person that I would turn to if I had a problem”, 5 items, $\alpha = .92$), and *Secure Base* (e.g., “If I achieved something good, [person x] is the person that I would tell first”, 4 items, $\alpha = .84$). In addition, participants completed an 8-item measure of *Approach Tendencies* ($\alpha = .86$) created for this study: “I would be very excited to go on a date with [person x] in the near future”, “If some time had passed since [person x] and I had seen each other, I would suggest that he/she and I should spend some time together”, “I go out of my way to initiate hanging out or spending time with [person x]”, “I often think of fun dates or activities for [person x] and me”, “I would exert considerable effort to meet up with or spend time with [person x]”, “I would be happy to rearrange my schedule so that I would be able to hang out with [person x]”, “I hope that [person x] and me get to spend time together sometime soon”, and “It would make me very happy if [person x] expressed interest in hanging out with me”.

In the third block of items, participants completed a 16-item measure of *Passionate Love* ($\alpha = .94$) regarding each of the three targets. Thirteen of these items came from the Hatfield and Sprecher (1986) Passionate Love Scale (e.g., “Sometimes I feel I can’t control my thoughts; they are obsessively on [person x]”), and the remaining three items were created for this study (“I am ‘in love’ with [person x]”, “I think [person x] is my soulmate”, and “[person x] is the only person I want to be romantically involved with”). Also, participants completed a 3-item measure of *Sexual*

Desire (“I feel a great deal of sexual desire for [person x]”, “I am intensely sexually attracted to [person x]”, “I find [person x] to be extremely sexually attractive, $\alpha = .93$).

Each participant contributed three rows to the present dataset, one for each of the three targets. To account for the nesting of target within participant, we used multilevel modeling procedures (Raudenbush & Bryk, 2002) and permitted the intercept term to vary randomly across participants.

Results

Primary Analyses

The six dependent variables—Proximity Seeking, Separation Distress, Safe Haven, Secure Base, Approach Tendencies, and Passionate Love—were regressed onto Partner-specific Attachment Anxiety in six separate multilevel regression analyses. The standardized betas from these regressions are presented in the first column of Table 1. All of the associations between PSAnx and these variables were large and significant. These associations were robust not only for the approach variables, such as Proximity Seeking and Approach Tendencies, and the approach-inspiring emotion Passionate Love. PSAnx also showed strong associations with the more advanced attachment functions of Separation Distress, Safe Haven, and Secure Base. In other words, the experience of PSAnx directed toward desired romantic partners predicts an assortment of outcomes that are theoretically tied to the attachment behavioral system.

PSAnx also demonstrated a strong positive zero-order association with Sexual Desire, $t(133) = 5.63, p < .001$, and with Dispositional Attachment Anxiety (*DAnx*), $t(134) = 3.89, p < .001$. (See Table A2 for descriptive statistics and regression betas for the variables in this study.) We wanted to verify that the associations between PSAnx and the dependent variables of interest were robust beyond both sexual motivation and participants’ global attachment anxiety. Therefore, we conducted a regression analysis for each of the dependent variables that included PSAnx,

Sexual Desire, and DANx as predictors. Standardized partial regression betas from these analyses are presented in the 2nd, 3rd, and 4th columns of Table 1. For all six dependent variables, PSAnx remained a significant predictor. Sexual Desire was a significant predictor of Approach Tendencies and Passionate Love but did not significantly predict any of the Attachment Features and Functions subscales. Also notable is the fact that the beta for PSAnx was descriptively higher than the beta for Sexual Desire in all cases, a finding that bodes well for the importance of PSAnx in initial romantic attraction. DANx did not significantly predict any of the dependent variables.

Auxiliary Analyses

Partner-specific Attachment Avoidance is likely to be another important motivator of attachment-relevant behavior. To verify that the associations between PSAnx and the dependent variables remain robust above and beyond the effect of PSAvoid, we regressed the six dependent variables on PSAnx and PSAvoid simultaneously in six separate regression equations. (PSAnx and PSAvoid were nonsignificantly associated with each other, $t(133) = -0.73$, $p = .464$.) In all cases, PSAnx remained a highly significant and positive predictor of the dependent variable, and in all cases, PSAvoid was a highly significant and negative predictor of the dependent variable. It is therefore safe to conclude that the associations between PSAnx and the attachment-relevant dependent variables assessed in this study are robust beyond any effects of attachment avoidance.

As in Study 1, we also explored the moderational role of Dispositional Attachment Anxiety and Avoidance and participant sex. Of the 18 possible interactions (6 DVs $\times$ 3 possible moderators), only 2 were significant or marginally significant, suggesting that Dispositional Attachment Anxiety and Avoidance and participant sex were not consistent moderators of the associations reported in Table 1. For the dependent variable Approach Tendencies, the Dispositional Attachment Avoidance $\times$ PSAnx interaction was significant and positive, $\beta = .15$, $t(132) = 2.63$, $p = .010$, indicating that PSAnx was a stronger predictor of Approach Tendencies

among avoidant compared to nonavoidant individuals. Also for the dependent variable Approach Tendencies, the participant sex $\times$ PSAnx interaction was significant, $B = .24$, $t(132) = 1.99$, $p = .049$. Although PSAnx did significantly predict Approach Tendencies for men, $\beta = .46$, $t(59) = 4.93$, $p < .001$, this association was stronger for women, $\beta = .60$, $t(73) = 7.43$, $p < .001$. Overall, these additional analyses did not reveal consistent evidence for the moderational role of participant sex, Dispositional Attachment Anxiety, or Avoidance.

Discussion

Study 1 demonstrated that partner-specific attachment anxiety was elevated in desired compared to established romantic relationships. But what are the functional implications of attachment anxiety regarding desired romantic partners? The data from Study 2 suggest that this construct may indeed signal the activation of the attachment behavioral system in fledgling relationships. Partner-specific attachment anxiety was associated with proximity seeking and other approach behaviors, just as predicted by the normative component of attachment theory (Bowlby, 1959, 1969/1982, 1973; Fraley & Shaver, 1998). In addition, it predicted passionate love, an emotion which some theorists have linked to the attachment behavioral system (Diamond, 2003; Hazan & Diamond, 2000). Most provocative was the association between partner-specific attachment anxiety and safe haven and secure base behaviors, as previous research has demonstrated that it typically takes years before romantic partners completely fulfill these advanced attachment functions (Fraley & Davis, 1997; Hazan & Zeifman, 1994). The present data suggest that these functions may still have relevance even in the earliest stages of a romantic relationship, well before an attachment bond has completely formed. Finally, the associations between partner-specific attachment anxiety and the attachment-relevant dependent variables in this study were robust beyond the effects of sexual desire (which is certainly a powerful motivator of romantic pursuit), dispositional attachment anxiety, and partner-specific attachment avoidance.

Although Study 2 is exciting in suggesting that partner-specific attachment anxiety may be an important motivator of approach behaviors in developing romantic relationships, this study is not without limitations. For one, many of the Study 2 approach items assessed only hypothetical reports of what participants might do in the future. Our case would be strengthened by a demonstration that partner-specific attachment anxiety predicts (a) self-reports of one's actual approach behaviors or, even better, (b) the actual approach behavior itself. Furthermore, there is an alternative explanation for the associations revealed in Study 2: Many of our participants had known their desired romantic partners for months or years. Perhaps participants were mostly reporting that they would like to have a romantic relationship with a close friend to whom they were already attached; this would argue against the possibility that the attachment system has relevance for potential romantic partners who have just met and are getting to know one another. In a preliminary test of this possibility in Study 2, the interaction between partner-specific attachment anxiety and the length of time participants knew the potential partner was never significant in predicting the six dependent variables, all $|ts| \leq 1.59$. Nevertheless, to address these shortcomings of Study 2, we examined the role of partner-specific attachment anxiety among potential romantic partners who had been recently introduced to one another in a controlled setting.

Study 3

We conducted seven speed-dating events for undergraduate students who were interested in meeting and dating new people. Speed-dating methods are ideally suited for researchers who wish to explore the processes underlying romantic attraction (Eastwick & Finkel, in press-b; Finkel & Eastwick, in press; Finkel, Eastwick, & Matthews, 2007; for empirical examples, see Eastwick & Finkel, in press-a; Fisman, Iyengar, Kamenica, & Simonson, in press; Kurzban & Weeden, 2005; Todd, Penke, Fasolo, & Lenton, 2007). In speed-dating, participants have brief

dates with all of the opposite-sex attendees and decide whom they would (“yes”) and would not (“no”) be interested in seeing again. In this study, participants met between 9 and 13 opposite-sex individuals for 4 minutes each; participants who both replied “yes” to one another were considered a “match” and were able email one another through a specially designed website. In addition, over the next month, participants completed 10 follow-up surveys that sought additional information about the developing romances spawned by the speed-dating event.

This study is conceptually similar to Study 2 in that it explores the correlates of partner-specific attachment anxiety (assessed with respect to participants’ speed-dating matches). However, because participants and their speed-dating matches were introduced to one another at the speed-dating event, an association between partner-specific attachment anxiety and attachment-related outcomes in these data would support the argument that attachment theory is relevant to new romantic partners who have just met and are starting to get to know one another. In this study, we focus specifically on whether partner-specific attachment anxiety predicts passionate love and participants’ reports of correspondence and date initiation (we will again examine the Attachment Features and Functions scale in Study 4). In addition, the speed-dating methodology provides a behavioral dependent measure of proximity seeking: the sending of the initial email correspondence. Finally, data from Study 3 can replicate the Study 1 finding that participants reported greater partner-specific attachment anxiety about desired romantic partners compared to established partners. Study 1 used a cross-sectional design to explore this question, but Study 3 will provide the opportunity to examine this hypothesis using participants’ reports of the same potential partner before and after a dating relationship has been established.

Method

Participants

During the spring of 2005, 163 Northwestern University undergraduates (81 female) participated in a speed-dating study. Participants were recruited via flyers posted around campus and informational emails sent to the freshmen, sophomore, and junior class listservs. The sample was 19.6 years old on average ($SD = 1.0$ years); 74% of participants defined themselves as White/Caucasian, 10% as East Asian, 6% as South Asian, 4% as Hispanic, 2% as African-American, 1% as Middle Eastern, and 2% did not report race or ethnicity information.

Participants were paid \$5 at the end of the speed-dating event and \$3 for every Follow-up Questionnaire (out of 10) completed. Furthermore, those who completed at least 9 of the 10 Follow-up Questionnaires were paid a bonus of \$10. This payment structure contributed to a strong retention rate for the Follow-up Questionnaire: Of the 92% of participants who elected to take part in the follow-up portion of the study, 69% completed at least 9 of the 10 questionnaires.

Procedure

This study was conducted as part of a larger investigation of dating and attraction processes (see Finkel et al., 2007, for additional procedural details). Participants signed up for the study online and were required to complete a 30-minute Pre-event Questionnaire that assessed several background variables. Participants completed this questionnaire 6-13 days before attending a speed-dating event.

The seven speed-dating events were held on campus in the student union, lasted approximately two hours, and had been designed by the research team to mimic professional speed-dating events. At each event, participants had a 4-minute date with each of the opposite-sex individuals present; the total number of dates ranged from 9-13, depending on event attendance. At the end of the evening, participants returned home and indicated on a website whom they would or would not be interested in seeing again by clicking “yes” or “no” next to a photograph

(taken at the speed-dating event) of each speed-dater. If two participants both replied “yes” to one another, they were considered a “match” and could then send messages to one another through the speed-dating messaging page (described below). In total, 100% of participants completed the matching process; participants’ yes/no responses generated 206 matching pairs, for a mean number of matches per participant of 2.53 ($SD = 2.02$).

At 5 PM the day following the speed-dating event, participants received an email directing them to a website where they could view their matches. The website displayed the photograph and first name of each speed-dater with whom the participant had a match. A button next to each match’s photograph brought participants to the speed-dating messaging page where they could send a message to that match. The recipient viewed these messages by returning to the website. Participants were permitted to use the messaging system for one month following the speed-dating event; 111 participants sent a total of 383 messages during this time.

Twenty-four hours after learning of their matches (and 48 hours after the speed-dating event), participants received an email directing them to a website where they could complete the first of 10 Follow-up Questionnaires. Instructions in each email directed participants to complete the questionnaire before going to bed that evening (although we accepted late questionnaires), and participants continued to receive emails every 72 hours reminding them to complete the next questionnaire.

Materials

As the present study was designed to investigate a broad array of attraction processes, we attempted to maximize compliance by making all questionnaires as brief as possible. Therefore, several of the constructs consisted of fewer items than is typical in social psychological research. Nevertheless, many of the items used in this study were also assessed as part of a more complete scale in Study 1 and/or Study 2. For those items, we present the item-total correlations averaged

across all instances that the item was assessed in Studies 1 and 2 to demonstrate that the items selected here were representative of the overall construct. All items in Study 3 were assessed on scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

As part of the 30-minute online Pre-Event Questionnaire, participants completed a 3-item version of the Brennan et al. (1998) measure of *Dispositional Attachment Anxiety*: “I need a lot of reassurance that I am loved by romantic partners,” “I worry that romantic partners won't care about me as much as I care about them,” and “I worry about being abandoned” ($\alpha = .79$). (A fourth item, “I resent it when romantic partners spend time away from me,” was dropped from analyses because it reduced the reliability of the measure). Averaged across Study 1 and Study 2, the item-total correlation for these three items was .60, .68, and .61, respectively. Participants also completed a 3-item version of the Brennan et al. (1998) measure of *Dispositional Attachment Avoidance*: “I feel comfortable opening up to romantic partners” (reverse scored), “I get uncomfortable when a romantic partner wants to be very close”, and “I find it difficult to allow myself to depend on romantic partners” ($\alpha = .77$). (A fourth item, “I turn to romantic partners for many things, including comfort and support” was dropped from analyses because it reduced the reliability of the measure). Averaged across Study 1 and Study 2, the item-total correlation for these three items was .66, .62, and .47 respectively. (The first item was phrased such that it was not reverse-scored in Studies 1 and 2.)

On each of the 10 Follow-up Questionnaires, participants responded to items pertaining to each speed-dating match. Furthermore, the set of items that participants completed about each match varied depending on their answer to the following Pivot Question: “What is the current status of your relationship with [name]?” Participants were given the following response options to this question: (a) dating seriously, (b) dating casually, (c) friend *with* romantic potential, (d) acquaintance *with* romantic potential, (e) friend *without* romantic potential, (f) acquaintance

without romantic potential, (g) no relationship at all. Participants completed the Pivot Question about each match every time they completed a Follow-up Questionnaire. Participants only completed the Partner-specific Attachment Anxiety, Passionate Love, and Sexual Desire items regarding a particular match if the participant selected option a, b, c, or d for the match at that wave (for elaboration, see Finkel et al., 2007). If a participant selected one of these four options, the match is considered a *romantic interest* at that particular wave. For each of the 10 follow-up waves, the range of romantic interests for each participant was 0 to 3 (i.e., participants contributed between 0 and 3 rows of match-data to the dataset on each wave).

On each Follow-up Questionnaire, participants completed a 3-item measure of *Partner-specific Attachment Anxiety (PSAnx)* regarding each match who was a romantic interest: “I need a lot of reassurance that [name] cares about me,” “I worry that [name] doesn’t care about me as much I care about him/her,” and “I feel uncertain about [name]’s true feelings for me” ($\alpha = .69$). Averaged across Study 1 and Study 2, the item-total correlation for these three items was .67, .76, and .52 respectively. Participants also completed a 1-item measure of *Partner-specific Attachment Avoidance (PSAvoid)* regarding each match: “I feel comfortable opening up to [name]” (reverse scored). A nonreversed version of this item used in Study 2 correlated .60 with the rest of the PSAvoid scale. If participants responded “yes” to the item “Have you hung out with [name] in person OR corresponded with [name] not in person (email, IM, phone, etc.) since you last completed this questionnaire [xx hours ago]?”, they completed a 1-item measure of *Date Initiation* (“For the most part, I was the one to initiate correspondence / hanging out with [name]”) and a 1-item measure of *Date Enjoyment* (“Corresponding / hanging out with [name] has been enjoyable”). Also, participants completed a 3-item measure of *Passionate Love* regarding each match who was a romantic interest: “I think [name] and I have ‘soulmate’ potential,” “[name] is the only person I want to be romantically involved with,” and “[name] always seems to be on my

mind” ($\alpha = .80$). These three items correlated .69, .69, and .80, respectively, with the Passionate Love construct in Study 2. Participants also completed an item assessing their *Desire for a Serious Relationship* (“I would like to have a serious relationship with [name]”) and an item assessing their *Desire for a One-Night Stand* (“I would like to have a one-night stand with [name]”) regarding each match who was a romantic interest. Finally, participants completed a 1-item measure of *Sexual Desire* regarding each match who was a romantic interest: “I feel a great deal of sexual desire for [name]”. This item correlated .86 with the Sexual Desire construct in Study 2.

Analysis Strategy

These data have a three-level structure (unlike the two-level structure in Study 2): Measures assessed at each of the 10 Follow-up Questionnaires (Level 1) are nested within each match (Level 2) which is nested within participant (Level 3). For example, a participant who was romantically interested in two different matches for all 10 Follow-up Questionnaires would provide 20 different associations between Partner-specific Attachment Anxiety and Passionate Love (10 for each match). As in Study 2, we used multilevel data analytic strategies to examine the present data; the intercept was permitted to vary randomly at Level 2 and Level 3.

In total, 76 participants (33 female) expressed romantic interest (i.e., they chose option a, b, c, or d to the Pivot Question) in at least 1 of their matches on at least 1 of the Follow-up Questionnaires. This generated a total $N = 347$ person-match-waves for the present analyses.

Results

Part 1: What Does Partner-specific Attachment Anxiety Predict?

Primary Analyses. This study included four approach-related dependent variables: Passionate Love, Date Initiation (self- and match-report), and the sending of the initial email via the speed-dating messaging page. Simple associations between Partner-specific Attachment Anxiety and these variables are presented in the 1st column of Table 2.

Across the 347 person-match-waves, we first regressed Passionate Love onto PSAnx in a multilevel regression analysis. As in Study 2, PSAnx significantly and positively predicted participants' reports of Passionate Love toward their speed-dating matches, $t(234) = 7.36, p < .001$.

In addition, if participants reported that they either "hung out" or corresponded with a match during the 3 days prior to a Follow-up Questionnaire ($N = 253$ person-match-waves), they completed a measure of Date Initiation assessing the degree to which they felt they initiated the hanging out/correspondence. PSAnx significantly predicted this self-report of Date Initiation, $t(161) = 5.10, p < .001$. Consistent with our theoretical framing whereby PSAnx leads to proximity seeking behaviors, PSAnx at time t also predicted Date Initiation at time $t + 1$, $\beta = .20, t(119) = 2.90, p = .004$.

Furthermore, in instances where both matches reported on each other at the same time period ($N = 184$ person-match-waves), we could examine whether one participant's PSAnx was associated with their match's *lower* report of date initiation. This analysis provides a rigorous test of agreement between the two partners and would provide compelling evidence that the initiation effect does not reside solely in the minds of participants. As predicted, the matches of participants experiencing PSAnx reported less Date Initiation, $t(112) = -3.56, p < .001$.

A similar cross-partner analysis strategy also enabled us to examine whether participants' PSAnx was associated with their match's Date Enjoyment. Even though individuals experiencing greater partner-specific attachment anxiety might have been more likely to initiate a date, the functional implications of PSAnx would be called into question if their matches subsequently enjoyed the dates less than did the matches of nonanxious individuals. This analysis revealed that PSAnx was not significantly associated with the match's date enjoyment, $\beta = .004, t(112) = 0.05, p = .958$. In sum, these findings suggest that participants experiencing PSAnx were more likely to

initiate correspondence/hanging out with a match, and matches found these social interactions every bit as enjoyable as did matches of participants who experienced less PSAnx.

The speed-dating messaging system provided a fourth measure of approach that does not depend upon either partner's self-report. Though participants undoubtedly sent emails for diverse reasons, we hypothesized that PSAnx should be associated with sending the *first* message through the messaging system, as this initial email is the least likely to be conflated with other motivations (e.g., adhering to politeness and reciprocity norms). This analysis required a discrete time hazard model (Singer & Willett, 2003) where the dependent variable Email Initiation is coded 1 at the wave that a participant sent the initial email to a match (i.e., the email was sent within the 72 hours following the PSAnx report)³, 0 for all waves preceding the initiation wave, and missing for all waves following the initiation wave. If the match, not the participant, sent the initial email, then Email Initiation was coded 0 for that participant before and including the initiation wave and was considered missing thereafter. Hazard models examine whether predictors (e.g., PSAnx) are associated with a greater likelihood of reaching the criterion (e.g., sending the email); such procedures are appropriate in this case because once a participant sends the initial email, he or she effectively drops out of the data set, as the initial email by definition can only be sent once. This model included the focal predictor PSAnx as well as the linear effect of time. (We opted for this simple representation for time because email initiation was rare at later waves; see Singer & Willett, 2003.) This analysis was carried out using the NLMIXED procedure in SAS to account for the nesting whereby participants reported on multiple matches. Over the month, the effect of time was negative, $\beta = -1.83$, $e^{(-1.83)} = 0.16$, $t(43) = -2.22$, $p = .032$, indicating that participants were less likely to initiate emails as the month progressed. As predicted, participants who experienced greater PSAnx were more likely to initiate contact with the match by sending the first message, $\beta = 1.32$, $e^{(1.32)} = 3.74$, $t(43) = 2.23$, $p = .031$. This was a very large effect: A 1 *SD*

increase in PSAnx meant that a participant was 3.74 times more likely to send the initial email to the match.

In this study, PSAnx demonstrated a reliable positive association with Sexual Desire, $t(233) = 4.27, p < .001$, but a nonsignificant association with Dispositional Attachment Anxiety (*DAnx*), $t(235) = 1.17, p = .243$. (See Table A3 for descriptive statistics and regression betas for the central variables in this study.) As in Study 2, we conducted a regression analysis for each of the dependent variables listed in Table 2 that included PSAnx, Sexual Desire, and *DAnx* as predictors. Partial regression betas from these analyses are presented in the 2nd, 3rd, and 4th columns of Table 2. For all dependent variables, PSAnx remained a significant predictor. Sexual Desire was a significant predictor of Passionate Love, Date Initiation (self-report), and the sending of the initial email; again, the beta for PSAnx was descriptively as large as or larger than the beta for Sexual Desire in all cases. *DAnx* negatively predicted email initiation but did not significant predict any of the other variables.

Auxiliary Analyses. Throughout this manuscript, we have suggested that partner-specific attachment anxiety signals the activation of the attachment behavioral system. Nevertheless, it is possible that our measure of PSAnx is actually assessing a more general, nonattachment-based form of anxiety that emerges whenever people are highly invested in an uncertain outcome. In other words, perhaps it is not necessary to invoke attachment theory to arrive at the prediction that PSAnx will be associated with proximity seeking. However, attachment theory would make the specific and novel prediction that PSAnx should be associated especially with participants' desire to have an attachment relationship (as opposed to a relationship that has little potential for long-term attachment, such as a one-night stand) with a particular match. Therefore, we predicted that our participants would evidence a stronger association between PSAnx and their Desire for a Serious Relationship with a particular match compared to the association between PSAnx and

their Desire for a One-Night Stand with that match. (As the term “attachment relationship” does not really have a colloquial meaning, we felt that the term “serious relationship” was a reasonable proxy.) Indeed, the correlation between PSAnx and Desire for a Serious Relationship was large and significant, $r(345) = .49, p < .001$. The correlation between PSAnx and Desire for a One-Night Stand was also significant, $r(345) = .22, p < .001$, but this correlation was significantly smaller than the correlation between PSAnx and Desire for a Serious Relationship, $Z = 4.45, p < .001$ (Glass & Stanley, 1970).⁴ This analysis bolsters our confidence that (a) the present measure of PSAnx is attachment-relevant, even though participants are completing the items with respect to partners who are not full-fledged attachment figures, and (b) attachment theory is the appropriate theoretical framing for the hypotheses advanced in this manuscript.

As in Study 2, we wished to verify that the association between PSAnx and the dependent variables remained robust above and beyond the effect of Partner-specific Attachment Avoidance. (PSAnx and PSAvoid were negatively associated in this study, $t(232) = -1.92, p = .056$.) The size and significance level of the PSAnx β s did not change substantively by adding PSAvoid to each analysis. PSAvoid negatively predicted Passionate Love and Date Initiation (the latter effect was marginally significant), but PSAvoid did not significantly predict any of the remaining dependent variables.

As in Studies 1 and 2, we explored the moderating role of Dispositional Attachment Anxiety and Avoidance and participant sex. Of the 12 possible interactions (4 DVs $\times$ 3 possible moderators), only 2 were significant or marginally significant. The Dispositional Attachment Anxiety $\times$ PSAnx and the Dispositional Attachment Avoidance $\times$ PSAnx interactions were nonsignificant for all four of the dependent variables. However, the participant sex $\times$ PSAnx interaction was a significant predictor of Date Initiation, $B = .34, t(160) = 3.19, p = .002$. Although PSAnx did positively predict Date Initiation for men, $\beta = .12, t(81) = 1.95, p = .054$, this

association was stronger for women, $\beta = .37$, $t(79) = 4.93$, $p < .001$. Also, the participant sex $\times$ PSAnx interaction was a marginally significant predictor of email initiation, $B = 1.90$, $t(43) = 1.88$, $p = .067$. Descriptively speaking, the association between PSAnx and email initiation was greater for women compared to men, though the simple associations were nonsignificant for both men and women. In sum, these analyses did not suggest consistent moderational roles for Dispositional Attachment Anxiety and Avoidance and participant sex, though two of the four associations between PSAnx and initiation did appear to be stronger for women compared to men.

Part 2: Do the Between-Subject Effects from Study 1 Replicate Within-subjects?

Study 1 revealed that participants who were not in a romantic relationship reported greater PSAnx (regarding their most desired romantic partner) than did participants who were in an established romantic relationship (reporting on their current partner). Those data suggested that the experience of partner-specific attachment anxiety may be normative in the early stages of a romantic relationship, before one has concrete evidence that one's romantic desire is reciprocated. However, the Study 1 data alone are inconclusive: There could in principle be many reasons why a current partner and a desired partner inspire differing degrees of partner-specific attachment anxiety that have nothing to do with the stage of the relationship.⁵ This criticism could be addressed if participants reported on the same romantic partner when they were and were not in an established dating relationship with that partner.

The speed-dating Follow-up Questionnaires can help address this concern. Two responses to the Pivot Question (see Method section) essentially indicate that a match was a desired romantic partner at a particular wave: (a) friend with romantic potential and (b) acquaintance with romantic potential. Two other responses essentially indicate that a match was an actual dating partner: (a) dating casually and (b) dating seriously. Our hypothesis was as follows: Participants should report greater levels of PSAnx about a match when that match was a *desired partner*

(friend/acquaintance with potential) compared to when that match was a *dating partner* (dating casually/seriously). In other words, we should replicate the basic finding of Study 1 even though participants are now reporting on the same target as both a desired and actual dating partner.

Over the course of the month, 12 participants (4 women) met the following criteria with respect to one of their matches: (a) they reported that the match was a desired partner at one or more waves and (b) they reported that the match was a dating partner at one or more waves. All match-waves meeting these two criteria were included in the present analysis ($N = 86$ person-match-waves). Because 12 is small number of participants, we supplemented this analysis with data from an additional 11 participants (8 women) who met these two criteria with respect to a “write-in” ($N = 69$ person-match-waves). A write-in is a target in whom participants experienced romantic interest but who was not a fellow speed-dater; participants completed Follow-up Questionnaires about write-in targets at each wave in addition to their matches.⁶ No participant met the two criteria for more than one match or write-in target; therefore this analysis has only 2 levels of nesting (time within participant).

A multilevel regression analysis in which PSAnx was regressed on relationship status (coded 0 = desired, 1 = dating) revealed a significant effect of relationship status, $B = -.34$, $t(131) = -2.56$, $p = .012$. That is, participants reported less PSAnx when they were in a dating relationship with the match/write-in compared to when that match/write-in only had romantic potential (see rightmost bars in Figure 1). The mean of PSAnx was 4.03 ($SD = 1.54$, $N = 80$) when participants reported that the match/write-in was a desired partner, whereas the mean was 3.48 ($SD = 1.52$, $N = 75$) when participants reported they were in a dating relationship with the match/write-in. Relationship status did not significantly interact with Dispositional Attachment Anxiety, Dispositional Attachment Avoidance, or participant sex to predict PSAnx, all $|ts| < 0.56$. Finally, the effect of relationship status on PSAnx was marginally significant when conducted on data

from the speed-dating targets alone, $B = -.37$, $t(73) = -1.88$, $p = .064$, and on the write-in targets alone, $B = -.32$, $t(57) = -1.72$, $p = .090$. In essence, these data replicate the basic finding of Study 1 using a within-subjects design.

Discussion

Data from Study 3 effectively replicated and extended the findings of Study 2 using a sample of participants who had recently met one another at a speed-dating event. In general, the data supported the hypothesis that partner-specific attachment anxiety is associated with proximity seeking and other attachment-related constructs among potential romantic partners who are just getting to know one another. Study 3 participants reported on their speed-dating matches over the course of a month and replicated the finding that partner-specific attachment anxiety and passionate love are reliably associated. Furthermore, participants in this study were more likely to have initiated dates/correspondence with a match to the extent they were experiencing partner-specific attachment anxiety; this was true regardless of whether the participant's or the match's report of date/correspondence initiation served as the dependent variable. Thankfully for those participants experiencing partner-specific anxiety, their matches did not enjoy their dates/correspondence any less than if the participant had been experiencing little PSAnx—such a finding would have revealed a rather tragic side effect of partner-specific attachment anxiety. Also, partner-specific attachment anxiety predicted the sending of the initial email to a match, a behavioral dependent measure of proximity seeking. Finally, data from Study 3 demonstrated that participants experienced greater partner-specific attachment anxiety when they were not yet in a dating relationship with a desired individual. This replicated the similar finding from Study 1 but used a more rigorous design whereby participants reported on the same target over time.

Overall, data from Studies 2 and 3 have suggested that partner-specific attachment anxiety may signal the activation of the attachment behavioral system in fledgling romantic relationships.

But does partner-specific attachment anxiety actually *lead to* these attachment-relevant outcomes? Though we have framed partner-specific attachment anxiety as the independent variable and passionate love, proximity seeking, and other attachment functions as the dependent variables in Study 2 and Study 3, we have no causal evidence for this pathway. Partner-specific attachment anxiety could simply be a byproduct of participants' desire to have a romantic relationship with someone, and this desire alone could be sole driving force behind the initiation behaviors. If this mechanism were sufficient to explain the Study 2 and 3 effects and if partner-specific attachment anxiety were playing no causal role, the theoretical relevance of attachment theory would be diminished. Therefore, in Study 4, we attempted to find evidence that the experience of partner-specific attachment anxiety does in fact cause these outcomes.

Study 4

Method

Participants

Participants were 39 single Northwestern University students (18 female) who completed the experiment in partial fulfillment of a course requirement. Five additional participants completed the experiment but did not follow the instructions for the essay writing task; these participants were removed from all analyses. The 39 participants were 19.2 years old on average ($SD = 1.1$ years), and 72% of them were Caucasian, 13% were Asian, 5% were African-American, 3% were Hispanic, and 7% belonged to an unlisted racial or ethnic group.

Procedure

First, participants completed a questionnaire that verified that they were not currently involved in a romantic relationship. Then, they reported the initials of the person with whom they most desired to have a relationship and completed a brief, 3-item assessment of Baseline Romantic Interest for use as a covariate. Once participants had completed this questionnaire, the

experimenter gave them a second questionnaire that required them to spend four minutes writing an essay. In the *Anxiety Condition*, participants read the following instructions: “Think about the person whose initials you reported earlier. Tell us about a time that this person was reluctant to get as close as you would have liked. You may have worried that he/she didn’t want to have a relationship with you or that he/she didn’t care about you as much as you cared about him/her.” These instructions were designed to manipulate partner-specific attachment anxiety; they were (a) adapted slightly from those used successfully by Weisberg, Birnbaum, and Simpson (2007) to manipulate attachment anxiety regarding an established relationship partner and (b) share a great deal of language with the original attachment anxiety paragraph used by Hazan and Shaver (1987). In the *Control Condition*, participants described what they believed this person did on a typical school or work day. We selected this control condition because it required the participant to think actively about the desired partner but not in a way that would be likely to arouse attachment anxiety regarding him or her. After participants had worked on the essay for four minutes, the experimenter stopped the participant and administered the third and final questionnaire containing the remaining measures (i.e., the Attachment and Approach, Sexual Desire, and Partner-specific Attachment Anxiety items).

Materials

At an in-class group-testing session earlier in the academic quarter, participants completed the Wei et al. (2007) 6-item measure of *Dispositional Attachment Anxiety* ($\alpha = .69$) and 6-item measure of *Dispositional Attachment Avoidance* ($\alpha = .74$).

At the experimental session but before receiving the essay, participants completed a 3-item measure of *Baseline Romantic Interest* that served as a covariate in all analyses reported below: “How romantically interested are you in this person” (1 = not at all interested, 7 = extremely interested), “For me, this person is the perfect romantic partner” (1 = strongly disagree, 7 =

strongly agree), and “I possess a powerful attraction for this person” (1 = strongly disagree, 7 = strongly agree) ($\alpha = .77$). We control for Baseline Romantic Interest in all analyses to reduce the error associated with the large, naturally occurring individual differences on the various dependent variables; this procedure provides more statistical power to detect any change in the dependent variables due to the essay manipulation. We selected these three items to assess Baseline Romantic Interest because (a) they seemed to tap a general romantic interest construct, and (b) we feared that assessing any items that were later assessed as dependent variables could generate demand characteristics.

All remaining variables in Study 4 were assessed on scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). After the essay manipulation was completed, participants completed five items from the Tancredy and Fraley (2006) Attachment Features and Functions scale (“It is important to me to see or talk with ____ regularly,” “____ is the first person that I would turn to if I had a problem”, “If I achieved something good, ____ is the person that I would tell first”, “My life would be severely disrupted if ____ was no longer a part of it”, and “When I am away from ____, I feel down”), three items assessing Passionate Love (“____ always seems to be on my mind”, “I would rather be with ____ than anyone else, and “I am ‘in love’ with ____”), and four items from the Approach Tendencies scale assessed in Study 2 (“It would make me very happy if ____ expressed interest in spending time just the two of us”, “I would be happy to rearrange my schedule so that I would be able to hang out with ____”, “I often think of fun dates or activities for ____ and me” and “I would be very excited to go on a date with ____ in the near future”).

We subjected these 12 items to a factor analysis (principal axis factoring with promax rotation), and a 1-factor solution was suggested by a parallel analysis (Fabrigar, Wegener, MacCallum, & Strahan, 1999) in which the eigenvalues of the actual data are compared with

eigenvalues of an equivalently sized set of random data. We averaged these 12 items to form our central dependent variable *Attachment and Approach* ($\alpha = .88$).⁷ However, for parallelism with Study 2, we also present results separately for the five items taken from the *Attachment Features and Functions* scale ($\alpha = .86$), the three items taken from the *Passionate Love* scale ($\alpha = .77$), and the four items taken from the *Approach Tendencies* scale ($\alpha = .63$). Participants also completed a 1-item measure of *Sexual Desire* (“I feel a great deal of sexual desire for ____”) and a 5-item manipulation check for *Partner-specific Attachment Anxiety* (“I need a lot of reassurance that ____ cares about me”, “I worry a lot about my relationship with ____”, “If I can’t get ____ to show interest in me, I get upset or angry”, “I feel uncertain about ____’s true feelings for me”, and “I worry that ____ doesn’t care about me as much I care about him/her; $\alpha = .84$).

Results and Discussion

Primary Analyses

Marginal means (controlling for Baseline Romantic Interest) for the overall dependent variable Attachment and Approach and for each of the three subscales are presented separately by essay condition (Anxiety vs. Control) in Table 3. As predicted, participants assigned to write the attachment anxiety-provoking essay (compared to the control essay) reported significantly greater levels of Attachment and Approach. When each subscale was analyzed separately, a significant effect of essay condition was detected for Attachment Features and Functions and Passionate Love.⁸ A significant effect was not detected for the Approach Tendencies subscale, although the means were in the expected direction (see also the moderational analysis by sex below). Overall, these data suggest that the experience of attachment anxiety with respect to a desired romantic partner causes an increase in attachment behavior and passionate feelings toward that individual.

Oddly, the Partner-specific Attachment Anxiety scale intended as a manipulation check did not reveal a significant difference between the Anxiety ($M = 3.94$) and Control ($M = 3.49$) essay

conditions, though the means are in the expected direction and the effect size is in the small to medium range ($d = .31$). We can offer two speculations on why this effect was nonsignificant: (a) the manipulation check items came at the very end of the study and thus the effect of the essay might have worn off, and (b) some of the PSAnx items shared wording with the manipulation itself, and this might have captured participants' attention and disrupted the manipulation check.

Similar to the analyses presented in Studies 2 and 3, we conducted an ANOVA for each of the variables listed in Table 3 that included Sexual Desire, Dispositional Attachment Anxiety, and Baseline Romantic Interest as covariates. (See Table A4 for descriptive statistics and correlations for the variables in this study.) For Attachment and Approach, Attachment Features and Functions, and Passionate Love, the effect of essay condition remained significant or marginally significant. Sexual Desire did not significantly predict any of the dependent variables in these models, whereas Dispositional Attachment Anxiety only significantly (and positively) predicted Approach Tendencies. As in Studies 2 and 3, these analyses suggest that the significant effects of essay condition were robust beyond the effects of Sexual Desire and Dispositional Attachment Anxiety.

Auxiliary Analyses

Similar to the previous studies, we explored whether Dispositional Attachment Anxiety and Avoidance and participant sex interacted with essay condition (coded 0 = Anxiety, 1 = Control) to predict the variables listed in Table 3. Of the 12 possible interactions (4 DVs $\times$ 3 possible moderators), two were significant or marginally significant (controlling for Baseline Romantic Interest). The Dispositional Attachment Avoidance $\times$ essay condition interaction was significant in predicting Passionate Love, $\beta = -.31$, $t(31) = -2.51$, $p = .018$; inspection of the simple slopes revealed that essay condition had a negative effect (as predicted) for participants 1 *SD* above the mean in Dispositional Attachment Avoidance but a positive effect for participants 1 *SD*

below the mean, though neither simple slope was significant. In addition, the participant sex $\times$ essay condition interaction was significant in predicting Approach Tendencies, $B = -.96$, $t(31) = -2.22$, $p = .033$; for women, the essay had the expected (negative) effect on the DV, $\beta = -.62$, $t(15) = -3.14$, $p = .007$, but for men, the essay had a nonsignificant effect, $\beta = .10$, $t(18) = 0.49$, $p = .629$. This finding is noteworthy; although the essay condition did not have a significant overall effect on Approach Tendencies (see Table 3), this interaction suggests that the manipulation was effective for women. The remaining 10 interactions did not approach significance; thus, the data did not reveal a consistent moderational role for participant sex or Dispositional Attachment Anxiety or Avoidance.

General Discussion

The present report explored the normative experience of partner-specific attachment anxiety in fledgling romantic relationships. Two hypotheses were confirmed. For one, the experience of attachment anxiety regarding romantic partners appears to be pronounced in the very early stages of a romantic relationship, before that relationship is “official” (Study 1 and Study 3). That is, before participants established a dating relationship, they reported greater levels of partner-specific attachment anxiety. But what is the significance of partner-specific attachment anxiety regarding a desired relationship partner? Our second hypothesis was that partner-specific attachment anxiety signals the activation of the attachment behavioral system and would therefore predict diverse attachment-relevant outcomes. Indeed, partner-specific attachment anxiety predicted attachment features and functions (Studies 2 and 4), passionate love (Studies 2, 3, and 4), and both self-reported (Studies 2, 3, and 4) and behavioral (Study 3) measures of proximity seeking. Furthermore, evidence from an experimental study (Study 4) suggested that partner-specific attachment anxiety actually causes several of these attachment-relevant outcomes. Across studies, the predictive effects of partner-specific attachment anxiety were robust above and beyond

the effect of sexual desire, and our conclusions were generally identical for men and women and for individuals who differed in their dispositional attachment orientations. In sum, the present studies suggest that partner-specific attachment anxiety may be a particularly important motivational force (every bit as important as sexual attraction) in developing relationships, well before an attachment bond has formed.

To date, attachment theory has not been widely applied to the study of attraction or relationship initiation, and the few studies that have applied attachment theory to this domain have generally derived hypotheses from the individual differences component of the theory (e.g., Baldwin et al., 1996, Study 3; Klohnen & Luo, 2003; Vorauer, et al., 2003). The present data argue that even the normative component of attachment theory is relevant to the processes underlying initial romantic attraction. Why would these very early moments of potential relationships elicit attachment-relevant concerns? Consider again Tennov's (1979) descriptions of romantically infatuated individuals: These participants often reported a longing for emotional union with, strong feelings of empathy toward, and an earnest willingness to sacrifice for their desired love object. It is almost as if a central component of the experience of passionate love is the fantasy that one will ultimately possess an attachment bond with the desired partner. Indeed, other attachment theorists (e.g., Diamond, 2003) have argued that passionate love and infatuation represent an early stage of the attachment bonding process, a perspective that is consistent with the present data.⁹

If partner-specific attachment anxiety (or the desire for an attachment relationship in general) is an important motivational force in initial romantic attraction, one idea deserving of consideration is that attachment may be an active process that, in some cases, "kicks in" rather quickly. Certainly, complete attachment probably does require two individuals to be in close proximity for an extended period of time (Hazan & Diamond, 2000), but the desire for the

attachment bond could be something that drives individuals' pursuit shortly after a romantic interest initially emerges. If this speculation were accurate, it could help to explain why unrequited love for a potential partner can be so intensely painful (see Baumeister, Wotman, & Stillwell, 1993, for a brief discussion of this possibility). If sexual attraction were the sole motivational force underlying romantic relationship initiation, it is unclear *a priori* why losing an opportunity for a new partner would be so excruciating. Yet such an intense emotional reaction makes a great deal of sense when viewed through the lens of Bowlby's (1959, 1969/1982, 1973) attachment framework: Losing a potential attachment figure (however premature the fantasy might be) is certainly more likely to evoke protest and despair compared to losing a potential sexual partner.

State and Trait Attachment Anxiety

What exactly is the partner-specific attachment anxiety construct that we have documented in this manuscript? For one, the present studies do paint a somewhat unusual picture of attachment anxiety, at least in comparison with previous studies that have examined attachment anxiety as an individual difference. For example, participants' partner-specific attachment anxiety did not predict their matches' decreased date enjoyment in Study 3, but the romantic partners of dispositionally anxiously attached individuals are known to be less satisfied with and less committed to their relationships (Simpson, 1990). In fact, dispositional attachment anxiety tends to predict myriad negative aspects of relationship functioning (see Mikulincer & Shaver, 2003), including dysfunctional patterns of communication (J. A. Feeney, Noller, & Callan, 1994), increased attention to romantic partners' potentially threatening thoughts and feelings (Simpson, Ickes, & Grich, 1999), and the inability to respond to others with compassion (Mikulincer & Shaver, 2005) or with responsive caregiving (B. C. Feeney & Collins, 2001). However, the outcomes of partner-specific attachment anxiety in the current set of studies could be construed as either positive (the euphoria of passionate love) or negative (the rumination of passionate love). At

the very least, proximity seeking is likely to be a relationship-promoting factor; this stands in contrast to the potentially destructive behaviors sometimes evidenced by dispositionally anxiously attached individuals (e.g., Simpson, Rholes, & Phillips, 1996).

There could in principle be several reasons why dispositional and partner-specific attachment anxiety have different correlates. At least as far as fledgling relationships are concerned, the state-like experience of attachment anxiety may serve as an adaptive signal that a relationship is worth pursuing or that a relationship might eventually meet one's attachment needs. On the other hand, the chronic, trait-like experience of attachment anxiety likely derives from a history of abandonment in close relationships and leads individuals to become hypervigilant as they guard against the possibility of losing a relationship partner. One differentiating finding in the present set of studies is that PSAnx positively predicted but dispositional attachment anxiety negatively predicted sending the initial email to a match in Study 3. This difference could emerge because participants experiencing partner-specific attachment anxiety were inspired to pursue this potential attachment relationship, whereas dispositionally anxiously attached participants did not want to open themselves up to possible rejection or loss (see also Vorauer et al., 2003). Ultimately, it is likely that both attachment anxiety constructs will provide researchers with unique perspectives on attachment processes.

Future Directions

Future research might explore how partner-specific attachment anxiety relates to other partner-specific constructs in the literature. For example, Solomon and Knobloch have documented a construct called *relational uncertainty* that refers to the degree of confidence that people have in their partner's and their own involvement in a relationship, as well as the identity of the relational dyad as a unit (Solomon & Knobloch, 2004). Relational uncertainty bears some similarity to partner-specific attachment anxiety in that it, too, tends to be elevated before a

relationship has become intimate (Solomon & Knobloch, 2001; Knobloch & Solomon, 2002). However, relational uncertainty is associated with the belief that one's partner is irritating and is interfering with one's plans (Solomon & Knobloch, 2004), which seems to contrast with the dependent variables that PSAnx predicted in the present studies.

One possible explanation for this difference could be that we have only explored the correlates of PSAnx regarding desired relationship partners. It is an intriguing question whether partner-specific attachment anxiety might take on a different character depending on the stage of one's relationship. That is, partner-specific attachment anxiety regarding a desired relationship partner (DPSAnx) could have very different physiological, emotional, and cognitive correlates compared to partner-specific attachment anxiety regarding an established relationship partner (EPSAnx); this could explain some of the differences between the effects associated with relational uncertainty and those associated with PSAnx in this manuscript.

In addition, partner-specific attachment anxiety could play a role in the "hard-to-get" phenomenon. Research on this topic has revealed that participants tend to experience romantic desire for potential partners who are selective (i.e., they seem hard-to-get) but who also desire the participant (Eastwick, Finkel, Mochon, & Ariely, 2007; Walster, Walster, Piliavin, & Schmidt, 1973). Thus, the most desired potential partners may be those who inspire individuals' PSAnx on some occasions (perhaps by communicating their selectivity) but reciprocate individuals' desire on other occasions (see Eastwick & Finkel, in press-b). The conjunction of reciprocity of liking and partner-specific attachment anxiety could lead people to strive for romantic partners who are just "within their reach"—a phenomenon that intuitively seems quite common.

Our results did not identify individuals for whom partner-specific attachment anxiety fails to predict proximity seeking. Nevertheless, it is certainly likely that such individuals exist; it seems improbable that such anxiety inspires everyone to approach the source of their anxiety head

on. The threat versus challenge distinction is potentially useful here (Blascovich & Tomaka, 1996). Perhaps most people experience partner-specific attachment anxiety in the context of a developing romantic relationship as a challenge (i.e., with appraisals that one has the resources to overcome the demands of the situation). People tend to respond to this challenge constructively—by initiating contact with a desired partner and hopefully resolving some of their uncertainty in the process. Yet if certain individuals experience partner-specific attachment anxiety as a threat (i.e., with appraisals that one does not have sufficient resources), they might instead retreat from the desired partner, preferring to live with the uncertainty than to risk outright rejection. Dispositional attachment anxiety and avoidance were certainly promising individual differences in this regard (Fraley & Shaver, 2000), yet no consistent moderational effects for these variables emerged. Hopefully, future studies will successfully identify reliable individual differences in the association of partner-specific attachment anxiety with proximity seeking, passionate love, or any of the other dependent variables examined in this report.

Finally, a limitation of the present set of studies offers yet another promising direction for future research. In focusing on the experience of partner-specific attachment anxiety in fledgling relationships, we revealed that internal threats to a potential relationship are associated with attachment-relevant constructs. However, Bowlby (1973) also noted that external threats activate the attachment system in infancy, and recent studies have demonstrated that external threats activate mental representations of attachment figures in adulthood as well (Mikulincer, Gillath, & Shaver, 2002). Therefore, it is possible that external threats could activate mental representations of and the urge to approach desired romantic partners; such a finding would provide further evidence that fledgling relationships are attachment-relevant contexts.

Conclusion

The present set of studies demonstrated that attachment anxiety is a normative experience in fledgling romantic relationships, and it may cause individuals to seek proximity to and cultivate an attachment relationship with a desired partner. Perhaps more exciting than the specific results of these studies, however, is the possibility that normative elements of attachment theory have an underappreciated usefulness in understanding attraction and relationship initiation processes. Despite the extraordinary volume of research applying attachment theory to adult romantic relationships (see Mikulincer & Shaver, 2007), it is plausible that attachment theory actually remains underutilized, at least within the domain of fledgling relationships. Furthermore, if attachment bond formation starts to receive significant research attention in the coming years (see Rholes & Simpson, 2004), researchers may find it constructive to explore this topic by studying fledgling romantic relationships (rather than using retrospective reports of established relationships, for example). We are hopeful that the present report will inspire additional research questions, not only regarding the functional role of partner-specific attachment anxiety, but also regarding the intersection of attachment theory and relationship initiation in general.

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Footnotes

¹ Throughout this manuscript, we use the term *fledgling* to refer to a spectrum of undeveloped romantic relationships, from those that are merely desired to those with strong potential. In contrast, we consider a relationship to be *established* when participants report that, yes, they are currently involved in a dating/romantic relationship (although this relationship need not be exclusive).

² Bowlby noted that the source of the anxiety could be a threat that is internal to the relationship (e.g., the disappearance of the attachment figure) or external to the relationship (e.g., a loud noise). In essence, partner-specific attachment anxiety assesses threat that is internal to the relationship and thus the present manuscript focuses on these internal threats; it remains an untested empirical question whether external threats might also motivate attachment behaviors toward desired romantic partners.

³ Recall that participants were able to send messages 24 hours before they completed the first follow-up survey. Messages sent during this 24 hour period were counted during time 1.

⁴ The Glass and Stanley (1970) formula uses correlations; nevertheless, this analysis still revealed a significant difference if we instead used the standardized betas that accounted for the 3 levels of nesting, $Z = 2.40$, $p = .008$.

⁵ One possible alternative explanation is that a desired partner is likely to be a more desirable individual compared to a current partner, and desirable individuals might inspire more partner-specific attachment anxiety. Although partner desirability or “mate value” is a difficult construct to measure precisely, we found no association between the percent of yesses participants received at the speed-dating event (a reasonable measure of desirability) and the PSAnx they inspired in their matches, $t(270)=1.31$, $p=.190$.

⁶ Write-ins were not included in Part 1 of the Results section above because many of the more exciting analyses in this study, such as the cross-partner analyses and email initiation, are irrelevant to the write-ins. Those analyses that were relevant revealed the same conclusions as reported above regarding speed-dating matches: Partner-specific Attachment Anxiety significantly predicted Passionate Love, $\beta=.18$, $t(376)=4.60$, $p<.001$, and Date Initiation, $\beta=.30$, $t(281)=5.27$, $p<.001$, for all reports on the write-ins.

⁷ We administered abbreviated scales in this study because of time considerations and to maximize the likelihood that the anxiety manipulation would remain effective for all items. We did not conduct a similar factor analysis in Study 2 because that study examined full-length scales (several of which are established in the literature), and we did not conduct a factor analysis in Study 3 because the N varied widely across the dependent variables.

⁸ We elected to average across the four Attachment Features and Functions subscales in this study because each subscale was measured by only one or two items. Nevertheless, results were significant and in the expected direction for three out of the four subscales; Separation Distress was not significant.

⁹ These data do not rule out the possibility that passionate love and attachment are separable emotion-motivation systems, as suggested by Fisher (1998; Fisher, Aron, Mashek, Li, & Brown, 2002). The present data show that passionate love and attachment-related constructs co-occur on average, but it is still possible that they can operate independently of one another under certain circumstances.

Table 1

Study 2: Associations between Partner-specific Attachment Anxiety and Attachment-relevant Dependent Variables

Dependent variable	Zero-order association		Partial associations		
	Partner-specific attachment anxiety		Partner-specific attachment anxiety	Sexual desire	Dispositional attachment anxiety
Attachment features and functions					
Proximity seeking	.44***		.46***	.02	-.15
Separation distress	.54***		.59***	-.08	-.06
Safe haven	.44***		.51***	-.12	-.12
Secure base	.45***		.51***	-.09	-.13
Approach tendencies	.54***		.39***	.30***	.14
Passionate love	.69***		.59***	.34***	-.06

Note. Values beneath the heading “zero-order associations” are standardized betas indicating the association between partner-specific attachment anxiety and each of the six dependent variables. Values beneath the heading “partial associations” are standardized betas indicating the partial association between each of the six dependent variables and partner-specific attachment anxiety, sexual desire, and dispositional attachment anxiety (entered simultaneously).

*** $p < .001$.

Table 2

Study 3: Associations between Partner-specific Attachment Anxiety and Approach-relevant Dependent Variables

Dependent variable	Zero-order association		Partial associations		
	Partner-specific attachment anxiety		Partner-specific attachment anxiety	Sexual desire	Dispositional attachment anxiety
Passionate love	.34***		.28***	.28***	-.06
Date initiation (self-report)	.29***		.27***	.17**	-.09
Date initiation (match-report)	-.24***		-.25***	-.07	.04
Email initiation (behavioral)	1.32*		1.41*	1.28*	-1.36*

Note. For the first three rows, values beneath the heading “zero-order associations” are standardized betas indicating the association between partner-specific attachment anxiety and each of the three dependent variables, and values beneath the heading “partial associations” are standardized betas indicating the partial association between each of the three dependent variables and partner-specific attachment anxiety, sexual desire, and dispositional attachment anxiety (entered simultaneously). For the fourth row (Email initiation), values indicate the natural log of the odds ratio of each effect.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 3

Study 4: The Effect of Partner-specific Attachment Anxiety on Attachment-relevant Dependent Variables

Measure	Essay condition					
	Anxiety		Control		Effect	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>d</i>
All dependent variable items						
Attachment and approach	4.53	0.80	3.88	0.79	6.16*	.82
Subscales						
Attachment features and functions	3.90	1.25	3.04	1.24	4.35*	.69
Passionate love	4.23	1.05	3.42	1.05	5.43*	.77
Approach tendencies	5.55	0.71	5.28	0.71	1.39	.38

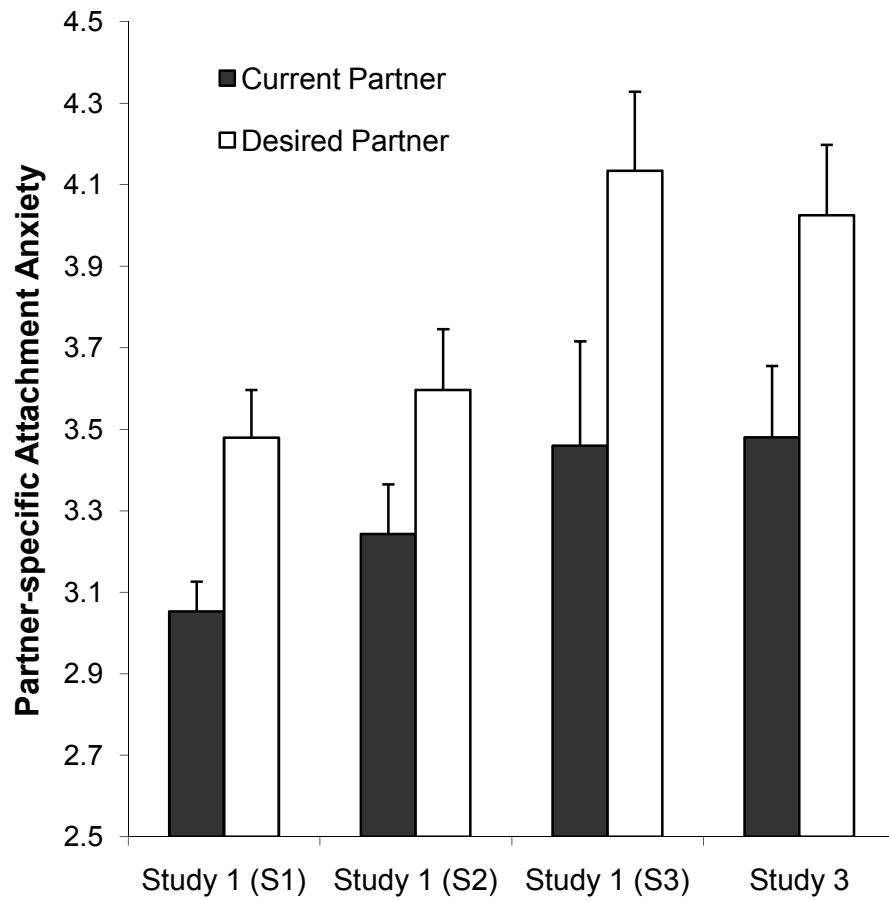
Note. Marginal means are reported after controlling for the pre-manipulation assessment of Baseline Romantic Interest. All measures were assessed using 1-7 agreement scales. *d* = difference between the anxiety and control condition means divided by the pooled standard deviation.

* $p < .05$

Figure Caption

Figure 1. Means of Partner-specific Attachment Anxiety regarding either a current romantic partner or a desired romantic partner. In each of the three samples (i.e., S1, S2, S3) in Study 1, participants reported on either a current or a desired partner. In Study 3, participants reported on the same romantic partner at one or more time points when he or she was a current partner and at one or more time points when he or she was a desired partner.

Figure 1



Appendix

Table A1

Study 1 Descriptive Statistics and Correlations

Variable	1	2	3	4
1. Dispositional attachment anxiety	—	116	115	116
2. Dispositional attachment avoidance	-.14	—	115	116
3. Partner-specific attachment anxiety	.62***	.04	—	486
4. Relationship status	-.04	-.30***	-.20***	—
<i>M</i>	3.57	2.91	3.28	0.66
<i>SD</i>	1.07	0.93	1.25	0.47

Note. *ns* are presented above the diagonal; correlations, means, and standard deviations are presented below the diagonal. All statistics were calculated on the combined samples 1, 2, and 3. All variables were measured on a 1-7 scale except for relationship status which was coded 0 = desired and 1 = current.

*** $p \leq .001$.

Table A2
Study 2 Descriptive Statistics and Regression β s

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Dispositional att. anxiety	—	.67	.201	.201	.201	.201	.201	.201	.201	.201	.201
2. Dispositional att. avoidance	-.33**	—	.201	.201	.201	.201	.201	.201	.201	.201	.201
3. Partner-specific att. anxiety	.31***	.04	—	.201	.201	.201	.201	.201	.201	.201	.201
4. Partner-specific att. avoidance	-.01	.30***	-.06	—	.201	.201	.201	.201	.201	.201	.201
5. Sexual desire	.00	.11	.37***	.02	—	.201	.201	.201	.201	.201	.201
6. Proximity seeking	-.01	-.11	.44***	-.54***	.18*	—	.201	.201	.201	.201	.201
7. Separation distress	.12	-.07	.54***	-.51***	.13 [†]	.74***	—	.201	.201	.201	.201
8. Safe haven	.04	-.15 [†]	.44***	-.54***	.06	.70***	.81***	—	.201	.201	.201
9. Secure base	.03	-.11	.45***	-.60***	.09	.76***	.84***	.90***	—	.201	.201
10. Approach tendencies	.26**	-.15 [†]	.54***	-.40***	.44***	.65***	.65***	.50***	.55***	—	.201
11. Passionate love	.13 [†]	-.04	.69***	-.33***	.55***	.62***	.66***	.58***	.62***	.74***	—
<i>M</i>	3.74	3.50	3.62	3.39	5.06	4.77	4.30	3.13	3.77	5.23	3.92
<i>SD</i>	1.11	1.03	1.16	0.97	1.57	1.51	1.38	1.55	1.51	1.04	1.21

Note. *ns* are presented above the diagonal; standardized regression β s, means, and standard deviations are presented below the diagonal.

β s were calculated using the column variable as the IV and row variable as the DV. All variables were measured on a 1-7 scale.

[†] $p \leq .10$ * $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$.

Table A3

Study 3 Descriptive Statistics and Regression Betas

Variable	1	2	3	4	5	6	7	8	9	10
1. Dispositional att. anxiety	—	.75	.347	.345	.346	.347	.253	.184	.183	.80
2. Dispositional att. avoidance	.15	—	.345	.344	.345	.345	.252	.183	.182	.80
3. Partner-specific att. anxiety	.11	-.17 [†]	—	.345	.346	.347	.253	.184	.183	.80
4. Partner-specific att. avoidance	.01	.11	-.11 [†]	—	.345	.345	.253	.183	.182	.80
5. Sexual desire	-.14	-.24*	.23***	-.18***	—	.346	.253	.183	.182	.80
6. Passionate love	-.07	-.15	.34***	-.24***	.34***	—	.253	.184	.183	.80
7. Date initiation (self-report)	-.06	-.22*	.29***	-.10 [†]	.21***	.26***	—	.164	.163	
8. Date initiation (match-report)	.00	.13	-.24***	-.04	-.09	-.19**	-.52***	—	.183	
9. Date enjoyment (match-report)	-.01	.03	.00	-.11	-.05	-.04	.09	.09	—	.35
10. Email initiation	-.88*	-.39	1.32*	.08	1.55*	.70			-.09	—
<i>M</i>	4.48	2.95	3.56	3.63	4.14	2.65	4.08	3.42	5.05	0.45
<i>SD</i>	1.29	1.27	1.27	1.37	1.53	1.28	2.04	2.12	1.44	0.50

Note. *ns* are presented above the diagonal; standardized regression β s, means, and standard deviations are presented below the diagonal.

β s were calculated using the column variable as the IV and row variable as the DV. All variables were measured on a 1-7 scale except for

email initiation which was coded 0 = no initiation and 1 = initiation. β s in the email initiation row are the natural log of an odds ratio;

blank cells indicate that the logistic regression failed to converge.

[†] $p \leq .10$ * $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$.

Table A4

Study 4 Descriptive Statistics and Correlations

Variable	1	2	3	4	5	6	7	8	9
1. Dispositional att. anxiety	—	.36	.36	.36	.36	.36	.36	.36	.36
2. Dispositional att. avoidance	-.26	—	.36	.36	.36	.36	.36	.36	.36
3. Partner-specific att. anxiety	.60***	.05	—	.39	.39	.39	.39	.39	.39
4. Sexual desire	.40*	-.13	.32*	—	.39	.39	.39	.39	.39
5. Baseline romantic interest	.29 [†]	-.21	.17	.40*	—	.39	.39	.39	.39
6. Attachment and approach	.35*	-.07	.60***	.42**	.56***	—	.39	.39	.39
7. Attachment features and functions	.16	-.01	.49***	.40*	.36*	.89***	—	.39	.39
8. Passionate love	.31 [†]	.05	.47**	.36*	.62***	.85***	.59***	—	.39
9. Approach tendencies	.56***	-.32 [†]	.58***	.28 [†]	.53**	.74***	.44**	.64***	—
<i>M</i>	3.77	3.29	3.68	5.05	5.33	4.16	3.42	3.77	5.40
<i>SD</i>	0.88	0.91	1.40	1.56	0.82	0.99	1.35	1.37	0.81

Note. *ns* are presented above the diagonal; correlations, means, and standard deviations are presented below the diagonal. All variables were measured on a 1-7 scale.

[†] $p \leq .10$ * $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$.