Adult attachment and perceptions of closeness

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Abstract

An online sample of more than 150,000 participants was used to examine whether—in addition to predicting how much intimacy people want—attachment styles also predict how people define and perceive intimacy. Results indicated that, as compared with relatively secure individuals, people with high levels of attachment anxiety required more time, affection, and self-disclosure to construe a relationship as "close." Additionally, anxious individuals perceived less intimacy in relationship vignettes than did their less anxious peers. In contrast, highly avoidant individuals required less time, affection, and self-disclosure to define a relationship as "close," and they perceived more intimacy in vignettes than did their more secure peers. These findings indicate that people who are relatively anxious not only want more intimacy in their relationships, but they are also less likely to perceive intimacy, as compared with their less anxious peers. Conversely, people high in avoidance not only want less intimacy, but they are also more sensitive to its presence, as compared with their less avoidant peers.

According to attachment theory, people's attachment styles play a fundamental role in shaping the ways in which they think, feel, and behave in close relationships (Mikulincer & Shaver, 2007). People who have relatively anxious attachment styles, for example, have a strong need for closeness and report dissatisfaction in their ability to obtain the closeness they seek (e.g., Birnbaum, 2007).

What kinds of psychological processes drive the insecurity and dissatisfaction that underlie anxious attachment? Researchers have explored a number of possibilities (Simpson, 1990; Simpson, Collins, Tran, & Haydon, 2007). In the present article, we propose that the desire for closeness could emerge via two highly interrelated psychological pathways. One possibility is that highly anxious people desire heightened levels of closeness because they do not *perceive* the intimate behavior of others as being adequately close. The failure to construe genuine indicators of intimacy as being cues of closeness could lead highly anxious people to feel insecure.

Another highly related possibility is that highly anxious people *personally define* relational closeness in ways that are more stringent, as compared to their less anxious peers. If this is the case, part of their insecurity could stem from having needs that are more difficult for others to fulfill. Stated differently, even if highly anxious individuals are unimpaired in their abilities to perceive intimacy, they may simply require greater levels of intimacy in their relationships in order to feel "close." The goal of the present research was to examine the ways in which attachment styles are associated with how people *define* and *perceive* intimacy in close relationships.

Attachment, closeness definitions, and closeness perceptions

In adulthood, individual differences in people's attachment styles are conceptualized as varying along two theoretically distinct

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dimensions: attachment anxiety and avoidance (Fraley, Waller, & Brennan, 2000; Mikulincer & Shaver, 2007). Anxiety[1] and avoidance are thought to reflect individuals' *working models*—beliefs and expectations regarding the nature of close relationships. People who are high in attachment anxiety believe that the *self* is not worthy of love or care (Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987). Consequently, highly anxious individuals hypervigilantly monitor their relationship partners for signs of availability versus withdrawal (Fraley, Niedenthal, Marks, Brumbaugh, & Vicary, 2006). Moreover, they desire extreme levels of intimacy—presumably to assuage their fears of rejection by bolstering the relationship and to obtain a sense of felt personal value (Fraley et al., 2000; Hazan & Shaver, 1987). Indeed, a strong desire for intimacy is so inherent to attachment anxiety that it is frequently used as an indicator of anxiety. For example, one of the items that is typically used to measure anxiety reads, "My desire to be very close sometimes scares people away."

In contrast, people high in avoidance believe that *others* will not be willing or able to meet the self's needs. Consequently, highly avoidant individuals desire to *avoid* intimacy in close relationships (Fraley, Davis, & Shaver, 1998; Hazan & Shaver, 1987). For example, one of the items used to measure avoidance is "I prefer not to be too close to romantic partners." Theoretically, anxiety and avoidance are distinct (e.g., Bartholomew, 1994). Thus, it is possible for an individual to be high in both anxiety and avoidance, simultaneously wanting and fearing intimacy (sometimes referred to as prototypical "fearful" attachment). Prototypically "secure" individuals are low in both anxiety and avoidance.

Although attachment styles are often measured by asking people how much closeness they want in their relationships, theoretically, attachment styles might also be associated with a variation in the way people *define* and *perceive* intimacy in personal relationships

(e.g., Collins, 1996). Specifically, "closeness" or "intimacy"—which we use interchangeably throughout this article—is a somewhat nebulous construct (e.g., Ben-Ari & Lavee, 2007; Parks & Floyd, 1996). Certainly, people generally tend to agree on the basic *components* that contribute to closeness, such as time spent together, mutual intimate knowledge, mutual support provision, trust, and affection (e.g., Parks & Floyd, 1996; Rands & Levinger, 1979). And, as aforementioned, there are individual differences that predict the ultimate amount of felt closeness that people desire (e.g., attachment styles, Hazan & Shaver, 1987; goals for intimacy, Sanderson & Cantor, 2001). What is less clear, however, is the extent to which individuals differ in the calculus they use to map *components* or *indicators* of intimacy onto their own overall *felt sense of closeness*. Stated differently, different individuals may require different amounts of time, mutual knowledge, trust, and affection to construe a relationship as "close."

As a hypothetical example, John and Mary may both have equivalent *desires* for moderate levels of closeness in their best friendships. However, John may require spending several hours per week engaging in shared activities in order to feel that his friendship is "moderately close," whereas Mary may require only a half-hour chat over coffee once per month to feel that her friendship has reached "moderate" closeness. Thus, although John and Mary both want moderately close relationships, John has *defined* intimacy much more stringently than has Mary, leading him to require greater investment from relationship partners before feeling "moderately" close.

There is reason to believe that people's attachment styles may predict individual differences in their definitions and perceptions of intimacy. For example, previous research suggests that attachment styles bias people's perceptions of how supportive certain behaviors are. In one study, as compared to relatively secure individuals, persons higher in anxiety or avoidance perceived supportive notes from their partners more negatively, controlling for independent judges' ratings of how supportive the notes actually were (Collins &

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1. Throughout this article, we always use the term "anxiety" to refer specifically to *attachment* anxiety and not more generalized forms of anxiety, such as neuroticism.

Feeney, 2004). It may be the case that people's attachment styles similarly bias how strictly they define intimacy as well as the amount of closeness that they perceive in relationships. For instance, highly insecure people might perceive less intimacy than would more secure persons in identical circumstances.

How specifically should we expect people's attachment styles to relate to their definitions and perceptions of closeness in relationships? Highly anxious individuals relentlessly pursue intimacy in their relationships yet seem to experience difficulty in feeling satisfied, even in close relationships (Mikulincer & Shaver, 2007). As such, it may be the case that, as compared to relatively secure individuals, highly anxious people define closeness more strictly and—given the same objective relationship scenario—also perceive less intimacy. Such a finding would suggest that part of the reason that anxious people pursue closeness yet tend not to find satisfaction is that they do not perceive their relationships to be as close as other people would under the same circumstances.

It is less clear how attachment avoidance might relate to people's definitions and perceptions of intimacy in relationships. On the one hand, previous studies suggest that, similar to anxious persons, avoidant individuals perceive their relationships negatively (Collins, 1996). This might lead one to predict that—similar to their highly anxious peers—highly avoidant individuals perceive *less* intimacy in relationships compared to relatively secure persons. However, because highly avoidant people are *uncomfortable* with intimacy (Fraley et al., 1998), they may be more sensitive to its presence. Specifically, it is possible for individuals to become *increasingly* sensitive to uncomfortable stimuli with repeated exposure (e.g., Brimer & Kamin, 1963). To the extent that closeness is uncomfortable and/or perceived negatively for highly avoidant individuals, they may be sensitized to its presence, and thus may be quicker and more likely to perceive even small amounts of closeness, as compared to individuals for whom intimacy is not aversive. Such a phenomenon might lead one to predict that avoidant individuals perceive *more* intimacy in relationships as compared to their more secure peers.

Overview of the present study

This study used an online sample to examine the associations between people's attachment styles and their personal definitions of closeness and perceptions of intimacy. We operationalized definitions and perceptions of intimacy in relatively straightforward, face-valid ways. Namely, to assess participants' personal definitions of closeness, we asked them to rate minimum criteria—including time, affection, and self-disclosure (e.g., Parks & Floyd, 1996; Rands & Levinger, 1979)—that they personally required in order to *define* a relationship as "close." To assess perceptions of intimacy, we presented participants with several short vignettes describing a relationship between two people and asked them to rate how close they *perceived* the relationship between the two persons to be. Although these measures might be expected to overlap with each other, it is possible to disentangle their independent associations with attachment styles by using multiple regression methods.

One important caveat in studying these issues is that people's *desires* for closeness might color their definitions and perceptions of intimacy in their own and others' relationships (e.g., focusing on how one falls short of one's ideals can color one's perceptions of oneself; Higgins, 1987). Although it is true that people's attachment styles should be highly related to their goals for closeness in their relationships, attachment is not the same "thing" as desire for closeness.[2] As such, we also explicitly measured participants' goals for closeness separately from their attachment styles so that we could examine the associations between attachment styles and people's definitions and perceptions of closeness, controlling for their closeness goals.

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2. As aforementioned, attachment styles are typically conceptualized as people's beliefs and expectations—working models—in close relationships (Bowlby, 1969; Hazan & Shaver, 1987). Highly anxious individuals believe the *self* is not worthy of others' love and care, whereas highly avoidant individuals believe *other people* will not be responsive to the self's needs (Bartholomew & Horowitz, 1991). Thus, attachment is a broader construct that perhaps *subsumes* people's closeness goals.

Method

Participants

The study was posted on the first author's website, www.PersonalityAssessor.com. Visitors to Personality Assessor complete personality tests as a recreational activity and to learn more about themselves. Users can find Personality Assessor via Internet searchers (e.g., free personality tests), social media, or links from other websites. This particular study was advertised as a personality test that provided personalized feedback on the qualities that participants "look for in close relationships." A total of 153,470 participants between the ages of 18 and 65 ($M = 21.68$, $SD = 5.75$) completed the study over a period of 2 years. This sample size enabled greater than 97% power to detect any zero-order effect equivalent to a correlation of .01 or higher. Participants were predominantly female (74%)[3] and White (77%; followed by 10% Hispanic, 9% Asian, 5% Black, and 3% Native American).[4] A total of 38% of the sample indicated that they were currently in a romantic relationship.[5] As compensation, participants received feedback about

their attachment styles and how they defined and perceived intimacy.

Measures

The order of the following four questionnaires was fully randomized per participant.

Attachment

Attachment was measured using the 12-item Experiences in Close Relationships–Short Form (ECR–S; Wei, Russell, Mallinckrodt, & Vogel, 2007). The ECR–S has subscales to measure attachment anxiety (e.g., "I worry that partners won't care about me as much as I care about them") and attachment avoidance (e.g., "I am nervous when partners get too close to me"). A prototypically "secure" individual is low with respect to both anxiety and avoidance. All items were rated on a Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). Items were averaged to form composites for anxiety and avoidance (αs = .71, .77).

Closeness definitions

Participants used an eight-item scale created for this study to rate the *minimum* qualities a relationship *must* have in order for the participant to feel close to the other person. Participants received the instructions "What does it look like to have a close relationship with another person? The following questions ask about specific elements of close relationships. Please indicate which qualities a relationship <u>must</u> have in order for you to feel close to the other person." The precise response scale used to rate items varied across the measure's items. Some of the items (e.g., "How often <u>must</u> you talk with each other?" "How often <u>must</u> you spend time together?" and "How often <u>must</u> the other person express physical affection?") were rated using a Likert scale that ranged from *never* (1) to *a few times per month* (5) to *multiple times per day* (9). Other items in the measure (e.g., "How much must the

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3. Controlling for gender did not practically significantly alter any association reported in the text. Gender slightly moderated the association between anxiety and closeness perceptions ($\beta = 0.01$), such that anxious women were slightly more likely to perceive less intimacy in the vignettes, as compared to anxious men. Gender moderated the associations between both anxiety and avoidance and closeness definitions (βs = 0.01, −0.02, respectively), indicating that anxious women had slightly more stringent definitions of closeness, as compared to anxious men. Conversely, avoidant men had slightly lower closeness definitions than avoidant women. These interactions suggest that the associations between attachment styles and closeness definitions and perceptions may be slightly different for men and women. Nevertheless, the basic pattern of results was extremely similar for men and women.

4. Unfortunately, we did not collect data on the countries of residence for participants in this study. Other studies on Personality Assessor suggest that the user base is primarily American (∼70%), with the most highly represented other countries being Canada (∼8%), Australia (∼6%), the United Kingdom (∼5%), the Philippines (∼3%), and India (∼3%).

5. Controlling for relationship status did not practically significantly alter any association reported in the text. Relationship status slightly buffered the associations between avoidance and closeness definitions and perceptions, respectively, βs = −0.02, 0.01. Relationship status did not moderate any association involving anxiety, all βs = 0.00. These interactions do not change the

interpretation of any finding in the article but may suggest that avoidance has slightly larger effects for persons in romantic relationships.

other person know about your life?") were rated using a 400 px-wide slider labeled *nothing, 0%* on one end and *everything, 100%* on the other end (the slider was configured to score responses on a continuous scale from 1 to 9). All items were averaged together to form a composite ($\alpha = .78$).

The items in this measure were created to assess participants' closeness definitions in a relatively straightforward, face-valid way. Items were written to cover a wide variety of indicators of closeness, including self-disclosure, time spent together, mutual intimate knowledge, verbal and physical affection, and support provision (e.g., Parks & Floyd, 1996; Rands & Levinger, 1979).

Closeness perceptions

Participants were presented with 18 single-sentence vignettes created for this study that described a relationship between a man and a woman (the nature of the relationship [e.g., romantic] was not specified). Single-sentence vignettes were used, rather than longer stories, to allow participants to rate multiple independent items that featured a wide array of indicators of relational closeness. Participants were instructed, "Most of the stories won't give you enough details for you to fully judge the relationship. You should make your best judgment of how close the two people are based on the information provided in the story." The vignettes were written to depict varying levels of closeness: high (e.g., "When Matthew feels like he needs help, he almost always calls Stacey"), medium (e.g., "Jenny calls Jeremy on the phone just to talk about once every week or so"), or low (e.g., "Mark tells Nancy very few of his secrets").[6] Participants rated how close they believed each relationship to be using a 400 px-wide, continuously scored slider that was labeled *not at all close* (0) on one end and *extremely close* (9) on the other. Items were averaged to form composites for high-, medium-, and

low-closeness vignettes ($\alpha s = .66 - .70$). These three composites were used in all zero-order correlations reported that involve the closeness perceptions variables.

The items in this measure were designed to tap participants' perceptions of closeness in other people's relationships in a relatively straightforward, face-valid manner. Similar to the closeness definitions measure, items were written to cover a wide array of indicators of interpersonal intimacy (e.g., Parks & Floyd, 1996).

Closeness goals

Participants rated their closeness goals using an 11-item scale adapted from Sanderson and Cantor (1995). Sample items include "In my closest friendship/relationship … " "I want to share my deepest thoughts and feelings" and "I want to feel very emotionally close." All items were rated on a Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). Items were averaged together ($\alpha = .84$).

Results

Descriptive statistics and correlations for all study variables are presented in Table 1. By definition, attachment anxiety and avoidance should have strong positive and negative associations with closeness goals, respectively. Closeness goals were, in fact, positively correlated with anxiety ($r = .28$)[7] and negatively associated with avoidance ($r = -.51$). We subsequently explored how attachment styles relate to people's perceptions and definitions of closeness.

Closeness definitions

First, we examined how people's attachment styles related to their criteria for defining relationships as "close." As compared to more

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6. Male and female names were randomly selected for each vignette from a pool of 40 names for each gender. Additionally, the order of male and female names was randomly determined for each vignette (e.g., "Matthew calls Stacey" vs. "Stacey calls Matthew").

7. Unless otherwise noted, the lower and upper bounds for all 95% confidence intervals were identical to the point estimates to 2 decimal places. These confidence intervals are not shown in the text. All 95% confidence intervals with bounds that differed from the point estimates are included in the text. Parameter estimates for which the 95% confidence intervals do not include zero are statistically significant, $p < .05$.

Table 1. *Descriptive statistics and correlations for all study variables*

	M	SD	1	2	3	4	5	6	7	8	9
			Correlations								
1. Anxiety	3.14	0.69	—								
2. Avoidance	2.29	0.68	.04	—							
3. Closeness goals	4.16	0.51	.28	−.51	—						
4. Closeness perceptions—high closeness	6.53	0.88	.00	−.05	.12	—					
5. Closeness perceptions—medium closeness	4.84	0.97	−.05	.10	−.09	.58	—				
6. Closeness perceptions—low closeness	3.21	0.95	−.08	.15	−.21	.20	.63	—			
7. Closeness definition	7.21	0.77	.18	−.26	.36	.00	−.20	−.24	—		
8. Male[a]		0.26	0.44	−.03	−.01	−.04	−.02	.01	.02	−.07	—
9. Age	21.68	5.75	−.01	−.01	.02	−.10	−.05	.01	−.03	.13	—
10. In a romantic relationship[a]	0.38	0.48	−.13	−.33	.13	−.02	−.07	−.06	.15	−.09	.02

[a]These variables were coded in a binary fashion (0 = false, 1 = true); 95% confidence intervals do not contain zero for all correlations |r| ≥ .01.

secure persons, highly anxious individuals had more stringent requirements for construing a relationship as "close" ($r = .18$). That is, highly anxious individuals reported requiring more time, affection, and self-disclosure to call a relationship "close." In contrast, highly avoidant people had lower criteria for construing a relationship as "close," as compared to their less avoidant peers ($r = -.26$). That is, highly avoidant individuals required less time, affection, and self-disclosure to define a relationship as "close." These associations remained intact even when people's closeness goals were controlled by regressing closeness definitions onto anxiety, avoidance, and closeness goals simultaneously (anxiety $\beta = 0.21$, 95% CI [0.17, 0.24]; avoidance $\beta = -0.21$, 95% CI [−0.24, −0.17]).[8,9] These findings

are consistent with the idea that people's attachment styles are associated with how they define closeness above and beyond their desires for closeness.

Perceived closeness

Second, we explored whether people's attachment styles predicted their perceptions of closeness in the relationship vignettes. Because of the repeated measures nature of the vignettes, we used a multilevel model (MLM) to model people's ratings of closeness in each vignette (i.e., 18 repeated measurements per person) as a function of (a) anxiety, (b) avoidance, and (c) a random intercept to control for within-person dependencies in the data. All predictor and criterion variables were standardized across the entire sample before being entered into the model.[10] Highly

8. Controlling for perceptions of closeness did not practically significantly affect the pattern of results (anxiety $\beta = 0.19$, 95% CI [0.16, 0.22]; avoidance $\beta = -0.19$, 95% CI [−0.23, −0.15]). This suggests that attachment predicts closeness definitions above and beyond variations in how people perceive closeness.

9. In a separate model examining Anxiety × Avoidance interactions, there was an interaction between anxiety and avoidance, $\beta = 0.05$, 95% CI [0.05, 0.06]. We believe that the most parsimonious interpretation of this interaction is that anxiety and avoidance had opposing

effects on closeness definitions; however, when both are high, the effect of avoidance is buffered, such that anxiety "wins," and people with high levels of anxiety and avoidance have slightly higher than average closeness definitions.

10. Thus, the resultant parameter estimates (βs) are standardized effect sizes that represent the expected standardized increase in the criterion, per standard

anxious individuals perceived less closeness in the vignettes than did their less anxious peers, $\beta = -0.03$ (for comparison, the zero-order correlation between anxiety and ratings on all 18 vignettes averaged together was $r = -.06$). In contrast, highly avoidant individuals perceived the vignettes as containing *more* intimacy, as compared to their less avoidant peers, $\beta = 0.04$ (zero-order $r = .09$). Importantly, these associations were not attenuated by controlling for individuals' closeness goals (anxiety $\beta = -0.04$, 95% CI [−0.05, −0.02]; avoidance $\beta = 0.03$, 95% CI [0.02, 0.05]), suggesting that anxiety and avoidance predict people's perceptions of closeness above and beyond their closeness goals.[11,12]

We subsequently explored whether these effects varied as a function of the level of closeness depicted in the vignettes. An MLM was used to predict how participants' ratings of closeness in the vignettes varied as a function of (a) their attachment anxiety and avoidance, (b) the amount of closeness depicted in the vignettes (coded pseudocontinuously as 3 = high, 2 = medium, 1 = low), (c) the interactions between people's attachment styles and the closeness in the vignettes, and (d) a random intercept to control for within-person dependencies in the data. As can be seen in Table 2, there was a statistically significant interaction between people's level of anxiety and the amount of closeness in the vignettes ($\beta = 0.02$), such that, relative to their more secure peers, highly anxious individuals were especially biased to perceive lower levels of closeness in the low-closeness vignettes (simple $\beta = -0.05$, zero-order $r = -.08$) as compared to the vignettes that depicted medium (simple $\beta = -0.03$, zero-order $r = -.05$) or high (simple $\beta = 0.00$, zero-order $r = .00$) levels of

closeness.[13] Similarly, there was an interaction between avoidance and vignette closeness ($\beta = -0.05$), such that highly avoidant individuals' tendencies to perceive *higher* closeness (relative to their less avoidant peers) were especially exaggerated for vignettes describing low levels of closeness (simple $\beta = 0.10$, zero-order $r = .15$) as opposed to medium (simple $\beta = 0.04$, zero-order $r = .10$) or high (simple $\beta = -0.02$, zero-order $r = -.05$) levels of closeness. Controlling for participants' closeness goals did not affect this pattern of findings. Collectively, these findings suggest that, as compared with relatively secure persons, highly anxious people tend to perceive less intimacy in relationships, whereas avoidant individuals perceive more intimacy. These biases are especially strong for relationships characterized by relatively low levels of closeness.

Discussion

This study explored whether—in addition to predicting the amount of closeness that people *want* in relationships—people's attachment styles are associated with their *definitions* and *perceptions* of closeness. More than 150,000 participants completed an online survey measuring their attachment styles, their minimum criteria for defining a relationship as "close," and their perceptions of closeness in vignettes describing relationships.

As expected, attachment anxiety was related to people having more stringent definitions of closeness. That is, highly anxious individuals reported requiring more time, affection, and self-disclosure to construe a relationship as "close," as compared to their more secure peers. Along these lines, anxious individuals also perceived less closeness in brief vignettes describing a relationship between two people. One implication of this finding is that not only do highly anxious individuals *want* more closeness in their relationships (Hazan & Shaver, 1987; Mikulincer & Shaver, 2007), but they are also less likely to recognize/perceive closeness,

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deviation increase in the predictor, controlling all other predictors in the model.

11. Controlling for closeness definitions did not statistically (or practically) significantly affect the coefficients (anxiety $\beta = -0.04$, 95% CI [−0.07, −0.01]; avoidance $\beta = 0.04$, 95% CI [0.002, 0.07]). This suggests that attachment predicts closeness perceptions above and beyond how people define closeness.

12. Anxiety and avoidance did not interact to predict closeness perceptions, $\beta = 0.00$.

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13. The zero-order rs listed are the correlations between anxiety and the high-, medium-, and low-closeness perceptions composites (see Table 1).

Table 2. *Standardized regression coefficients from multilevel model predicting closeness perceptions*

Predictor	β	95% confidence interval	
		Lower bound	Upper bound
Anxiety	−0.03	−0.03	−0.02
Avoidance	0.04	0.04	0.04
Amount of Closeness[a]	0.82	0.82	0.82
Anxiety × Amount of Closeness	0.02	0.02	0.02
Avoidance × Amount of Closeness	−0.05	−0.05	−0.05

[a]Amount of closeness was coded as $3 =$ high, $2 =$ medium, and $1 =$ low. All variables were standardized before being entered in the model; thus, parameter estimates are standardized regression coefficients.

as compared to their less anxious peers. This may be one factor that contributes to anxious individuals experiencing lower amounts of satisfaction in close relationships (e.g., Hudson, Fraley, Brumbaugh, & Vicary, 2014; Mikulincer & Shaver, 2007; Simpson, 1990).

In contrast, we had less clear expectations for how avoidance might relate to how individuals define and perceive closeness. In our sample, avoidance behaved in a way opposite to that of anxiety. That is, avoidance was related to *less* stringent definitions of closeness. Highly avoidant individuals required less time, affection, and self-disclosure in order to define a relationship as "close," as compared to their more secure peers. Similarly, avoidant people also perceived *more* closeness in the relationship vignettes. One potential explanation for this finding is that intimacy is uncomfortable for avoidant individuals (Fraley et al., 1998), and as a result, they have been sensitized to its presence and are more ready to detect intimacy, as compared to more secure persons. An implication of this idea is that not only do highly avoidant people *want* less intimacy in their relationships, but they also may be quicker to construe a relationship as close. This might lead highly avoidant individuals to withdraw from relatively fledgling relationships because they perceive higher levels of threatening (to them) intimacy than would other people in identical circumstances.

It is important to note that the effects found in our study were small to average in size. The associations between anxiety and avoidance and closeness *definitions* were

very close to the average-sized effect found in social/personality psychology ($r \sim .21$; Richard, Bond, & Stokes-Zoota, 2003). In contrast, the associations between anxiety, avoidance, and closeness *perceptions* were much smaller. Thus, it may be the case that anxiety and avoidance primarily operate by influencing people's criteria for defining relationships as "close"—and attachment biases people's *perceptions* of intimacy to a much lesser degree.

Limitations and future directions

One limitation of this study is that we did not measure potential downstream (i.e., direct and/or indirect) consequences of variations in people's definitions and perceptions of closeness in relationships. For example, it may be the case that lowered perceptions of intimacy in relationships are one mechanism that links attachment anxiety to reduced relationship satisfaction (Mikulincer & Shaver, 2007). As another example, heightened perceptions of intimacy might interact with attachment avoidance to predict the early termination of relationships. Future research should examine the potential downstream consequences of people's perceptions and definitions of closeness.

A second limitation of this study is that due to the correlational nature of the data, we were unable to examine causal relations between people's attachment styles and their definitions/perceptions of intimacy. It is possible that people's attachment styles cause them to perceive varying levels of closeness

in relationships. Alternatively, it may be the case that biased definitions and perceptions of intimacy influence people's attachment styles. Of course, these possibilities are not mutually exclusive—attachment styles and closeness definitions/perceptions may be correspondence (Roberts, Wood, & Caspi, 2008). Moreover, due to the wholly self-report nature of our data, confounds such as common method variance may account for a portion of our findings. To overcome these limitations, future longitudinal research should explore the temporal associations between attachment styles and closeness definitions/perceptions. Experimental work could explore whether people's definitions and perceptions of closeness are affected by priming different levels of anxiety and avoidance (e.g., Gillath, Selcuk, & Shaver, 2008).

A third limitation of this study is that we did not explore mechanisms that might link attachment orientations to closeness definitions and perceptions. For example, it may be the case that attachment orientations influence the types of relational experiences people accrue (Mikulincer & Shaver, 2007). In turn, these different relational histories may influence participants' expectations for the amount of closeness that is typical in relationships. Future research could explore this and other potential mechanisms linking attachment orientations to closeness definitions and perceptions.

A final limitation of this research is that our sample may not be representative of the larger population in a variety of ways: Males as well as certain racial groups were underrepresented. Moreover, participants were website users who voluntarily sought and completed the study as a leisure activity because they were interested in receiving feedback about themselves. Thus, our participants may have differed from the general population in a variety of psychologically meaningful ways.

Conclusion

This study found that—in addition to being deeply intertwined with the levels of closeness that people desire in relationships—attachment styles also predict (a) how people define intimacy and (b) how much closeness they perceive in relationships around them.

Future research should explore the downstream consequences of this variation in perceptions of intimacy.

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Supporting Information

Additional Supporting Information for this article may be found in the online version of this article and on the first author's website at http://bbs.utdallas.edu/pairlab/materials/.

Appendix S1. Verbatim New Study Materials