

# Personality and Social Psychology Bulletin

<http://psp.sagepub.com>

---

## **The Strange Case of Sustained Dedication to an Unfulfilling Relationship: Predicting Commitment and Breakup From Attachment Anxiety and Need Fulfillment Within Relationships**

Erica B. Slotter and Eli J. Finkel  
*Pers Soc Psychol Bull* 2009; 35; 85  
DOI: 10.1177/0146167208325244

The online version of this article can be found at:  
<http://psp.sagepub.com/cgi/content/abstract/35/1/85>

---

Published by:



<http://www.sagepublications.com>

On behalf of:



Society for Personality and Social Psychology, Inc.

**Additional services and information for *Personality and Social Psychology Bulletin* can be found at:**

**Email Alerts:** <http://psp.sagepub.com/cgi/alerts>

**Subscriptions:** <http://psp.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>

**Citations** <http://psp.sagepub.com/cgi/content/refs/35/1/85>

---

# The Strange Case of Sustained Dedication to an Unfulfilling Relationship: Predicting Commitment and Breakup From Attachment Anxiety and Need Fulfillment Within Relationships

Erica B. Slotter

Eli J. Finkel

Northwestern University

---

*Two studies investigated whether need fulfillment within relationships moderates the associations of attachment anxiety with relationship commitment and persistence. The authors hypothesized that individuals who experience low attachment anxiety would exhibit declining commitment and increased risk of breakup if their partner failed to meet their core psychological needs, whereas individuals who experience high attachment anxiety would not. Study 1 employed longitudinal procedures to examine the associations among need fulfillment within relationships, attachment anxiety, commitment, and breakup. Study 2 employed experimental procedures to examine whether the temporary activation of attachment anxiety alters the association of need fulfillment with commitment. As predicted, relative to their high anxiety counterparts, individuals experiencing low attachment anxiety reported less commitment at study entry (Studies 1 and 2), declining commitment over time (Study 1), and an increased risk of breakup (Study 1)—but only when their partner failed to help them fulfill their relatedness and autonomy needs.*

**Keywords:** *commitment; breakup; self-determination theory; need fulfillment; attachment*

When do individuals remain dedicated to a romantic relationship with a partner who fails to help them meet their core psychological needs? The current research integrates principles from adult attachment theory (Mikulincer & Shaver, 2007) and self-determination theory (Deci & Ryan, 1991) to answer this question. We posit that individuals who experience high levels of

attachment anxiety will remain committed to their relationship when their partner fails to help them meet their needs, whereas individuals who experience low levels of attachment anxiety will exhibit declining commitment and an increased likelihood of breakup under such circumstances.

Commitment refers to an individual's psychological attachment to, intent to persist in, and long-term orientation toward a romantic relationship (Arriaga & Agnew, 2001; Rusbult, 1983). Commitment stems from the experience of dependence on a relationship and is perhaps the strongest predictor of relationship persistence (Drigotas & Rusbult, 1992; Le & Agnew, 2003; Rusbult, 1983), even when the relationship is dissatisfying or abusive (Rusbult & Martz, 1995; Thibaut & Kelley, 1959). The present report examines the interplay between two predictors of commitment and of persistence: (a) attachment anxiety and (b) having a partner who helps individuals meet their core psychological needs in the relationship.

---

**Authors' Note:** We gratefully acknowledge Paul Eastwick, Wendi Gardner, and Sarah Johnson for their insights on earlier drafts of this article. We also thank Jacob Matthews and Mike Machenry for developing the software for conducting the online surveys used in Study 1 and Joel Pollack and Dave Sylva for their assistance with data collection in Study 1. Correspondence concerning this article should be addressed to Erica B. Slotter, Northwestern University, Department of Psychology, 2029 Sheridan Road, Swift Hall 412, Evanston, IL, 60208-2710; e-mail: e-slotter@northwestern.edu.

*PSPB*, Vol. 35 No. 1, January 2009 85-100

DOI: 10.1177/0146167208325244

© 2009 by the Society for Personality and Social Psychology, Inc.

### Attachment Anxiety and Sustained Dedication to an Unfulfilling Relationship

The experience of attachment anxiety allows individuals to evaluate whether they are worthy of having their needs met by significant others (Bowlby, 1969; Mikulincer & Shaver, 2007). Individuals who experience high (vs. low) levels of attachment anxiety are especially likely to believe that they are unworthy of being in a satisfying romantic relationship with a partner who meets their needs (e.g., Davila & Bradbury, 2001; Mikulincer & Shaver, 2007). At the same time, such individuals are especially dependent upon their romantic relationship and strive to maintain this attachment bond (e.g., Mikulincer & Shaver, 2007).<sup>1</sup> They exhibit vigilant behaviors grounded in the fear of abandonment and exert vigorous efforts “to maintain relationships at all costs” (Davila & Bradbury, 2001, p. 273). Prospective longitudinal studies have demonstrated that high (vs. low) levels of attachment anxiety (or the associated tendency toward fear of abandonment) predict greater relationship persistence (Kirkpatrick & Davis, 1994; Kirkpatrick & Hazan, 1994),<sup>2</sup> even when the relationship is dissatisfying (Davila & Bradbury, 2001).

The strength of an attachment bond is largely independent of the quality of the relationship (Bowlby, 1969; Dutton & Painter, 1993). Therefore, we theorize that the relationship dedication of individuals who either chronically experience high levels of attachment anxiety or are in a state of temporarily elevated attachment anxiety—and thus are highly dependent upon their relationships while simultaneously believing that they are unworthy of having a fulfilling relationship—should be relatively insensitive to the degree to which their romantic partner helps them fulfill their needs. For these individuals, being in a romantic relationship, even an unfulfilling one, is better than being without the attachment bond upon which they are so reliant. Thus, the present report tests the hypothesis that high levels of attachment anxiety predict sustained relationship commitment and persistence regardless of whether one’s partner helps fulfill one’s needs, whereas low levels of attachment anxiety predict declining commitment and relationship dissolution to the extent that one’s partner fails to help fulfill one’s needs.

The previously reviewed studies examining the association of attachment representations with commitment or with breakup have uniformly conceptualized these representations as stable individual differences. However, a substantial literature has emerged in recent years demonstrating that attachment representations vary not only across people (at the trait level) but also within a given person (at the state level). For example, daily diary studies have revealed considerable within-person fluctuation in

attachment representations over time (e.g., Davila & Sargent, 2003), and laboratory studies in the social cognitive tradition demonstrate that attachment representations can be primed experimentally (e.g., Finkel, Burnette, & Scissors, 2007; Green & Campbell, 2000; Mikulincer, Shaver, Gillath, & Nitzberg, 2005). Thus, as a secondary issue in the present report, we test the hypothesis that stable and context-sensitive attachment representations function similarly in predicting relationship commitment, such that high levels of either stable or context-sensitive attachment anxiety predict individuals’ sustained commitment when their partner fails to help fulfill their needs, while low levels do not. We use the terms *trait attachment anxiety* to refer to stable, dispositional representations (Study 1) and *state attachment anxiety* to refer to context-sensitive, primed representations (Study 2).

### Need Fulfillment in Relationships: A Self-Determination Theory Perspective

A growing body of evidence demonstrates that having one’s needs fulfilled within one’s relationship predicts relational and personal well-being. For example, relationship commitment is “greater to the extent that the most important needs in a relationship are better satisfied in that relationship than elsewhere” (Drigotas & Rusbult, 1992, p. 64). In addition, believing that a romantic partner fulfills one’s needs within the romantic relationship predicts diverse salutary relationship outcomes, including relationship persistence (Le & Agnew, 2001; Reis, Clark, & Holmes, 2004). In short, individuals tend to maintain strong commitment when their partner meets their fundamental psychological needs and experience declining commitment when their partner does not (e.g., Drigotas & Rusbult, 1992; Patrick, Knee, Canevello, & Lonsbary, 2007).

Of course, individuals have countless needs that could be satisfied in their romantic relationships. One line of research has examined the partner’s ability to fulfill individuals’ relationship-specific needs (e.g., for intimacy with one’s partner) and demonstrates that fulfillment of such needs predicts positive relationship outcomes (e.g., Le & Agnew, 2001). Other research has examined consequences of the partner’s tendency to help individuals meet their own personal needs (i.e., needs that are independent of a specific relational context). For example, research in the self-determination theory tradition demonstrates that individuals’ fulfillment of their relatedness, autonomy, and competence needs within their romantic relationship predicts positive outcomes for the self and for their relationship (La Guardia, Ryan, Couchman, & Deci, 2000; Patrick et al., 2007; Wei, Shaffer, Young, & Zakalik, 2005). We adopt this self-determination theory perspective to examine

how the fulfillment of individuals' needs in their relationship interfaces with their experience of attachment anxiety to predict relationship commitment and breakup.

According to self-determination theory (SDT), individuals have three basic, innate, and complementary psychological needs (e.g., Deci & Ryan, 1991; Hodgins, Koestner, & Duncan, 1996; Ryan & Deci, 2001). The need for relatedness encompasses individuals' strivings to relate to and care for others and to feel that those others authentically relate to and care for them in return. The need for autonomy, rather than being a need for independence from others, encompasses individuals' strivings to be self-governed and agentic, to be "the 'origin' of their actions" (Deci & Ryan, 1991, p. 243). The need for competence encompasses individuals' strivings to feel capable and effective. When these three needs are fulfilled, individuals experience psychological well-being and personal growth; having these needs thwarted, however, can contribute to a host of maladaptive outcomes (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000).

Although individuals can meet their self-determination needs in diverse ways, SDT scholars contend that one effective means of doing so is through important social relationships. For example, one recent study demonstrated that individuals' perceptions that their friends supported their autonomy strivings predicted greater overall need satisfaction and positive relationship quality (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006). A second study showed that individuals were more emotionally reliant on close others who helped satisfy their SDT needs than on close others who did not (Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005).

Of central relevance to the present report is evidence that individuals whose romantic partner helps them fulfill their needs demonstrate increases in positive relationship outcomes such as increased attachment security toward that partner (La Guardia et al., 2000) and increased satisfaction with and commitment to their relationship (Patrick et al., 2007). Fulfillment of each of the three SDT needs within the relationship uniquely predicted the outcomes of interest in both studies, with relatedness and autonomy fulfillment serving as the strongest predictors and competence fulfillment serving as the weakest and most inconsistent predictor. La Guardia and colleagues (2000) suggest that competence fulfillment might be the least important because "people's need for competence is often fulfilled outside close interpersonal relationships (e.g., at work)" (p. 380; see also Patrick et al., 2007).

These findings indicate that having a partner who helps fulfill one's relatedness and autonomy needs predicts enhanced interdependence and relationship quality. In the present report, we explore the idea that individuals who experience low levels of attachment anxiety and whose romantic partner fails to help them fulfill their

relatedness and autonomy needs are at elevated risk for declining commitment and breakup (see Patrick et al., 2007). In contrast, individuals who experience high levels of attachment anxiety and whose partner is similarly unhelpful will remain committed to their relationship and will not experience an elevated risk of breakup.

## Hypotheses and Research Overview

In two studies, we investigate our hypotheses that need fulfillment interacts with the experience of attachment anxiety to predict relationship commitment and persistence. Whereas individuals experiencing high levels of attachment anxiety will maintain commitment and persistence regardless of the degree to which their partner helps them meet their relatedness and autonomy needs, individuals experiencing low levels of attachment anxiety will maintain commitment and persistence only when their partner helps them meet these needs, exhibiting declining commitment and increased likelihood of breakup when the partner does not. We also examine (in Study 1 only) whether these Attachment Anxiety  $\times$  Need Fulfillment interaction effects predict commitment trajectories and breakup beyond variance accounted for by Rusbult's (1983) investment model variables (i.e., beyond baseline levels of commitment, satisfaction, investments, and quality of alternatives).

A secondary issue is whether these hypothesized effects involving attachment anxiety are limited to dispositionally anxious representations. One possibility is that only dispositionally anxious individuals show these effects because of their preoccupation with issues of partner availability and intimacy. However, as attachment representations can be context sensitive, a second possibility is that people in general show these effects under those circumstances when their level of attachment anxiety is temporarily elevated (e.g., Mikulincer et al., 2005). To address these possibilities, we employ a measure of trait attachment anxiety in Study 1 and an experimental manipulation of state attachment anxiety in Study 2. If both studies yield similar results, this will suggest that the preceding conceptual analysis applies even to people with "normal" dispositional attachment systems who happen to be experiencing state attachment anxiety currently.

In both studies, participants first completed previously validated measures of relatedness, autonomy, and competence need fulfillment within their relationship (La Guardia et al., 2000). In Study 1, they then reported on their trait level of attachment anxiety before reporting, every other week for 6 months (14 waves in total), on their relationship commitment and status (broken up or intact). In Study 2, we exposed participants to an experimental manipulation of attachment anxiety before reporting their commitment to their current relationship.

**TABLE 1:** Study 1: Correlation Matrix of the Study Variables

	M	SD	Attachment Anxiety	Relatedness	Autonomy	Competence	Commitment	Breakup
Attachment anxiety	3.30	1.07						
Relatedness	6.64	0.70	-0.32***					
Autonomy	6.43	0.64	-0.40****	0.28**				
Competence	6.30	0.80	-0.40****	0.27**	0.68****			
Commitment	6.20	1.32	0.19	0.44****	0.52****	0.43****		
Breakup	—	—	-0.26**	-0.21*	-0.38***	-0.34***	-0.61****	

NOTE: Table 1 includes the means, standard deviations, and bivariate correlations for all primary variables in Study 1. Correlations between the dichotomous breakup variable and the other study variables are point biserial correlations. The commitment variable in Table 1 represents the average commitment for participants over the 6-month study.

\* $p < .10$ . \*\* $p < .05$ . \*\*\* $p < .01$ . \*\*\*\* $p < .001$ .

## STUDY 1

In Study 1, we investigated the associations among need fulfillment within relationships, attachment anxiety, commitment, and breakup. We used a measure of trait attachment anxiety and employed longitudinal procedures to follow romantically involved individuals intensively over a 6-month period. In addition, participants reported at study intake on their commitment to, satisfaction with, alternatives to, and investments in their relationship (Rusbult, 1983). We examined whether individuals' need fulfillment within their romantic relationship interacts with their trait attachment anxiety to predict their (a) relationship commitment trajectory over time and (b) relationship status at the conclusion of the study. We also examined whether these effects would be robust beyond the effects of the baseline measures of commitment, satisfaction, alternatives, and investments.

### Method

#### Participants and Recruitment

We recruited 69 Northwestern University freshmen (35 women) to participate in a 6-month longitudinal study of dating processes. Eligibility criteria required that each participant must be: (a) a 1st-year undergraduate at Northwestern University, (b) involved in a dating relationship of at least 2 months, (c) between 17 and 19 years old, (d) a native English speaker, and (e) the only member of a given couple to participate. Participants who completed all components of the study earned \$100; those who missed portions of the study received a prorated amount. Participant retention was excellent: All participants completed the study and 67 of them completed at least 12 of the 14 longitudinal assessments.

At the beginning of the study, participants were, on average, 18.04 ( $SD = 0.44$ ) years old and had been dating their current partner for an average of 13.05 ( $SD = 9.76$ ) months. During the 6-month study, 26 participants' romantic relationships ended (38% of the original

sample), after which they stopped reporting their commitment to their (now defunct) relationship.

#### Procedure and Materials

Participants completed measures of need fulfillment within their relationship and trait attachment anxiety at an intake session at the beginning of the study, during which they also completed measures of relationship commitment, satisfaction, investments, and alternatives (Rusbult, 1983). Starting 1 to 2 days after intake, participants began the main part of the study, wherein they completed an online questionnaire biweekly for 6 months (14 waves in total). On each of these online questionnaires, they reported on their relationship commitment and status. Because participants responded to a nearly identical online questionnaire 14 times, we streamlined the study by assessing commitment with a 1-item measure, potentially diminishing the likelihood of detecting significant effects but also reducing the burden for participants.

*Measures.* Table 1 presents the correlation matrix of all of the measures used in Study 1. Participants completed questionnaires at study intake on a scale of 1 (*disagree strongly*) to 7 (*agree strongly*). They first completed a previously validated, nine-item measure assessing the degree to which their romantic partner helped them fulfill each of their three SDT needs (La Guardia et al., 2000). This measure includes a trio of three item scales, one for each need, with higher scores on a subscale indicating greater within relationship need fulfillment. All items began with the following stem: "When I am with my partner . . ." The items assessing relatedness concluded with ". . . I feel cared for and loved," ". . . I feel a lot of closeness and intimacy," and ". . . I often feel a lot of distance in our relationship" (reverse scored) ( $\alpha = .73$ ). The items assessing autonomy concluded with ". . . I feel free to be who I am;" ". . . I have a say in what happens, and I can voice my opinion;" and ". . . I feel controlled and pressured to be certain ways" (reverse scored) ( $\alpha = .63$ ). The items assessing

competence concluded with “. . . I feel competent and effective,” “. . . I feel very capable and effective,” and “. . . I often feel inadequate or incompetent” (reverse scored) ( $\alpha = .83$ ).

In addition, participants completed the Experiences in Close Relationships scale, which includes an 18-item measure of trait attachment anxiety (e.g., “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,”  $\alpha = .92$ ). Higher scores on this scale indicate greater amounts of attachment anxiety (Brennan, Clark, & Shaver, 1998). Participants also completed measures of all four investment model variables (Rusbult, Martz, & Agnew, 1998), including a 7-item measure of commitment (e.g., “I am committed to maintaining my relationship with my partner,”  $\alpha = .93$ ), a 5-item measure of satisfaction (e.g., “I feel satisfied with our relationship,”  $\alpha = .88$ ), a 5-item measure of alternatives (e.g., “My alternatives are attractive to me [dating another, spending time with friends or on my own, etc.],”  $\alpha = .88$ ), and a 5-item measure of investments (“I feel very involved in our relationship—like I have put a great deal into it,”  $\alpha = .73$ ).

On each of the 14 biweekly online questionnaires, participants indicated whether they were still romantically involved with the same individual from the previous assessment (in other words, whether their relationship had ended). In addition, participants who were still involved with their romantic partner from study intake also completed a one-item measure assessing their level of psychological commitment to their relationship: “I am committed to maintaining this relationship in the long run.” We selected this item because it captured the essence of the commitment construct, was face-valid, and was sufficiently concise for repeated use throughout the study.

*Analysis strategy for the commitment dependent variable.* We employed two different data-analytic strategies, one for each of our dependent measures. First, we employed growth curve procedures (cf. Singer & Willett, 2003) to assess the associations of our predictor variables with linear commitment trajectories over time. These linear trajectories consisted of (a) an *intercept* term, defined as the model-implied commitment score at the first of the 14 online assessments; and (b) a *slope* term, defined as the model-implied linear change over time in commitment. Negative intercept terms reported in the following represent below-average levels of initial commitment, and negative slope terms reported in the following represent declining commitment tendencies over time, both within the context of the other predictors in the model. For example, an individual low in attachment anxiety whose partner does not help to fulfill his or her need for relatedness should

have an intercept value for commitment that is lower and a slope value for commitment that is more negative (e.g., more steeply declining) than a similar individual whose partner does help to fulfill his or her relatedness need. The specific growth curve models were:

$$\text{COM}_{it} = \beta_0 + \beta_1(\text{Anx}_i) + \beta_2(\text{Rel}_i) + \beta_3(\text{Anx}_i \times \text{Rel}_i) + \beta_4(\text{Time}_t) + \beta_5(\text{Rel}_i \times \text{Time}_t) + \beta_6(\text{Anx}_i \times \text{Time}_t) + \beta_7(\text{Anx}_i \times \text{Rel}_i \times \text{Time}_t) + r_{it} \quad (1)$$

$$\text{COM}_{it} = \beta_0 + \beta_1(\text{Anx}_i) + \beta_2(\text{Aut}_i) + \beta_3(\text{Anx}_i \times \text{Aut}_i) + \beta_4(\text{Time}_t) + \beta_5(\text{Aut}_i \times \text{Time}_t) + \beta_6(\text{Anx}_i \times \text{Time}_t) + \beta_7(\text{Anx}_i \times \text{Aut}_i \times \text{Time}_t) + r_{it} \quad (2)$$

$$\text{COM}_{it} = \beta_0 + \beta_1(\text{Anx}_i) + \beta_2(\text{Comp}_i) + \beta_3(\text{Anx}_i \times \text{Comp}_i) + \beta_4(\text{Time}_t) + \beta_5(\text{Comp}_i \times \text{Time}_t) + \beta_6(\text{Anx}_i \times \text{Time}_t) + \beta_7(\text{Anx}_i \times \text{Comp}_i \times \text{Time}_t) + r_{it} \quad (3)$$

where  $\text{COM}_{it}$  is the commitment score for individual  $i$  at time  $t$ ,  $\text{Rel}_i$  is the partner-facilitated relatedness score for individual  $i$ ,  $\text{Anx}_i$  is the trait attachment anxiety score for individual  $i$ ,  $\text{Time}_t$  is the wave of assessment,  $\text{Aut}_i$  is the partner-facilitated autonomy score for individual  $i$ ,  $\text{Comp}_i$  is the partner-facilitated competence score for individual  $i$ , and  $r_{it}$  is a residual component in the commitment score for individual  $i$  at time  $t$ . To produce the unstandardized coefficients reported in the following, the SDT need predictors were centered around their grand means while time ( $\text{Time}_t$ ; 0 for the first wave, 1 for the second, . . . , and 13 for the final wave) and commitment ( $\text{COM}_{it}$ ) were left on their raw metrics. To produce the standardized coefficients reported in the following, all variables, including commitment and time, were standardized around their grand mean ( $M = 0$ ,  $SD = 1$ ).

*Analysis strategy for the breakup dependent variable.* We also performed logistic regression analyses predicting breakup. These analyses examined whether the interactive effects of the fulfillment of individuals’ SDT needs within their romantic relationship and trait attachment anxiety predicted the breakup status at the end of the 6-month study. The specific logistic regression models were:

$$\text{Breakup}_i = \beta_0 + \beta_1(\text{Anx}_i) + \beta_2(\text{Rel}_i) + \beta_3(\text{Anx}_i \times \text{Rel}_i) + r_i \quad (4)$$

$$\text{Breakup}_i = \beta_0 + \beta_1(\text{Anx}_i) + \beta_2(\text{Aut}_i) + \beta_3(\text{Anx}_i \times \text{Aut}_i) + r_i \quad (5)$$

$$\text{Breakup}_i = \beta_0 + \beta_1(\text{Anx}_i) + \beta_2(\text{Comp}_i) + \beta_3(\text{Anx}_i \times \text{Comp}_i) + r_i \quad (6)$$

where  $\text{Breakup}_i$  is the dummy-coded breakup variable for individual  $i$  (which was coded as 1 if the participant’s relationship ended during the course of the study and 0 if it did not), and  $r_i$  is a residual component in the breakup score for individual  $i$ . The meaning, centering,

**TABLE 2:** Study 1: Growth Curve Models Predicting Relationship Commitment

<i>Model</i>	<i>Parameter</i>	<i>B</i>	<i>β</i>	<i>t</i>
Equation 1 (relatedness) <i>df</i> = 582 <i>df</i> <sub>Time</sub> = 62	Intercept	5.89	-0.52	-3.81****
	Anx	0.14	0.13	0.96
	Rel	1.31	0.88	4.82****
	Time	-0.06	-0.19	-5.41****
	<b>Anx × Rel</b>	<b>-0.50</b>	<b>-0.55</b>	<b>-3.14****</b>
	Rel × Time	0.06	0.13	2.45**
	Anx × Time	0.00	0.02	0.42
	<b>Anx × Rel × Time</b>	<b>-0.08</b>	<b>-0.18</b>	<b>-4.01****</b>
Equation 2 (autonomy) <i>df</i> = 582 <i>df</i> <sub>Time</sub> = 62	Intercept	5.88	-0.43	-3.35***
	Anx	0.04	0.07	0.51
	Aut	1.03	0.69	4.93****
	Time	-0.04	-0.13	-3.87****
	<b>Anx × Aut</b>	<b>-0.37</b>	<b>-0.31</b>	<b>-2.46***</b>
	Aut × Time	0.06	0.13	3.30****
	Anx × Time	0.01	0.02	0.75
	<b>Anx × Aut × Time</b>	<b>-0.04</b>	<b>-0.08</b>	<b>-2.32**</b>
Equation 3 (competence) <i>df</i> = 582 <i>df</i> <sub>Time</sub> = 62	Intercept	6.00	-0.35	-2.40*
	Anx	-0.04	0.03	0.23
	Comp	0.57	0.43	-2.59***
	Time	-0.04	-0.12	-3.53****
	<b>Anx × Comp</b>	<b>-0.02</b>	<b>-0.05</b>	<b>-0.38</b>
	Comp × Time	0.02	0.06	1.30
	Anx × Time	0.00	0.00	0.04
	<b>Anx × Comp × Time</b>	<b>-0.02</b>	<b>-0.04</b>	<b>-1.16</b>

NOTE: Table 2 includes the unstandardized parameter estimates and the standardized parameter estimates, with their associated *t*-values, from each of the predictor terms (main effects and interactions) in the growth curve analyses. For the unstandardized analysis, commitment and time were left on their original metrics and all other predictor variables were grand mean centered. For the standardized analysis, all variables, including commitment and time, were standardized ( $M = 0$ ,  $SD = 1$ ). The interaction terms central to the primary hypotheses of the study are presented in bold. Anx = anxiety; Rel = relatedness; Aut = autonomy; Comp = competence.

\* $p < .10$ . \*\* $p < .05$ . \*\*\* $p < .01$ . \*\*\*\* $p < .001$ .

and standardizing strategies for the rest of the terms are the same as for the commitment models reported previously.

## Results

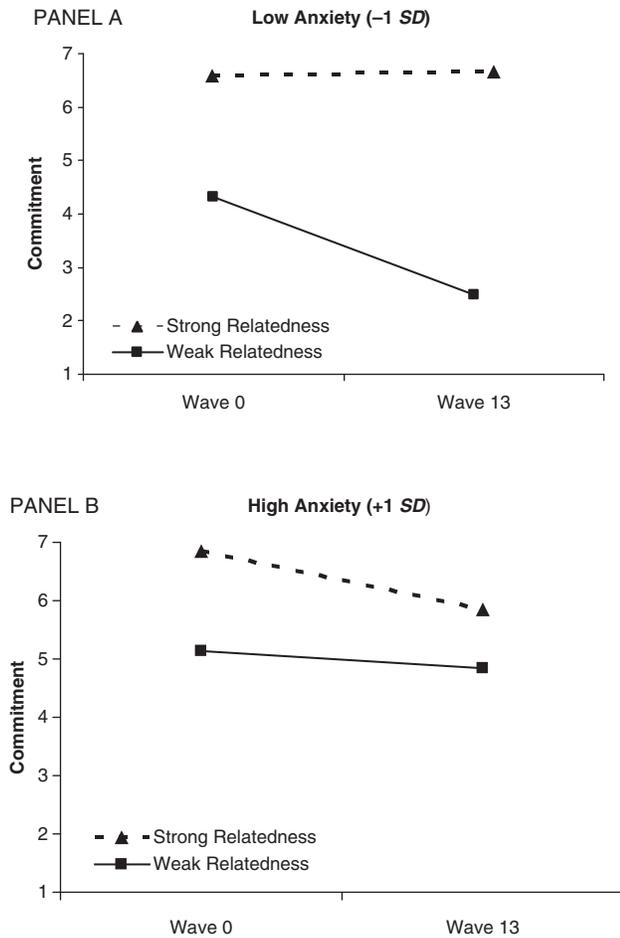
### *Commitment Growth Curve Analyses*

We first tested the prediction that experiencing low (vs. high) levels of need fulfillment from romantic partners predicts decreased relationship commitment, both initially and over time, among individuals low in trait attachment anxiety, but not among individuals high in trait attachment anxiety (see Equations 1, 2, and 3).<sup>3</sup> We expected that those individuals low (vs. high) in trait attachment anxiety would be more sensitive to having their needs met by their partners; therefore, if those needs went unmet, they would exhibit both (a) less commitment at study entry (an intercept effect) and (b) a linear decline in commitment over time (a slope

effect). We expected four specific terms to be significant: the intercept and slopes terms for both the Trait Attachment Anxiety × Relatedness Fulfillment and the Trait Attachment Anxiety × Autonomy Fulfillment interaction effects. Based on previous findings (La Guardia et al., 2000; Patrick et al., 2007), we did not advance strong predictions for the Trait Attachment Anxiety × Competence Fulfillment interaction effect.

The central results, presented in Table 2, supported our hypotheses. Both relatedness fulfillment and autonomy fulfillment interacted with trait attachment anxiety to predict (significantly or marginally) both the intercept and the slope of commitment. In contrast, competence fulfillment predicted neither the intercept nor the slope of commitment.<sup>4</sup>

We illustrate the results involving relatedness in Figure 1 and the effects involving autonomy in Figure 2; for these figures we depict the dependent measure on its raw metric. Panel A in each figure presents results for

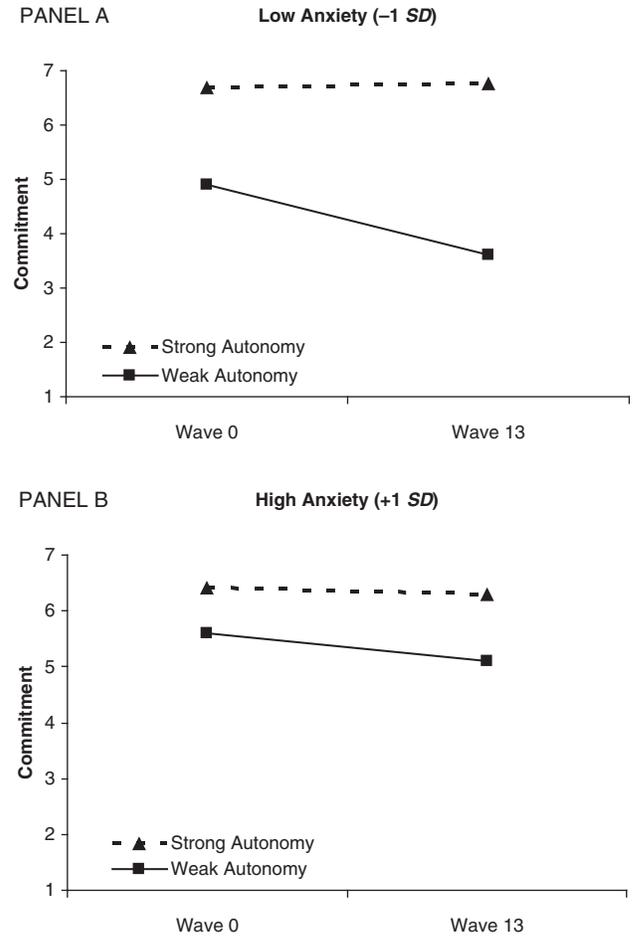


**Figure 1** Study 1: Predicting relationship commitment trajectories from trait attachment anxiety and partner-facilitated relatedness.

NOTE: Panel A presents the results for individuals who were low in trait attachment anxiety (1 SD below the mean), whereas Panel B presents the results for individuals who were high in trait attachment anxiety (1 SD above the mean).

individuals who were 1 SD below the mean of trait attachment anxiety (i.e., individuals who were secure on the anxiety dimension), whereas Panel B presents results for individuals who were 1 SD above the mean. Comparing Figures 1 and 2 reveals that relatedness and autonomy fulfillment interfaced similarly with trait attachment anxiety to predict commitment.

Simple effects tests (Aiken & West, 1991) for both intercepts and slopes confirmed these impressions statistically. Starting with the Trait Attachment Anxiety  $\times$  Relatedness Fulfillment intercept effect, the simple effect of relatedness fulfillment was significant and positive for both low anxiety individuals, 1 SD below the mean,  $B = 1.83$ ;  $\beta = 1.46$ ,  $t(582) = 4.37$ ,  $p < .001$ ; and high anxiety individuals, 1 SD above the mean,  $B = 0.82$ ;  $\beta = 0.35$ ,  $t(582) = 2.38$ ,  $p < .01$ ; but it was significantly



**Figure 2** Study 1: Predicting relationship commitment trajectories from trait attachment anxiety and partner-facilitated autonomy.

NOTE: Panel A presents the results for individuals who were low in trait attachment anxiety (1 SD below the mean), whereas Panel B presents the results for individuals who were high in trait attachment anxiety (1 SD above the mean).

stronger for the former (see left side of both panels in Figure 1, dashed line vs. solid line at Wave 0).

Examining the Trait Attachment Anxiety  $\times$  Relatedness Fulfillment  $\times$  Time slope effect, the simple Relatedness Fulfillment  $\times$  Time two-way interaction effect was significant for low anxiety individuals,  $B = .14$ ;  $\beta = .31$ ,  $t(582) = 3.40$ ,  $p < .001$ ; but not for high anxiety individuals,  $B = -.02$ ;  $\beta = -.04$ ,  $t(582) = -1.38$ ,  $p = .169$  (see Panels A and B in Figure 1, respectively). Breaking down this interaction further, the simple slope of commitment over time was not significantly different from zero for low anxiety individuals whose partner strongly helped fulfill their relatedness needs (see dashed line in Panel A),  $B = .05$ ;  $\beta = .11$ ,  $t(62) = 1.50$ ,  $p = .120$ ; but it was significant and negative for low anxiety individuals whose partner weakly helped fulfill their relatedness

needs (see solid line in Panel A),  $B = -.21$ ;  $\beta = -.51$ ,  $t(62) = -3.86$ ,  $p < .001$ .

We conducted parallel simple effects tests to probe the Trait Attachment Anxiety  $\times$  Autonomy Fulfillment intercept effect. As with relatedness, the simple effect of autonomy fulfillment was significant and positive for both low anxiety individuals, 1 *SD* below the mean,  $B = 1.40$ ;  $\beta = 1.03$ ,  $t(582) = 4.41$ ,  $p < .001$ ; and high anxiety individuals, 1 *SD* above the mean,  $B = .67$ ;  $\beta = .38$ ,  $t(582) = 2.77$ ,  $p < .01$ ; but it was significantly stronger for the former (see left side of both panels in Figure 2, dashed line vs. solid line at Wave 0).

Examining the Trait Attachment Anxiety  $\times$  Autonomy Fulfillment  $\times$  Time slope effect, the simple Autonomy Fulfillment  $\times$  Time two-way interaction effect was significant for low anxiety individuals,  $B = .10$ ;  $\beta = .28$ ,  $t(582) = 3.39$ ,  $p < .001$ ; but not for high anxiety individuals,  $B = .03$ ;  $\beta = .05$ ,  $t(582) = 1.19$ ,  $p = .234$  (see Panels A and B in Figure 2, respectively). Breaking down this interaction further, the simple slope of commitment over time was not significantly different from zero for low anxiety individuals whose partner strongly fulfilled their autonomy needs (see dashed line in Panel A),  $B = .06$ ;  $\beta = .06$ ,  $t(62) = 1.03$ ,  $p = .306$ ; but it was significant and negative for low anxiety individuals whose partner weakly fulfilled their autonomy needs (see solid line in Panel A),  $B = -.15$ ;  $\beta = -.35$ ,  $t(63) = -4.02$ ,  $p < .001$ .

At study intake, individuals' ratings of the fulfillment of their relatedness, autonomy, and competence needs from within their relationship were positively correlated. As such, we replicated our analyses examining the effects of (a) attachment anxiety and relatedness fulfillment within relationships on commitment, controlling for the intercept and slope effects of autonomy and competence; (b) attachment anxiety and autonomy fulfillment within relationships, controlling for the intercept and slope effects of relatedness and competence; and (c) attachment anxiety and competence fulfillment within relationships on commitment, controlling for the intercept and slope effects of relatedness and autonomy. We predicted that our central effects would still emerge as significant when controlling for the effects of the other two SDT needs in each of our models. Results bore out these predictions: The intercept effects of both Trait Attachment Anxiety  $\times$  Relatedness Fulfillment,  $\beta = -.51$ ,  $t(582) = -3.49$ ,  $p < .05$ , and of Trait Attachment Anxiety  $\times$  Autonomy Fulfillment,  $\beta = -.51$ ,  $t(582) = -3.02$ ,  $p < .01$ , remained significant. Additionally, the slope effects of Trait Attachment Anxiety  $\times$  Relatedness Fulfillment  $\times$  Time,  $\beta = -.14$ ,  $t(582) = -3.73$ ,  $p < .01$ , and the Trait Attachment Anxiety  $\times$  Autonomy Fulfillment  $\times$  Time,  $\beta = -.10$ ,  $t(582) = -2.18$ ,  $p < .05$ , remained significant. The results from these three full

models demonstrate that all hypothesis tests reported earlier revealed identical conclusions when controlling for the intercept and slope effects of the other two needs.

We next sought to establish that these results were robust beyond the effects of the study intake measures of commitment, satisfaction, alternatives, and investments (e.g., Drigotas & Rusbult, 1992; Le & Agnew, 2003; Rusbult, 1983). We replicated the growth curve models for relatedness fulfillment (Equation 1) and autonomy fulfillment (Equation 2), controlling for the intercept and slope effects of the other two needs, as discussed earlier, this time also controlling for the intercept and slope terms of commitment, satisfaction, alternatives, and investments. Given that these four constructs were assessed within the 2 days preceding the first of the 14 online measurements of commitment, we did not expect that the Trait Attachment Anxiety  $\times$  Relatedness Fulfillment or the Trait Attachment Anxiety  $\times$  Autonomy Fulfillment intercept effects would be significant beyond them, but we predicted that the Trait Attachment Anxiety  $\times$  Relatedness Fulfillment  $\times$  Time and the Trait Attachment Anxiety  $\times$  Autonomy Fulfillment  $\times$  Time slope effects would remain robust even in this rigorous analysis. The results bore out these predictions: Both the Trait Attachment Anxiety  $\times$  Relatedness Fulfillment  $\times$  Time,  $\beta = -.18$ ,  $t(582) = -2.98$ ,  $p < .01$ , and the Trait Attachment Anxiety  $\times$  Autonomy Fulfillment  $\times$  Time,  $\beta = -.07$ ,  $t(582) = -1.60$ ,  $p = .109$ , slope effects remained largely unchanged in this rigorous analysis.

### *Breakup Logistic Regression Analyses*

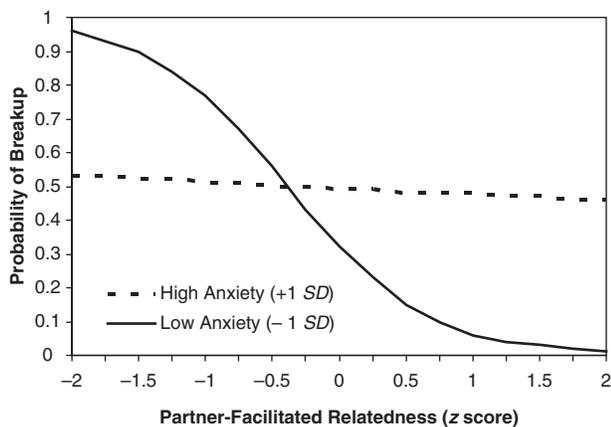
As reported earlier, 26 of the 69 participants who entered the study (38%) broke up over the ensuing 6 months. We conducted logistic regression analyses on the dichotomous breakup variable (broken up vs. intact relationship) to test our hypotheses that the fulfillment of individuals' core psychological needs for relatedness and autonomy (but perhaps not competence) within their romantic relationship would interact with trait attachment anxiety to predict individuals' likelihood of relationship dissolution over the course of the 6-month study. We hypothesized that individuals who are low in dispositional attachment anxiety would be more likely than those who are high to experience relationship dissolution if their partner fails to help fulfill their SDT needs.

We conducted the logistic regressions predicting breakup from need fulfillment, attachment anxiety, and the relevant interaction term (see Equations 4, 5, and 6) and present the results in Table 3. As predicted, the Trait Attachment Anxiety  $\times$  Relatedness Fulfillment effect was significant and mirrored the results from the relatedness growth curve model presented earlier. As depicted in Figure 3, the relationships of individuals

**TABLE 3:** Study 1: Logistic Regression Coefficients and Odds Ratios

Model	Parameter	B	$\beta$	Wald Chi-Square	Odds Ratio
Equation 4 (relatedness) <i>df</i> = 68	Intercept	-0.32	-0.32	1.22	0.72
	Anx	0.30	0.32	1.10	1.38
	Rel	-1.36	-0.93	5.29**	0.39
	<b>Anx <math>\times</math> Rel</b>	<b>1.26</b>	<b>0.94</b>	<b>5.11**</b>	<b>2.50</b>
Equation 5 (autonomy) <i>df</i> = 68	Intercept	-0.63	-0.63	4.63**	0.53
	Anx	0.25	0.27	0.83	1.31
	Aut	-1.02	-0.68	4.10**	0.51
	<b>Anx <math>\times</math> Aut</b>	<b>-0.47</b>	<b>-0.31</b>	<b>0.66</b>	<b>0.72</b>
Equation 6 (competence) <i>df</i> = 68	Intercept	-0.64	-0.64	5.00**	0.53
	Anx	0.33	0.35	1.28	1.41
	Comp	-0.62	-0.50	2.17	0.61
	<b>Anx <math>\times</math> Comp</b>	<b>-0.47</b>	<b>-0.39</b>	<b>1.18</b>	<b>0.66</b>

NOTE: Table 3 includes the unstandardized parameter estimates and the standardized parameter estimates, with their associated Wald chi-square and odds ratios, from each of the predictor terms (main effects and interactions) in the logistic regression analyses. For the unstandardized analysis, all predictor variables were grand mean centered. For the standardized analysis, all predictor variables were standardized ( $M = 0$ ,  $SD = 1$ ). The odds ratios describe the odds increase or decrease of the event (breakup) occurring given a one standard deviation increase in the value of a given predictor. Conditioning all other predictors in the model at zero, odds ratios of less than one indicate a reduction in the odds of breakup, while odds ratios greater than one indicate an increase in the likelihood of breakup occurrence for each individual predictor. The interaction terms central to the primary hypotheses of the study are presented in bold. Anx = anxiety; Rel = relatedness; Aut = autonomy; Comp = competence. \*\* $p < .05$ .

**Figure 3** Study 1: Predicting the probability of breakup from trait attachment anxiety and partner-facilitated relatedness.

who were low in attachment anxiety and who had partners who did not help fulfill their need for relatedness had an especially high probability of dissolution.

Tests of simple effects (Aiken & West, 1991) conditioned 1 *SD* above and below the mean of attachment anxiety revealed that (a) high anxiety individuals exhibited a nonsignificant association between relatedness fulfillment within their relationship and breakup,  $B = -.09$ ;  $\beta = -.07$ , Wald  $\chi^2(1, N = 69) = .06$ ,  $p = .809$ ; odds ratio = 0.93; and (b) low anxiety individuals exhibited a significant negative association between relatedness fulfillment within their relationship and breakup,  $B = -2.62$ ;  $\beta = -1.94$ , Wald  $\chi^2(1, N = 69) = 6.06$ ,  $p < .01$ ; odds ratio = 0.14.

In contrast to our predictions (and in contrast to the commitment growth curve analyses reported earlier), the Trait Attachment Anxiety  $\times$  Autonomy Fulfillment interaction was not significant. It seems that having a romantic partner who did not help fulfill individuals' autonomy needs, particularly among low anxiety individuals, was not a sufficient impetus for individuals to experience a breakup. As in the commitment growth curve analyses, the Trait Attachment Anxiety  $\times$  Competence Fulfillment effect was not significant.

As individuals' ratings of the fulfillment of their SDT needs from within their relationship were positively correlated at study intake, we replicated our breakup analyses (Equations 4, 5, and 6), controlling for the main effects and interaction terms of the other two needs. As predicted, the effect of Trait Attachment Anxiety  $\times$  Relatedness Fulfillment,  $\beta = 1.71$ , Wald  $\chi^2(1, N = 69) = 5.69$ ,  $p < .05$ , remained significant, and no significant results for autonomy or competence emerged. Thus, all hypothesis tests reported earlier revealed identical conclusions when controlling for the effects of other two needs.

As in the commitment growth curve analyses earlier, we next sought to establish that these results were robust beyond the effects of the study intake measures of commitment, satisfaction, alternatives, and investments. Thus, we replicated the logistic regression model for relatedness fulfillment (Equation 4), controlling for the main effects and interactions of the other two needs, as discussed earlier, this time including the main effects of commitment, satisfaction, alternatives, and investments assessed at study intake. The Trait Attachment Anxiety  $\times$  Relatedness Fulfillment interaction effect

remained robust even in this rigorous analysis,  $\beta = 1.78$ , Wald  $\chi^2(1, N = 69) = 4.29, p < .05$ .

## Discussion

Study 1 explored the longitudinal associations among trait attachment anxiety, need fulfillment within romantic relationships, commitment, and breakup. The growth curve models examining change over time in commitment provided strong support for our hypotheses. The fulfillment of individuals' relatedness and autonomy needs (but not their competence needs) each interacted with trait attachment anxiety to predict both the intercept and the slope terms for commitment. These findings suggest that the commitment level of individuals who are low in attachment anxiety is sensitive to the degree to which their partner helps them meet their core needs—such individuals experience less commitment at study entry and declining commitment over time to the degree that they initially viewed that their partner failed them in this regard. In contrast, the commitment level of individuals who are high in attachment anxiety is less sensitive to the degree to which their partner helps them meet their core needs—such individuals' commitment levels remain relatively stable over time regardless of the degree to which their partner helps them (or fails to help them) meet these needs.

Complementing these findings, the logistic regression models examining breakup also provided support for our hypotheses. Consistent with past research, the Trait Attachment Anxiety  $\times$  Relatedness Fulfillment interaction emerged as a strong predictor of relationship breakup (see Figure 3; La Guardia et al., 2000; Patrick et al., 2007). The interaction effect suggests that for individuals who are low in trait attachment anxiety, having a partner who fails to help them meet their relatedness needs predicts breakup. In contrast, for individuals who are high in trait attachment anxiety, having a partner who fails to help them meet their relatedness needs does not seem to influence individuals' persistence in their relationship, a conclusion that is compatible with and extends findings from previous research (e.g., Davila & Bradbury, 2001). Additionally, consistent with previous research (La Guardia et al., 2000; Patrick et al., 2007), the Trait Attachment Anxiety  $\times$  Competence Fulfillment interaction effect was not significant.

In contrast to our hypotheses, the predicted Trait Attachment Anxiety  $\times$  Autonomy Fulfillment interaction effect was not a significant predictor of relationship dissolution. This null finding suggests that a failure of romantic partners to facilitate low anxiety individuals' relatedness needs may be a more important factor for determining relationship persistence than a failure of romantic partners to facilitate low anxiety individuals'

autonomy needs. However, breakup may be a more complex phenomenon, thereby making breakup inherently difficult to predict. Individuals' subjective relationship commitment processes are under somewhat greater personal control than are the processes underlying breakup; their partner is likely to play a much greater role in the latter of these two processes. Future research could examine whether breakup role (being the initiator vs. the recipient of the breakup) moderates any of our results.

## STUDY 2

In Study 2, we employed experimental procedures to test whether experiencing high levels of attachment anxiety *causes* individuals whose partners fail to help them meet their needs to remain committed to their relationship, whereas experiencing low attachment anxiety *causes* individuals facing such circumstances to become less committed. As in Study 1, we hypothesize that need fulfillment in the relationship interacts with the experience of attachment anxiety to predict commitment to the relationship. Whereas individuals assigned to the high attachment anxiety condition will maintain commitment regardless of the degree to which their partner helps them meet their relatedness and autonomy needs, individuals assigned to the low attachment anxiety condition (i.e., to the attachment security condition) will exhibit diminished commitment when the partner does not.

## Method

### Participants

A total of 78 Northwestern University romantically involved undergraduates (52 women) participated in this study in partial fulfillment of the requirements of an introductory psychology course. Participants were, on average, 18.78 ( $SD = 1.11$ ) years old and had been involved with their dating partners for an average of 13.89 ( $SD = 12.98$ ) months.

### Procedure

Participants completed measures of need fulfillment within their relationship before experiencing an attachment anxiety prime. Immediately thereafter, they reported how committed they were to their current romantic partner.

### Materials

*Survey measures.* Table 4 presents the correlation matrix of all of the measures used in Study 2, including the attachment prime (see following). Participants

**TABLE 4:** Study 2: Correlation Matrix of the Study Variables

	M	SD	<i>Attachment Prime</i>	<i>Relatedness</i>	<i>Autonomy</i>	<i>Competence</i>	<i>Commitment</i>
Attachment prime	—	—					
Relatedness	6.27	0.89	0.13				
Autonomy	6.40	0.82	0.11	0.64****			
Competence	6.07	0.85	0.11	0.48****	0.50****		
Commitment	6.05	1.22	0.21*	0.44****	0.32****	0.30****	

NOTE: Table 4 includes the means, standard deviations, and bivariate correlations for all primary variables in Study 2. The attachment prime was coded 0 = *attachment security* and 1 = *attachment anxiety*. Correlations between the dichotomous attachment prime variable and the other study variables are point biserial correlations.

\*\* $p < .05$ . \*\*\*\* $p < .001$ .

completed two questionnaires on 1 (*disagree strongly*) to 7 (*agree strongly*) scales. They first completed the SDT need fulfillment measures of relatedness ( $\alpha = .71$ ), autonomy ( $\alpha = .77$ ), and competence ( $\alpha = .55$ ) used in Study 1 (La Guardia et al., 2000). After experiencing the attachment prime, participants completed the seven-item commitment measure employed in the investment model analyses in Study 1 (Rusbult et al., 1998;  $\alpha = .92$ ).

*Attachment prime.* Between completing the SDT need fulfillment measures and the commitment measure, we randomly assigned participants to experience either the attachment anxiety prime or the attachment security prime (see Finkel et al., 2007). Based on the scrambled sentence test priming procedure from the social cognition literature (Srull & Wyer, 1979; see Bargh & Chartrand, 2000), participants were presented with 10 different series of 5 words. We instructed participants to unscramble them and eliminate 1 of them to make a 4-word sentence. They were provided with an example where the series *banana ate yellow the he* was already unscrambled to read *he ate the banana*. In both conditions, 3 filler word series were the same (e.g., *she door walked the painted* became *she painted the door*), but the other 7 differed between the attachment anxiety and the attachment security conditions. Whereas the anxiety word series were designed to activate representations related to uncertainty and vulnerability, the security word series were designed to activate representations of certainty and safety. For example, participants experiencing the attachment anxiety prime unscrambled word series such as *child vulnerable today felt the* (*the child felt vulnerable*) and *was unreliable thought the mother* (*the mother was unreliable*). In contrast, with the attachment security prime, the word *vulnerable* was changed to *protected* (*the child felt protected*) and the word *unreliable* was changed to *reliable* (*the mother was reliable*). To reduce the likelihood of participants becoming suspicious about the interpersonal nature of these unscrambled sentences, a few of the word series differed in content structure from these previous examples, but they were also designed to prime

anxiety and uncertainty versus safety and certainty (e.g., *unsteady* [*steady*] *hands the boat was* became *the boat was unsteady* [*steady*]). The prime was dummy coded: *anxiety* = 1, *security* = 0.

## Results

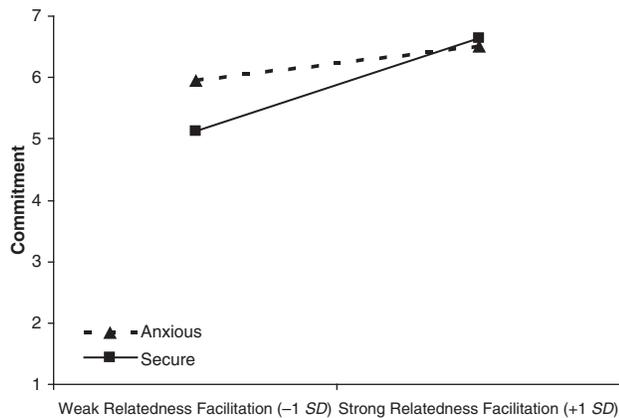
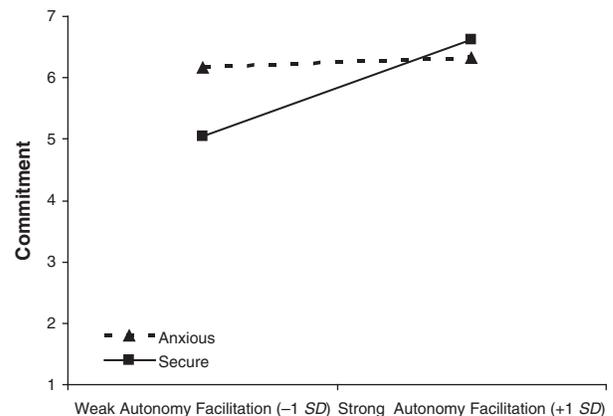
We conducted three simultaneous multiple regression analyses—one each for relatedness, autonomy, and competence. These analyses included the relevant measure of need fulfillment (relatedness, autonomy, or competence), the attachment anxiety manipulation, and their interaction term.<sup>5</sup> To produce the reported unstandardized coefficients, the SDT needs were centered around their grand means prior to computing the relevant interaction term with the attachment anxiety prime and commitment were left on their raw metric. To produce the reported standardized coefficients, all variables were standardized, including commitment and the attachment prime. We anticipated that individuals' fulfillment of their relatedness and autonomy needs (but not their competence needs) within their relationship would interact with attachment anxiety to predict commitment level among individuals experiencing the attachment security prime, but not for individuals experiencing the attachment anxiety prime.

The results, presented in Table 5, supported our predictions. The Attachment Prime  $\times$  Relatedness Fulfillment and the Attachment Prime  $\times$  Autonomy Fulfillment interaction effects were both significant, and the Attachment Prime  $\times$  Competence Fulfillment interaction effect was not. To unpack the significant interaction effects involving relatedness and autonomy fulfillment, we conducted simple effects tests (Aiken & West, 1991) examining the association of each need fulfillment variable with commitment separately for participants assigned to the attachment anxiety prime versus the attachment security prime. As depicted in Figure 4, the association between individuals' relatedness fulfillment within their relationship and commitment was strongly positive for participants who experienced the attachment security prime,  $B = .86$ ,  $\beta = .62$ ,  $t(34) = 3.83$ ,  $p < .01$ ; but this

**TABLE 5:** Study 2: Predicting Commitment From State Attachment Anxiety and Relatedness, Autonomy, and Competence Fulfillment

Model	Parameter	B	$\beta$	t
Partner-facilitated relatedness <i>df</i> = 73	Intercept	6.08	0.03	0.25
	Attachment prime	0.24	0.15	1.50
	Relatedness	0.86	0.40	3.98***
	<b>Attachment Prime <math>\times</math> Relatedness</b>	<b>-0.55</b>	<b>-0.20</b>	<b>-1.97**</b>
Partner-facilitated autonomy <i>df</i> = 73	Intercept	5.86	-0.03	0.29
	Attachment prime	0.41	0.17	1.64*
	Autonomy	0.93	0.31	3.00***
	<b>Attachment Prime <math>\times</math> Autonomy</b>	<b>-0.84</b>	<b>-0.28</b>	<b>-2.70***</b>
Partner-facilitated competence <i>df</i> = 73	Intercept	5.83	-0.14	0.13
	Attachment prime	0.43	0.18	1.63*
	Competence	0.60	0.27	2.66***
	<b>Attachment Prime <math>\times</math> Competence</b>	<b>-0.39</b>	<b>-0.13</b>	<b>-1.24</b>

NOTE: Table 5 presents the unstandardized parameter estimates and the standardized parameter estimates, with their associated *t*-values, of the self-determination theory needs, attachment anxiety prime, and their interaction terms for each of the simultaneous multiple regressions in Study 2. For the unstandardized analysis, commitment was left on its original metric and the attachment prime was coded 0 = *attachment security* and 1 = *attachment anxiety*. All other predictor variables were grand mean centered. For the standardized analysis, all variables, including commitment and the attachment prime, were standardized ( $M = 0, SD = 1$ ). The interaction terms central to the primary hypotheses of the study are presented in bold. \* $p < .10$ . \*\* $p \leq .05$ . \*\*\* $p < .01$ . \*\*\*\* $p < .001$ .

**Figure 4** Study 2: Predicting relationship commitment from state attachment anxiety and partner-facilitated relatedness.**Figure 5** Study 2: Predicting relationship commitment from state attachment anxiety and partner-facilitated autonomy.

positive association was weaker for participants who experienced the attachment anxiety prime,  $B = .31, \beta = .21, t(43) = 1.79, p = .086$ . As depicted in Figure 5, the association between individuals' autonomy fulfillment within their relationship and commitment was strongly positive for participants who experienced the attachment security prime,  $B = .93, \beta = .61, t(34) = 3.59, p < .001$ ; but it was weak and nonsignificant for participants who experienced the attachment anxiety prime,  $B = .09, \beta = .05, t(43) = 0.47, p = .249$ . As in Study 1, we depict our findings from this study with our dependent variable of commitment on its raw metric.

As in Study 1, the individuals' ratings of the fulfillment of their relatedness, autonomy, and competence needs within their relationship were positively correlated with

one another. Thus, we replicated our central analyses for each of the SDT needs, controlling statistically for the main effects and interaction terms of the other two. As predicted, the effects for the Attachment Prime  $\times$  Autonomy Fulfillment interaction remained significant,  $\beta = -.84, t(73) = -2.50, p < .01$ ; however, the Attachment Prime  $\times$  Relatedness Fulfillment interaction did not in this rigorous analysis,  $\beta = -.08, t(73) = -0.26, p = .793$ .<sup>6</sup> No significant effects emerged for competence.

## Discussion

The results of Study 2 supported the primary hypotheses that fulfillment of individuals' relatedness and autonomy needs (but not their competence needs)

within their romantic relationship interacts with their experience of attachment anxiety to influence their relationship commitment in the moment. Experiencing elevated attachment anxiety causes individuals' relationship commitment level to be relatively insensitive to the degree to which their partner helps fulfill their core needs for relatedness and autonomy. In contrast, experiencing elevated attachment security causes individuals' relationship commitment level to be strongly sensitive to these issues: Participants in the attachment security prime condition were substantially less committed to the degree that their partner failed to help fulfill their needs for relatedness and autonomy. One possible interpretation of these findings is that this reduced commitment exhibited by individuals experiencing the low anxiety prime could function to put some (probably temporary) distance between themselves and an unresponsive partner to protect themselves in potentially hurtful circumstances. A second interpretation of these findings may be that the attachment prime used primed a more general sense of vulnerability, rather than attachment anxiety per se, and this enhanced sense of attachment-relevant vulnerability influenced individuals to seek a safe haven by enhancing their commitment to their relationship. Regardless of the generality of our prime, however, the Study 2 results provide compelling evidence that individuals whose partners do not help them meet their needs for relatedness and autonomy tend to psychologically disengage from their relationships—but only when judging their psychological commitment to their relationships through the lens of attachment security.

## GENERAL DISCUSSION

The current research investigated the links among the fulfillment of individuals' needs within their romantic relationship and attachment anxiety to predict commitment and breakup. The findings from Study 1 demonstrated that the commitment level of individuals who were low in trait attachment anxiety was sensitive to the degree to which their partner helped them fulfill their relatedness and autonomy needs (but not their competence needs). These individuals experienced less commitment at study entry and declining commitment over time to the degree that their partner failed them in this regard. In contrast, the commitment level of individuals who were high in trait attachment anxiety was less sensitive to the degree to which their partner helped them meet their core needs.

Complementing these commitment results, the breakup analyses in Study 1 demonstrated that partner fulfillment of individuals' relatedness needs (but not

their autonomy or competence needs) within their relationship interacted with trait attachment anxiety to predict romantic breakup. For individuals who were low in trait attachment anxiety, having a partner who failed to meet their relatedness needs predicted an increased likelihood of breakup. In contrast, for individuals who were high in trait attachment anxiety, the degree to which their partner met their relatedness needs did not predict breakup (e.g., Davila & Bradbury, 2001). All of the significant Attachment Anxiety  $\times$  Need Fulfillment interaction effects on commitment and on breakup told a similar story when controlling for any effects of baseline commitment, satisfaction, alternatives, and investments, suggesting that these effects contribute uniquely to individuals' commitment levels and risk of breakup.

Study 2 expanded upon Study 1, showing that for individuals experimentally induced to experience low levels of attachment anxiety (or attachment security on the anxiety dimension), their partner's failure to help fulfill their relatedness and autonomy needs (but not their competence needs) interacted with their primed level of attachment anxiety to predict a reduction in their commitment. In contrast, individuals experimentally induced to experience high levels of attachment anxiety reported similar levels of commitment regardless of the degree to which their partner helped fulfill these core psychological needs.

In general, these findings suggest that when individuals do not have their core psychological needs fulfilled within their romantic relationship, those who experience low levels of attachment anxiety disengage more from unfulfilling relationships than do their more anxious counterparts. These findings dovetail nicely with previous characterizations of individuals experiencing attachment anxiety as being strongly dependent on their romantic partner, believing that they are largely unworthy of having their needs met, and often remaining in less than ideal romantic relationships (e.g., Davila & Bradbury, 2001; Kirkpatrick & Davis, 1994; Mikulincer & Shaver, 2007). Such individuals may simply be less psychologically willing and/or able to disengage from their relationships even when their partners fail to meet their fundamental needs. For those who experience high levels of attachment anxiety, being in any relationship, regardless of its quality, may be preferable to being alone.

## Implications and Directions for Future Research

The current investigation is the first to examine how the fulfillment of individuals' personal needs within their romantic relationship interacts with the experience of attachment anxiety to influence relationship quality and relationship outcomes. Recent work has begun to

investigate the consequences of partners' abilities to help individuals fulfill their *personal* needs for *relationship* outcomes (e.g., La Guardia et al., 2000; Patrick et al., 2007), and the current studies provide insight into the boundaries of these previously demonstrated effects. It seems that the relationship consequences of having a romantic partner who fails to help fulfill one's SDT needs may be much more relevant to individuals who experience low levels of attachment anxiety than to individuals who experience high levels.

One potentially rich avenue for future research involves investigating the cognitive processes involved in individuals' evaluation of the degree to which their partner helps fulfill their needs. How do individuals make these complex evaluations, which require that they (a) monitor their partner's behavior, (b) compare this behavior to an abstract standard of need fulfillment that they desire within their relationship, and (c) draw global conclusions about their partner's tendencies to help fulfill their needs? Both previous research (La Guardia et al., 2000; Patrick et al., 2007) and the present studies demonstrate that these evaluations are crucial in predicting relationship processes and outcomes, so it is incumbent upon relationships scholars to discern how individuals make such evaluations.

The present research also has implications for our understanding of the essence of attachment anxiety—and of the attachment system more generally. Our results indicate that anxiously attached individuals do notice when their partner fails to help fulfill their needs, but their dedication to their relationship is impervious to this failure, perhaps due either to their preoccupied and overly dependent approach to relationships or to their prevailing belief that they do not deserve to be in a relationship that fulfills their needs. We suggest that these highly anxious individuals might be motivated to maintain the attachment bond upon which they are so reliant, even at high cost to the self (see Davila & Bradbury, 2001). Thus, it seems that the conundrum faced by highly anxious individuals in relationships that fail to help them meet their needs is not one of noticing that their needs are not being met, but rather is one of either avoiding the issue at hand once noticed or failing to act to improve their situation.

Additionally, future research could investigate the potential well-being trade-offs that arise from remaining dedicated to an unfulfilling relationship. Individuals who experience attachment anxiety and thus remain committed to partners who do not help fulfill their fundamental personal needs may be at risk for the well-being detriments associated with poor need fulfillment (e.g., Deci & Ryan, 1991). Additionally, although their relationships tend to be stable, individuals experiencing high levels of attachment anxiety tend to be dissatisfied

in them (e.g., Kirkpatrick & Davis, 1994). Highly anxious individuals who remain committed to unfulfilling relationships may be at risk for experiencing those physical and psychological well-being detriments associated with being involved in an unsatisfying relationship (e.g., Cohen & Wills, 1985; Coyne et al., 2001). Future research could gainfully investigate these ideas.

### Limitations and Strengths

We note three limitations of the present research. First, although our models do begin to examine the process by which individuals maintain their dedication to relationship partners who do not help fulfill their needs, future research could investigate the mediating mechanisms driving these effects. Specifically, what are the cognitive processes that keep highly anxious individuals committed to less than ideal relationships? Our data suggest that the issue is not one of noticing the lacking facets of the relationship, but one of either avoiding the problem once noticed or failing to act to improve the problem. A second limitation is that the current research assesses relationship commitment and breakup from only one partner's point of view. Given that breakup is a process that typically involves both partners, it is probable that the analyses in Study 1 examining breakup failed to capture some of the variance attributable to the dyadic nature of breakup. A third limitation is that the current research, in Study 1, did not assess need fulfillment within relationships at a biweekly level during our longitudinal study. While assessing fluctuations in need fulfillment within the relationship over a 6-month period certainly would have been informative, we wished to test our Study 1 hypothesis with regard to *relationships* in which individuals' needs are not being fulfilled within the relationship rather than to *moments in time* when individuals' needs are not being fulfilled within the relationship.

We also note three strengths of the present research. First, both studies help to establish the boundary conditions on the power of need fulfillment within relationships to predict relationship outcomes. Specifically, the relationship commitment and persistence of individuals experiencing high levels of attachment anxiety seem to be less affected by how much their partner helps fulfill their needs than do individuals who experience minimal attachment anxiety. A second strength is that in Study 1, the present effects are robust beyond the contributions of the investment model factors that reliably predict commitment and breakup. A third strength involves our use of divergent methods to zero in on our phenomena of interest. Overall, our longitudinal and experimental procedures allow us to (a) draw conclusions about changes in commitment time and about breakup (Study 1) and (b) make causal claims about the experience of attachment

anxiety in general rather than exclusively about the behavior of dispositionally anxious people (Study 2).

## Conclusion

Taken together, the findings from the current studies establish that the fulfillment of individuals' core psychological needs within their romantic relationship is an important predictor of relationship commitment and persistence, but only for individuals experiencing low levels of attachment anxiety. Experiencing high levels of attachment anxiety causes individuals to maintain their commitment to their relationships even when confronted with a partner who fails to help fulfill their needs. Whether individuals are better or worse off maintaining such relationships (and the attachment bond associated with them) is an exciting direction for future research.

## NOTES

1. Attachment representations differ not only on an anxiety dimension but also on an avoidance dimension (e.g., Brennan, Clark, & Shaver, 1998). The present report focuses on the anxiety dimension because high scores on this dimension (but not on the avoidance dimension) reliably predict (a) increased relationship persistence in longitudinal studies (e.g., Davila & Bradbury, 2001) and (b) efforts to maintain even unfulfilling attachment bonds (see Mikulincer & Shaver, 2007).

2. Conclusions from the Kirkpatrick and Hazan (1994) investigation were complex. Although anxiously attached individuals experienced greater volatility in their romantic relationships than did securely attached individuals, the latter were 54% more likely than the former to have broken up with their romantic partners by the end of the study, a difference that failed to reach statistical significance.

3. Gender did not significantly moderate any of the associations between our study variables in either the commitment or breakup analyses in Study 1, so the analyses reported in the following collapse across gender.

4. Dispositional attachment avoidance did not moderate any of our key effects.

5. Gender did not significantly moderate any of the associations between our study variables in Study 2, so the analyses reported in the following collapse across gender.

6. When running a similar analysis controlling for just the main effects of autonomy and competence, the Attachment Prime  $\times$  Relatedness Fulfillment remained robust,  $\beta = -.43$ ,  $t(73) = -1.99$ ,  $p = .05$ .

## REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Arriaga, X. B., & Agnew, C. R. (2001). Being committed: Affective, cognitive, and conative components of relationship commitment. *Personality and Social Psychology Bulletin*, 27, 1190-1203.
- Bargh, J. A., & Chartrand, T. L. (2000). The mind in the middle: A practical guide to priming and automaticity research. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 253-285). New York: Cambridge University Press.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford.
- Cohen, S., & Wills, T. A. (1985). Stress, social support and the buffering hypothesis. *Psychological Bulletin*, 98, 310-357.
- Coyne, J. C., Rohrbaugh, M. J., Shoham, V., Sonnega, J. S., Nicklas, J. M., & Cranford, J. A. (2001). Prognostic importance of marital quality for survival of congestive heart failure. *American Journal of Cardiology*, 88, 526-529.
- Davila, J., & Bradbury, T. N. (2001). Attachment insecurity and the distinction between unhappy spouses who do and do not divorce. *Journal of Family Psychology*, 15, 371-393.
- Davila, J., & Sargent, E. (2003). The meaning of life (events) predicts changes in attachment security. *Personality and Social Psychology Bulletin*, 29, 1383-1395.
- Deci, E. L., La Guardia, J. G., Moller, A. C., Scheiner, M. J., & Ryan, R. M. (2006). On the benefits of giving as well as receiving autonomy support: Mutuality in close friendships. *Personality and Social Psychology Bulletin*, 32, 313-327.
- Deci, E. L., & Ryan, R. M. (1991). A motivational approach to the self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska symposium on motivation: Vol. 38. Perspectives on motivation* (pp. 237-288). Lincoln: University of Nebraska Press.
- Drigotas, S. M., & Rusbult, C. E. (1992). Should I stay or should I go? A dependence model of breakups. *Journal of Personality and Social Psychology*, 62, 62-87.
- Dutton, D. G., & Painter, S. L. (1993). Traumatic bonding: The development of emotional attachments in battered women and other relationships of intermittent abuse. *Victimology: An International Journal*, 6, 139-155.
- Finkel, E. J., Burnette, J. L., & Scissors, L. E. (2007). Vengefully ever after: Destiny beliefs, state attachment anxiety, and forgiveness. *Journal of Personality and Social Psychology*, 92, 871-886.
- Green, J. D., & Campbell, W. K. (2000). Attachment and exploration in adults: Chronic and contextual accessibility. *Personality and Social Psychology Bulletin*, 26, 452-461.
- Hodgins, H. S., Koestner, R., & Duncan, N. (1996). On the compatibility of autonomy and relatedness. *Personality and Social Psychology Bulletin*, 22, 227-237.
- Kirkpatrick, L. A., & Davis, K. E. (1994). Attachment style, gender, and relationship stability: A longitudinal analysis. *Journal of Personality and Social Psychology*, 66, 502-512.
- Kirkpatrick, L. A., & Hazan, C. (1994). Attachment styles and close relationships: A four-year prospective study. *Personal Relationships*, 1, 123-142.
- La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being. *Journal of Personality and Social Psychology*, 79, 367-384.
- Le, B., & Agnew, C. R. (2001). Need fulfillment and emotional experience in interdependent romantic relationships. *Journal of Social and Personal Relationships*, 18, 423-440.
- Le, B., & Agnew, C. R. (2003). Commitment and its theorized determinants: A meta-analysis of the investment model. *Personal Relationships*, 10, 37-57.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford.
- Mikulincer, M., Shaver, P., Gillath, O., & Nitzberg, R. A. (2005). Attachment, caregiving, and altruism: Boosting attachment security increases compassion and helping. *Journal of Personality and Social Psychology*, 89, 817-839.
- Patrick, H., Knee, C. R., Canevello, A., & Lonsbary, C. (2007). The role of need fulfillment in relationship functioning and well-being: A self-determination theory perspective. *Journal of Personality and Social Psychology*, 92, 434-456.
- Reis, H. T., Clark, M. S., & Holmes, J. G. (2004). Perceived partner responsiveness as an organizing construct in the study of intimacy and closeness. In D. J. Mashek & A. P. Aron (Eds.), *Handbook of closeness and intimacy* (pp. 201-225). Mahwah, NJ: Lawrence Erlbaum.
- Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin*, 26, 419-435.

- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology*, 45, 101-117.
- Rusbult, C. E., & Martz, J. M. (1995). Remaining in an abusive relationship: An investment model analysis of nonvoluntary dependence. *Personality and Social Psychology Bulletin*, 21, 558-571.
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, 5, 357-387.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52, 141-166.
- Ryan, R. M., La Guardia, J. G., Solky-Butzel, J., Chirkov, V., & Kim, Y. (2005). On the interpersonal regulation of emotions: Emotional reliance across gender, relationships, and cultures. *Personal Relationships*, 12, 145-163.
- Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis*. New York: Oxford University Press.
- Srull, T. K., & Wyer, R. S., Jr. (1979). Category accessibility and social perception: Some implications for the study of person memory and interpersonal judgments. *Journal of Personality and Social Psychology*, 37, 1660-1672.
- Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York: John Wiley.
- Wei, M., Shaffer, P. A., Young, S. K., & Zakalik, R. A. (2005). Adult attachment, shame, depression, and loneliness: The mediation role of basic psychological needs satisfaction. *Journal of Counseling Psychology*, 52, 591-601.

Received December 12, 2007

Revision accepted July 15, 2008