



This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/copyright>



Contents lists available at SciVerse ScienceDirect

## Journal of Experimental Social Psychology

journal homepage: [www.elsevier.com/locate/jesp](http://www.elsevier.com/locate/jesp)

## FlashReport

With or without you: The impact of partner presence and attachment on exploration<sup>☆</sup>Anthony E. Coy<sup>\*</sup>, Jeffrey D. Green, Jody L. Davis

Department of Psychology, Virginia Commonwealth University, USA

## ARTICLE INFO

## Article history:

Received 11 March 2011

Revised 7 August 2011

Available online 22 August 2011

## Keywords:

Attachment

Exploration

APIM

Anxiety

Avoidance

Partner

## ABSTRACT

Past research has examined the link of attachment anxiety and avoidance with exploration in adults, though results have been inconsistent and have relied primarily on self-reports. We hypothesized that the presence of the attachment figure (i.e., romantic partner) would play a critical moderating role on exploration duration and enjoyment. Eighty-six couples were randomly assigned to explore alone or with the partner in order to examine the moderating effect of partner presence on the effects of individuals' anxiety and avoidance as well as the partner's anxiety and avoidance. Consistent with hypotheses, there were significant two-way interactions of partner presence with anxiety, avoidance, and partner anxiety. When exploring alone, more (vs. less) anxious individuals spent less time exploring and felt less positive affect. When exploring with the partner, more (vs. less) avoidant individuals spent less time exploring and felt less positive affect. Individuals with more anxious partners felt more positive affect after exploring alone than with the partner, whereas individuals with more avoidant partners were not affected by the partner's presence. Above and beyond individuals' attachment style, partner presence and partner attachment style have implications for exploratory behavior.

Published by Elsevier Inc.

## Introduction

Would you be more likely to spend time and enjoy engaging in activities like scuba diving or attending a gallery opening alone or with your romantic partner? Exploration decisions ranging from leisure to vocational choices may hinge in part on the nature of your emotional bond with your partner – the extent to which you have an avoidant or anxious attachment, which may color perceptions of the degree to which your partner provides support or opportunities for intimacy (Fraley, Waller, & Brennan, 2000). We investigated how the presence versus absence of a romantic partner influences the duration and enjoyment of exploratory behavior via the framework of attachment theory.

Bowlby (1969) wrote extensively about two behavior systems that are necessary for human beings to survive and thrive: attachment and exploration. According to Bowlby (1969), the primary purpose of the attachment system is to ensure the survival and health of a child by maintaining close contact with an attachment figure. The nature of the attachment bond can be inferred from attachment functions including behaviors that ensure physical closeness to the attachment figure (proximity maintenance), turning to the attachment

figure for comfort and protection (safe haven), and using the attachment figure as a launching pad for exploration (secure base). Individuals develop “mental models” of attachment relationships during infancy, based on a pattern of interactions with caregivers (Bowlby, 1973), and adapt their behavior to fit the expected responses of caregivers (Sroufe, Egeland, & Kreutzer, 1990), leading to differing levels of attachment anxiety and avoidance.

Exploration and attachment are complementary, interlocking behavioral systems. The purpose of the exploration system is to gain information about the environment; thus, the system is activated by novel or complex stimuli (Bowlby, 1969). When the attachment system is quiescent, attachment figures serve as a secure base from which to venture out and explore, but when exploration becomes threatening or overwhelming, attachment figures provide a safe haven of retreat until the threat has subsided. The groundbreaking Strange Situation research of Ainsworth and colleagues (e.g., Ainsworth & Bell, 1970) provided empirical validation for this behavior pattern for children and revealed that those high in attachment anxiety or avoidance displayed differing patterns of exploration based on caregiver presence (Ainsworth, Blehar, Waters, & Wall, 1978).

More recently, researchers have investigated attachment and exploration in adults, operationalizing adult exploration as work (Hazan & Shaver, 1990), leisure activities (Carnelley & Ruscher, 2000), achievement goals (Elliot & Reis, 2003), and social and environmental activities (Green & Campbell, 2000). Past research has yielded somewhat contradictory findings, particularly with regard to avoidance. Avoidant individuals were more likely to prioritize work over relationships, but were less likely to take vacations (Hazan & Shaver,

<sup>☆</sup> The authors thank Kirk Brown for data analysis advice and Eli Finkel for feedback about the manuscript. In addition, we thank Stephen Geissinger, Michelle Irby, and Julie Kittel for working long nights and weekends to collect the data. This work was supported by a grant from the University of Chicago's Defining Wisdom Project and the John Templeton Foundation.

<sup>\*</sup> Corresponding author at: Department of Psychology, Virginia Commonwealth University, Richmond, VA 23284, USA. Fax: +1 8048282237.

E-mail address: [coyae@vcu.edu](mailto:coyae@vcu.edu) (A.E. Coy).

1990) or express interest in social and environmental activities (Green & Campbell, 2000). Carnelley and Ruscher (2000) found that avoidance was not significantly correlated with interest in leisure activities, but that avoidant individuals were motivated to explore in part to escape intimacy with the partner. Thus, it appears that one critical variable heretofore neglected is whether individuals are exploring alone or exploring with the partner. Accordingly, we manipulated presence of the partner during a laboratory exploration task—a guided meditation activity designed to be novel and complex for our sample.

Anxious individuals and avoidant individuals likely view exploratory activities quite differently depending on partner participation. For individuals high in anxiety, an exploratory activity could either be an opportunity for joint exploration and greater intimacy or a stressful separation from the partner. For such individuals, the attachment system is chronically activated, triggering reduced exploration and increased proximity to the partner. For example, anxiety predicted fear of partner rejection and vigilance toward relationship threat (Birnbaum, Orr, Mikulincer, & Florian, 1997). Thus, we predicted an interaction of partner presence with anxiety such that, when exploring alone, individuals high in anxiety would explore for less time and report less positive affect relative to individuals low in anxiety (Hypothesis 1).

Avoidant individuals value autonomy, often at the expense of intimacy (Hazan & Shaver, 1990), but feel discomfort with closeness—the very definition of attachment avoidance. Consequently, exploring alone provides opportunities for avoidant individuals to progress toward goals as well as gain temporary respite from intimacy pressures. Avoidant individuals may view exploring with a partner as interfering with personal goals or a source of vulnerability. For example, avoidant women exposed to a stressor were more physiologically aroused in the presence of the partner than alone (Carpenter & Kirkpatrick, 1996). Thus, we predicted an interaction of partner presence with avoidance such that, when exploring with the partner, individuals high in avoidance would explore for less time and report less positive affect relative to individuals low in avoidance (Hypothesis 2).

Virtually no research has examined the effects of partner attachment on exploration. Feeney and colleagues (Feeney, 2004; Feeney & Thrush, 2010) conducted groundbreaking research on the nature of the secure base, proposing three components: availability, (lack of) interference, and encouragement. Using a procedure in which partners were present while individuals engaged in exploration (a puzzle task), Feeney and Thrush (2010) reported that anxious partners were less available and more interfering in individuals' exploration and that individuals persisted in exploration and experienced more positive affect if their partners provided a more congenial secure base. However, links between partners' attachment styles and individuals' exploration were not reported. Given that anxious partners provide less secure base support and tend to be poor, compulsive caregivers (Collins & Feeney, 2000), we predicted an interaction of partner presence with partner anxiety such that, when exploring with the partner, individuals who had anxious partners would explore less and report less positive affect (Hypothesis 3).

In past work, avoidant partners were less available – but not more interfering – secure bases (Feeney & Thrush, 2010), and were relatively poor caregivers (e.g., Kunce & Shaver, 1994; Simpson, Rholes, & Nelligan, 1992). Given that the presence of avoidant partners should neither help nor hinder exploration, we predicted an interaction of partner presence with partner avoidance such that, for individuals who had avoidant partners, partner presence would not affect time spent exploring or positive affect (Hypothesis 4).

## Method

### Participants

Eighty-six heterosexual couples ( $M = 27$  years old) dating for at least 6 months ( $M = 26$  months) were recruited from the community

as part of a broader study of relationships. The final sample was 143 participants (60 married) after excluding those who did not participate in the exploration activity.

### Measures and procedure

Participants completed a partner-specific Experiences in Close Relationships—Revised attachment questionnaire (ECR-R; Fraley et al., 2000) online 2 weeks prior to the session. Eighteen items measured attachment anxiety, and 18 items measured attachment avoidance. In the lab, couples completed Feeney's (2004) five-item willingness to explore scale and were randomly assigned to complete an exploration activity alone or with the partner – meditation guided by taped audio instructions (e.g., "...Become aware of everything that is happening in your whole body... allow the emotions to come and go."). Care was taken to identify an exploration activity that could be performed alone or in parallel with the partner, such that the presence of the partner would not enhance the activity. Participants were told to expect "a novel activity called Focused Reflection that requires individuals to temporarily disregard the outside world, an act difficult for some people to achieve." When exploring with the partner, partners were in the same room in chairs at right angles to each other. When exploring alone, partners were (falsely) told that they were completing different activities from one another; in fact, they completed the same activity, but in separate rooms where they could not see or hear each other. The experimenter emphasized that participants could stop at any point; outside the room, the experimenter recorded amount of time spent exploring (range = 2 min 35 s to 15 min 42 s). Afterwards, participants completed the positive affect subscale of the PANAS (Watson, Clark, & Tellegen, 1988).

## Results

We centered anxiety ( $\alpha = .94$ ) and avoidance ( $\alpha = .93$ ) and performed multi-level actor–partner interdependence model (APIM) analyses with compound symmetry structure (Campbell & Kashy, 2002). We included anxiety and avoidance for actor and partner (see Table 1 for correlations); actor willingness to explore (a control variable); partner presence (alone vs. with partner); and the four two-way interactions between attachment measures and partner presence. We performed separate analyses for time spent exploring ( $M = 13.75$  min,  $SD = 3.29$ ; a reflected log transformation corrected kurtosis) and positive affect following exploration ( $\alpha = .93$ ,  $M = 4.16$ ,  $SD = 1.34$ ),  $r = .22$ ,  $p < .05$ . The main effect for partner presence was significant for positive affect,  $t(69.2) = 2.11$ ,  $p < .04$  (but not for time spent exploring); individuals exploring alone (vs. with the partner) reported greater positive affect. However, this main effect was qualified by several interactions.

The interaction between actor anxiety and partner presence was significant for time spent exploring,  $t(129) = 2.70$ ,  $p < .01$ , and for positive affect,  $t(125) = 2.43$ ,  $p < .02$  (see Figs. 1 and 2). When alone,

**Table 1**  
Correlations among attachment measures.

	ANX	AVD	PANX	PAVD
<i>SD</i> =	0.99	0.85	0.98	0.82
ANX	–	.68**	.31**	.21*
AVD		–	.23*	.13
PANX			–	.66**
PAVD				–

Note.  $N = 248$ . Variable names are actor anxiety (ANX), actor avoidance (AVD), partner anxiety (PANX), and partner avoidance (PAVD).

\*\*  $p < .001$ .

\*  $p < .05$ .

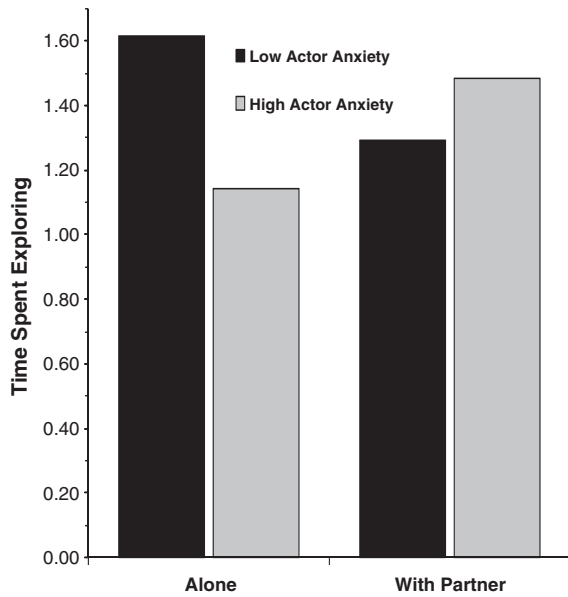


Fig. 1. Time spent exploring (in log10 units) as a function of actor anxiety and partner presence.

more (vs. less) anxious individuals explored for less time,  $t(129) = -2.63, p < .01$ . However, when with the partner, more anxious and less anxious individuals explored for similar amounts of time,  $t(129) = 1.15, p < .25$ . Furthermore, after exploring alone, more (vs. less) anxious individuals reported less positive affect,  $t(124) = 2.32, p < .02$ . However, after exploring with the partner, more anxious and less anxious individuals reported similar affect,  $t(126) = 1.09, p < .28$ . Consistent with Hypothesis 1, more (vs. less) anxious individuals explored less and felt less positive affect when exploring alone; these differences were not evident when exploring with the partner.

Actor avoidance was associated with less time spent exploring,  $t(121) = -2.47, p < .01$ , and with less positive affect,  $t(130) = -2.34, p < .02$ , but these main effects were qualified by interactions with partner presence:  $t(116) = 2.20, p < .03$  and  $t(131) = 2.50, p < .01$ , respectively (see Figs. 3 and 4). When with the partner, more (vs. less) avoidant individuals explored for less time,  $t(121) =$

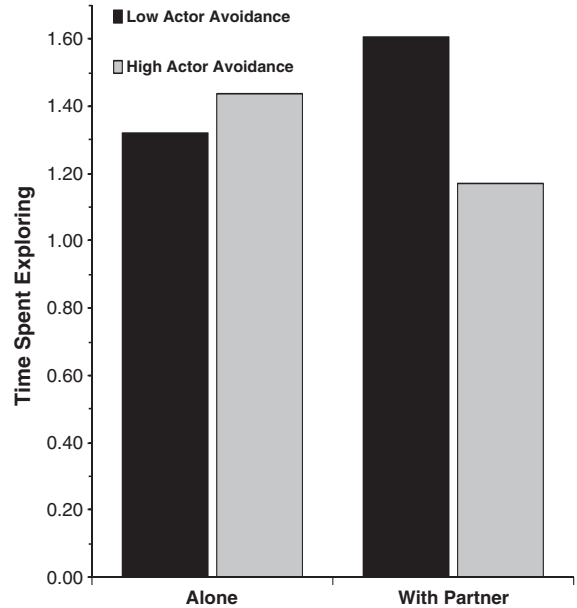


Fig. 3. Time spent exploring (in log10 units) as a function of actor avoidance and partner presence.

2.47,  $p < .01$ . However, when alone, more avoidant and less avoidant individuals explored for similar amounts of time,  $t(115) = 0.64, p < .53$ . In addition, after exploring with the partner, more (vs. less) avoidant individuals reported less positive affect,  $t(130) = 2.34, p < .02$ . However, after exploring alone, more avoidant and less avoidant individuals reported similar affect,  $t(131) = 1.15, p < .25$ . Consistent with Hypothesis 2, more (vs. less) avoidant individuals explored less and felt less positive affect when exploring with the partner; these differences were not evident when exploring alone.

The interaction between partner anxiety and partner presence was significant for positive affect,  $t(127) = 2.02, p < .05$  (see Fig. 5; the interaction was not significant for time spent exploring). Individuals who had more (+1 SD) anxious partners reported greater positive affect after exploring alone (vs. with the partner),  $t(128) = 2.88, p < .005$ . However, individuals who had less (-1 SD) anxious partners reported similar affect after exploring alone or with the partner,  $t(126) = 0.48, p < .63$ . Consistent with Hypothesis 3, individuals who

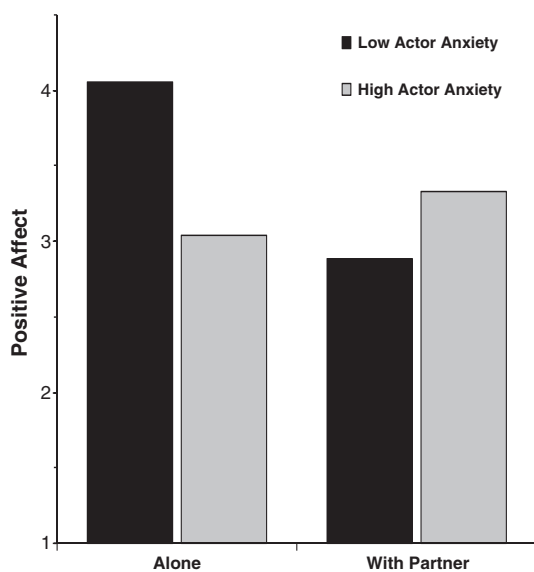


Fig. 2. Positive affect following exploration as a function of actor anxiety and partner presence.

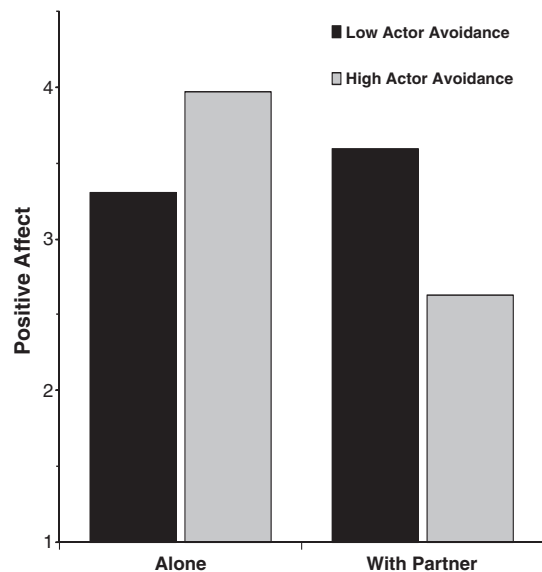


Fig. 4. Positive affect following exploration as a function of actor avoidance and partner presence.

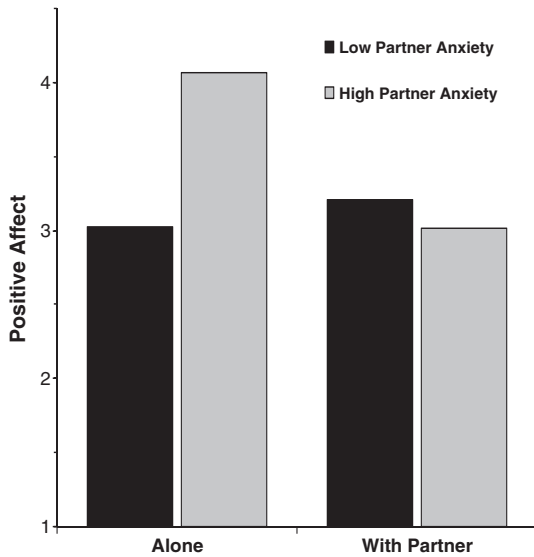


Fig. 5. Positive affect following exploration as a function of partner anxiety and partner presence.

had more anxious partners felt greater positive affect after exploring alone (vs. with the partner); these differences were not evident for individuals who had less anxious partners.

Partner avoidance was associated with less time spent exploring,  $t(122) = -2.05, p < .04$ . In addition, the interaction between partner avoidance and partner presence was significant for positive affect,  $t(131) = -2.16, p < .03$  (see Fig. 6; the interaction was not significant for time spent exploring). Interestingly, individuals who had less avoidant ( $-1 SD$ ) partners felt greater positive affect after exploring alone (vs. with the partner),  $t(122) = 2.98, p < .003$ . Consistent with Hypothesis 4, individuals who had more ( $+1 SD$ ) avoidant partners spent a similar amount of time exploring and reported similar affect after exploring alone or with the partner:  $t(94.5) = 0.52, p < .60$  and  $t(117) = 0.53, p < .60$ , respectively.

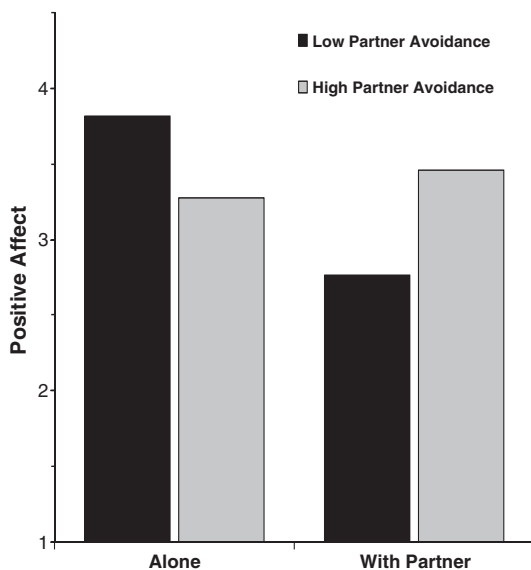


Fig. 6. Positive affect following exploration as a function of partner avoidance and partner presence.

## Discussion

Exploration is a fundamental aspect of human behavior and intimately associated with learning, goal pursuit, and personal growth (Feeney, 2004; Feeney & Thrush, 2010). However, these pursuits are not merely intrapersonal: parents, friends, and romantic partners can have a profound influence on exploratory experiences. This experiment tested hypotheses regarding attachment anxiety and avoidance interacting with the presence or absence of a romantic partner during an exploration activity in the lab (going beyond the self-report methods ubiquitous in past work). Consistent with Hypothesis 1, when exploring alone, highly anxious individuals spent less time exploring and felt less positive affect afterward than less anxious individuals. Separation from the partner inhibited exploration, suggesting that anxious individuals may be more likely to try new pursuits – and enjoy them more – when with the partner. In contrast, when exploring with the partner, more avoidant individuals explored less, and reported feeling less positive affect afterward, than less avoidant individuals, supporting Hypothesis 2. Avoidant individuals apparently take a “lone wolf” approach to exploration, and may be more likely to feel that the partner's presence is an unwelcome distraction. These theoretically meaningful interactions help clarify inconsistent results in past research as well as provide fodder for future work.

Though fewer effects involving partner attachment were significant, participants with highly anxious partners reported less positive affect after exploring with the partner rather than alone, partially supporting Hypothesis 3. This finding is particularly noteworthy because it is one of the first involving partner attachment, suggesting that both individual and partner attachment should be examined in future research to fully grasp the intricacies of attachment and exploration. It is possible that coordination with a highly anxious partner could be ego depleting (Finkel et al., 2006), resulting in less exploration. In contrast, participants with highly avoidant partners explored for a similar amount of time and reported similar affect after exploring with the partner or alone, supporting Hypothesis 4. Attachment theory does not explain the unexpected finding that those with less avoidant partners reported more positive affect after exploring alone rather than with the partner; perhaps this finding is linked to our task being a relatively solitary pursuit. These findings, together with recent research (Feeney & Thrush, 2010) on how insecure individuals are less available and encouraging toward an exploring partner (i.e., a less reliable secure base), indicate that partners can have a profound impact on the initiation, maintenance, and enjoyment of exploration activities. In addition, it is possible that perceptions of partner attachment could be more predictive of exploration than actual partner attachment (Ruvolo & Fabian, 1999). Future research should take a multi-faceted approach by systematically examining motivations for exploration, actual exploratory behavior, and responses to exploration (e.g., positive affect, future interest).

Future research also should examine different types of exploration. For example, the degree to which activities are interdependent may interact with attachment avoidance and anxiety. Avoidant individuals may prefer more independent, parallel pursuits (e.g., fishing) and be reluctant to engage in interdependent pursuits (e.g., ballroom dancing), whereas anxious individuals may have the opposite preference. These findings may inform research on self-expansion (e.g., Aron, Norman, Aron, & McKenna, 2000), which has found that partners who share new and exciting activities become more satisfied with their relationships. Attachment theory will continue to be a fertile framework for examining exploration.

## References

- Ainsworth, M. D. S., & Bell, S. M. (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. *Child Development*, 41, 49–67.

- Ainsworth, M. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Oxford, England: Lawrence Erlbaum.
- Aron, A., Norman, C. C., Aron, E. N., & McKenna, C. (2000). Couples' shared participation in novel and arousing activities and experienced relationship quality. *Journal of Personality and Social Psychology, 78*, 273–284.
- Birnbaum, G. E., Orr, I., Mikulincer, M., & Florian, V. (1997). When marriage breaks up – Does attachment style contribute to coping and mental health? *Journal of Social and Personal Relationships, 14*, 643–654.
- Bowlby, J. (1969). *Attachment and loss. Attachment, Volume 1*, New York, NY: Basic Books.
- Bowlby, J. (1973). *Attachment and loss. Separation, anxiety, and anger, Volume 2*, New York, NY: Basic Books.
- Campbell, L., & Kashy, D. A. (2002). Estimating actor, partner, and interaction effects for dyadic data using PROC MIXED and HLM: A user-friendly guide. *Personal Relationships, 9*, 327–342.
- Carnelley, K. B., & Ruscher, J. B. (2000). Adult attachment and exploratory behavior in leisure. *Journal of Social Behavior and Personality, 15*, 153–165.
- Carpenter, E. M., & Kirkpatrick, L. A. (1996). Attachment style and presence of a romantic partner as moderators of psychophysiological responses to a stressful laboratory situation. *Personal Relationships, 3*, 351–367.
- Collins, N. L., & Feeney, B. C. (2000). A safe haven: An attachment theory perspective on support-seeking and caregiving in adult romantic relationships. *Journal of Personality and Social Psychology, 78*, 1053–1073.
- Elliot, A. J., & Reis, H. T. (2003). Attachment and exploration in adulthood. *Journal of Personality and Social Psychology, 85*, 317–331.
- Feeney, B. C. (2004). A secure base: Responsive support of goal strivings and exploration in adult intimate relationships. *Journal of Personality and Social Psychology, 87*, 631–648.
- Feeney, B. C., & Thrush, R. L. (2010). Relationship influences on exploration in adulthood: The characteristics and function of a secure base. *Journal of Personality and Social Psychology, 98*, 57–76.
- Finkel, E. J., Campbell, W. K., Brunell, A. B., Dalton, A. N., Scarbeck, S. J., & Chartrand, T. L. (2006). High-maintenance interaction: Inefficient social coordination impairs self-regulation. *Journal of Personality and Social Psychology, 91*, 456–475.
- Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item-response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology, 78*, 350–365.
- Green, J. D., & Campbell, W. K. (2000). Attachment and exploration in adults: Chronic and contextual accessibility. *Personality and Social Psychology Bulletin, 26*, 452–461.
- Hazan, C., & Shaver, P. R. (1990). Love, work, and attachment theory. *Journal of Personality and Social Psychology, 59*, 270–280.
- Kunce, L. J., & Shaver, P. R. (1994). An attachment-theoretical approach to caregiving in romantic relationships. In K. Bartholomew, & D. Perlman (Eds.), *Advances in personal relationships, Vol. 5*. (pp. 205–237) London, England: Kingsley.
- Ruvolo, A. P., & Fabin, L. A. (1999). Two of a kind: Perceptions of own and partner's attachment characteristics. *Personal Relationships, 6*, 57–79.
- Simpson, J. A., Rholes, W. S., & Nelligan, J. S. (1992). Support seeking and support giving within couples in an anxiety-provoking situation: The role of attachment styles. *Journal of Personality and Social Psychology, 62*, 434–446.
- Sroufe, L. A., Egeland, B., & Kreutzer, T. (1990). The fate of early experience following developmental change: Longitudinal approaches to individual adaptation in childhood. *Child Development, 61*, 1363–1373.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063–1070.