



Attachment avoidance and amends-making: A case advocating the need for attempting to replicate one's own work[☆]



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ABSTRACT

Attachment avoidance is typically associated with negative behaviors in romantic relationships; however, recent research has begun to uncover circumstances (e.g., being in high-quality relationships) that promote pro-relationship behaviors for more avoidantly attached individuals. One possible explanation for why more avoidant individuals behave negatively sometimes but positively at other times is that their impulses regarding relationship events vary depending on relationship context (e.g., relationship satisfaction level). An initial unregistered study found support for this hypothesis in an amends-making context. We then conducted three confirmatory high-powered preregistered replication attempts that failed to replicate our initial findings. In our discussion of these four studies we highlight the importance of attempting to replicate one's own work and sharing the results regardless of the outcome.

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1. Introduction

"...As far as a particular hypothesis is concerned, no test based upon the theory of probability can by itself provide any valuable evidence of the truth or falsehood of that hypothesis."

[Neyman & Pearson (1933, p. 291)]

In romantic relationships, individuals who are more avoidantly attached tend to eschew closeness and intimacy. Unsurprisingly, then, higher attachment avoidance is often associated with negative relationship outcomes (e.g., Simpson, Rholes, & Neligan, 1992). Recent studies, however, have begun to uncover circumstances in which more avoidant persons desire intimacy and behave in a pro-relationship manner (e.g., Slotter & Luchies, 2014). Why might attachment avoidance be associated with deleterious relationship outcomes in some contexts, but more salutary outcomes in others? We proposed that avoidant persons' responses to relationship-relevant situations reflect distinct impulses that are guided in part by how negatively or positively they view their current partner and relationship (see Campbell, Simpson, Kashy, & Rholes, 2001). Specifically, we believed that less satisfying relationships

would foster selfish impulses for more avoidant individuals, whereas more satisfying relationships would foster pro-relationship impulses.

An initial unregistered study in our lab tested and found strong support for this hypothesis by investigating the extent to which persons higher in dispositional attachment avoidance made amends following imagining enacting a transgression against their partner as a function of relationship satisfaction and ego depletion. Armed with this empirical support, we submitted the study for peer review. Although the reviews were sympathetic with our hypothesis and theoretical perspective, the reviewers and the associate editor collectively noted that the study was limited by a small sample size ($N = 104$) that was perhaps less than ideal for testing our particular hypothesis. In light of the greater focus on confirmatory research and high-powered studies in both the field of relationship science and the field of social/personality psychology in general (see, e.g., Campbell, Loving, & LeBel, 2014; Finkel, Eastwick, & Reis, 2015; Funder et al., 2014; Nosek, Spies, & Motyl, 2012), and the sentiments expressed in the opening quote that any given statistical test of a hypothesis does not provide unequivocal evidence of its truth or falsehood, we took the advice to heart and endeavored to replicate and extend our original study with a preregistered replication attempt using a much larger sample ($N = 360$). We attained a statistically significant pattern of effects in this attempt, but the results were inconsistent with the findings in our original study. We then conducted two additional preregistered replication attempts ($N = 399$ and $N = 329$) in order to elucidate the robustness of the effects; in both of the latter replication attempts, the predicted effects were not statistically significant, and when the samples of all four studies were combined, our hypothesized effects did not emerge. In this article, we discuss this research

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process with the goal of highlighting the importance of (a) attempting to replicate one's own work prior to submitting results for peer review and (b) sharing the results of these attempts regardless of whether or not the replications are successful. We begin by briefly explaining the theoretical rationale underlying our initial hypothesis.

Decades of attachment research suggest that two dimensions tap individual differences in adult attachment (Brennan, Clark, & Shaver, 1998; Simpson, Rholes, & Phillips, 1996). The *anxiety* dimension reflects how much individuals worry and ruminate about being rejected or abandoned by their partners, whereas the *avoidance* dimension reflects how uncomfortable individuals are with closeness and intimacy in relationships. Less avoidant and less anxious persons demonstrate little concern about rejection or abandonment, and comfort with closeness.

In times of need (e.g., when threatened or distressed) the attachment system activates, motivating individuals to seek proximity to significant others (e.g., romantic partners). Whereas less avoidantly and less anxiously attached persons feel their partner will be available when needed, more avoidant and more anxious persons harbor doubts about the responsiveness of their partner, leading them to engage in secondary strategies to cope with the resulting sense of insecurity. More anxious individuals experience *hyperactivation* of their attachment system, demanding attention and making stronger attempts to maintain proximity to their partner. In contrast, more avoidant individuals experience *deactivation* of their attachment system, denying attachment needs and distancing themselves from their partner (Mikulincer & Shaver, 2003, 2007). We sought to examine the circumstances in which persons who typically lack motivation to effectively maintain their relationships may engage in relationship maintenance behaviors (i.e., amends-making). Thus, attachment avoidance was our primary focus.

The deactivating strategies employed by more avoidantly attached persons have been linked with a number of deleterious relationship outcomes. For example, more avoidant individuals tend to engage in less self-disclosure (Bradford, Feeney, & Campbell, 2002), fail to support their partner when needed (Simpson et al., 1992), and express more permissive attitudes toward relationship infidelity (DeWall et al., 2011). However, attachment avoidance is not universally associated with negative behaviors. Recent investigations have found that more avoidant individuals behave in pro-relationship ways when their partner engages in "softening" (e.g., accommodating) behaviors during conflict (Overall, Simpson, & Struthers, 2013), when they reflect on positive relationship experiences or engage in intimacy-promoting activities with their partner (Stanton, Campbell, & Pink, 2015), when they are more dependent on their relationship (Campbell et al., 2001), and when they perceive their relationship as high-quality (Slotter & Luchies, 2014).

These divergent findings perhaps suggest that, for more avoidantly attached individuals in particular, different contexts may foster distinct impulses that drive their responses to relationship events, a possibility yet to be systematically investigated. One compelling method of examining impulses is to induce ego depletion (Baumeister, Vohs, & Tice, 2007). Depletion of self-regulatory resources is thought to enhance the "default" response to situations, whether negative or positive. In the relationships domain, researchers have reasoned that ego depletion can yield harmful outcomes when impulses are negative or selfish (e.g., greater interest in romantic alternatives, Ritter, Karremans, & van Schie, 2010; more partner-related aggression, Finkel, DeWall, Slotter, Oaten, & Foshee, 2009), but salutary outcomes when impulses are positive or communal (e.g., greater willingness to sacrifice, Righetti, Finkenauer, & Finkel, 2013; more forgiveness of mild offenses, Stanton & Finkel, 2012). Importantly, the context and cues surrounding an interpersonal situation can determine the valence of an impulse (cf. Fennis, Janssen, & Vohs, 2009). We reasoned, therefore, that in relationships where the negative expectations more avoidant persons harbor are confirmed (e.g., less satisfying relationships), ego depletion should lead these persons to behave especially negatively in contexts that

activate the attachment system. Conversely, in relationships where the negative expectations more avoidant individuals hold are counteracted (e.g., more satisfying relationships), ego depletion should lead them to behave particularly positively.

Our original unregistered study aimed to conceptually replicate but also extend prior research in an amends-making context. We hypothesized a three-way interaction such that when depleted (vs. non-depleted), less satisfied avoidant individuals would make fewer amends, whereas more satisfied avoidant individuals would make greater amends.¹ No differences were expected for less avoidant individuals because research suggests that they respond to their partner's distress with appropriate repair attempts (see Mikulincer & Shaver, 2007).

2. Method

This project is registered on the Open Science Framework (OSF). Our original study was not preregistered, but we added its information to the OSF project. Materials, data, output, and syntax files related to these studies may be found at osf.io/863az (Stanton & Campbell, 2015, February 24).

2.1. Participants

2.1.1. Original study

In the original study, we recruited 125 participants; however, we removed individuals who did not meet eligibility requirements, as well as those who failed attention check items. The final sample comprised 104 individuals (59 women, 45 men) recruited through Amazon's Mechanical Turk (MTurk) who completed the study for \$0.50 USD. MTurk data are thought to demonstrate psychometric reliability similar to laboratory data (Buhrmester, Kwang, & Gosling, 2011). Participants were 18–65 years of age ($M = 31.64$, $SD = 11.38$) and currently involved in romantic relationships of 3–462 months ($M = 83.63$, $SD = 114.47$). Approximately 46% were dating their partner casually or exclusively, and 54% were common-law, engaged, or married.

2.1.2. Replication Attempt 1

We recruited 400 participants² and, as in the original study and consistent with our preregistered data analytic plan, removed individuals who were ineligible for the study or failed attention check items. The final sample comprised 360 individuals (249 women, 109 men, 2 unreported) recruited through MTurk who completed the study for \$0.50 USD. Participants were 18–82 years of age ($M = 35.18$, $SD = 11.53$) and currently involved in romantic relationships of 3–589 months ($M = 95.37$, $SD = 101.61$). Approximately 46% were dating their partner casually or exclusively, and 54% were common-law, engaged, or married. Preregistration information for Replication Attempt 1 can be found at osf.io/v57id (Stanton & Campbell, 2014, October 1).

2.1.3. Replication Attempt 2

We recruited 400 participants and, as in the original study and consistent with our preregistered data analytic plan, removed individuals who were ineligible for the study or failed attention check items. The final sample comprised 399 individuals (219 women, 178 men, 2 unreported) recruited through MTurk who completed the study for \$0.50 USD. Participants were 18–66 years of age ($M = 33.41$, $SD = 10.16$)

¹ Amends-making represents a compelling context for examining more avoidant individuals' behavior because deciding whether to make up for a transgression one has enacted against a partner (i.e., to actively maintain the relationship) is something that such individuals are sensitive to. Moreover, this process has received little attention from attachment scholars.

² In all replication attempts we requested 400 participants but received a surplus number of responses when incomplete entries and study drop-outs were accounted for by our survey program, Qualtrics.

and currently involved in romantic relationships of 3–513 months ($M = 80.76$, $SD = 83.61$). Approximately 45% were dating their partner casually or exclusively, and 55% were common-law, engaged, or married. Preregistration information for Replication Attempt 2 and Replication Attempt 3 can be found at osf.io/s9r5a (Stanton & Campbell, 2015, January 26).

2.1.4. Replication Attempt 3

We recruited 400 participants and, as in the original study and consistent with our preregistered data analytic plan, removed individuals who were ineligible for the study or failed attention check items. The final sample comprised 329 individuals (199 women, 127 men, 3 unreported) recruited through MTurk who completed the study for \$0.50 USD. Participants were 18–68 years of age ($M = 32.80$, $SD = 10.19$) and currently involved in romantic relationships of 3–513 months ($M = 86.18$, $SD = 90.97$). Approximately 44% were dating their partner casually or exclusively, and 56% were common-law, engaged, or married.

2.1.5. All Studies Combined

The full final sample combining the four studies comprised 1192 individuals (726 women, 459 men, 7 unreported). Participants were 18–82 years of age ($M = 33.63$, $SD = 10.75$) and currently involved in romantic relationships of 3–589 months ($M = 86.90$, $SD = 94.31$). Approximately 45% were dating their partner casually or exclusively, and 55% were common-law, engaged, or married.

2.2. Procedure³

Descriptive statistics, scale reliability information, and correlations between variables for study measures in each investigation are available in Tables 1A–1E. Participants first completed a demographic questionnaire, after which they reported their attachment orientations using the Adult Attachment Questionnaire (AAQ; Simpson et al., 1996), a 17-item measure rated on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*) that assessed attachment anxiety with 9 items (e.g., “I rarely worry about being abandoned by others,” reverse-scored) and attachment avoidance with 8 items (e.g., “I don’t like people getting too close to me”). They then reported their relationship satisfaction using the Relationship Assessment Scale (RAS; Hendrick, 1988), a 7-item measure rated on a 7-point scale (1 = *not at all/extremely poor*, 7 = *a great deal/extremely good*) that assessed how happy individuals are in their current romantic relationship (e.g., “How good is your relationship compared to most?”).

Next, to manipulate depletion, participants were randomly assigned to complete one of two paragraph-retyping tasks. In this task, participants were presented with a paragraph of unrelated text on the computer screen and asked to retype the paragraph as quickly and accurately as possible. In the no-depletion control condition, participants were asked to retype the paragraph exactly how it appeared on the screen. In the depletion condition, participants were asked to retype the paragraph with no e’s or spaces. Prior work exploring self-regulatory processes suggests retyping a paragraph with no e’s or spaces requires more self-regulatory capacity than retyping a paragraph as is (Muraven, Gagné, & Rosman, 2008).

Following the experimental manipulation, participants vividly imagined a scenario in which their partner discovered that the participant had betrayed his/her trust by telling a mutual friend very private details their partner had confided in them (Boon & Sulsky, 1997; see also Luchies, Finkel, McNulty, & Kumashiro, 2010). They then reported amends-making using a 3-item measure (adapted by the current authors from Luchies et al., 2010) rated on a 7-point scale (1 = *not at all*,

7 = *very much*) that assessed the degree to which they would make up for their bad behavior (e.g., “To what extent would you apologize?”). Finally, participants completed a 3-item manipulation check rated on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*) that assessed how depleting the paragraph-retyping task was (e.g., “The paragraph-retyping task was mentally exhausting”), $\alpha_s = .89$ –.93, and three open-ended questions that probed for hypothesis suspicion.⁴

3. Results

3.1. Manipulation checks

In all investigations, the depletion manipulation was effective: participants in the depletion condition felt the paragraph-retyping task was significantly more difficult and mentally tiring compared to participants in the no-depletion control condition (see Table 2).

3.2. Effects on amends

To test hypotheses, we conducted multiple regression analyses with amends as the outcome variable and centered continuous scores on attachment avoidance, attachment anxiety, and relationship satisfaction, effect-coded experimental condition ($-1 = \text{control}$, $1 = \text{depletion}$), and all relevant interactions as predictors. Results from each investigation are displayed in Table 3.

In our original study, the predicted three-way interaction between attachment avoidance, relationship satisfaction, and experimental condition emerged. Analyses decomposing this interaction revealed that more avoidantly attached persons in *less* satisfying relationships made *fewer* amends when depleted (vs. non-depleted), $b = -.35$, $SE = .08$, $p < .001$. Conversely, more avoidant persons in *more* satisfying relationships made *greater* amends when depleted (vs. non-depleted), $b = .21$, $SE = .10$, $p = .04$. Less avoidant individuals made similar amends regardless of self-regulatory capacity in both more and less satisfying relationships, $b = .07$, $SE = .10$, $p = .49$ and $b = .18$, $SE = .14$, $p = .19$, respectively (see Fig. 1).

In Replication Attempt 1, a three-way interaction between attachment avoidance, relationship satisfaction, and experimental condition again emerged, but the pattern of results was inconsistent with our predictions and the results of the original study. Analyses decomposing this interaction revealed that *less* avoidantly attached persons in *less* satisfying relationships made *fewer* amends when depleted (vs. non-depleted), $b = -.38$, $SE = .15$, $p = .02$. Less avoidant persons in *more* satisfying relationships made similar amends when depleted (vs. non-depleted), $b = .18$, $SE = .12$, $p = .13$. In this study, *more* avoidant individuals made similar amends regardless of self-regulatory capacity in both more and less satisfying relationships, $b = -.05$, $SE = .10$, $p = .63$ and $b = .01$, $SE = .13$, $p = .93$, respectively (see Fig. 2). No significant three-way interactions emerged in Replication Attempts 2 and 3 or in the analysis that combined the data from all studies ($N = 1192$). Indeed, the only consistent finding across investigations was a main effect of relationship satisfaction on amends; perhaps unsurprisingly, individuals in more satisfying relationships made greater amends.

4. Discussion

The purpose of the present research was to explore the question of why, in their romantic relationships, more avoidantly attached persons behave negatively sometimes and positively at other times. In an initial

³ Replication Attempt 1 was initially intended to replicate and extend our original study and thus contained a few additional measures not reported here that can be viewed at osf.io/v57id (Stanton & Campbell, 2014, October 1).

⁴ Qualtrics includes options that researchers can take advantage of to prevent participants from completing surveys multiple times. In all investigations we ensured that MTurk participants could complete the study only once by ticking the “Prevent Ballot Box Stuffing” box in the Survey Protection section of Survey Options. MTurk also contains methods to prevent workers from completing a given project more than once, even if the survey link changes.

Table 1A
Original study: descriptive statistics, reliability information, and correlations between measures.

	<i>M</i> (<i>SD</i>)	α	Correlations			
			1	2	3	4
1 Attachment anxiety	2.92 (1.18)	.83	–	.51***	–.30**	–.13
2 Attachment avoidance	3.41 (1.31)	.86	.51***	–	–.41***	–.37***
3 Relationship satisfaction	5.95 (1.03)	.89	–.30**	–.41***	–	.49***
4 Amends	6.65 (0.63)	.63	–.13	–.37***	.49***	–

Note. *N* = 104. Possible scores range from 1 to 7 for all variables.

** *p* < .01.

*** *p* < .001.

Table 1B
Replication Attempt 1: descriptive statistics, reliability information, and correlations between measures.

	<i>M</i> (<i>SD</i>)	α	Correlations			
			1	2	3	4
1 Attachment anxiety	3.20 (1.21)	.84	–	.42***	–.40***	–.11*
2 Attachment Avoidance	3.54 (1.25)	.86	.42***	–	–.39***	–.06
3 Relationship Satisfaction	5.59 (1.28)	.93	–.40***	–.39***	–	.23***
4 Amends	6.31 (1.10)	.87	–.11*	–.06	.23***	–

Note. *N* = 360. Possible scores range from 1 to 7 for all variables.

* *p* < .05.

*** *p* < .001.

unregistered study, we found support for our a priori hypothesis that more avoidant individuals possess distinct impulses that vary depending on their relationship satisfaction level in an amends-making context. At this point in the research process we were optimistic that a high-powered confirmatory study would yield a similar pattern of effects. Despite our optimism, however, these effects failed to materialize in not only one, but also two other preregistered high-powered replication attempts. Replication Attempt 1 unexpectedly found a similar pattern of results for *less*, not more, avoidant individuals; Replication Attempts 2 and 3, as well as an analysis that included all four datasets, did not yield significant effects consistent with our original hypothesis. Nonetheless, across all four investigations we did find strong support for the effectiveness of our depletion manipulation, and the link between relationship satisfaction and amends-making following a transgression.

Although the results of these particular investigations are inconsistent, an attachment perspective on amends-making remains a potentially fruitful avenue for future research. The findings in our original study and Replication Attempt 1 suggest that the amends-making behavior of more (original study) and less (Replication Attempt 1) avoidantly attached persons may indeed vary as a function of relationship satisfaction and self-regulatory ability. Our studies, however, are limited by their reliance on a single hypothetical transgression scenario to influence responses. We chose this method in order to standardize the transgression across participants by objectively controlling the severity of the scenario; nevertheless, it is possible that the hypothetical scenario we chose was not relevant to many of our participants. Perhaps asking participants to recall and reflect on a real-life example of a time wherein they transgressed against their partner, and the extent

Table 1C
Replication Attempt 2: descriptive statistics, reliability information, and correlations between measures.

	<i>M</i> (<i>SD</i>)	α	Correlations			
			1	2	3	4
1 Attachment anxiety	3.13 (1.10)	.83	–	.42***	–.36***	–.12*
2 Attachment avoidance	3.55 (1.20)	.86	.42***	–	–.35***	–.13*
3 Relationship satisfaction	5.67 (1.17)	.93	–.36***	–.35***	–	.25***
4 Amends	6.49 (0.79)	.79	–.12*	–.13*	.25***	–

Note. *N* = 399. Possible scores range from 1 to 7 for all variables.

* *p* < .05.

*** *p* < .001.

Table 1D
Replication Attempt 3: descriptive statistics, reliability information, and correlations between measures.

	<i>M</i> (<i>SD</i>)	α	Correlations			
			1	2	3	4
1 Attachment anxiety	3.07 (1.19)	.85	–	.38***	–.38***	–.10 ^a
2 Attachment avoidance	3.55 (1.23)	.86	.38***	–	–.33***	–.14**
3 Relationship Satisfaction	5.69 (1.14)	.92	–.38***	–.33***	–	.25***
4 Amends	6.55 (0.73)	.73	–.10 ^a	–.14**	.25***	–

Note. *N* = 329. Possible scores range from 1 to 7 for all variables.

^a *p* < .10.

** *p* < .01.

*** *p* < .001.

Table 1E

All Studies Combined: descriptive statistics, reliability information, and correlations between measures.

	M (SD)	α	Correlations			
			1	2	3	4
1 Attachment anxiety	3.11 (1.16)	.84	–	.42***	–.38***	–.12***
2 Attachment avoidance	3.53 (1.23)	.86	.42***	–	–.36***	–.12***
3 Relationship satisfaction	5.68 (1.19)	.92	–.38***	–.36***	–	.26***
4 Amends	6.46 (0.87)	.81	–.12***	–.12***	.26***	–

Note. $N = 1,192$. Possible scores range from 1 to 7 for all variables.*** $p < .001$.**Table 2**

Depletion manipulation check in each investigation.

	Control condition		Depletion condition		Difference
	M (SD)	N	M (SD)	N	t
Original Study	2.30 (1.23)	54	3.75 (0.97)	50	6.62***
Replication Attempt 1	2.12 (0.95)	188	3.73 (1.07)	172	15.19***
Replication Attempt 2	2.22 (1.03)	215	3.93 (1.06)	184	16.30***
Replication Attempt 3	2.28 (1.11)	181	3.80 (1.06)	148	12.56***
All Studies Combined	2.21 (1.05)	638	3.82 (1.06)	554	26.23***

Note. Possible scores range from 1 to 5.

*** $p < .001$.

to which they made amends at that time, would be a more pertinent way to investigate amends-making. Alternatively, it may be that a study procedure that goes beyond imagining or recalling scenarios, and includes both members of the couple, is a more appropriate method for exploring these processes. To be sure, future research on this topic will ideally involve both direct and conceptual replications of any initial findings within the researcher's own lab prior to expressing confidence in the robustness of effects.

The present research raises some potentially interesting questions about conducting experiments on MTurk, especially those that include manipulations designed to induce ego depletion. Presently, the use of depletion manipulations as a means of restricting cognitive capacity is not entirely clear-cut (see Inzlicht & Schmeichel, 2012; Robinson, Schmeichel, & Inzlicht, 2010). Although much of the extant literature on self-regulation operates under the assumption (and very often finds support for) the notion that the process relies on a limited inner resource that can become "depleted" with use, recent models have instead emphasized the motivational and attentional mechanisms that

result from ego depletion. If our participants were motivated to protect their relationship, for example, this motivation could have overridden any temporary feelings of mental exhaustion which could, in turn, explain the lack of effects in our replication attempts. Another possibility is that, in our MTurk samples, the depletion manipulation was not being experienced psychologically as intended; rather, our participants may have known the "correct" answer to our explicit manipulation check without truly being mentally exhausted by the paragraph-retyping task. Because we did not use a more subtle manipulation check in this series of studies, we are unable to rule out this option. Researchers who wish to explore the predictive validity of the interplay of attachment avoidance, relationship satisfaction, and ego depletion in amends-making should consider these additional limitations when designing future studies.

In our opinion, this series of studies highlights the importance of attempting to replicate one's own work prior to drawing firm conclusions from the results of one study and submitting the results for peer review (cf. Nosek et al., 2012). For example, imagine that we had run

Table 3

Effects of experimental condition, attachment anxiety, attachment avoidance, and relationship satisfaction on amends in each investigation.

	Original Study		Replication Attempt 1		Replication Attempt 2		Replication Attempt 3		All Studies Combined	
	b	SE	b	SE	b	SE	b	SE	b	SE
Condition	.03	.05	–.06	.06	–.03	.04	.003	.04	–.02	.03
Anxiety	.01	.05	–.02	.06	.001	.04	–.01	.04	–.01	.02
Avoidance	–.16***	.04	.06	.05	–.02	.04	–.03	.04	–.01	.02
Satisfaction	.17**	.06	.26***	.05	.18***	.04	.15***	.04	.21***	.03
Anxiety \times Condition	.08	.05	.09	.06	.04	.04	–.01	.04	.05 ^a	.02
Avoidance \times Condition	–.08 ^a	.04	.03	.05	–.03	.04	–.02	.04	–.01	.02
Satisfaction \times Condition	.11 ^a	.06	.12*	.05	.02	.04	–.04	.04	.06*	.03
Anxiety \times Satisfaction	–.02	.05	–.03	.04	–.03	.04	–.08**	.03	–.04*	.02
Avoidance \times Satisfaction	.09**	.03	–.05	.03	–.02	.03	.03	.03	–.01	.02
Anxiety \times Satisfaction \times Condition	.04	.05	–.05	.04	–.02	.04	–.02	.03	–.02	.02
Avoidance \times Satisfaction \times Condition	.13***	.03	–.08*	.03	–.02	.03	–.01	.03	–.03	.02

Note. We report unstandardized regression coefficients. Predictors were entered into the model in steps (main effects, two-way interactions, three-way interactions); results from the full model are displayed.

^a $p < .10$.* $p < .05$.** $p < .01$.*** $p < .001$.

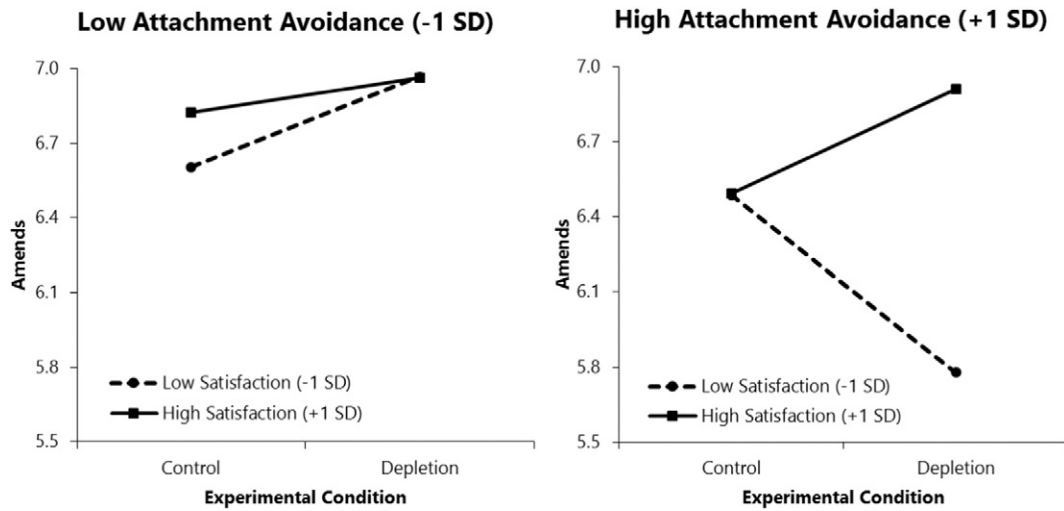


Fig. 1. Original study: Three-way interaction between attachment avoidance, relationship satisfaction, and experimental condition predicting amends. High and low attachment avoidance and relationship satisfaction represent ± 1 standard deviation of the mean.

the study only one time, obtaining the pattern of results reported in the original study or Replication Attempt 1. We were indeed pleased that the results of the original study were consistent with our initial hypothesis and decided to write a manuscript to be considered for publication in a peer-reviewed journal. This manuscript was not accepted for publication at the first journal that reviewed it, but the reviews were fairly encouraging overall. Had we chosen to resubmit the manuscript to other journals and not attempt to replicate our findings, it is possible that it would have been published eventually. If we had only the results of Replication Attempt 1, it is also possible that we could have published these results given the pattern of significant effects obtained. We would then have faced the choice of being transparent vis-à-vis the outcomes being different from our initial predictions (although still somewhat theoretically consistent), or altering our hypotheses to reflect the pattern of findings that did emerge (hypothesizing after results are known, or HARKing; Kerr, 1998). Either set of results published on their own could tell an interesting story regarding attachment avoidance and amends-making that could potentially inform conceptually similar studies, but because we are aware of the full range of results across our four studies we know these results are not robust. This

knowledge did not come cheap—it took extra time to collect and analyze the data, as well as extra money to pay participants. In our view, however, it was time and money well spent to gain a more accurate understanding of the interplay of attachment avoidance, relationship satisfaction, and self-regulatory processes on amends-making using this particular methodological approach.

5. Conclusion

In sum, despite initial promise, the question of how attachment avoidance, relationship satisfaction, and self-regulation interact to influence amends-making after transgressing against a romantic partner remains unanswered by the present research. Our experience suggests that researchers should strive to replicate their own work when feasible, and share the results irrespective of the success or failure of the replication attempt. Doing so would (a) strengthen the trustworthiness of significant findings, in addition to (b) help resolve inconsistencies between different research labs exploring the same psychological phenomena.

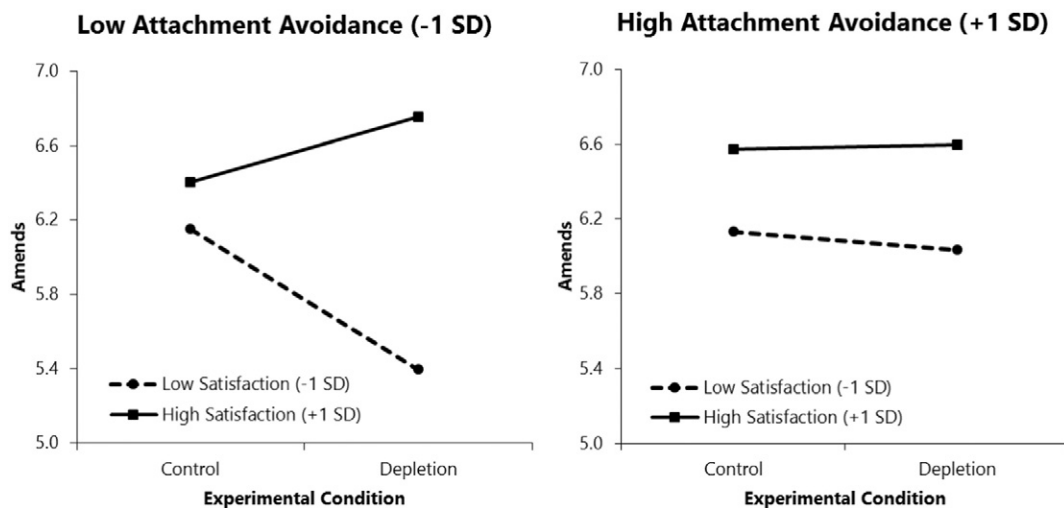


Fig. 2. Replication Attempt 1: Three-way interaction between attachment avoidance, relationship satisfaction, and experimental condition predicting amends. High and low attachment avoidance and relationship satisfaction represent ± 1 standard deviation of the mean.

References

- Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007). The strength model of self-control. *Current Directions in Psychological Science*, 16, 351–355.
- Boon, S. D., & Sulsky, L. M. (1997). Attributions of blame and forgiveness in romantic relationships: A policy-capturing study. *Journal of Social Behavior and Personality*, 12, 19–44.
- Bradford, S. A., Feeney, J. A., & Campbell, L. (2002). Links between attachment orientations and dispositional and diary-based measures of disclosure in dating couples: A study of actor and partner effects. *Personal Relationships*, 9, 491–506.
- 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, NY: Guilford Press.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6, 3–5.
- Campbell, L., Loving, T. J., & LeBel, E. P. (2014). Enhancing transparency of the research process to increase accuracy of findings: A guide for relationship researchers. *Personal Relationships*, 21, 531–545.
- Campbell, L., Simpson, J. A., Kashy, D. A., & Rholes, W. S. (2001). Attachment orientations, dependence, and behavior in a stressful situation: An application of the actor-partner interdependence model. *Journal of Social and Personal Relationships*, 18, 821–843.
- DeWall, C. N., Lambert, N. M., Slotter, E. B., Pond, R. S., Jr., Deckman, T., Finkel, E. J., & Fincham, F. D. (2011). So far away from one's partner, yet so close to romantic alternatives: Avoidant attachment, interest in alternatives, and infidelity. *Journal of Personality and Social Psychology*, 101, 1302–1316.
- Fennis, B. M., Janssen, L., & Vohs, K. D. (2009). Acts of benevolence: A limited-resource account of compliance with charitable requests. *Journal of Consumer Research*, 35, 906–924.
- Finkel, E. J., DeWall, C. N., Slotter, E. B., Oaten, M., & Foshee, V. A. (2009). Self-regulatory failure and intimate partner violence perpetration. *Journal of Personality and Social Psychology*, 97, 483–499.
- Finkel, E. J., Eastwick, P. W., & Reis, H. T. (2015). Best research practices in psychology: Illustrating epistemological and pragmatic considerations with the case of relationship science. *Journal of Personality and Social Psychology*, 108, 275–297.
- Funder, D. C., Levine, J. M., Mackie, D. M., Morf, C. C., Sansone, C., Vazire, S., ... West, S. G. (2014). Improving the dependability of research in personality and social psychology: recommendations for research and educational practice. *Personality and Social Psychology Review*, 18, 3–12.
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and Family*, 50, 93–98.
- Inzlicht, M., & Schmeichel, B. J. (2012). What is ego depletion? Toward a mechanistic revision of the resource model of self-control. *Perspectives on Psychological Science*, 7, 450–463.
- Kerr, N. L. (1998). HARKing: Hypothesizing after results are known. *Personality and Social Psychology Review*, 2, 196–217.
- Luchies, L. B., Finkel, E. J., McNulty, J. K., & Kumashiro, M. (2010). The doormat effect: when forgiving erodes self-respect and self-concept clarity. *Journal of Personality and Social Psychology*, 98, 734–749.
- Mikulincer, M., & Shaver, P. R. (2003). The attachment behavioral system in adulthood: activation, psychodynamics, and interpersonal processes. In M. P. Zanna (Ed.), *Advances in experimental social psychology*. 35. (pp. 53–152). New York, NY: Academic Press.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York, NY: Guilford Press.
- Muraven, M., Gagné, M., & Rosman, H. (2008). Helpful self-control: Autonomy support, vitality, and depletion. *Journal of Experimental Social Psychology*, 44, 573–585.
- Neyman, J., & Pearson, E. S. (1933). On the problem of the most efficient tests of statistical hypotheses. *Philosophical Transactions of the Royal Society of London. Series A, Containing Papers of a Mathematical or Physical Character*, 231. (pp. 289–337).
- Nosek, B. A., Spies, J. R., & Motyl, M. (2012). Scientific utopia: II Restructuring incentives and practices to promote truth over publishability. *Perspectives on Psychological Science*, 7, 615–631.
- Overall, N. C., Simpson, J. A., & Struthers, H. (2013). Buffering attachment-related avoidance: Softening emotional and behavioral defenses during conflict discussions. *Journal of Personality and Social Psychology*, 104, 854–871.
- Righetti, F., Finkenauer, C., & Finkel, E. J. (2013). Low self-control promotes the willingness to sacrifice in close relationships. *Psychological Science*, 24, 1533–1540.
- Ritter, S. M., Karremans, J. C., & van Schie, H. T. (2010). The role of self-regulation in derogating attractive alternatives. *Journal of Experimental Social Psychology*, 46, 631–637.
- Robinson, M. D., Schmeichel, B. J., & Inzlicht, M. (2010). A cognitive control perspective of self-control strength and its depletion. *Social and Personality Psychology Compass*, 4, 189–200.
- Simpson, J. A., Rholes, W. S., & Neligan, 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.
- Simpson, J. A., Rholes, W. S., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology*, 71, 899–914.
- Slotter, E. B., & Luchies, L. B. (2014). Relationship quality promotes the desire for closeness among distressed avoidantly attached individuals. *Personal Relationships*, 21, 22–34.
- Stanton, S. C. E., & Campbell, L. (2014). *Confirmatory study: Relationship satisfaction and ego depletion determine how avoidantly attached individuals make amends*. October 1. Retrieved from osf.io/v57id.
- Stanton, S. C. E., & Campbell, L. (2015). *Confirmatory study: Relationship satisfaction and ego depletion determine how avoidantly attached individuals make amends*. January 26. Retrieved from osf.io/s9r5a.
- Stanton, S. C. E., & Campbell, L. (2015). *Confirmatory study: Relationship satisfaction and ego depletion determine how avoidantly attached individuals make amends*. February 24. Retrieved from osf.io/863az.
- Stanton, S. C. E., & Finkel, E. J. (2012). Too tired to take offense: When depletion promotes forgiveness. *Journal of Experimental Social Psychology*, 48, 587–590.
- Stanton, S. C. E., Campbell, L., & Pink, J. C. (2015). *Benefits of positive relationship experiences and intimacy promotion for avoidantly attached individuals*. Unpublished manuscript, University of Western Ontario.