

# Nothing ventured, nothing gained: People anticipate more regret from missed romantic opportunities than from rejection

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## Abstract

Romantic pursuit decisions often require a person to risk one of the two errors: pursuing a romantic target when interest is not reciprocated (resulting in rejection) or failing to pursue a romantic target when interest is reciprocated (resulting in a missed romantic opportunity). In the present research, we examined how strongly people wish to avoid these two competing negative outcomes. When asked to recall a regrettable dating experience, participants were more than three times as likely to recall a missed opportunity rather than a rejection (Study 1). When presented with romantic pursuit dilemmas, participants perceived missed opportunities to be more regrettable than rejection (Studies 2–4), partially because they perceived missed opportunities to be more consequential to their lives (Studies 3 and 4). Participants were also more willing to risk rejection rather than missed romantic opportunities in the context of imagined (Study 4) and actual (Study 5) pursuit decisions. These effects generally extended even to less secure individuals (low self-esteem, high attachment anxiety). Overall, these studies suggest that motivation to avoid missed romantic opportunities may help to explain how people overcome fears of rejection in the pursuit of potential romantic partners.

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Decision-making, regret, rejection, romantic pursuit, romantic relationships

Due to the fundamental need to belong, humans find social acceptance to be deeply rewarding and social rejection to be deeply threatening (Baumeister & Leary, 1995; DeWall & Bushman, 2011). In the context of close relationships, these two motives—approaching acceptance and avoiding rejection—often come into conflict, resulting in potentially difficult decision dilemmas. For example, sharing an intimate thought with a friend carries the potential for both connection (if the friend responds with validation) and rejection (if the friend responds with disapproval). In contrast, failing to disclose means forgoing both an opportunity for connection and the risk of rejection. In order to successfully build and maintain close relationships, people must carefully regulate these competing motives of reward and threat (e.g., Baker & McNulty, 2013; Gere, MacDonald, Joel, Spielmann, & Impett, 2013; Murray, Derrick, Leder, & Holmes, 2008; Murray, Holmes, & Collins, 2006; Spielmann, Maxwell, MacDonald, & Baratta, 2013b).

The decision to pursue a new potential romantic partner exemplifies this approach-avoidance conflict. On the one hand, acting on romantic attraction carries the risk of learning that one's affections are not reciprocated. Rejection is an acutely painful experience that people are strongly motivated to avoid (see MacDonald & Leary (2005) for review). On the other hand, acting on attraction also carries the opportunity to form a romantic relationship, which is uniquely associated with a range of rewards (e.g., Baumeister & Leary, 1995; Fletcher, Simpson, Campbell, & Overall, 2015; Myers & Diener, 1995). Understanding how people resolve this conflict between avoiding rejection and approaching connection is therefore crucial for understanding romantic relationship initiation.

***Regret in the romantic domain***

In the present research, we took a judgment and decision-making (JDM) approach to romantic pursuit (Joel, MacDonald, & Plaks, 2013) by considering how people weigh romantic pursuit trade-offs. In general, which outcome do people expect to be worse: romantic rejection or a missed romantic opportunity? Specifically, we examined which of these outcomes is expected to elicit more *regret*. Regret represents people's perception that not only is their current outcome undesirable, but that a better outcome was possible if only they had made a different choice (e.g., Tsiros & Mittal, 2000; Zeelenberg & Pieters, 2007). The consequences of a decision are central to the experience of regret (Gilovich & Medvec, 1995), such that regret over highly consequential life decisions can persist for many years (Wrosch, Bauer, & Scheier, 2005). Despite its aversiveness, regret generally plays a functional role in decision-making by helping people to evaluate their decisions and learn from their mistakes (e.g., Reb, 2008; Roese, 1994).

Anticipated regret is particularly relevant for decision-making. When people are in the process of making a decision, they often imagine how much regret they would experience if they made the wrong decision (Zeelenberg & Pieters, 2004, 2007). These anticipated feelings of regret can play an important role in guiding people's choices

(e.g., Reb, 2008; Wroe, Turner, & Salskovskis, 2004). For example, in one longitudinal study, researchers examined the predictors of mothers' decisions to vaccinate their infants (Wroe et al., 2004). The two strongest predictors of vaccination decisions were anticipated regret over negative outcomes that could result from inaction (e.g., illness) and from action (e.g., an adverse reaction to vaccination). Together, anticipated regret explained 57% of the variance in vaccination decisions—much more variance than other plausible contenders (e.g., perceived benefits and risks).

Most regret research has been conducted in the context of traditional JDM domains such as finance, consumer choice, and health. However, growing evidence suggests that people's deepest regrets tend to occur in the context of close relationships, particularly romantic relationships (Beike, Markman, & Karadogan, 2008; Morrison & Roese, 2011). Further, emerging research suggests that regret may operate somewhat differently in the romantic domain. For example, gender differences in regret have emerged in the romantic context that have not emerged in other decision contexts (Roese et al., 2006). Researchers have also uncovered predictors of regret that are specifically relational in nature (e.g., attachment anxiety; Joel, MacDonald, & Plaks, 2012; Schoemann, Gillath, & Sesko, 2012). These findings suggest that studying regret specifically in the context of romantic relationships is necessary for a more complete understanding of how regret operates in day-to-day life.

### *Which negative outcome do people expect to regret more?*

Which negative romantic pursuit outcome do people expect to be more regrettable: a rejection or a missed romantic opportunity? In a typical romantic pursuit decision dilemma, rejection is the risk associated with action, whereas a missed opportunity is the risk associated with inaction. Considerable past work suggests that decisions to act tend to be associated with more regret than decisions not to act (e.g., Byrne & McEleney, 2000; Landman, 1987; Zeelenberg, van der Pligt, & Manstead, 1998), although there are a number of documented exceptions to this rule (e.g., Gilovich & Medvec, 1994; Seta, McElroy, & Seta, 2001). We propose that the domain of romantic pursuit may be one such exception: people may perceive the counterfactual that is produced by a missed opportunity ("If only I would have acted on my feelings for Person X, then we would be together") to be more regrettable than the counterfactual that is produced by a rejection ("If only I would not have acted on my feelings, then I would not have been rejected"). We suggest that this is because of the differential perceived consequences of the two errors.

Extensive evidence suggests that both goals—avoiding rejection and achieving connection—are of high importance for most people (e.g., Baker & McNulty, 2013; Baumeister & Leary, 1995; Gere et al., 2013; Murray et al., 2006, 2008; Spielmann et al., 2012, 2013b). A failure to meet either of these goals results in an immediate, negative subjective experience: the presence of rejection on one hand and the loss of reward on the other. Rejection and lost reward are both highly painful (MacDonald, 2009), such that when a person is trying to decide whether to pursue a potential partner, they may anticipate potent, intrusive counterfactuals about how the painfulness of either decision could have been avoided. For example, a rejected person could easily imagine a scenario

in which they had simply not pursued their target of affection, sparing themselves this experience.

Yet, beyond the immediate costs that are associated with these two outcomes, people may also wish to avoid the long-term consequences of failing to secure a desired romantic partner. Romantic love is universal among humans (Fletcher et al., 2015): Over and above a biological imperative to find sexual partners, humans have a cross-culturally consistent and likely evolutionarily based motivation to form stable romantic bonds with their partners. Feelings like passion and sexual desire are not only rewarding in the short-term; they powerfully motivate people to become physically and psychologically closer to the target of their affection, facilitating long-term bonding (e.g., Birnbaum et al., 2017; Diamond, 2014; Gonzaga, Keltner, Londahl, & Smith, 2001). Once in a long-term relationship, people tend to enjoy a multitude of benefits such as higher psychological well-being (Kim & McKendry, 2002), higher satisfaction with life (Holt-Lunstad, Birmingham, & Jones, 2008), and better physical health (Schoenborn, 2004). Further, single individuals face a variety of social pressures to enter into relationships, as society is in many ways geared toward couples and rewarding of couplehood (DePaulo, 2014). Indeed, most single people report at least some degree of fear that they will remain single forever (Spielmann et al., 2013b). Overall, there are numerous reasons why people may perceive the failure to secure a desired partner as a deeply consequential outcome that is worth avoiding.

Of course, winding up without a partner can occur because of either a rejection or a missed romantic opportunity. The crucial difference lies in the degree of responsibility that a person would expect to feel for having not secured a partner—the extent to which winding up without a partner would, in fact, be a *consequence* of one's decision. When imagining pursuing someone and getting rejected, the decision maker may at least be comforted by the knowledge that romantic success was unlikely regardless of their decision. That is, the person may imagine being left without a romantic partner, but with the knowledge that at least they did everything they could to avoid that outcome. In contrast, when imagining a missed romantic opportunity, the decision maker imagines having failed to secure a partner as a direct consequence of their own decision. Thus, they may imagine pining over rewards that they could have enjoyed for many months or years—such as intimacy, sex, and long-term companionship—if only they made a different decision. It is this component of self-blame that elicits regret specifically, rather than the less decision-relevant emotion of disappointment (Zeelenberg et al., 1998).

Overall, we propose that although both rejection and missed opportunities are painful experiences, decisions that lead to missed romantic opportunities are perceived to cost the individual a relationship in a way that decisions that lead to rejection generally do not. Because many people are strongly motivated to enter into relationships, the “relationship that could have been” feels more meaningful and consequential to one's life than mentally undoing a single rejection experience. The emotion of regret is strongly tied to the broader consequences of one's own decisions (e.g., Gilovich & Medvec, 1995); thus, we expected that people would anticipate more regret in response to a missed opportunity compared to rejection.

### *Relationship insecurities and relationship initiation*

To explore the boundary conditions of our hypothesis, we examined how anticipated regret over romantic pursuit decisions operates specifically for people with strong fears of rejection. Consistent with risk regulation theory (e.g., Murray et al., 2006), individuals who are less secure about others' regard for them tend to engage in cautious, self-protective behaviors when they are in the presence of potential romantic partners, reducing the chances of successful relationship initiation. That is, when there is potential for relationship initiation, individuals with stronger fears of rejection—such as those with low self-esteem (Cameron, Stinson, Gaetz, & Balchen, 2010; Stinson, Cameron, Hoplock, & Hole, 2015) and high attachment anxiety (McClure & Lydon, 2014; Vorauer, Cameron, Holmes, & Pearce, 2003)—are prone to self-protective tendencies such as acting coldly (Stinson et al., 2015), acting withdrawn (McClure & Lydon, 2014), underperceiving acceptance cues (Cameron et al., 2010), and believing that they are expressing more romantic interest than they actually are (Vorauer et al., 2003). These behaviors serve to soften the sting of romantic rejection, potentially at the cost of attracting a romantic partner. Drawing on this research, one might predict that insecure individuals—who are highly motivated to avoid rejection—would represent an exception to our main prediction, such that they would be more motivated to avoid rejection than missed romantic opportunities.

Yet, insecure individuals do not necessarily believe that avoiding rejection is *more important* than pursuing romantic opportunities. The limited research that has examined pursuit decisions suggests that insecure individuals also strongly wish to obtain a romantic partner, even though they behave in ways that ultimately undermine that goal. For example, one speed-dating study showed that despite anxiously attached individuals' heightened fears of rejection, they tended to be *less* selective than securely attached individuals in the speed-dating context, saying “yes” to more potential matches (McClure, Lydon, Baccus, & Baldwin, 2010). Anxiously attached individuals are also more likely to settle for lower quality partners in the interest of securing a relationship (Spielmann et al., 2013a). These studies point to the possibility that, although insecure individuals have strong fears of rejection, they may *simultaneously* have strong fears about winding up without a romantic partner. Indeed, this threat of missing romantic opportunities may help to explain how insecure individuals frequently overcome their fears of rejection and do, in fact, pursue potential romantic partners.

In the present research, we examined how relationship insecurities would be associated with anticipated regret over rejection versus missed romantic opportunities. Past research suggests that insecure individuals are more prone to regret over their relationship decisions in general, both decisions to act and decisions not to act (Joel et al., 2012). Further, insecure individuals are prone to feelings of ambivalence over their relationships and their relationship decisions (e.g., Joel, MacDonald, & Shimotomai, 2011; MacDonald, Locke, Spielmann, & Joel, 2013; Mikulincer, Shaver, Bar-On, & Ein-Dor, 2010). Consistent with this research, we expected to find that insecure (vs. secure) individuals would anticipate more regret over both negative pursuit outcomes simultaneously, indicative of ambivalence over pursuit decisions. That is, although insecure individuals were expected to show heightened fears of rejection (e.g., Murray et al.,

2006), we predicted that insecure individuals would also show heightened fears of missed romantic opportunities (i.e., of winding up without a partner; Spielmann et al., 2013). This desire to avoid missed romantic opportunities may help to explain why even individuals with strong fears of rejection are often willing to risk rejection and pursue potential romantic partners.

### *The current research*

We tested our hypotheses with five studies. In Study 1, we used an autobiographical design akin to classic studies on regret reported by Gilovich and Medvec (1994). We predicted that when asked to recall a regrettable romantic pursuit decision, significantly more participants would recall a missed opportunity than a rejection experience. In Studies 2–4, we presented participants with hypothetical scenarios about potential dating partners. We expected that people would anticipate more regret from the scenarios that resulted in a missed romantic opportunity than from the scenarios that resulted in rejection (Studies 2–4), and that this difference would be explained by the perception that a missed opportunity would be more consequential to their lives than a rejection experience (Studies 3 and 4). We expected that these differences in anticipated regret and perceived consequentiality would in turn explain participants' greater willingness to risk rejection rather than a missed romantic opportunity (Study 4). In Study 5, we presented single psychology students with an in-lab version of the scenario used in Studies 3 and 4. We predicted that participants would generally choose to pursue their more-preferred date, risking rejection, rather than their less-preferred date, risking a missed romantic opportunity. Across studies, we predicted that these findings would extend even to relatively insecure individuals, who would simultaneously anticipate more regret from both rejection and missed romantic opportunities compared to more secure individuals. Finally, given that men and women have different social scripts in the context of romantic pursuit (e.g., Finkel & Eastwick, 2009), we tested for gender differences across all studies. We had no specific hypotheses about whether or how gender differences would emerge.

Materials, syntax, and data for the current package of studies can be found at [osf.io/eghru](https://osf.io/eghru).

### **Study 1**

In Study 1, we examined the relative potency of missed opportunities versus rejections by examining which outcome participants were more likely to recall spontaneously from their dating experiences. Participants were asked to think of a time when they were attracted to someone but things did not work out as hoped, and now, looking back, they wish they had made a different choice. Next, participants were asked to indicate why their choice was regrettable: did it lead to a missed opportunity, to a rejection, or to neither? Although this method does not measure *anticipated* regret for a future experience (see Studies 2–4), it does assess the subjective accessibility of missed opportunities versus rejections as participants scan their autobiographical memory. We hypothesized that a significantly larger proportion of participants would spontaneously recall a missed opportunity than a rejection.

Given that this was a retrospective study, participants' current relationship status had the potential to influence their reports. Specifically, single people may be particularly likely to recall missed romantic opportunities given that they do not currently have a partner. To rule out this alternative explanation, we recruited only participants in romantic relationships.

Finally, we measured whether people perceived their regrets to have been caused by action (the decision maker chose to act) or inaction (the decision maker chose not to act). We suspected that decision type (action/inaction) would naturally be confounded with outcome in the context of romantic pursuit, such that rejection would generally result from decisions to act whereas missed romantic opportunities would generally result from decisions not to act.

### **Participants**

North American participants currently in romantic relationships were recruited online through Amazon.com's Mechanical Turk. A total of 171 participants began the study, 153 of whom completed the study. However, two participants were excluded for skipping the recall task, leaving a final sample of 151 participants (63 male) with a mean age of 30 (range = 18–61,  $SD = 10.04$ ). This sample size is sufficient to detect our predicted  $\chi^2$  effect at a medium effect size ( $w = .3$ ) with 96% power.

### **Procedure**

**Regret recall task.** Participants first provided open-ended responses to the following prompt:

When it comes to dating, things do not always go the way you hope. For this task, we would like you to think of a regret that you have involving a romantic interest. To be clear, we want you to think of a situation—involving a person who you liked romantically, but were not dating at the time—where you had to decide whether to act or not to act, and now, looking back, you wish you had made the opposite choice.

**Outcome of decision.** Participants were then asked, “Why do you regret this event?”. They were able to choose: “Because it led to a rejection,” “Because it led to a missed opportunity,” “Other,” or “I do not regret this event.”

**Decision type.** Participants were asked to classify what type of decision they had made: “Was this mostly the result of an action (something you did) or an inaction (something you didn't do)?” They were able to select “Action,” “Inaction,” or “Neither.”

**Regret.** Regret intensity was measured with the item, “To what extent do you regret this experience?” (1 = *No regret*, 7 = *Extreme regret*).

**Consequences.** The consequences of the regret were measured with two items: “How meaningful was this event to you?” (1 = *Not at all meaningful*, 7 = *Very meaningful*),

**Table 1.** Descriptive results of study 1.

Type of regret	N			Time elapsed	
	Actions	Inactions	Neither	M	SD
Rejections	14	5	5	6.25 years	6.4 years
Missed opportunities	14	70	2	6.18 years	7.07 years
Other	20	5	5	3.91 years	4.17 years
Not regretted	3	5	3	9.53 years	8.95 years

and “How significant was this event to your life?” (1 = *Not at all significant*, 7 = *Very significant*),  $\alpha = .81$ .

Additional measures are reported in full at [osf.io/eghru](https://osf.io/eghru).

## Results and discussion

Descriptive results are presented in Table 1. Most participants ( $n = 70$ ) reported missed opportunities due to inaction; for example, a coworker, friend, or acquaintance whom they were romantically interested in but to whom they never revealed their feelings. Some participants ( $n = 14$ ) reported rejection due to action, such as asking out a friend and harming the friendship, or entering into a relationship that ultimately led to heartbreak. Some participants ( $n = 14$ ) reported missed opportunities due to action, such as rejecting someone who they were in fact interested in (“cold feet”), or pursuing someone in an inappropriate or overzealous fashion. A limited number of participants ( $n = 5$ ) reported rejection due to an inaction, such as not being available for a loved one. The remaining participants indicated that their regrettable experience fell outside these four quadrants (e.g., not a missed opportunity or a rejection; experience was due to neither action nor inaction).

A  $\chi^2$  goodness of fit test indicated that our primary hypothesis was supported: A significantly greater proportion of participants reported regrets related to a missed opportunity ( $n = 86$ ) than regrets related to a rejection ( $n = 24$ ),  $\chi^2 = 34.94$ ,  $df = 1$ ,  $p < .001$ . A  $\chi^2$  test of independence indicated that this effect was not qualified by gender,  $\chi^2 = 2.24$ ,  $df = 1$ ,  $p = .14$ . However, decision type (action v. inaction) and outcome (missed opportunity vs. rejection) were confounded,  $\chi^2 = 25.45$ ,  $df = 1$ ,  $p < .001$ . A significantly greater proportion of the missed opportunity regrets were due to inaction ( $n = 70$ ) than to action ( $n = 14$ ),  $\chi^2 = 37.33$ ,  $df = 1$ ,  $p < .001$ . In contrast, a significantly greater proportion of the rejection-related regrets were due to action ( $n = 14$ ) than to inaction ( $n = 5$ ),  $\chi^2 = 4.26$ ,  $df = 1$ ,  $p = .04$ .

Participants recalled regrets of similar intensity regardless of whether they recalled a missed opportunity ( $M = 5.22$ , 95% CI [4.86, 5.58]) or a rejection ( $M = 5.42$ , 95% CI [4.89, 5.94]),  $t(108) = .53$ . Similarly, participants reported that their regret was of similar consequence to their lives regardless of whether they recalled a missed opportunity ( $M = 4.63$ , 95% CI [4.30, 4.96]) or a rejection ( $M = 4.83$ , 95% CI [4.12, 5.55]),  $t(108) = .57$ . These null findings may have emerged because all participants were asked to recall a particularly memorable regret. The few participants who recalled a rejection



**Table 2.** Independent coders' categorizations of experiences reported in Study 1.

Type of regret	Coder 1 (n)			Coder 2 (n)		
	Actions	Inactions	Neither	Actions	Inactions	Neither
Rejections	14	0	3	21	2	0
Missed opportunities	1	84	0	6	66	0
Other	35	1	3	43	7	0
Not regretted	3	5	2	1	4	1

( $n = 24$ ) may have had unusually consequential and regrettable rejections to recall. Alternatively, rejections may and missed opportunities may in fact be experienced as similarly consequential and regrettable, a possibility we will return to in the general discussion.

Because participants categorized their experiences themselves, one alternative explanation for the present results is that participants may have been particularly inclined to categorize their experiences as missed opportunities rather than rejections. For example, a person who asked someone out and was rejected may reconstrue that event as a missed opportunity (“If only I had approached them differently, they would have said yes”), rather than acknowledge the other person’s lack of interest in them. To test this possibility, we asked two independent coders to categorize participants’ experiences along the same dimensions as the participants. Results were highly similar to the participants’ own reports (see Table 2). Absolute agreement on the outcome of the experience (missed opportunity, rejection, other regret, or not a regret) was 74% across the three sources of categorization (participant ratings and each coder’s ratings), 95% CI [.65, .80]. Absolute agreement on the type of decision that led to the regret (action, inaction, or neither) was also 74%, 95% CI [.65, .81]. Both coders categorized significantly more of the experiences as missed opportunities than rejections,  $\chi^2_s > 25.00$ ,  $ps < .001$ . Thus, the fact that participants were more than three times as likely to recall a missed opportunity as a rejection cannot be explained by biased categorizing on the part of the participants.

## Study 2

In Study 1, our hypotheses were supported by participants’ spontaneously generated regrettable decisions from their own life. In Study 2, we aimed to test our hypotheses experimentally. Participants were asked to read a scenario in which they faced a romantic pursuit dilemma. In this dilemma, they felt romantically interested in someone but were uncertain as to whether that person reciprocated that interest. Participants were randomly assigned to imagine that they either asked the person out or did not ask the person out, and that it turned out that the person was either interested or uninterested in dating them. Overall, participants were assigned to one of the four conditions: acting when interest was reciprocated (action/interested), acting when interest was not reciprocated (action/uninterested), not acting when interest was reciprocated (inaction/interested), or not acting when interest was not reciprocated (inaction/uninterested).

Consistent with people's natural experiences of romantic regret (see Study 1), action had the potential to result in rejection (action/uninterested) whereas inaction had the potential to result in a missed romantic opportunity (inaction/interested). The critical comparison was between these two conditions in which an error was made. We predicted people would perceive the missed opportunity to be more regrettable than rejection. As noted in the Introduction, we expected that this effect would extend even to less secure individuals, that is, those high on attachment anxiety and low on self-esteem.<sup>1</sup>

## Methods

### Participants

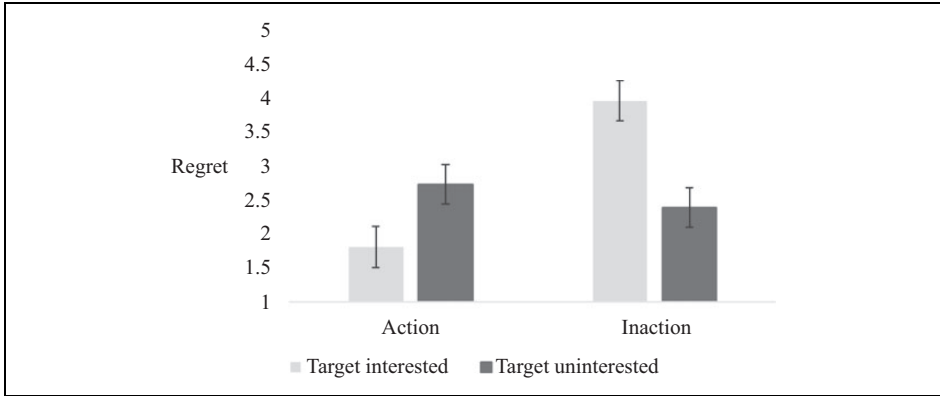
A total of 274 undergraduate students participated for introductory psychology course credit. Single participants were recruited so they could more readily imagine the hypothetical scenario; we excluded three participants because they were in relationships. The final sample consisted of 271 participants (80 men), with a mean age of 18.91 years (range = 17–30,  $SD = 1.57$ ). This sample size is sufficient to detect our predicted analysis of variance (ANOVA) effects at a medium effect size ( $\eta_p^2 = .05$ ) with 96% power. For the linear regression models examining potential moderation effects, the number of participants presented with a negative outcome in this study ( $n = 136$ ) is sufficient to detect a two-way interaction at a medium effect size ( $f^2 = .15$ ) with 97% power.

### Procedure

**Attachment Style Questionnaire.** Attachment anxiety was measured with 13 items (e.g., “I worry a lot about my relationships”), using a 6-point scale (1 = *totally disagree*, 6 = *totally agree*,  $\alpha = .85$ ) (Feeney, Noller, & Hanrahan, 1994).

**Rosenberg Self-Esteem Scale.** Self-esteem was measured with 10 items (e.g., “I take a positive attitude toward myself”), using a 4-point scale (1 = *strongly agree*, 4 = *strongly disagree*,  $\alpha = .88$ ) (Rosenberg, 1965).

**Scenario.** Participants were given one of the four scenarios to read about a potential romantic partner. All participants were asked to imagine that they were attracted to a classmate (they were free to imagine any gender). They were asked to imagine making one of the two decisions (action vs. inaction) and were presented with one of the two outcomes regarding the classmate's feelings (interested or uninterested). Specifically, if the participant was asked to imagine having asked the classmate out, the classmate either said yes (action/interested) or no (action/uninterested; i.e., rejection). If the participant was asked to imagine not revealing his or her feelings to the classmate, then he or she was also asked to imagine running into the student at a later date. At that point, the classmate either divulged that he or she was never romantically interested in the participant (inaction/uninterested) or that he or she had been quite interested in the participant at the time, but was now dating someone else (inaction/interested; i.e., missed opportunity).



**Figure 1.** Feelings of regret elicited by each condition in Study 2.

**Regret.** After reading the scenario, participants completed a single regret item (“If such an event had occurred, how much regret would you feel right now looking back on it?”) on a 5-point scale (1 = *not at all* to 5 = *extremely*).

Additional measures are reported in full at [osf.io/eghru](https://osf.io/eghru).<sup>2</sup>

## Results

We first examined how much regret each condition elicited by conducting a two-way ANOVA: decision type (action vs. inaction) by outcome (interested vs. uninterested) predicting regret. There was a main effect of outcome: Scenarios in which the target was uninterested elicited more regret than scenarios in which the target was interested,  $F(1, 266) = 4.98, p = .03, \eta_p^2 = .02$ . There was also a main effect of decision: inaction elicited more regret than action,  $F(1, 266) = 37.92, p < .001, \eta_p^2 = .13$ . These main effects were qualified by a significant decision by outcome interaction,  $F(1, 266) = 72.68, p < .001, \eta_p^2 = .22$  (see Figure 1). A planned comparison test indicated that the inaction/interested condition (i.e., missing out on a romantic opportunity;  $M = 3.96, SE = .14, 95\% \text{ CI } [3.67, 4.24]$ ) was more regrettable than the action/uninterested outcome condition (i.e., being rejected;  $M = 2.73, SE = .15, 95\% \text{ CI } [2.44, 3.02]$ ),  $p < .001$ . These results support our primary hypothesis that people expect to experience more regret in the event of a missed romantic opportunity than a romantic rejection.

We next examined whether higher levels of regret over missed opportunities compared to rejection extended even to relatively less secure individuals. A separate model was tested for each of two potential moderators—self-esteem and attachment anxiety. Only participants assigned to one of the two critical conditions (action/not interested and inaction/interested) were included in the models. Each model included a dummy-coded negative outcome variable (0 = rejection, 1 = missed opportunity), the potential moderator (mean-centered), and the two-variable interaction term as predictors. The dependent measure was regret. Higher self-esteem predicted significantly lower anticipated regret,  $\beta = -.30, SE = .14, p = .01$ . However, this main effect was not qualified by an interaction between self-esteem and negative outcome,  $\beta = .15,$

$SE = .19, p = .17$ . Similarly, higher attachment anxiety predicted significantly higher anticipated regret,  $\beta = .34, SE = .16, p = .008$ , but no interaction emerged between attachment anxiety and negative outcome,  $\beta = -.12, SE = .20, p = .33$ . These findings suggest that insecure individuals generally anticipated more regret than secure individuals over both missed romantic opportunities and rejection.

Finally, we conducted a linear regression model to test for a moderation between negative outcome and gender. Regret for missed opportunities versus rejection did not significantly differ for men versus women,  $\beta = -.25, SE = .43, p = .12$ .

## **Study 2b**

We also conducted a study using a variation of the Study 2 design ( $N = 256$ ) in which we attempted to account for the potential confound of construal level. The details of the methods and results of Study 2b can be found in Supplemental Material 1. The results replicated most of the findings of Study 2: Missed opportunities elicited more regret than rejection, and the effect was not qualified by whether participants construed the scenario at an abstract versus concrete level. Further, attachment anxiety and self-esteem predicted higher levels of regret. These effects were not qualified by interactions with negative outcome, suggesting that insecure individuals anticipated more regret over both rejection and missed opportunities. However, unlike in Study 2, the impact of negative outcome on regret was qualified by gender in Study 2b such that the effect did not extend to women.

## **Discussion**

Missing one's chance with a potential partner was perceived to be more regrettable than being rejected by a potential partner. Insecure individuals—those with low self-esteem or high attachment anxiety—anticipated more regret as a result of both missed romantic opportunities *and* rejection. The main results were not qualified by self-esteem or attachment style in either Study 2 or the Supplemental Study 2b despite relatively large sample sizes, suggesting that even relatively insecure individuals anticipated more regret in response to a missed romantic opportunity compared to rejection.

## **Study 3**

Study 1 showed that when asked to recall a regrettable dating experience, more than three times as many participants spontaneously recalled a missed opportunity than recalled a rejection. Study 2 showed that when randomly assigned to imagine either a missed opportunity or a rejection, participants perceived the missed opportunity to be significantly more regrettable than the rejection. In Study 3, we tested one potential reason why people may associate regret more strongly with missed romantic opportunities than with rejection. People may perceive the loss of a romantic opportunity—which involves a chronic loss of important rewards (emotional, sexual, etc.)—to be a more consequential error than the short-term sting of rejection. Greater perceived

consequences may, in turn, explain why people expect missed opportunities to elicit more regret than rejection.

We also assessed the painfulness of missed romantic opportunities versus rejection. Importantly, we do not propose that missed opportunities are more painful than rejection: Considerable evidence shows that both are highly painful experiences (e.g., MacDonald, 2009). However, given that (a) forming a romantic relationship is often a central life goal and (b) in a missed romantic opportunity, a relationship with the targeted person remained a dangling possibility at the time of the decision, we suggest that missed opportunities are more closely linked with the counterfactually driven emotion of regret in particular. Thus, we hypothesized that although missed romantic opportunities would be viewed as more regrettable than rejections, both outcomes would be perceived as being equally painful.

To provide more evidence for the generalizability of our results, we created a new scenario about a dating game show. We also used a four-item measure of regret; the use of a one-item measure of regret is a potential limitation of Studies 1 and 2. We predicted that our previous effect would replicate, such that missed opportunities would be perceived as more regrettable than rejection, and that this effect would again extend even to relatively less secure individuals (those high on attachment anxiety). We further expected that this effect would be mediated by greater perceived consequences of missed opportunities compared to rejection. However, we predicted that both outcomes would be perceived as similarly painful.

## Methods

### *Participants and procedure*

Participants were recruited online using Amazon.com's Mechanical Turk. Of the 204 participants began the study, 23 participants were excluded for not completing the study. The final sample consisted of 181 participants (74 men), with a mean age of 32.91 years (range = 18–67,  $SD = 12.32$ ). Unlike in Study 3, we did not require participants to be single to participate in this study. Most participants in this study were in relationships (125 romantically attached, 56 single). The romantically attached participants had been in their relationships for an average of 10 years (range = 1 month to 42 years).<sup>3</sup> This sample size is large enough to detect our predicted ANOVA effects at a medium effect size ( $\eta_p^2 = .05$ ) with 87% power. For the linear regression models examining potential moderation effects, the number of participants presented with a negative outcome in this study ( $n = 86$ ) is sufficient to detect a two-way interaction at a medium effect size ( $f^2 = .15$ ) with 85% power.

Participants were randomly assigned to read one of the four scenarios about a dating game show. In each scenario, participants were asked to imagine that they were being paired on "speed dates" with four other contestants (of the gender of their selection), and that they would be asked to select one for a date. However, participants would only receive the contact information of their chosen contestant if that person picked them in return. The first contestant was portrayed as a moderately desirable potential date who displayed clear interest in the participant. The second and third contestants were not

desirable. The fourth contestant was highly desirable, but his or her level of interest in the participant was unclear. Participants read that they selected either the moderately desirable date whose level of interest was high (less preferred) or the highly desirable date whose level of interest was unclear (preferred). Finally, the host announced the results of the show. Half of the participants were randomly assigned to read that both potential dates chose the participant (chosen by preferred date). The other half of the participants read that although the moderately attractive date chose them, the highly attractive date did not (not chosen by preferred date). In total, the study was a 2 (decision: less preferred vs. preferred) by 2 (outcome: chosen or not chosen) design, with the two crucial conditions being the less preferred/chosen condition and the most preferred/not chosen condition. Participants in the less preferred/chosen condition learned that they would get to meet their moderately attractive date; however, they had missed an opportunity to meet their preferred date (missed opportunity). In contrast, participants in the most preferred/not chosen condition learned that they were rejected by their preferred date and would not get to meet anyone (rejection).

## Measures

*Attachment anxiety* was assessed as in Study 2 ( $\alpha = .87$ ).

**Regret.** Regret was measured with four items (“How sorry would you feel for [choosing/not choosing] the fourth date?”, “How much would you regret [choosing/not choosing] the fourth date?”, “How much would you feel that you [should have/should not have] chosen the fourth date?”, and “How much would you wish that you had made a different choice?”) on a 7-point scale (1 = *not at all*, 7 = *very much*;  $\alpha = .94$ ).

**Pain.** The overall unpleasantness of the experience was measured with a single item (“How painful would this experience be?”) on a 7-point scale (1 = *not at all*, 7 = *very much*).

**Consequences.** Perceived consequences of the event were measured with two items (“If this event had occurred, how significant would this event be to your life?” and “If this event had occurred, how meaningful would the event be to you?”) on a 7-point scale (1 = *not at all [meaningful/significant]*, 7 = *very [meaningful/significant]*,  $\alpha = .87$ ).

## Results

We conducted a 2 (decision: less preferred vs. most preferred)  $\times$  2 (outcome: chosen vs. not chosen) multivariate ANOVA with regret, pain, and consequences as the dependent variables. A Wilks' lambda multivariate test indicated that there was a main effect of decision,  $F(3, 173) = 11.11, p < .001, \eta_p^2 = .16$ . There was also a main effect of outcome,  $F(4, 172) = 6.19, p = .001, \eta_p^2 = .10$ . Finally, there was a significant interaction between decision and outcome,  $F(3, 173) = 40.49, p < .001, \eta_p^2 = .41$ . We next examined each dependent measure separately.

## Regret

There was a main effect of decision on regret: Participants in the less preferred conditions (those who chose the moderately attractive date) experienced significantly more regret overall than participants in the preferred conditions (those who chose the highly attractive date)  $F(1, 175) = 28.96, p < .001, \eta_p^2 = .14$ . There was no main effect of outcome, meaning that regret did not differ by whether participants were chosen by the preferred date,  $F(1, 175) = 2.12, p = .15, \eta_p^2 = .01$ . These effects were qualified by the predicted interaction between decision and outcome,  $F(1, 175) = 113.45, p < .001, \eta_p^2 = .39$ . Planned comparison tests confirmed that, as predicted, participants who missed an opportunity to be with the preferred date ( $M = 5.44, SE = .21, 95\% CI [5.02, 5.86]$ ) experienced significantly more regret than participants who were rejected by their preferred date ( $M = 3.97, SE = .23, 95\% CI [3.51, 4.42]$ ),  $p < .001$ .

## Pain

There was no main effect of either decision,  $F(1, 175) = 2.21, p = .14, \eta_p^2 = .01$ , or outcome,  $F(1, 175) = .80, p = .37, \eta_p^2 = .005$ , on pain. There was a significant interaction between decision and outcome,  $F(1, 175) = 10.57, p = .001, \eta_p^2 = .06$ . However, planned comparison tests showed that participants who missed an opportunity to be with the preferred date ( $M = 4.02, SE = .25, 95\% CI [3.53, 4.52]$ ) perceived the event to be similarly painful compared to participants who were rejected by the preferred date ( $M = 3.87, SE = .27, 95\% CI [3.34, 4.41]$ ),  $p = .69$ . Further, the interaction between decision and outcome predicting regret held controlling for pain,  $F(1, 174) = 98.92, p < .001$ , and was not further moderated by pain,  $F(1, 171) = .43, p = .56$ .

## Consequences

There was a main effect of decision on consequences, such that choosing the preferred date was perceived to be more consequential than choosing the less preferred date,  $F(1, 175) = 5.38, p = .02, \eta_p^2 = .03$ . There was a significant main effect of outcome, such that being chosen by the preferred date was perceived to be significantly more consequential than not being chosen,  $F(1, 175) = 11.73, p = .001, \eta_p^2 = .06$ . There was no significant interaction between decision and outcome,  $F(1, 175) = 2.64, p = .11, \eta_p^2 = .02$ . Planned comparison tests indicated that people perceived the missed opportunity to be with the preferred date ( $M = 5.08, SE = .22, 95\% CI [4.64, 5.52]$ ) as being significantly more consequential than being rejected by the preferred date ( $M = 3.77, SE = .24, 95\% CI [3.29, 4.25]$ ),  $p < .001$ . Effects of experimental conditions on regret and consequences can be seen in Figure 2.

Having obtained the expected effects of the experimental manipulation on both regret and consequences, we tested for mediation using a bootstrapping procedure (Preacher & Hayes, 2004). Only participants assigned to one of the two negative outcome conditions were included in the model. We entered a dummy-coded negative outcome variable (0 = rejection, 1 = missed opportunity) as the independent variable, perceived consequences as a potential mediator, and regret as the dependent variable. Results of this

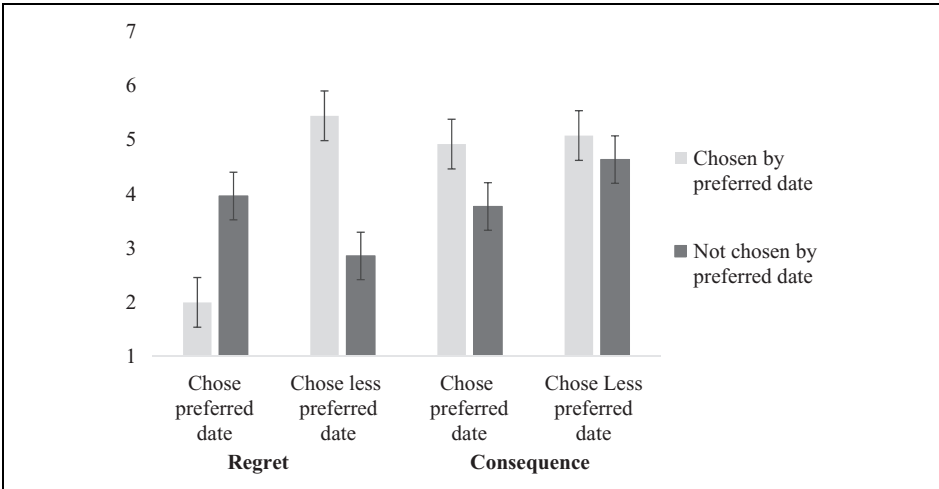


Figure 2. Feelings of regret and consequences associated with each condition in Study 3.

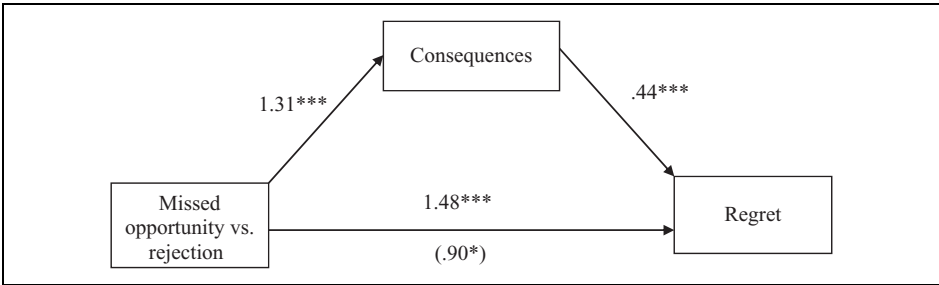


Figure 3. Unstandardized regression coefficients for indirect effects analyses in Study 3. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

analysis are presented in Figure 3. The indirect effect was significant, meaning that consequences mediated the association between negative outcome and regret,  $b = .58$ ,  $SE = .20$ ,  $p = .004$ , 95% CI [.16, 1.16]. There was a strong overall association between outcome and regret,  $b = 1.48$ ,  $SE = .34$ ,  $p < .001$ . However, the direct association between outcome and regret (i.e., controlling for consequences) was reduced considerably,  $b = .90$ ,  $SE = .35$ ,  $p = .01$ .

We examined whether higher levels of regret over missed opportunities compared to rejection extended even to relatively less secure individuals. Again, only participants assigned to one of the two negative outcome conditions were included in the model. The model included negative outcome, attachment anxiety (mean-centered), and a negative outcome  $\times$  attachment anxiety interaction term as predictors. The dependent measure was regret. A significant interaction emerged,  $\beta = -.47$ ,  $SE = .35$ ,  $p = .001$ . Simple effects tests indicated that the missed opportunity condition was associated with more regret than the rejection condition for people with low levels of attachment anxiety,



$\beta = .71$ ,  $SE = .46$ ,  $p < .001$ , but not those with high levels of attachment anxiety,  $\beta = -.006$ ,  $SE = .52$ ,  $p = .97$ . Put differently, anxiously attached individuals experienced heightened anticipated regret in the rejection condition,  $\beta = 1.15$ ,  $SE = .57$ ,  $p < .001$ , but not in the missed opportunity condition,  $\beta = -.20$ ,  $SE = .24$ ,  $p = .14$ . We discuss this unexpected interaction below.

Finally, we conducted another linear regression model to test for a moderation between negative outcome and gender. No such interaction emerged,  $\beta = -.007$ ,  $SE = .71$ ,  $p = .97$ : Regret for missed opportunities versus rejection did not differ for men versus women.

### Study 3b

We also conducted a study using a variation of the Study 3 design ( $N = 183$ ) in which we attempted to deconfound decision (action vs. inaction) from outcome (missed opportunity vs. rejection). The methods and results of Study 3b can be found in Supplemental Material 2. As with Study 2b, the Study 3b results replicated most of the findings of Study 3: Missed opportunities elicited more regret than rejection, and the effect was mediated by perceived consequences of the event. No effects of pain emerged. Further, we successfully teased apart the outcome (rejection vs. missed opportunity) from the decision type (action vs. inaction). Results suggest that it is the actual outcome, and not the type of decision that led to the outcome, that causes people to regret missed romantic opportunities more than being rejected.

In Study 3, a significant interaction emerged with attachment anxiety, such that relatively anxiously attached individuals anticipated similar levels of regret in response to both missed romantic opportunities and rejection. However, this moderation did not replicate in Study 3b. No main effects emerged with attachment anxiety, suggesting that anxiously attached individuals did not anticipate more regret over either negative outcome compared to more secure individuals in this study. Additionally, the impact of negative outcome on regret was marginally qualified by gender in Study 3b in the opposite direction from in Study 2b, such that the effect did not extend to men.

### Discussion

Replicating Study 2, missed opportunities were perceived to be more regrettable than rejection. Further, we identified a significant mediator of this effect: Higher levels of regret in the missed opportunity condition were partially explained by the higher degree of perceived consequences. Note that participants who ended up with a moderately desirable date (missed opportunity condition) perceived the scenario to be more regrettable than those who ended up with no date (rejection condition), underscoring how potent missed romantic opportunities can be as a source of regret.

This effect was not accounted for by the painfulness of the experience, as both rejection and missed opportunity were perceived to be similarly painful. We suggest that this is because regret, unlike pain, is not solely determined by the immediate unpleasantness of the situation. Instead, regret is associated with counterfactual imagining of a superior outcome that could have been achieved through better decision-making

(e.g., Roese, 1994). As our results demonstrate, missed opportunities are considered to be more meaningful or significant to one's life than rejection, which helps to explain why missed opportunities are more regrettable. That is, even though both negative outcomes were perceived as similarly painful, missed opportunities were more regrettable due to the perception that they would have greater long-term consequences.

An unexpected interaction emerged in Study 3, whereby the overall pattern did not extend to individuals who were high in attachment anxiety. Anxiously attached individuals anticipated heightened levels of regret in response to rejection but not in response to missed romantic opportunities, such that they anticipated similar levels of regret in response to both missed romantic opportunities and rejection. It is notable that this moderation emerged in Study 3, where a missed opportunity still resulted in obtaining a date, but not in Study 2, where a missed opportunity resulted in going home empty-handed. This is consistent with past work suggesting that anxiously attached individuals care relatively more about obtaining *a* romantic partner, rather than a *particular* romantic partner (Spielmann et al., 2013). However, this moderation did not replicate in Study 3b, so it should be interpreted with caution.

## Study 4

In Studies 2 and 3, we provided evidence that people tend to anticipate more regret in response to decisions that lead to missed romantic opportunities than to decisions that lead to rejection. How might this difference in anticipated regret shape pursuit decisions? Past regret research suggests that people are motivated to avoid the experience of regret, such that they are likely to make choices that minimize the likelihood of a regrettable outcome (e.g., Roese, 1994; Zeelenberg & Pieters, 2004, 2007). We thus predicted that anticipated regret would motivate people to pursue highly desirable potential partners, risking rejection, rather than not pursue them and risk a missed romantic opportunity.

To test this hypothesis, we presented participants with the same dating game scenario as in Study 3, except that instead of revealing to participants which date they chose, we allowed participants to decide which date they would prefer. We also measured anticipated regret and perceived consequences regarding both potential negative outcomes: being rejected by the highly desirable date, and missing out on an opportunity to be with the highly desirable date. We predicted that participants would view the missed opportunity as more consequential, and thus regrettable, than rejection. We predicted that higher anticipated regret over the potential missed opportunity would in turn predict participants' decisions to pursue the highly desirable date over the moderately desirable date. Finally, we predicted that these effects would extend even to individuals high in attachment anxiety.

## Methods

### *Participants, procedure, and materials*

Participants were recruited online through Mechanical Turk. The sample consisted of 186 participants (67 males, 118 females, 1 unknown), with a mean age of 33.29

( $SD = 13.17$ , range = 18–81). Participants were required to be at least 18 years of age and to be residents of the U.S.

*Attachment anxiety* was measured as in Studies 2 and 3 ( $\alpha = .89$ ).

**Scenario.** Participants were all presented with the first portion of the scenario from Study 3, in which they encountered a moderately attractive date followed by a highly attractive date. However, unlike in Study 3, the scenario ended with the sentence, “Should you change your choice to the fourth person, who is clearly your favorite match, or should you stick with the first person, who you’re quite sure will choose you in return?” Participants were next given the option to choose between the moderately attractive first date versus the highly attractive fourth date:

Since you can only pick one, you decide to: 1) Switch your choice to the fourth date, who you feel the most interested in, or 2) Stick with the first date, who you feel is most likely to choose you.

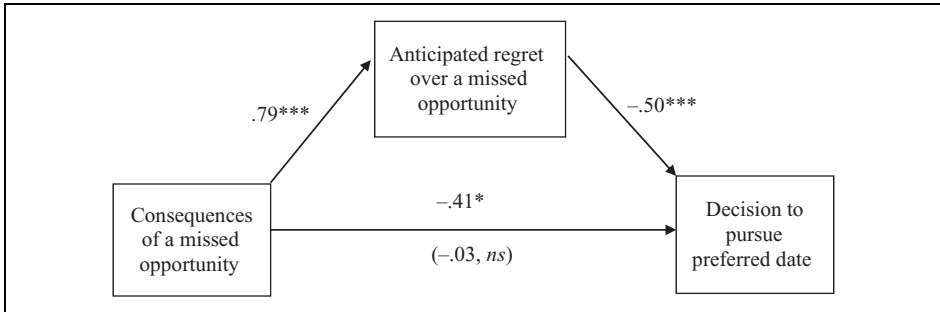
**Anticipated rejection experiences.** Participants were next prompted to imagine how they would feel if they were rejected by the preferred date with the sentence stem: “If you had chosen the fourth date, and then found out that the fourth date rejected you:” followed by three items capturing regret: “I would have felt sorry for choosing the fourth date,” “I would have regretted choosing the fourth date,” and “I would have felt that I should not have chosen the fourth date,” Cronbach’s  $\alpha = .92$ . These regret items were followed by two additional items, adapted from Studies 4 and 5, to capture perceived consequences of the event: “This event would have been significant to my life” and “This event would have been meaningful to me,” Cronbach’s  $\alpha = .90$ .

**Anticipated missed opportunity experiences.** Participants were then prompted to imagine how they would have felt if they missed an opportunity to meet the preferred date: “If you had chosen the first date, and then found out that the fourth date chose you:” followed by three regret items: “I would have felt sorry for not choosing the fourth date,” “I would have regretted not choosing the fourth date,” and “I would have felt that I should have chosen the fourth date,” Cronbach’s  $\alpha = .94$ . These regret items were followed by the same two consequentiality items described above, Cronbach’s  $\alpha = .93$ .

## Results

We first examined the frequencies of each pursuit decision. A  $\chi^2$  test indicated that significantly more participants chose to pursue the highly attractive date whose interest was uncertain ( $N = 119$ ) than the moderately attractive date whose interest was clear ( $N = 67$ ),  $\chi^2 = 14.54$   $df = 1$ ,  $p < .001$ . In other words, significantly more people indicated that they would risk rejection from the preferred date rather than risk missing an opportunity to meet the preferred date.

We next examined anticipated reactions to each potential negative outcome. Paired samples  $t$ -tests indicated that participants viewed a missed opportunity to meet the



**Figure 4.** Unstandardized regression coefficients for indirect effects analyses in Study 4. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

preferred date as significantly more regrettable ( $M = 5.16$ ) than being rejected by the preferred date ( $M = 4.50$ ),  $t(170) = -3.41, p = .001$ . Furthermore, participants viewed a missed opportunity to meet the preferred date as significantly more consequential ( $M = 4.19$ ) compared to being rejected ( $M = 3.62$ ),  $t(170) = -5.57, p < .001$ .

We tested for mediation using bootstrapping (Preacher & Hayes, 2004). Perceived consequences of a missed opportunity to meet the preferred date was entered as the predictor variable, anticipated regret over a missed opportunity to meet the preferred date was entered as a mediator, and decision (0 = less preferred date, 1 = preferred date) was entered as the dependent variable. Perceived consequences and anticipated regret for rejection were included as covariates. The model was fitted with logistic regression rather than linear regression to account for the dichotomous dependent variable. Results of this analysis are presented in Figure 4. The indirect effect was significant, meaning that anticipated regret mediated the association between perceived consequences and participants' pursuit decisions,  $b = -.39, SE = .15, 95\% \text{ CI } [-.72, -.15]$ . There was a significant overall association between perceived consequences of a missed opportunity and the decision to pursue the preferred date,  $b = -.41, SE = .16, p = .01$ . However, the direct association between consequences and pursuit decision (i.e., controlling for anticipated regret) was not significant,  $b = -.03, SE = .20, p = .89$ . A partial effect of anticipated regret over rejection emerged in the opposite direction, such that anticipated regret over being rejected by the preferred date predicted a lower likelihood of choosing the preferred date,  $b = .50, SE = .12, p < .001$ . However, the effects of perceived consequences and anticipated regret for a missed opportunity emerged above and beyond anticipated regret due to rejection.

We next tested whether attachment anxiety moderated these effects. Correlations showed that attachment anxiety was associated with greater anticipated regret over being rejected by the highly attractive date,  $r = .37, p < .001$ ; however, attachment anxiety was *also* associated with greater anticipated regret over missing an opportunity to meet the highly attractive date,  $r = .29, p = .001$ . Similarly, compared to more secure individuals, anxiously attached individuals perceived the potential outcomes of both rejection,  $r = .47, p = .001$ , and a missed romantic opportunity,  $r = .40, p < .001$ , to be more consequential and meaningful to their lives. Binary logistic analyses showed that

attachment anxiety did not predict pursuit decisions,  $b = .11$ ,  $SE = .15$ ,  $p = .48$ , odds ratio = 1.12. Further, attachment anxiety did not moderate the effects of anticipated regret over missed opportunities,  $b = -.33$ ,  $SE = .21$ ,  $p = .11$ , odds ratio = .72, or rejection,  $b = .23$ ,  $SE = .23$ ,  $p = .33$ , odds ratio = 1.26, on pursuit decisions.

Finally, we examined whether these effects were unique to men or to women. Gender (0 = men, 1 = women) did not predict pursuit decisions,  $b = -.18$ ,  $SE = .32$ ,  $p = .58$ , odds ratio = .84. Further, gender did not moderate the effects of anticipated regret over missed opportunities,  $b = .61$ ,  $SE = .49$ ,  $p = .21$ , odds ratio = 1.84, or rejection,  $b = -.40$ ,  $SE = .51$ ,  $p = .43$ , odds ratio = .67, on pursuit decisions.

## Discussion

Study 4 examined whether romantic pursuit decisions would be shaped by anticipated regret and perceived consequences for rejection versus missed opportunities. Participants were presented with the same pursuit dilemma described in Study 3, except that they were not told how the dilemma was resolved. Participants themselves indicated which decision they would make, and then indicated how regrettable and consequential they believed each potential negative outcome would be. Within-subjects analyses revealed that participants expected the potential missed opportunity to be more consequential and regrettable than the potential rejection. Perceived consequences and anticipated regret helped to explain why 71% of participants chose the highly attractive date, risking rejection from that person, rather than choosing the moderately attractive date and risking a missed opportunity to meet the highly attractive date.

These results suggest that the findings obtained in Studies 1–3 have implications for romantic pursuit decisions. The perceived consequences and anticipated regret associated with missed romantic opportunities may motivate people to pursue attractive potential partners in the face of rejection. The present study also sheds further light on how insecure individuals navigate pursuit dilemmas. We found that anxiously attached individuals perceived rejection to be more regrettable and consequential compared to more secure individuals, consistent with a large body of research on insecure individuals' heightened concerns about rejection (e.g., Cameron et al., 2010; Murray et al., 2006). However, we also found that anxiously attached individuals perceived missed romantic opportunities to be more regrettable and consequential compared to more secure individuals, consistent with growing evidence that insecure individuals fear winding up without a partner (e.g., McClure et al., 2010; Spielmann et al., 2013). These conflicting pressures led to an overall null effect on pursuit decisions, such that anxiously attached individuals were no more or less likely to choose to pursue the highly attractive date compared to more secure individuals.

## Study 5

Results of Study 4 suggested that not only do people anticipate experiencing more regret from missed romantic opportunities compared to rejection, but this anticipated regret motivates people to choose to pursue romantic opportunities (risking rejection). However, a key drawback of Study 4 is that participants were presented with a hypothetical

scenario. Given how inaccurate people can be at anticipating their own dating behavior (e.g., Eastwick & Finkel, 2008; Joel, Teper, & MacDonald, 2014), it is possible that people are not as motivated to avoid missed romantic opportunities in reality as they predict they are hypothetical. To address this limitation, we next conducted an “in vivo” lab version of Study 4. Introductory psychology students who were single and interested in dating came into the lab to participate in what they were told was a match-making study. We presented participants with five dating profiles that ostensibly belonged to other students enrolled in the study. Participants were asked to rank the profiles from their most to least favorite. We then asked participants to choose between their first- (preferred date) and third- (less-preferred date) favorite profiles. Participants were told that we would exchange contact information only for people who both picked each other.

Participants were randomly assigned to receive false feedback about the likelihood of their more-versus less-preferred profiles choosing them back. Those in the control condition received no feedback. Those in the low-rejection-odds condition were told that the odds of their preferred date choosing them were reasonably high (45%); only slightly lower than the odds of their less-preferred date choosing them (55%). Those in the high-rejection-odds condition were told that the odds of their preferred profile choosing them were very low (5%), whereas the odds of their less-preferred profile choosing them were very high (95%). We predicted that, replicating the results of Study 4, most participants would choose to risk rejection from their preferred date rather than risk a missed opportunity to meet their preferred date. Further, we examined whether participants would continue to pursue their preferred date even when told that doing so would almost certainly result in rejection.

## Methods

### *Participants, procedure, and materials*

Participants were introductory psychology students who participated for course credit. Participants were required to be single, interested in dating, and attracted to members of the opposite sex. One participant did not choose a date and was excluded. The final sample consisted of 148 participants (57 men) with a mean age of 19.5 ( $SD = 1.90$ , range = 17–29).

*Attachment anxiety* was measured as in Studies 2–4 ( $\alpha = .86$ ).

*Dating profiles.* To enhance believability, participants were first asked to complete their own dating profiles and to provide a photograph of themselves. Next, they were presented with five completed dating profiles and photos that ostensibly belonged to five other participants of the other gender. The photos were selected from a modeling website; research assistants selected photos of people who looked like reasonably attractive undergraduate students. Participants were asked to rank the profiles from their most to least favorite. To enhance the difference in perceived attractiveness between the two dating choices, participants were told that their second-choice profile had to leave the experiment due to an emergency, and so they would be choosing between their favorite profile (Profile A) and their third-choice profile (Profile B). Participants were

told that the other participants were making a similar choice and that they would only exchange contact information with participants who also chose them.

*False feedback manipulation.* All participants except those in the control condition were told that the study would use a new dating analysis program developed by eHarmony to predict people's dating choices. Participants were given two printouts that were ostensibly produced by the eHarmony software: one for their preferred date (Profile A) and one for their less-preferred date (Profile B). Participants in the low-rejection-odds condition received printouts telling them that the likelihoods of their preferred versus less-preferred dates choosing them were 45% and 55%, respectively. Those in the high-rejection-odds condition received printouts telling them that the likelihoods of their preferred versus less-preferred dates choosing them were 5% and 95%, respectively.

*Decision.* After reiterating that contact information would only be exchanged for pairs of individuals who both chose one another, the research assistant asked participants to choose one of the two profiles.

*Profile interest.* After making their decision but before learning of the outcome of their decision, participants provided ratings of the two dates. Interest was captured with four items: "How confident are you that you and this person would have good chemistry?", "How confident are you that you and this person would have things in common?", "To what extent do you see this individual as being a good choice for you relative to the other profiles?", and "Overall, how interested are you in meeting the person from Profile [A/B]?". Participants completed these items first for their preferred profile ( $M = 4.40$ ,  $SD = .99$ ,  $\alpha = .81$ ) and then for their less-preferred profile ( $M = 3.74$ ,  $SD = 1.0$ ,  $\alpha = .84$ ).

*Outcome.* As a secondary goal, we also examined how much regret people experienced as a function of their decisions. Participants who chose their preferred date were told that their less-preferred date chose them back, but their preferred date did not, and so they would not get to receive anyone's contact information (rejection outcome). Participants who chose their less-preferred date were told that both dates chose them back, but because they chose the second (less-preferred) date, they would be exchanging contact information with that person (missed opportunity outcome). *Post-decisional regret* was then measured with three items: "How sorry do you feel for choosing Profile [A/B]?", "How much do you regret choosing Profile [A/B]?", and "How strongly do you feel that you should not have chosen Profile [A/B]?", on a scale of 1 to 7 (1 = *not at all*, 7 = *very much*;  $\alpha = .85$ ). *Perceived consequences* were also measured with two items: "How significant of an event was this in your life?" and "How meaningful was this event to you?", on a scale of 1 to 7 (1 = *not at all [meaningful/significant]*, 7 = *very [meaningful/significant]*,  $\alpha = .86$ ).

*Suspicion check.* Finally, participants were probed for suspicion with the question, "At the time when you were deciding which date to choose, did you believe that the date was a real person?" A total of 32 participants indicated no; meaning they did not believe their

**Table 3.** Descriptive results of Study 5.

Condition	<i>n</i>	False feedback given		Participants' choices	
		Odds of securing preferred date (%)	Odds of securing less-preferred date (%)	Number who chose preferred date (%)	Number who chose less-preferred date (%)
Rejection	46	45	55	38 (83)	8 (17)
Control	46	NA	NA	43 (93)	3 (7)
Missed opportunities	56	5	95	23 (41)	33 (59)

Note. NA = Not Applicable

decisions had real-life consequences. We kept these participants in the reported analyses; however, the pattern of results holds when they are excluded.

## Results

Descriptive statistics are presented in Table 3. A  $\chi^2$  goodness of fit test indicated that across conditions, a significantly larger percentage of participants chose their favorite candidate, thus risking rejection from that person (70%), compared to those who chose the other candidate and risked missing a romantic opportunity (30%),  $\chi^2 = 24.32$ ,  $df = 1$ ,  $p < .001$ . A  $\chi^2$  test of independence revealed a significant effect of false feedback condition on choice,  $\chi^2 = 38.07$ ,  $df = 2$ ,  $p < .001$ . When no feedback was given, 93% of participants chose their preferred candidate. When the odds of being selected by their preferred versus less-preferred candidate were 45% versus 55%, 83% of participants still chose their preferred candidate. Finally, when participants were told that their odds of being rejected by the desirable candidate were very high (95%) and their odds of being rejected by their less-preferred candidate were very low (5%), 41% of participants still chose their preferred candidate rather than the less-preferred, "safe" candidate.

A binary logistic analysis indicated that, replicating the results of Study 4, attachment anxiety did not predict pursuit choice,  $b = -.12$ ,  $SE = .18$ ,  $p = .51$ , odds ratio = .89. This null effect was not qualified by whether participants were in the high-rejection-odds condition or not,  $b = .31$ ,  $SE = .43$ ,  $p = .47$ , odds ratio = 1.36, suggesting that more versus less secure individuals were similarly likely to pursue their preferred date even when they were told that rejection was highly probable. Gender also did not predict pursuit choice: men (73%) and women (68%) were similarly likely to choose their preferred candidate,  $\chi^2 = .37$ ,  $df = 1$ ,  $p = .58$ . Further, a similar percentage of men (39%) and women (42%) within the high-rejection odds condition chose to pursue their preferred date.

Next, we examined participants' experienced regret and perceived consequentiality of their choices (which were measured after they were told of their respective negative outcomes). There was no significant difference between the level of regret experienced by participants who chose their less-preferred date and thus missed out on an opportunity to meet their preferred date ( $M = 3.29$ ,  $SE = .23$ , 95% CI [2.84, 3.73]) compared to



participants who chose their preferred date and were rejected ( $M = 3.10$ ,  $SE = .15$ , 95% CI [2.81, 3.40]),  $p = .49$ . Similarly, there was no significant difference between how consequential participants perceived the missed opportunity to be ( $M = 3.17$ ,  $SE = .21$ , 95% CI [2.75, 3.59]) compared to the rejection ( $M = 2.79$ ,  $SE = .14$ , 95% CI [2.51, 3.06]). Attachment anxiety predicted more regret in the event of a rejection,  $\beta = .26$ ,  $SE = .15$ ,  $p = .01$ , and more regret in the event of a missed opportunity,  $\beta = .39$ ,  $SE = .20$ ,  $p = .007$ .

Finally, we examined participants' relative interest in each of their candidates as reported after they made their pursuit choice. Of the 44 participants who chose to pursue their less-preferred candidate, 50% of those participants concluded post hoc that the person they chose was as good if not better than their originally preferred candidate. One explanation for this preference reversal is these participants may not have strongly preferred one profile over another to begin with, and thus made their rankings relatively arbitrarily. A more intriguing potential explanation is that participants reached these conclusions self-servingly (e.g., post-decisional "spreading of alternatives"; Brehm, 1956), so as to avoid the perception of a potential missed opportunity to meet their favorite candidate.

## Discussion

These results suggest that the key finding from Studies 4—people are generally more willing to pursue a preferred date and risk rejection than risk a missed romantic opportunity—extends beyond imagined scenarios to real-life dating experiences. Overall, 70% of participants chose to pursue their preferred date rather than their less preferred date. Further, 41% of participants risked near-certain rejection in doing so, choosing to pursue a preferred date who was 5% likely to choose them back rather than a less-preferred date who was 95% likely to choose them back. These effects were not moderated by attachment anxiety, suggesting that secure and insecure people alike are highly motivated to avoid missed romantic opportunities.

In this study, we also examined, for the first time, participants' actual (as opposed to imagined) feelings of regret and perceptions of consequences. Participants who chose their preferred candidate were told that their preferred candidate had not chosen them back, and thus they would not get to meet anyone (rejection). Participants who chose their less-preferred candidate were told that they were chosen by both potential candidates, thus missing an opportunity to meet their preferred candidate. These experiences were rated as being similarly consequential and regrettable. As in Study 1, these results are limited by the self-selection component of the design, as participants were not randomly assigned to experience one outcome versus the other. It may be that only participants who were particularly unconcerned about missing a romantic opportunity were willing to risk a missed opportunity in the first place. Alternatively, it is possible that although people generally expect missed opportunities to elicit more regret than rejection (Studies 2–4), those expectations do not align with people's lived experiences (Studies 1 and 5). We will return to this issue in the general discussion section.

## **General discussion**

Although researchers have independently examined both the motivation to obtain romantic partners (e.g., Buss & Schmitt, 1993) and the motivation to avoid rejection (e.g., Vorauer et al., 2003), less is known about how these motivations operate simultaneously. In the present research, we addressed this question by examining which negative outcome—failing to pursue a potential romantic partner versus failing to avoid rejection—is associated with more regret. When asked to recall a regrettable dating experience, more than three times as many people recalled a missed opportunity than recalled a rejection (Study 1). People anticipated more regret in response to a missed opportunity compared to a rejection (Studies 2–4), which was partially explained by the perception that a missed romantic opportunity would be more meaningful and consequential to one's life than a rejection (Studies 3 and 4). Finally, people prioritized avoiding missed opportunities over rejection when making both imagined (Study 4) and real (Study 5) romantic pursuit decisions. Indeed, in Study 5, 41% of participants in one condition were willing to risk almost certain rejection (95% probability) on the slim hope of securing a date with a more appealing partner.

Regret plays a crucial role in decision-making (e.g., Roese, 1994), in that people often make decisions based on which outcomes they anticipate will elicit more regret (Reb, 2008; Wroe et al., 2004). The present research is the first to our knowledge to examine the role of regret in the context of relationship initiation. Our results suggest that anticipated regret may help people to resolve competing relationship goals in the context of romantic pursuit. Specifically, anticipated regret over a missed romantic opportunity may motivate people to pursue potential romantic partners despite the possibility of rejection.

We propose that people anticipate more regret from missed opportunities than from rejection partly because, although both experiences are expected to be painful in the short-term, missed opportunities are expected to be more consequential in the long-term. Studies 3 and 4 provide support for this idea. Participants expected missed opportunities to be more consequential and meaningful than rejection (Studies 3 and 4), which helped to explain greater anticipated regret over missed opportunities as well as participants' greater willingness to risk rejection rather than risk a romantic opportunity (Study 4).

### ***Relationship insecurities and initiation***

The present research suggests one mechanism through which even individuals with strong fears of rejection may work up the courage to pursue potential partners. Much of the past research on romantic initiation has highlighted the inhibiting role of insecurity: people with low self-esteem (e.g., Cameron et al., 2010; Stinson et al., 2015) and high attachment anxiety (e.g., McClure & Lydon, 2014; Vorauer et al., 2003) tend to engage in self-protective behaviors that can hinder their attempts to attract new romantic partners. Consistent with this literature, we found that insecure individuals perceived rejection to be more regrettable than secure individuals. However, with the exception of Study 3, insecure individuals simultaneously perceived missed opportunities to be more regrettable than secure individuals. This heightened anticipated regret over both pursuit

options suggests that insecure individuals are prone to ambivalence about pursuit decisions, just as they are prone to ambivalence about romantic relationship stay/leave decisions (Joel, MacDonald, & Page-Gould, In Press), commitment to their partners (Joel et al., 2011), and close relationships in general (e.g., MacDonald et al., 2013; Mikulincer et al., 2010). This finding is also consistent with research suggesting that insecure individuals anticipate more regret over decisions both to act and not to act in the context of close relationships (Joel et al., 2012). In the pursuit context, as in other relational contexts, insecure individuals expect to feel worse about potential negative outcomes associated with whichever relationship decision they make.

One limitation to the studies that examined pursuit decisions in the present paper (Studies 4 and 5) is that participants were unable to opt out of risking rejection entirely. Rather, they were given a choice between unlikely rejection from a moderately desired partner and likely rejection from a highly desired partner. It is possible that fears of rejection would have played a stronger role in shaping pursuit decisions if we had offered participants a way to avoid rejection with certainty; this may be worth examining in future research. However, regardless of the decisions they make, the ambivalence that insecure individuals experience over pursuits decision is likely to have a variety of negative consequences. Research from the fields of both JDM and close relationships suggests that ambivalence is highly unpleasant (e.g., van Harreveld, Rutjens, Rotteveel, Nordgren, & van der Pligt, 2009) and detrimental to the self (e.g., Uchino et al., 2012).

Overall, we found that insecure individuals perceived missed opportunities to be at least as regrettable if not more regrettable than rejection and were in turn just as likely as secure individuals to prioritize avoiding missed opportunities over avoiding rejection. Broadly, these findings contribute to a growing body of work demonstrating the power of reward relative to threat in the romantic relationship domain (e.g., Spielmann et al., 2013). When it comes to romantic pursuit, more and less secure people alike endorse a “nothing ventured, nothing gained” strategy; the goal of gaining access to rewarding romantic partners is often prioritized over the goal of avoiding rejection. These findings may help to explain why insecure individuals often pursue potential partners despite their heightened fears of rejection (e.g., McClure et al., 2010; Spielmann et al., 2013).

### *Anticipated versus experienced regret*

One question that remains unanswered by the present research is whether missed opportunities are actually *experienced* as being more consequential and regrettable than rejection. On the one hand, romantic relationships are associated with a multitude of rewards such as intimacy (e.g., Spielmann et al., 2013), positive emotions (e.g., Shiota, Campos, Keltner, & Hertenstein, 2004), and higher subjective well-being (Myers & Diener, 1995). Lost opportunities to obtain such rewards may indeed be devastating, such that people’s perceived long-term costs of missed opportunities may be accurate. On the other hand, rejection can also have chronic or long-term implications; for example, people can relive rejection experiences for many years (Chen, Williams, Fitness, & Newton, 2008). If people fail to anticipate such implications in the abstract (Nordgren, Banas, & MacDonald, 2011), they may underestimate the long-term costs of rejection.

Only two of the present studies examined perceived consequences and regret over real pursuit experiences (Studies 1 and 5). In both studies, people experienced the two negative outcomes as being similarly consequential and regrettable. When paired with our consistent evidence for greater *anticipated* consequences of missed opportunities (Studies 2–4), these results suggest that people tend to either overestimate the costs of missed opportunities or underestimate the costs of rejection. In other words, people may commit “regret forecasting errors” (Sevdalis & Harvey, 2007). Unfortunately, Studies 1 and 5 both included a self-selection component that limits our ability to draw conclusions from these results. In Study 1, participants recalled chose what regrettable experience to recall (most recalled a missed opportunity), and in Study 5, participants chose whether to risk rejection or a missed opportunity (most risked rejection). To properly test which outcome elicits more regret, a researcher would need to randomly assign people to experience one of the two outcomes, while still leading participants to believe that the outcome was a result of their own action.

A related caveat is that the present research focused on relationship initiation in the context of strangers. Future research should examine whether missed opportunities are more regrettable than rejection even when the target is known. Particularly when the target is a member of one’s existing social sphere, the consequences of missed opportunities may be outweighed by additional social costs (e.g., awkwardness, reputation concerns).

## **Conclusions**

Social psychology researchers have extensively documented the psychological costs of rejection. However, if people were driven solely by rejection concerns, there would be no romantic relationships. Across seven data sets, we find consistent evidence that people perceive missed romantic opportunities to be a more consequential and regrettable outcome than rejection, which motivates people to pursue rewarding potential partners in the face of rejection. Broadly, these studies contribute to a growing body of research suggesting that the rewards that romantic relationships offer can be powerful motivators, even for people whose fears of rejection are particularly strong (e.g., Gere et al., 2013; Spielmann et al., 2013).

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## Supplementary material

Supplementary material for this article is available online.

## Notes

1. Attachment avoidance was also measured in Studies 2a, 2b, 3a, 4, and 5. Exploratory analyses revealed a pattern of null results. Attachment avoidance did not predict anticipated regret over either rejection or missed opportunities in Studies 2a, 2b, or 3a. Avoidance did predict anticipated regret over both potential negative outcomes in Study 4; however, these effects disappeared when controlling for attachment anxiety. Avoidance did not predict pursuit decisions in Studies 4 or 5.
2. This study included an additional manipulation whereby participants imagined the scenario either concretely or abstractly. This manipulation did not influence results; results are reported collapsed across these conditions.
3. Relationship status (0 = *in a relationship*, 1 = *single*) did not predict regret over rejection versus missed romantic opportunities.

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