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Social Rejection Amplifies the Value of Choice

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Social rejection has been routinely associated with negative physical and mental health outcomes. However, less is known about how social rejection impacts cognitive processes, including our decision-making abilities. This is critical to understand, given how ubiquitous experiences of rejection have become in the current era of social media. In this preregistered study, we hypothesized that social rejection would amplify the value of choice. Participants made choices about whether to participate in a lottery themselves or defer the choice to a computer across a series of interactions with purported anonymous peers who provided varying degrees of positive (e.g., likes) and negative (e.g., dislikes) feedback to simulate experiences of rejection and acceptance. Subjective experiences of affect and the likelihood of future social engagement with peers were measured. Following experiences of rejection, results revealed that participants were more likely to want to choose for themselves rather than defer the choice to the computer. However, negative affect modulated this pattern, such that when participants reported feeling worse during the task after rejection, they were more likely to defer choice to the computer. Further, negative affect significantly predicted participant's willingness to engage in future social behavior with their partners and individual differences in social symptoms (e.g., social anxiety and the need to belong) were significantly related to choice behavior. Taken together, our findings suggest that experience of social rejection can negatively impact our affective states, perceptions of others, and the degree to which we value choice.

Keywords: social rejection, choice, decision making, negative affect

Social media has drastically changed how we experience social interactions. Since its emergence in the early 2000s, social media use has increased exponentially, with some platforms garnering up to 2 million users (Pew Research Center, 2021). As a result, the opportunity to interact with others is now ubiquitous, in turn making potential experiences of social rejection ever present. Indeed, experiences of rejection online (e.g., not being tagged on Instagram) have similar adverse effects on our well-being as being rejected in-person (Büttner & Rudert, 2022; Covert & Stefanone, 2020; Filipkowski & Smyth, 2012; Lutz & Schneider, 2020), with evidence showing associations with a threatened sense of belonging, increased negative affect, and decreased self-esteem (Büttner & Rudert, 2022; Filipkowski & Smyth, 2012; Lutz & Schneider, 2020). Further, chronic experiences of social rejection may ultimately foster isolation and loneliness, leading to the idea that social rejection can have significant, widespread effects beyond acute feelings of pain (Baumeister et al., 2002; Spreng & Bzdok, 2021; Spreng et al., 2020; Twenge et al., 2003). Given this shift, utilizing behavioral tasks that closely replicate how social rejection is most often occurring, through social media, is warranted.

To date, research has largely focused on the large-scale dichotomous outcomes associated with social connection—that is, what ultimately happens when someone does or does not have strong social relationships (Cacioppo & Cacioppo, 2018; Christiansen et al., 2021; Hawkley & Cacioppo, 2010). Whereas possessing strong, stable relationships serves as a protective factor that attenuates stress, negative affect, and disease (Gao et al., 2017; Karremans et al., 2011; Vila, 2021), lack of such relationships typically results in adverse health outcomes that span the physical, psychological, and cognitive domains (Christiansen et al., 2021;

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The primary hypotheses for this experiment were preregistered and can be accessed on the authors' Open Science Framework preregistration at https://osf.io/3w9ys/?view_only=7dc41034366349c09a5cbb29b52fd4db. Deidentified data and data analysis scripts are available in the authors' GitHub repository at https://github.com/fareri-lab/Rejection_Choice.

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Hawkley & Cacioppo, 2010; Park et al., 2020). In fact, social rejection has been shown to elicit similar responses to that of physical pain (DeWall & Baumeister, 2006; Eisenberger, 2012; Eisenberger et al., 2006; Kross et al., 2011; MacDonald & Leary, 2005). However, perhaps an equally important yet understudied question surrounds the day-to-day social experiences that involve varying degrees of social acceptance and rejection, ultimately determining whether connections are formed, maintained, or changed.

Positive social experiences, characterized by acceptance, approval, or reciprocity, for example, are inherently rewarding (Fareri & Delgado, 2014) and in turn increase motivation toward future social interactions (Brudner et al., 2023). On the contrary, negative social experiences resulting in exclusion or rejection may have immediate adverse consequences such as the onset of negative affect, a threat to one's need to belong, a decrease in self-esteem, and loss of one's sense of control (MacDonald & Leary, 2005; Sommer & Baumeister, 2002). Some prior research has suggested that aversive experiences of rejection may drive people to ultimately choose to continue engaging in social behavior despite the pain (e.g., domestic abuse, bullying; Maner et al., 2007). Other work has indicated that rejection may lead to a more passive process characterized by social withdrawal, emotional numbness, a subsequent decrease in pursuit of social behavior, and ultimately the absence of robust networks of social support (Baumeister et al., 2005; Watson & Nesdale, 2012).

However, the relationship between social rejection and specific cognitive processes, such as the mechanisms underlying choice, has not been thoroughly examined. Choice provides a way for us to exert control over our environment (Leotti & Delgado, 2011; Leotti et al., 2010; Wang et al., 2021), and as such, it is both desirable and rewarding (Leotti & Delgado, 2011; Leotti et al., 2010; Wang et al., 2021). In fact, lack of the ability to make choices is associated with the onset of stress, increased autonomic arousal, and psychopathology (e.g., depression; Leotti et al., 2010; Ly et al., 2019). These findings suggest a regulatory or buffering effect of choice during situations of distress (Sheppes et al., 2014). Further, contextual factors, such as perceived control over a potential outcome and the probability of obtaining said outcome, can moderate the value of choice (Wang et al., 2021). However, despite the fact that our choices often occur within social situations, the role of social context on the value of choice has yet to be explored.

This preregistered study (Dejoie & Fareri, 2023; https://osf.io/3w9ys/?view_only=7dc41034366349c09a5cbb29b52fd4db) aimed to characterize how experiences of social rejection impact the value of choice. We developed a novel rejection task aimed to mimic experiences of photo sharing on the social media platform Instagram, adapted from previous work from our group (Brudner et al., 2023). Here, we sought to better model how experiences of rejection occur through the lens of social media. We offered participants the ability to engage in a small monetary lottery (or defer their choice to the computer) after having their own Instagram photos shared and rated (liked, disliked) by different peers. We expected that participants would value choice more following social rejection relative to neutral social experiences or experiences of acceptance as a mechanism to reestablish a perceived sense of control. Consistent with previous literature, we also expected that participants would report higher levels of negative affect (Leary, 2015) and be less likely to share photos again with others in the future following social rejection (Watson & Nesdale, 2012). Further, given the possibility that choice serves a regulatory function, we expected that subjective ratings of affect would moderate the relationship between social condition and choice such that high levels of arousal, regardless of social condition, would predict choice behavior. Finally, we expected that individual differences in self-reported rejection sensitivity would be positively associated with choice behavior.

Method

Participants

An a priori power analysis was conducted using G*Power (Erdfelder et al., 1996; Faul et al., 2009) and indicated a minimum of 82 participants to detect a moderate effect ($r = .3$) with 80% statistical power at $p < .05$ in a point-biserial correlation. We oversampled to account for attrition and data exclusion to meet sample size for adequate statistical power. Participants were 124 English-speaking adults between the ages of 18 and 35 living in the United States with an active Instagram account consisting of at least 32 different posts. Participants were recruited from https://www.prolific.com/, a secure, web-based platform for collecting data that is geared toward academic research. Recruited participants had to have an approval rating of at least 98/100 to increase the quality of our participant pool. Participants were compensated $20, on average, for their participation, at a rate of $10 per hour, per session and were each administered an additional $3 bonus upon completion of the experimental task, which they were told was based on the outcome of a randomly selected lottery trial (see details in the Social Media-Based Rejection Task section) to eliminate any interference with social feedback. Total participation time across the 2 days was between 1.5 and 2 hr. This study was approved by the Institutional Review Board of Adelphi University.

Recruited participants were excluded from the study based on the following preregistered criteria: (a) missing, erroneous, or overly consistent responses to questionnaires (e.g., more than 50% of identical responses on a single measure); (b) failing attention checks; (c) data-based outlier criteria (e.g., missing more than 33% of choice opportunities in the experimental task); (d) data-based outlier criteria during experimental task (e.g., response times greater than 1.5 times the interquartile range); and (f) nonadherence to photo requirements—(i) photos evoking positive feelings only, (ii) at least five photos had to contain themselves, and (iii) photos could not include political content, drug paraphernalia, or revealing clothing. Of our initial 124 participants, 40 participants were excluded based on at least one of these criteria. Seventeen participants were excluded due to their photos not meeting submission criteria, 17 were excluded due to only completing Part 1 of the study, five were excluded due to incomplete self-report measures, and one was excluded due to missing too many choice trials during the experimental task, leaving a final sample of 84 participants (57 female, $M_{age} = 27.4$, $SD = 4.7$). Participants' racial demographics were 65% White, 12% Latino/Hispanic, 8% mixed, 7% Asian, and 3% Black.

Procedure

This was a two-part study. The first part consisted of participants completing half of the self-report measures and uploading

screenshots of their Instagram photos of choice for inclusion in the experimental task (described below). On average, participants completed Part 1 in approximately 1 hr. Due to technical issues with the experiment host server, we experienced delays and difficulty at times administering Part 2, and as such, there was variability in the time between completion of Parts 1 and 2 for participants (M = 7.4 days, SD = 11.3). In order to account for this variability, the time between Parts 1 and 2 was included as a covariate in our analyses. However, on average, participants completed Part 2 in 40 min, which consisted of the experimental task and the remaining self-report measures. Participants took 100 min, on average, across both Parts 1 and 2 to complete the entire study.

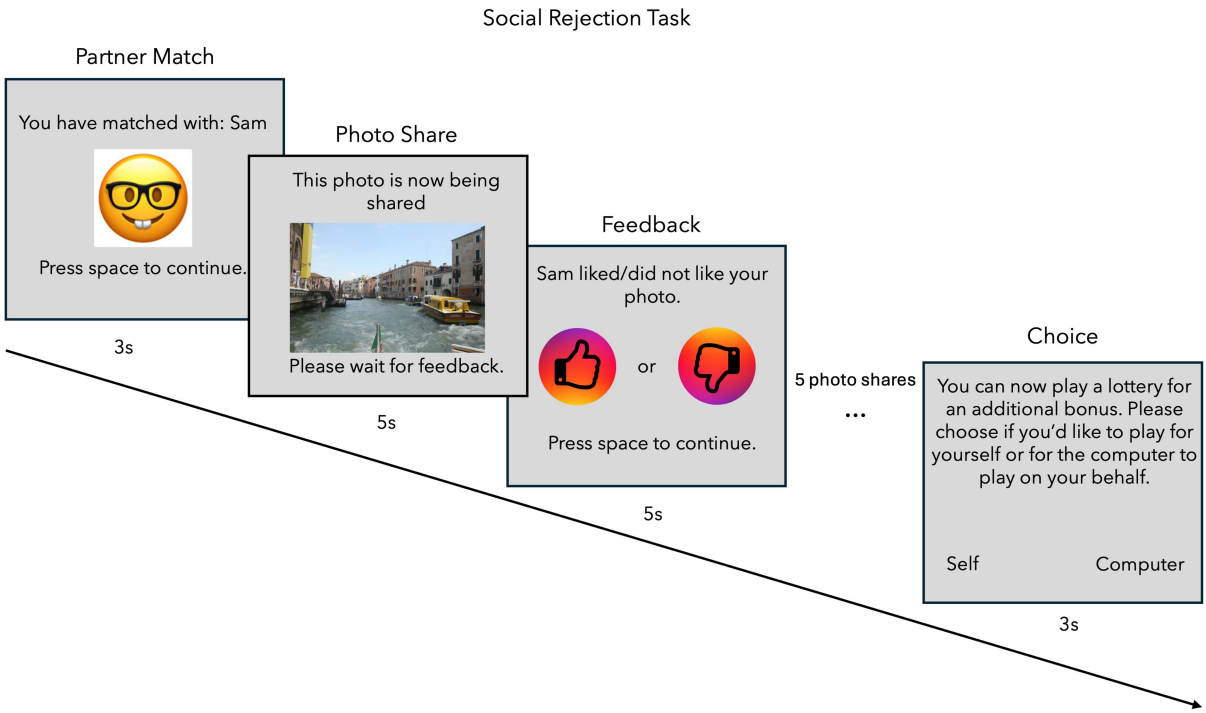
Social Media-Based Rejection Task

A computer-based task designed to mimic the experience of sharing photos on social media was developed using PsychoPy (v2022.2.1; https://www.psychopy.org/) and converted to PsychoJS to run on Pavlovia (see Figure 1). This task was adapted from prior work from our group (Brudner et al., 2023) to cultivate salient experiences of social rejection and acceptance that parallel more closely with modern-day experiences on social media platforms (e.g., Instagram; Büttner & Rudert, 2022) than do prior computer-based rejection tasks such as Cyberball (Williams et al., 2000). After providing informed consent, participants uploaded 32 of their personal Instagram photos to a secure platform and completed individual difference measures. Participants were instructed that their uploaded photos would be shared with five different anonymous peers who would provide feedback (e.g., positive = liked the photo or negative = did not like the photo) on their photos.

Participants were required to upload photos that met the following criteria: (a) evoked positive feelings only, (b) at least five photos had to contain themselves, and (c) photos could not include political content, drug paraphernalia, or revealing clothing. Additionally, for each photo uploaded, participants reported how many likes it received, a 1–10 rating on how they felt about the photo, and a brief caption. The task was structured as five photo sharing blocks, with the same 30 of the participants' photos shared with different purported peers (see below) during each block for 150 photo sharing trials and 30 choice trials. For all participants, the first 30 photos they uploaded were used in the task unless one of the participants' first 30 photos did not meet the criteria; in these cases, one of the additional photos was used in its place.

At the start of each photo sharing block, participants were matched with a different neutrally named anonymous avatar whom they believed were also participants in the study and would be providing feedback on their photos. Across the five blocks, all participants were exposed to three different social conditions that were manipulated according to the proportion of negative feedback received during a block of 30 trials as outlined below: (a) rejection = 70% negative feedback, (b) neutral = 50% negative feedback, and (c) acceptance = 30% negative feedback. Participants were subjected to two blocks of rejection, two blocks of acceptance, and one neutral block (which served as a baseline measure). The order of exposure was randomized across participants to control for any order effects. Specifically, we randomized the anonymous partners,

Figure 1
Photo Sharing Task



Note. Participants were matched with partners who were shown their chosen photos. Participants then received feedback on their photos and were given the opportunity to participate in a lottery after every five photo shares. See the online article for the color version of this figure.

the order of social conditions, the order in which photos were shared within each block, the order feedback was delivered within each block (e.g., positive or negative), and the duration of time between a photo being shared and when feedback was delivered. In all analyses, levels of social condition were coded as follows: −1 = acceptance, 0 = neutral, and 1 = rejection.

Within each task block, after sharing five photos, participants were given the opportunity to take part in a lottery task to guess whether a card is lower or higher than the number 5 (cf. Delgado et al., 2000). Participants could either choose to play the lottery themselves or decline the opportunity to choose and let the computer choose for them. Participants were informed that neither choosing for themselves nor selecting the computer to choose on their behalf would increase their chances of winning. Participants did not receive feedback following each lottery but were instructed that one of the lotteries would be chosen at random at the end of the experiment for an additional monetary bonus. In total, participants received 30 opportunities to make or decline a choice. At the end of each task block, we administered subjective ratings to assess participants' emotional state on a Likert scale (1 = bad, 9 = good) and how likely participants would be to share photos with the same partner again in the future on a Likert scale (1 = not likely, 5 = very likely).

Self-Report Measures

Self-report measures were collected from each participant to assess the following domains that may moderate the relation between rejection and the value of choice: social integration, emotional regulation, stress and resilience, reward sensitivity, and substance use risk. To assess social integration and function, we administered the Rejection Sensitivity Questionnaire (Downey & Feldman, 1996), the Social Connectedness Scale (Lee et al., 2001), the Autism Spectrum Quotient (English et al., 2020), the Social Reward Questionnaire (Foulkes et al., 2014), the Need to Belong Scale (Leary et al., 2013), the Multidimensional Scale of Perceived Social Support (Zimet et al., 1988), and the Liebowitz Social Anxiety Scale (Heimberg et al., 1999). Assessments of affective function included the Emotional Regulation Questionnaire (Gross & John, 2003; Preece et al., 2021). Stress and resilience measures included the Brief Resilience Coping Scale (Sinclair & Wallston, 2004) and the Perceived Stress Scale (Cohen et al., 1983). Reward sensitivity measures included the Reward Responsiveness Scale (Van den Berg et al., 2010) and the Dickman Impulsivity Inventory (Claes et al., 2000). Substance use risk was measured using the Drug Abuse Screening Test–10 (Skinner, 1982).

Transparency and Openness

This study was preregistered on the Open Science Framework before data collection (Foster & Deardorff, 2017). While we initially planned for this paradigm to have an in-person component, due to challenges recruiting participants for in-person studies during 2021–2022, we elected to conduct this study completed online via https://www.prolific.com/. Deviations from our preregistration include changing Hypothesis 2 to reflect self-reported affect rather than arousal as measured by skin conductance, a modification of Hypothesis 3 eliminating the correlation between rejection sensitivity and physiological arousal. We also omitted Hypothesis 4 due to the inability to collect arousal data during an online study. All data, analysis code, and research materials are available at Dejoie et al. (2022), https://github.com/fareri-lab/Rejection_Choice. Data were analyzed using Python Version 3.13 and the package pingouin Version 0.5.4 (Vallat, 2018) as well as using R Version 2013.12.0 (R Core Team, 2020) and the *ggplot* Version 3.5.0 (Wickham, 2019).

Results

Social Feedback Modulates Self-Reported Affect and Future Social Behavior

Repeated measures analyses of variance were employed to examine differences in both self-reported affect and participants' likelihood to share a photo with a given partner in the future after experiencing each social condition. A main effect of social condition on affect was found, $F(2, 166) = 14.56$, $p < .001$, Cohen's $f = .15$; post hoc t tests revealed significant differences across all conditions after correction for multiple comparisons, such that participants reported feeling the most negative after rejection blocks and most positive after acceptance blocks—acceptance (acc) versus rejection (rej): $t(83) = 5.05$, $p < .01$, $d = 0.4$; neutral (neu) versus rej: $t(83) = 2.61$, $p < .01$, $d = 0.17$; acc versus neu: $t(83) = 3.01$, $p < .01$, $d = 0.2$ (see Table 1). A main effect of social condition on likelihood to share with a partner in the future was also found, $F(2, 166) = 55.54$, $p < .001$, Cohen's $f = .46$; post hoc t tests revealed significant differences across all conditions after correction for multiple comparisons, with participants reporting being the least likely to share their photos in the future after being rejected and most likely after acceptance—rej versus neu: $t(83) = -10.68$, $p < .01$, $d = 1.23$; rej versus acc: $t(83) = -5.32$, $p < .01$, $d = 0.6$; acc versus neu: $t(83) = -5.15$, $p < .01$, $d = 0.54$ (see Table 1).

Social Rejection Amplifies the Value of Choice

To evaluate whether the valence of social feedback (e.g., rejection, acceptance, neutral) predicted the likelihood of participants wanting to choose for themselves in the lottery task (1 = *play for self*, 0 = *let computer choose*), we employed a fixed-effects logistic regression in R where social condition was a fixed effect and choice behavior was the dependent variable (see Figure 2). We regressed participants' trial-by-trial responses in the lottery task

Table 1
Means and Standard Deviations for Participants' Ratings of Affect and Their Likelihood to Share With Their Partners Again in the Future

Self-reported affect	*M*	*SD*
Rejection	5.23	2.2
Acceptance	5.98	1.8
Neutral	5.6	2.03
Likelihood to share	***M***	***SD***
Rejection	2.04	0.83
Acceptance	3.13	0.94
Neutral	2.6	1.02

(1 = *play for self*, 0 = *let computer choose*) on social condition (glm[choice ~ social condition]), revealing a significant association ($b = 0.1$, standard error [*SE*] = 0.47, $z = 2.251$, $p < .05$) such that during experiences of social rejection, participants were more likely to choose for themselves than during trials of other social conditions. The odds ratio was 1.23% (95% confidence interval, CI [1.03, 1.5]), indicating a 23% increase in the likelihood of choosing for oneself for each exposure to rejection.

This effect held ($b = 0.19$, $SE = 0.49$, $z = 3.92$, $p < .01$) in a subsequent model including fixed-effects regressors for the time between completing Parts 1 and 2 of the study, age, order of social conditions, affect, and biological sex (glm[choice ~ social condition + age + sex + time between + order + affect]). The odds ratio was 1.47 (95% CI [1.2, 1.8]), indicating a 47% increase in the likelihood of participants choosing for themselves after each exposure to rejection. Additionally, this model revealed a significant main effect of affect ($b = 0.24$, $SE = 0.22$, $z = 10.6$, $p < .01$) such that when participants experienced negative affect, they were less likely to choose for themselves compared to when participants experienced more positive affect (see Figure 3). The odds ratio was 1.274 (95% CI [1.21, 1.33]), indicating a 27.4% increase in the likelihood of choosing one for oneself for every one unit increase in affect.

Based on the results reported in the Social Feedback Modulates Self-Reported Affect and Future Social Behavior section that participants felt worse and chose for themselves more following experience of rejection, we conducted an exploratory analysis examining whether self-reported negative affect moderated the relationship between social context (e.g., rejection, acceptance) and the value of choice. A third fixed-effects model was created to assess the effect of an interaction between social condition and affect on choice behavior (glm[choice ~ social condition × affect + age + sex + time between + order]). A significant interaction was found ($b = -0.06$, $SE = 0.26$, $z = -2.5$, $p < .05$) such that at greater levels of negative affect, participants who were rejected were more likely to choose for themselves in the lottery than participants who were accepted (see Figure 4). However, at greater levels of positive affect, participants were equally as likely to choose for themselves regardless of the social context (see Figure 4). The odds ratio for the interaction was .94 (95% CI [0.9, 0.99]), indicating that when combined, the effect of social condition and self-reported affect resulted in a 6.1% decrease in the likelihood of participants choosing for themselves.

Social Feedback and Negative Affect Modulate Future Social Behavior

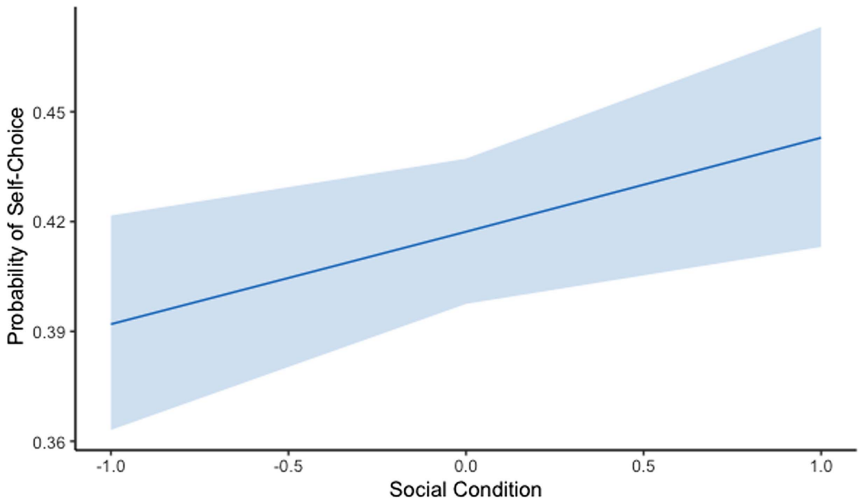
A linear regression was conducted to evaluate whether self-reported affect and social feedback predicted the likelihood of participants wanting to reengage with their partners from the task in the future (see Figure 5). Participants' likelihood to reengage with partners from the photo sharing task in the future was regressed on participants' self-reported affect and social feedback. We included additional regressors for age, biological sex, and the order of social conditions in the model. Significant associations between self-reported affect and social feedback on the likelihood of reengaging in the future were found such that irrespective of subjective affect, when rejected, participants were less likely to want to reengage with their partners in the future ($b = -0.13$, $SE = 0.06$, $z = -2.21$, $p < .05$). Further, this model also revealed that even when accepted, participants with more negative affect were less likely to want to reengage with their partners in the future ($b = 0.18$, $SE = 0.01$, $z = 20.41$, $p < .001$). Finally, a significant interaction between social feedback and affect was found ($b = -0.07$, $SE = 0.01$, $z = -6.58$, $p < .001$).

The Need to Belong and Social Anxiety

As per our preregistration, we were interested in whether individual differences in rejection sensitivity would be related to

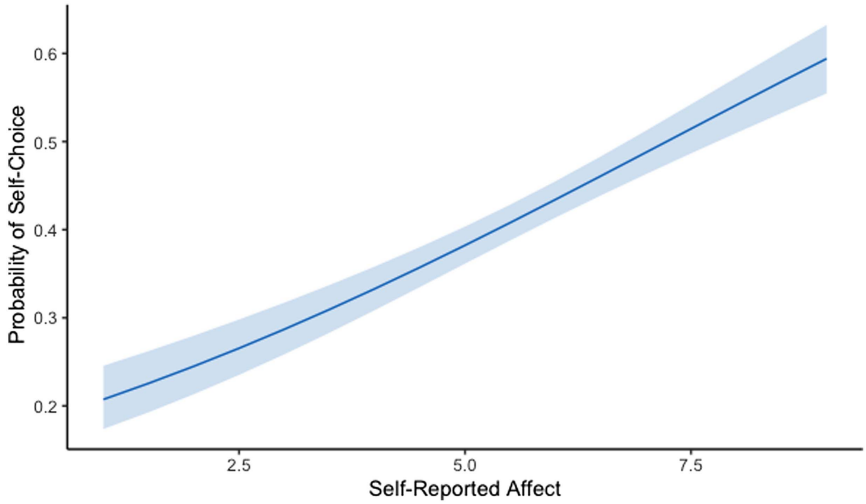
Figure 2

Social Condition Predicts Self-Choice



Note. Social condition (−1 = acceptance, 0 = neutral, 1 = rejection) was positively associated with participants' likelihood of choosing for themselves in the lottery. See the online article for the color version of this figure.

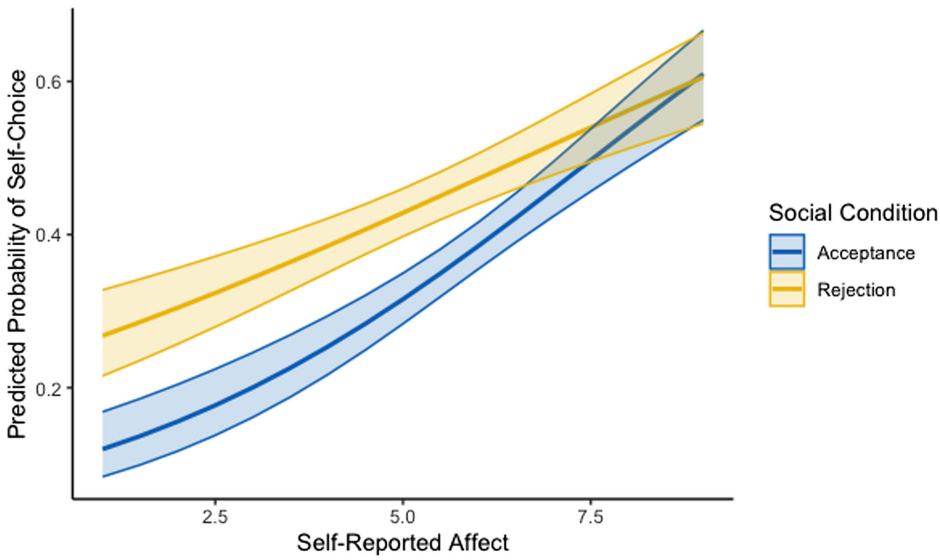
Figure 3
Self-Reported Affect Predicts Self-Choice



Note. Participants' self-reported affect was positively associated with participants' likelihood of choosing for themselves in the lottery ($b = 0.24$, standard error = 0.22, $z = 10.6$, $p < .001$). See the online article for the color version of this figure.

participants' choice behavior, irrespective of social feedback. A Spearman's correlation revealed no significant relationship between rejection sensitivity and participants' choice behavior across any social condition (all *p*s > .5; see Table 2). Given these findings, we were interested in exploring whether other relevant individual differences, such as one's need to belong, and social anxiety may relate to choice behavior. Findings from these exploratory correlations revealed significant negative relationships between social anxiety and the need to belong across all social conditions: Participants self-reporting with a higher need to belong and higher levels of social anxiety deferred choices more often (see Table 2). These patterns hold when we ignore social condition in our correlations as well (see Table 2 and Figure 6). We then sought to investigate whether individuals high in social anxiety traits and the need to belong generally felt worse, irrespective of social context. A Spearman's correlation did not reveal a significant relationship

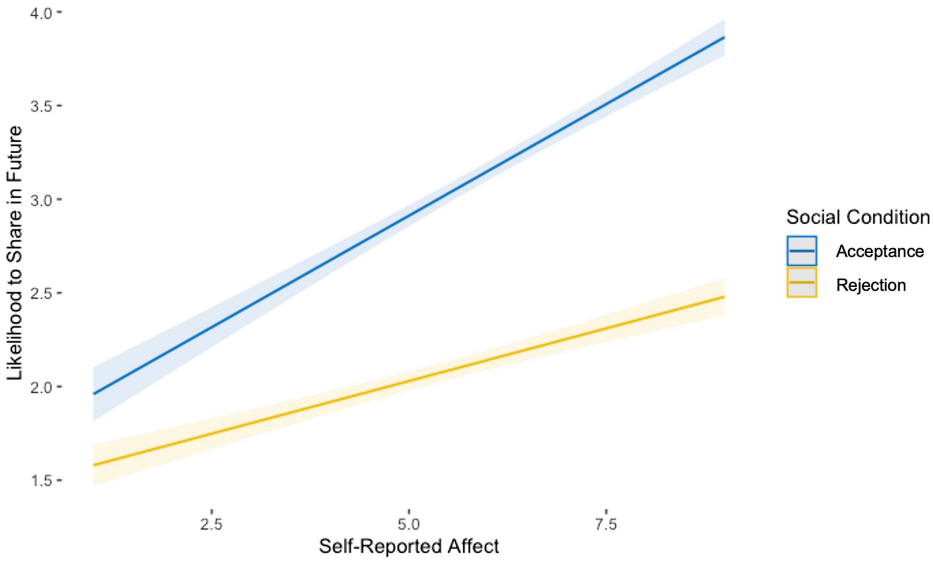
Figure 4
Social Condition and Affect Moderate Self-Choice



Note. Shows a significant interaction of social condition (rejection vs. acceptance) and affect (lower numbers signify worse affect) on the likelihood of self-choice. See the online article for the color version of this figure.

Figure 5

Affect and Social Condition Moderate Likelihood to Re-Engage With Partners in the Future



Note. See the online article for the color version of this figure.

between social anxiety and affect in general nor during the rejection condition alone. In contrast, a Spearman's correlation did reveal a significant negative relationship between the need to belong and negative affect during the rejection condition only (see Table 2).

Discussion

The potential to experience social rejection has become even more ubiquitous with the advent of social media, as has the multitude of the associated aversive emotional and psychological consequences (e.g., negative affect, low self-esteem, pain). However, the impact of rejection on cognitive processes has been understudied and could have pivotal implications for characterizing the ways in which rejection might shape decision making. Investigating these relations could shed light on risk factors for the development of psychopathologies (e.g., anxiety, depression, substance use) and lead to the development of targeted treatments. Here, we aimed to characterize how experiences of social rejection may impact the value placed on choice.

Our results supported our hypothesis, demonstrating that experiences of social rejection are associated with an increase in the value of choice. Participants in our sample were more likely to opt in to playing a lottery rather than defer their choice to a computer to play on their behalf after experiencing negative social feedback from others. These findings suggest that the simple act of making a choice, perhaps because of its intrinsic value, or the perception of control it facilitates (e.g., enhancing perception of control; Devine et al., 2024) may become increasingly valuable following an aversive, uncontrollable experience (e.g., being rejected). This is evidenced by the perception of control associated with choice, subjective and behavioral evidence that making choices is desirable, and that limiting the ability to choose elicits a wide range of negative effects (e.g., stress response, physiological illness, and maladaptive behavior; Leotti et al., 2010).

Additionally, it has been well established that choice is rewarding, as neuroimaging studies have consistently revealed recruitment of neural circuitry involved in reward processing (e.g., prefrontal cortex and striatum) when making or in anticipation of a choice (Bjork et al., 2012; Leotti & Delgado, 2011; Leotti et al., 2010; O'Doherty et al., 2004). Thus, the increased value of choice following experiences of rejection demonstrated in the present study may be understood within a similar framework: When an aversive experience (e.g., social rejection) that is outside of one's control occurs, the opportunity to engage in a choice—simple as it may be—may aid in reestablishing a perceived loss of control over one's environment.

The reward value associated with engaging in choice may additionally be attenuated by individual differences in vulnerability to internalizing symptoms (e.g., negative affect, low self-esteem, need to belong). More specifically, our results revealed a significant main effect of affect on choice behavior, such that if participants experienced negative affect during our task, irrespective of social condition, they were less likely to choose for themselves. Therefore, negative affect appeared to diminish the value of choice or the desire for control. These findings dovetail with extant literature examining the effect of psychopathologies characterized by chronic and enduring negative affect (e.g., depression) on the desire for control (Myles et al., 2021). Indeed, depressed individuals demonstrate a diminished desire for and perception of control (Auerbach et al., 2010; Myles et al., 2020). Additionally, social anxiety and a strong need to belong may have a similar effect as negative affect on the desire for control. Participants in our study with greater social anxiety and a greater need to belong deferred choice more often across all social conditions. Conceivably, negative affect and other aversive sequelae (e.g., social anxiety and the need to belong) may elicit feelings of powerlessness and perception of an inability to

Table 2
Correlations Between Self-Reports of Social Function and Self-Choice Behavior

Measure × Choice Behavior	ρ(83)	*p*
Rejection		
RSQ	−0.06	.5
LSAS	−0.25	.02*
NTBS	−0.32	<.01*
Acceptance		
RSQ	−0.06	.6
LSAS	−0.34	<.01*
NTBS	−0.33	<.01*
Neutral		
RSQ	−0.04	.7
LSAS	−0.27	.01*
NTBS	−0.28	.01*
Overall choice		
LSAS	−0.29	<.01*
NTBS	−0.35	<.01*
Measure × Affect	**ρ(83)**	***p***
Rejection		
LSAS	−0.18	.1
NTBS	−0.3	<.01*
Overall affect		
LSAS	−0.2	.07†
NTBS	−0.2	.08†

Note. Results for Spearman's correlations conducted between the Liebowitz Social Anxiety Scale and the Need to Belong Scale and participants' self-reported affect within the rejection condition and collapsed across conditions are reported. RSQ = Rejection Sensitivity Questionnaire; LSAS = Liebowitz Social Anxiety Scale; NTBS = Need to Belong Scale.
† $p < .10$. * $p < .05$.

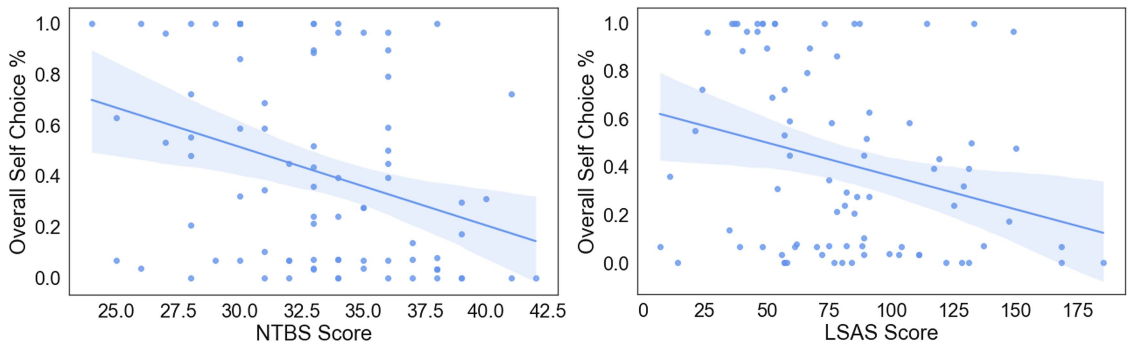
influence the environment, ultimately resulting in devaluation of choice (e.g., learned helplessness, hopelessness theory; Amat et al., 2005; Liu et al., 2015; Mac Giollabhui et al., 2018; Maier & Seligman, 2016).

However, we note that in an exploratory analysis, the relationship between affect and choice behavior was further moderated by social condition, such that people were more likely to choose for themselves if they experienced negative affect after being rejected. Taken together, our findings highlight how one's subjective experience of rejection may differentially impact their design to engage in an act of choice. One interpretation of these results is that the combination of an aversive event (e.g., negative social feedback) and its associated aversive subjective experience magnify feelings of powerlessness and helplessness, fostering a reduction in motivated behavior. Another possibility is that engaging in choice following an aversive event, such as social rejection, may also serve as a regulatory mechanism. Indeed, overlap between the neural circuitry supporting reward processing and emotion regulation during choice has previously pointed to the possibility that engaging in choice may serve a regulatory or restorative function (Leotti & Delgado, 2011; Leotti et al., 2010).

However, due to limitations in our design (not tracking the role of moment-to-moment changes in affect), we were unable to determine whether affectual changes influence choice behavior or vice versa. Further investigation into these nuances is warranted, probing whether individual differences in experiencing symptoms of internalizing illnesses interact with other traits (e.g., locus of control) to predict the desire for control and value of choice. In addition, future work should consider measuring subjective and objective measures of affect on a trial-by-trial basis. This would account for the subjective experience of affect across the social interaction and subsequent choice behavior and facilitate the ability to examine causal relationships among these phenomena. Tracking affect on a trial-by-trial basis would also facilitate the ability to examine learning-related effects over time, something we were underpowered to do in the current design. Additionally, future work should probe whether individual differences in experienced symptoms of internalizing illnesses interact with other traits (e.g., loss aversion, risk aversion, locus of control) to predict the desire for control and value of choice.

We were additionally interested in whether experiences of rejection and self-reported affect would shape how likely participants would be to want to interact with those same social partners in the future. Findings revealed that participants who received negative social feedback and reported greater levels of negative affect were the

Figure 6
Relations Between Self-Choice, Need to Belong and Social Anxiety



Note. Shows significant correlations between participants' need to belong, $\rho(83) = -.35$, $p < .01$; social anxiety, $r(83) = -.29$, $p < .01$; and their choice behavior collapsed across all conditions. NTBS = Need to Belong Scale; LSAS = Liebowitz Social Anxiety Scale. See the online article for the color version of this figure.

least likely to want to reengage in the future. Taken together, these findings suggest that while feeling badly lessens one's desire to engage with others, receiving negative feedback exacerbates this effect and makes people less likely to want to reengage with these people in the future. This is an understandable and adaptive response that may point to the mechanism by which acute experiences of rejection contribute to broader experiences of loneliness (Buhs & Ladd, 2001; Hawkley & Cacioppo, 2010; London et al., 2007; Vanhalst et al., 2015, 2017). Future work should probe whether these types of effects generalize to all future social interactions or are specific to the individual associated with the negative experience.

We note that this study is not without limitations. While participants reported how they were feeling after each social condition, given the variability and relative nature of self-report, additional use of an objective measure of affect (e.g., galvanic skin response, cortisol) could have been beneficial. While our results suggest participants were affected by the manipulation as expected, future work could consider in-person designs to better capture more real-world experiences of acceptance and rejection. Also, even though participants could distinguish between the social conditions, greater differentiation between the reinforcement schedules for our rejection and acceptance conditions may better represent more realistic social experiences. We also note that in our study, participants were asked to make an unrelated and benign decision. Future work could test these effects in social decision settings (e.g., choosing to judge their partners' photos or deferring to the computer, choosing between engaging in a social or nonsocial activity). Finally, online data collection is not without its challenges. We did account for participants' attention and adherence to instructions using attention checks strategically placed throughout the experimental session and a review of response times. However, these were not directly observable since it was not an in-lab study. Also, greater variation between completion of Parts 1 and 2 occurred due to unpredictable technical difficulties. This variation may have interfered with the saliency of the experimental task, though the reported effects held in the presence of accounting for this confounding variable.

This study provides important evidence that acute experiences of social rejection impact important cognitive processes such as decision making. Specifically, experiences of social rejection impact the value of choice, making people increasingly more likely to engage in a choice when given the opportunity. This effect may importantly be moderated by experiences of negative affect and individual differences in the perception of control, though further exploration of these nuanced relationships is warranted. Our work may have important implications for better identifying individuals that may be more at risk for adverse outcomes following social rejection and for developing more tailored interventions. Future extensions of this work may also help illuminate key mechanisms that underlie the decision to engage in risky behaviors (e.g., substance use). Finally, these findings aid in our understanding of how the transition to social media as the primary vehicle for social communication and the subsequent amplification of social rejection impacts cognitive and behavioral function.

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