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When Do Real-World Rejections Motivate People to Seek out Symbolic Social Bonds? Insights From the Risk-Regulation Model

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Sandra L. Murray[1], Shira Gabriel[1], Veronica M. Lamarche[2], Mark D. Seery[1], James K. McNulty[3], Deborah E. Ward[4], and Esha Naidu[5]

Abstract

Lack of belonging can negatively affect mental and physical health, but experiences with social rejection are routine. Two studies examined whether being *unable* to mitigate the risk of rejection in real-world relationships motivates people to defensively immerse themselves in symbolic social bonds with celebrities and fictional characters. Study 1 (four daily diary samples) and Study 2 (cross-sectional sample) operationalized the ability to mitigate risk (i.e., the ability to self-protect) through the amount of time spent in the physical company of potentially hurtful/rejecting close others. In both studies, unmitigated risk (i.e., spending more time with potentially hurtful/rejecting close others) predicted increased/greater engagement with symbolic social bonds. These studies are the first to reveal specific characteristics of social rejection experiences that motivate escape into symbolic social bonds.

Keywords

social rejection, symbolic social bonds, belonging, relationships

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The catchphrase "can't live with them, can't live without them" points to a paradoxical social reality. People are fundamentally motivated to be in relationships where they feel cared for and protected (Baumeister & Leary, 1995)—that is, relationships where they feel *safe*. However, people often suffer hurt and rejection in the very relationships to which they turn to feel safe—that is, relationships with romantic partners, friends, and family (Murray et al., 2021, 2023; Slavich, 2020). Drawing on the risk-regulation model (Murray & Pascuzzi, 2024), we propose that people immerse themselves in symbolic social bonds, such as those with favorite books, TV shows, or celebrities (Leary & Gabriel, 2022), when they are unable to mitigate or limit the risk of rejection in real-world relationships. Specifically, we propose that people immerse themselves in symbolic social bonds for safety when they cannot limit or escape the physical company of potentially rejecting close others.

Reactions to Social Rejection

The relationships people share with others pose varied social risks. New acquaintances can cut conversations short, friends can break promises, and romantic partners can be harsh or ill-tempered. Because people are strongly motivated to feel included in safe social connections (Murray et al., 2023), even reminders of such real-world risks are physically (Kross et al., 2011) and psychologically painful (Leary et al., 1995). Accordingly, social risks motivate people to regulate the strength of salient social connections in ways that mitigate or protect against social rejection and restore feelings of safety (Leary & Baumeister, 2000; Leary et al., 2006; Leary & Gabriel, 2022; MacDonald & Leary, 2005; Murray & Pascuzzi, 2024; Richman & Leary, 2009).

In real-world close relationships, people often mitigate social risk by avoiding or limiting contact with relationship partners that have already proven to be rejecting (Murray et al.,

[1]University at Buffalo, Buffalo, USA
[2]University of Essex, Colchester, UK
[3]Florida State University, Tallahassee, USA
[4]St. Joseph's University, Philadelphia, PA, USA
[5]Duke University, Durham, NC, USA

Corresponding Author:
Sandra L. Murray, University at Buffalo, The State University of New York, Park Hall, Buffalo, NY 14260 4110, USA.
Email: smurray@buffalo.edu

2006, 2008; Twenge, 2005). For instance, priming a rejecting close other automatically activated thoughts of distancing oneself from that person (Cavallo et al., 2010; Gillath et al., 2006; Murray et al., 2008). Also, participants who just had their needs for support ignored (vs. met) by their dating partner in virtual reality physically retreated from their partner in that same reality (Kane et al., 2012). Relatedly, when people perceived their romantic partner to be concealing more (vs. fewer) secrets, they retreated from their partner by keeping more secrets themselves (Uysal et al., 2012) and finding more ground for conflicts in their relationship (Finkenauer et al., 2009).

However, the real world might not always afford such direct remedies for mitigating social risk (Baumeister et al., 1990). Indeed, given the concrete interdependent ties afforded by sharing social networks, living in the same household, going to the same workplace or school, or following friends and family on social media, it may not always be possible or practical for individuals to physically separate themselves from close others who are behaving hurtfully. Moreover, competing motivations, such as desires to sustain commitment, could also make it difficult for people to consistently mitigate risk by avoiding acutely hurtful close others.

In such cases, people can mitigate social risk by seeking *new* social connections that offer the promise of being more accepting than existing social connections. For example, participants who had just been experimentally primed to feel hurt/rejected invested more energy in pursuing new friendships (Maner et al., 2007). Participants primed to feel acutely hurt/rejected also worked harder on collective tasks (Williams & Sommer, 1997), mimicked others' mannerisms (Lakin et al., 2008), and acquiesced more (Carter-Sowell et al., 2008; Williams et al., 2000), presumably as a means of making themselves more appealing to new acquaintances.

Retreat Into Symbolic Social Bonds. Nevertheless, just as the real world might not always afford direct remedies for mitigating social risk, the real world does not always afford ready, and seemingly safe, opportunities to seek out new relationship bonds. Fortunately, people exist in multiple relational worlds (Murray et al., 2021), only some of which rely on real-world interaction to sustain them (Gabriel et al., 2017). Growing research suggests that humans' neural architecture seems ill-evolved to distinguish "real" people seen in person from "fake" people appearing on television, movies, books, and social media (Kanazawa, 2002; Leary & Gabriel, 2022; Reeves & Nass, 1996). Consequently, symbolic social bonds—one-sided bonds to noninteracting targets such as celebrities and fictional characters in books or television shows—appear to have considerable power to satisfy basic needs for social connection (Cohen, 2005; Gabriel et al., 2016; Lotun et al., 2024; Ministero et al., 2022; Paravati et al., 2021). In fact, engaging with symbolic social bonds can elicit cognitive, affective, and behavioral responses that are similar to those elicited by "real" relationship bonds (Gardner & Knowles, 2008; Schiappa et al., 2005, 2006, 2007).

For example, symbolic social bonds can protect against laboratory-based experiences with social rejection. Thinking about favored (but not nonfavored) television programs buffered people against the drops in self-esteem and mood and increases in feelings of rejection commonly elicited by overt rejection (Derrick et al., 2009). Moreover, because symbolic social bonds present less threat of rejection than real relationship partners, they can even protect people against laboratory threats when individuals are at their most vulnerable, whether due to their low self-esteem or experience with trauma and adversity (Derrick et al., 2008; Gabriel et al., 2017).

Hypotheses and Overview. Despite growing evidence that symbolic social bonds can substitute for real-life social bonds (Paravati et al., 2021), existing research has not identified specific characteristics of social rejection experiences that might push people toward symbolic social bonds. The present studies identify and test one such characteristic: The in(ability) to otherwise mitigate real-world risk.

According to the "flexibly fluid" model of risk-regulation, people satisfy the need to feel safe in social connection in specific situations by mentally and/or behaviorally shifting between sources of safety, flexibly turning to *more certain* sources of safety over *less certain* sources (Murray & Pascuzzi, 2024). This dynamic logic suggests that people should be *more* likely to turn to symbolic social bonds when they have limited ability or opportunity to mitigate rejection risk in their real-world relationships, increasing acute needs for a more certain source of safety.

This logic specifically anticipates two-way interactions between the amount of social rejection people are currently experiencing and the amount of time they spend with close others in predicting engagement with symbolic social bonds. Namely, spending *more* (versus less) time with *more* (versus less) potentially *rejecting* close others should motivate people to turn to the relatively more certain acute source of safety afforded by symbolic social bonds. Such an interaction pattern anticipates complementary simple effects for rejection and time spent with close others in predicting engagement with symbolic social bonds. First, feeling hurt/rejected by others should predict *increased* engagement with symbolic social bonds when people have *less* ability to mitigate risk—that is, when they spent *more* time than usual with close others—but not when people have *more* ability to mitigate risk—that is, when they spent *less* time than usual with close others. Second, spending *more* time with close others should motivate *greater* engagement with symbolic social bonds when people are *more* pressured to mitigate risk—that is, when they feel *more* hurt/rejected than usual—but not when people are *less* pressured to mitigate risk—that is, when people felt *less* hurt/rejected than usual.

Testing these situational hypotheses is complicated by the possibility that people with stronger (vs. weaker) social ties

may be better protected against social rejection experiences on average. For instance, people who feel socially connected to others are comparatively more immune to social rejection experiences than people who feel lonely (Nezlek et al., 1997). Therefore, in Study 1 (N = 2,794), we used daily reports from an integrated analysis of four daily diary studies to separate the situation (i.e., today's reports) from the person (i.e., average daily reports). In Study 2 (N = 691), we used time-delimited retrospective reports to separate the situation (i.e., experiences in the *last* week) from the person (i.e., experiences in the *typical* week). In all studies, we assessed: (a) social rejection, (b) the amount of time people spent in the actual and virtual company of close others, and (c) the amount of time people spent engaged with symbolic bonds, such as those based on favorite TV shows, books, and celebrities.

Of course, people could read favorite books or watch favorite TV shows for reasons that have nothing to do with the desire for the safety these one-sided social relationships can afford (Gabriel et al., 2016). We examined two such alternate motivations. First, people might turn to symbolic social bonds for distraction or entertainment, rather than for the safety they afford. If that is the case, struggling to mitigate social risk should also motivate people to engage in activities that otherwise distract or occupy their minds. Study 1 examined this alternate motivation. Second, people might turn to symbolic social bonds because they share favorite TV shows, books, or celebrity fixations with close others in the real world (Gomillion et al., 2017). In other words, symbolic social bonds might serve as comforting reminders of real-world relationships, such as those with friends and family. Study 2 examined this alternate motivation.

Study 1

The data came from an integrative analysis of four daily diary samples (2,794 participants and 18,661 observations) across two countries (United States and United Kingdom) obtained in the first 6 months of the COVID-19 pandemic. Relative to analyzing samples individually, combining data sets into one affords increased statistical power and tests of generalizability (Curran & Hussong, 2009).

Given the available measures, we operationalized the first *daily* predictor variable, (a) *social rejection*, through how interpersonally rejected/hurt participants felt each day, and the second daily predictor variable, (b) *risk-mitigation ability*, through the amount of time participants spent in the physical and virtual company of close others each day. Symbolic social bonds are thought to represent *ongoing* relationships with celebrities, fictional characters, or narrative social worlds (Gabriel et al., 2016). Therefore, we operationalized the daily outcome, (c) *engagement with symbolic social bonds*, through the amount of time participants spent watching a favorite TV show/movie, reading a favorite book/blog, reading about a favorite celebrity, watching a favorite YouTube personality, and/or binge-watching a specific TV show.

The symbolic social bond items focused specifically on favored targets because *repeated* engagement is thought to signify the existence of an ongoing parasocial bond (Gabriel et al., 2016). Nevertheless, engaging in such favored activities could reflect the desire to distract oneself or otherwise occupy one's mind rather than the desire to escape into a safer, one-sided social world. If that is the case in this study, daily difficulties mitigating social risk should also predict the time participants spend in other mentally absorbing or entertaining pursuits, such as news consumption. Items assessing the time participants spent following mainstream and nonmainstream news each day assessed this alternate possibility.

We expected feeling *more* hurt/rejected by others to motivate *greater* engagement with symbolic social bonds when participants spent *more* (vs. less) time than usual in the company of close others—that is, when participants had *less* (vs. more) ability to mitigate real-world social risk. Also, we expected spending *more* time than usual with close others to motivate *greater* engagement with symbolic social bonds when participants felt *more* (vs. less) hurt/rejected—that is, when the pressure to mitigate risk was *high* (vs. low). However, we did *not* expect to find similar effects predicting daily engagement with the news media. Finding such contrasting effects would help suggest that difficulties mitigating real-world social risk motivate people to seek symbolic social bonds for the *safety* rather than the distraction they could afford.

Method

We based the N for Samples 1 and 4 (which involved paid participants) on Monte Carlo power simulations to detect at least two-way cross-level interactions (Mathieu et al., 2012), using input parameters derived from tests of related questions in our prior diary research. These simulations suggested power to detect two-way interactions should approximate .90. The Supplementary online materials (SOM) provide greater detail about the samples and procedures/measures. Although not preregistered, the data are on Open Science Framework (OSF): (https://osf.io/eyp9n/?view_only=525c3dfe2c0d4e669562f669a57a4d42). Prior publications utilizing these samples are detailed in the SOM.

Participants and Procedure

We recruited four separate online samples to complete daily diary studies through Prolific Academic (Sample 1, N = 478, completing 9/10 assessments on average; 76% completing all 10), Research Match (Sample 2, N = 1,546, completing 5.7/7 daily assessments on average; 51% completing all 7), an introductory psychology subject pool (Sample 3, N = 215, completing 5/9 daily assessments on average; 18%

completing all 9), and Qualtrics (Sample 4, $N = 555$, completing 9.6/11 assessments on average; 63% completing all 11). Participants either received payment (Samples 1 and 4), volunteered (Sample 2), or earned course credit (Sample 3). Across samples, participants (829 males, 1917 females, 48 unspecified) averaged 40.63 ($SD = 15.9$) years. In reporting racial/ethnic identity, 2,029 participants identified as White, 237 as Asian, 18 as Middle Eastern, 211 as Black, 149 as Latino/Latina, 61 as Indigenous, and 56 as mixed/other. In describing reporting sexual orientation, 2,349 participants identified as heterosexual, 109 as homosexual, 253 as bisexual, and 56 as other. The majority of participants (77.3%) reported being involved in committed romantic relationships. The SOM contain detailed demographic information by sample.

Daily Measures

Rejection/Hurt by Close Others. Each day participants responded to the question, "Overall, how hurt or rejected did people you know make you feel today?," 0 = *not at all*, 6 = *a lot*.

Time Spent in the Actual Company of Close Others. Each day participants separately rated how much time they spent: "with friends (face-to face, not online)," "with family (face-to-face, not online)," and "with romantic partner (face-to-face, not online)," 0 = *no time*, 1 = *1 h or less*, 2 = *2–4 h*, 3 = *5–6 h*, 4 = *>7 h*, which we averaged.

Time Spent in the Virtual Company of Close Others. Each day participants separately rated how much time they spent: "interacting with a friend or family member online, not face-to-face," "scrolling friends' social media posts," and "posting to social media," 0 = *no time*, 1 = *1 h or less*, 2 = *2–4 h*, 3 = *5–6 h*, 4 = *>7 h*, which we averaged.

Time Spent With News Media. Each day participants separately reported how much time they spent: "reading/listening to the mainstream news" and "reading/researching nonmainstream news (news that is not distributed by major news networks"), 0 = *no time*, 1 = *1 h or less*, 2 = *2–4 h*, 3 = *5–6 h*, 4 = *>7 h*, which we averaged.

Time Spent With Symbolic Social Bonds. Each day in Samples 1 to 3, participants separately rated how much time they spent: "watching a favorite TV show/movie," "binge-watching a TV show," "reading a favorite book/blog," "reading about a favorite celebrity," and "watching your favorite YouTube personalities," 0 = *no time*, 1 = *1 h or less*, 2 = *2–4 h*, 3 = *5–6 h*, 4 = *>7 h*, which we averaged. Sample 4 participants separately rated how much time they spent in three activities: "watching a favorite TV show/movie," "reading a favorite book/blog," and "reading about/watching your favorite celebrities/YouTube personalities."[1]

Table 1. Study 1 Descriptive Statistics.

Daily predictor	*M*	Standard deviation	Scale range
Hurt/rejection	0.80	1.42	0–6
Time with close others, in-person	1.27	0.82	0–4
Time with close others, virtual	0.68	0.61	0–4
Time with symbolic social bonds	0.67	0.53	0–4
Time spent with news media	0.73	0.61	0–4

Results

Table 1 contains the descriptive statistics for the full sample; Table 2 contains the correlations among the measures at the level of day (below the diagonal) and person (above the diagonal). Because days are nested within participants, the data likely violate assumptions of independence. Indicating such dependence, the intraclass correlation (ICC)—reflecting the proportion of variance in the outcome variables that varied daily/within person—was .62 for time spent engaging with symbolic social bonds and .57 for time spent immersed in news media.

We used the multilevel modeling program MLwiN to test our hypotheses (Goldstein et al., 1998). In the model specifications, we identified day/time of assessment as the level 1 variable and participant as the level 2 variable. Also, we centered each daily level variable on the participant's mean across days to separate variance due to the situation (i.e., day) from variance due to the person. Thus, the daily measure of the social rejection compared days when participants experienced *greater* than usual hurt/rejection to days when they experienced *less* than usual hurt/rejection. To index time spent with close others each day, we averaged the average time participant spent in the physical and virtual company of close others. Thus, the daily measure of *risk-mitigation ability* compared days when participants spent *more* time with close others than they usually spent (i.e., *low* ability to mitigate) to days when they spent *less* time with close others than they usually spent (i.e., *high* ability to mitigate).

Because participants provided assessments across multiple days, we used time (yesterday vs. today) to establish temporal precedence between cause and effect. Specifically, we separately predicted today's value of the outcome variable from: (a) a random intercept term, (b) the outcome on the prior day, a fixed effect, (c) the main effect of hurt/rejection on the prior day, a random effect, (d) the main effect time with close others on the prior day, a random effect, (e) the two-way interaction between hurt/rejection on the prior day and time spent with close others on the prior day, (f) the main of effect of participants' mean level of hurt/rejection across days, a fixed effect, (g) the main effect of participants' mean time spent in the company of close others across days, a fixed effect, (h) the two-way interaction between participants' mean level of hurt/rejection and mean time spent with

Table 2. Intercorrelations Among the Primary Study 1 Daily Variables.

Variable	1	2	3	4	5
1. Feeling hurt/rejected by close others	—	.02	.23	.25	.19
2. Time spent in the actual company of close others	−.02	—	.15	.13	.15
3. Time spent in the virtual company of close others	.02	.07	—	.46	.32
4. Time spent with symbolic social bonds	.00	.07	.21	—	.44
5. Time spent with news media	.03	.03	.22	.19	—

Note. Intercorrelations among the daily within-person (centered) variables are below the diagonal and intercorrelations among the daily between-person means are above the diagonal.

Table 3. Predicting Today's Time Spent With Symbolic Social Bonds From the Main and Interaction Effects of the Prior Day's Hurt/Rejection and Time Spent With Close Others.

	Today's time spent with symbolic social bonds					
Predictor	coeff	*SE*	*z*	*p*	*95% CI*	*Effect size*
Intercept	.6454	.0078	82.74	<.0001	.630, .661	.037
Prior day's outcome	−.0113	.0090	−1.26	.2077	−.029, .006	.006
Prior day's hurt/rejection	.0038	.0031	1.23	.2187	−.002, .010	.011
Prior day's time with close others	.0185	.0105	1.76	.0784	−.002, .039	.027
Prior day's hurt/rejection × time with close others	.0192	.0089	2.16	.0308	.002, .037	.040
Mean hurt/rejection	.0628	.0079	7.95	<.0001	.047, .078	.138
Mean time with close others	.2371	.0169	14.03	<.0001	.204, .270	.260
Mean hurt/rejection × mean time with close others	.1974	.0130	15.19	<.0001	.172, .223	.336
			Deviance test comparing nested models			
			$\chi^2(1)$	*p*		
u_{0j}	.1333	.0043	7,471.64	<.0001		
u_{2j}	.0024	.0004	65.97	<.0001		
u_{3j}	.0240	.0056	52.42	<.0001		
e_{0ij}	.0947	.0013	—	—		

close others, a fixed effect (i) a random effect, reflecting each participant's daily deviation from the average level of engagement with symbolic social bonds (or news media), (j) a random effect reflecting each participant's deviation from the average lagged effect of daily hurt/rejection, (k) a random effect reflecting each participant's deviation from the average lagged effect of daily time with close others, and (l) an error term, reflecting each participant's daily deviation from their own mean on the outcome,[2] including the (group-centered) main effects of participant *mean* levels of daily hurt/rejection and time spent with close others separates and their two-way interaction helps separate within- from between-person effects (Bolger & Laurenceau, 2013).

Specifically, in predicting each form of daily engagement (i.e., symbolic social bonds and news media), we estimated these equations:

$$Y(\text{engagement}_{\text{day n}})_{ij} = b_{0j} + b_1(\text{engagement}_{\text{day n-1}})_j + b_2(\text{hurt/rejection}_{\text{day n-1}})_j + b_3(\text{time with close others}_{\text{day n-1}})_j + b_4(\text{hurt/rejection}_{\text{day n-1}} \times \text{time with close others}_{\text{day n-1}})_j + e_{ij}$$

$$b_{0j} = \gamma_{00} + \gamma_{01}(\text{hurt/rejection mean}) + \gamma_{02}(\text{time with close others mean}) + \gamma_{03}(\text{hurt/rejection mean} \times \text{time with close others mean}) + u_{0j}$$

$$b_{1j} = \gamma_{10}$$
$$b_{2j} = \gamma_{20} + u_{2j}$$
$$b_{3j} = \gamma_{30} + u_{3j}$$
$$b_{4j} = \gamma_{40}$$

Tables 3 and 4, respectively, present the coefficients and corresponding effect sizes for the analyses predicting each of the two outcomes, daily time spent with symbolic social bonds and time spent with news media. The deviance tests compared the fit of models that specified between-person differences in the intercept to be fixed (vs. random), between-person differences in the daily effect of the prior day's hurt/rejection to be fixed (vs. random), and between-person differences in the daily effect of time spent with close others on the prior day to be fixed (vs. random). These deviance tests correspond to χ^2 tests with 1 degree of freedom. We used the standardized semipartial regression coefficient to estimate effect sizes, following Lorah (2018).

As hypothesized, the two-way interaction between the prior day's feeling hurt/rejected and time spent in the company of close others was significant in predicting subsequent time spent engaging with symbolic social bonds (Table 3), but not in predicting subsequent time spent immersed in

Table 4. Predicting Today's Time Spent With News Media From the Main and Interaction Effects of the Prior Day's Hurt/Rejection and Time Spent With Close Others.

	Today's time spent with news media					
Predictor	coeff	*SE*	*z*	*p*	*95% CI*	*Effect size*
Intercept	.7046	.0093	75.76	<.0001	.686, .723	.053
Prior day's outcome	.0003	.0087	0.34	.7339	−.014, .020	.000
Prior day's hurt/rejection	.0031	.0036	0.86	.3898	−.004, .010	.007
Prior day's time with close others	.0218	.0131	1.66	.0969	−.004, .047	.032
Prior day's hurt/rejection × time with close others	.0132	.0107	1.23	.2187	−.008, .034	.019
Mean hurt/rejection	.0490	.0091	5.44	<.0001	.031, .067	.117
Mean time with close others	.2733	.0194	14.09	<.0001	.235, .311	.261
Mean hurt/rejection × mean time with close others	.2173	.0150	14.49	<.0001	.188, .247	.305
			Deviance test comparing nested models			
			$\chi^2(1)$	*p*		
u_{0j}	.1761	.0057	6,724.03	<.0001		
u_{2j}	.0553	.0092	42.38	<.0001		
u_{3j}	.0027	.0006	102.58	<.0001		
e_{0ij}	.1350	.0019	—	—		

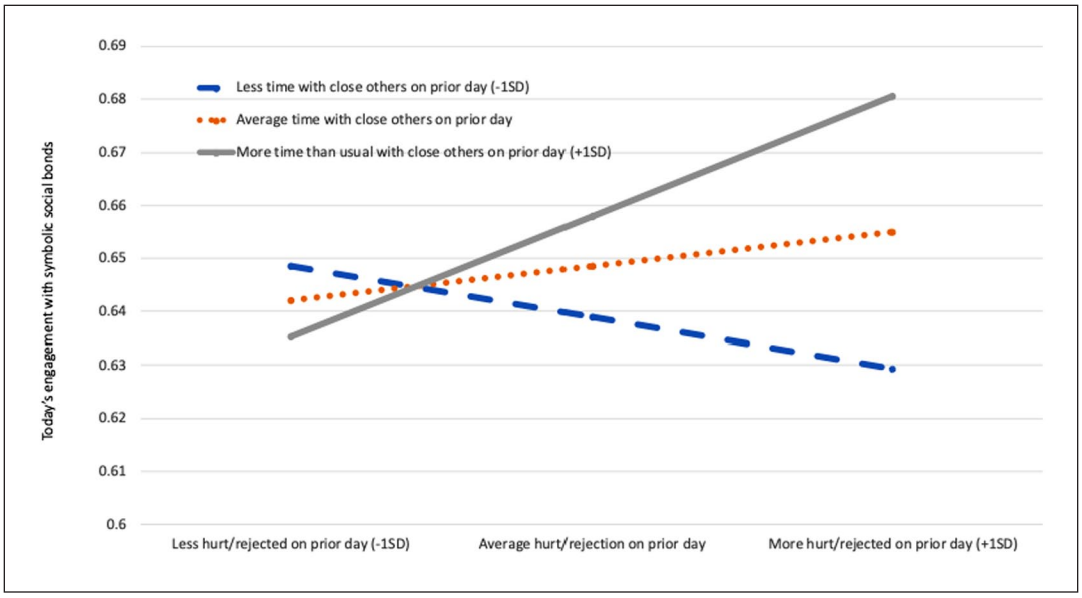

Figure 1. Predicting Today's Engagement With Symbolic Social Bonds From the Prior Day's Feeling Hurt/Rejected and the Prior Day's Time Spent With Close Others.

news media (Table 4).[3] In addition, the two-way interaction between the prior day's feeling hurt/rejected and time spent in the company of close others predicting time spent engaging with symbolic social bonds remained significant when we controlled for the time participants spent consuming news on the current day and the prior day, specified as fixed effects, $b = .0176$, $SE = .0088$, $z = 2.00$, $p = .0455$, *95% CI* = (.0004, .035).

Figure 1 presents the predicted scores for the significant interaction. It illustrates the association between the prior day's feelings of hurt/rejection and today's subsequent engagement with symbolic social bonds when participants spent *more* than their usual amount of time with close others on the prior day (i.e., 1 *SD* above their mean), less than usual time with close others on the prior day (i.e., 1 *SD* below their mean), and their average amount of time with close others on the prior day. Both sets of simple effects supported our hypotheses.

Feeling *more* hurt/rejected predicted today's *increased* engagement with symbolic social bonds when participants

had *less* ability to mitigate real-world social risk on the prior day, but not when they had *more* ability. That is, feeling more hurt/rejected predicted the next day's significantly *increased* engagement with symbolic social bonds when participants had spent *more* time with close others than usual on the prior day ($M + 1SD$), $b = .0092$, $SE = .0040$, $z = 2.30$, $p = .0214$, *95% CI* = (.001, .017). But, when participants spent *less* time with close others than usual ($M - 1SD$), *mitigating risk*, feeling hurt/rejected did *not* significantly predict today's engagement with symbolic social bonds, $b = -.0017$, $SE = .0039$, $z = -0.44$, $p = .6599$, *95% CI* = (−.009, .006).

Also as expected, spending *more* time with close others on the prior day predicted today's *increased* engagement with symbolic social bonds when the pressure to mitigate social risk was *high* (i.e., when feeling *more* hurt/rejected), but not when it was *low* (i.e., when feeling *less* hurt/rejected). That is, spending *greater* time with close others on the prior day predicted today's significantly *increased* engagement with symbolic social bonds when participants felt *more* hurt/rejected on the prior day ($M + 1SD$), $b = .0381$, $SE = .0138$, $z = 2.76$, $p = .0058$, *95% CI* = (.011, .065), but not when they felt *less* hurt/rejected ($M - 1SD$), $b = -.0010$, $SE = .0140$, $z = -0.07$, $p = .9442$, *95% CI* = (−.028, .026).

Supplementary Analyses

There are potential qualifications to these findings. The first concerns the daily measure of hurt/rejection. Not surprisingly, participants reported feeling "not at all" hurt/rejected on most (67%) days. That is, the distribution of daily feelings of hurt/rejection was significantly positively skewed. (Daily time spent with close others was more normally distributed.) Although multilevel analyses are generally robust to violations of normality of residuals (Knief & Forstmeier, 2021), we also estimated further models, wherein we transformed the continuous daily measure of hurt/rejection into a dichotomous variable (scoring days when participants answered "0/not at all" to the hurt/rejection item as zero, and days when participants chose any scale response above "0/not at all" as one). Using this dichotomized measure, the two-way interaction between the prior day's hurt/rejection and time spent with close others—and its simple effects—were all significant in predicting subsequent time spent with symbolic social bonds (see SOM).

In addition, the single "rejection/hurt" item asked participants to respond with reference to people they knew. While we intended for this item to capture feelings about close others, it is possible that it captured a broader range of interpersonal experiences. Further analyses revealed that participants reported feeling more hurt/rejected by people they knew when close others had ignored them, criticized them, or been upset with them (see SOM). This suggests that participants were likely reporting on close others when they rated how "hurt/rejected" they felt each day. Nevertheless, we do not know whether the people that "caused" participants to feel more hurt/rejected on a given day were the same people they spent more or less time with that day, impacting risk mitigation. We return to this issue in the General Discussion.

The second qualification concerns the fact that the analyses reported in Tables 3 and 4 models did not include any control variables beyond the between-person means. Importantly, we found equally robust support for our hypotheses when we included further control variables in the model. In the first set of analyses (see SOM), these controls included (a) today's feelings of hurt/rejection and time spent in the company of close others and their two-way interaction, controls that separate the hypothesized lagged effects from concurrent effects; and (b) time/day of assessment to control for historical artifacts and maturational change. In the second set of analyses (see SOM), these controls also included contrasts that compared the hypothesized effects across the samples. The addition of these contrasts revealed that the hypothesized interaction between the prior day's feeling of hurt/rejection and time spent with close others in predicting subsequent time spent with symbolic social bonds was robust across samples.

The third qualification concerns the possibility of alternate causal models (because even lagged analyses are not proof-positive of causation). As one salient possibility, spending time with symbolic social bonds might make it easier for participants to subsequently seek out the company of close others in the real world when they feel acutely hurt/rejected. In other words, these data might support a causal model in which time spent with symbolic social bonds and time spent with close others flipped position as DV and IV. However, further analyses revealed that the two-way interaction between the hurt/rejection and time spent with symbolic social bonds on the prior day was *not* significant in predicting today's time spent with close others (see SOM).

Discussion

Overall, the results of Study 1 present solid support for the hypotheses, but Study 1 is limited in three important respects. First, the analyses were not preregistered. Second, the data were collected during the initial months of the COVID-19 pandemic. Because quarantine and lockdown restrictions could conceivably make it harder than usual to physically avoid close others who are rejecting, this context provided an especially apt context for testing our hypotheses. But it is still important to establish that the hypothesized effects generalize beyond this specific time period. Third, the measure of daily hurt/rejection was a single item, skewed in its distribution, and unknown in reliability. Study 2 addressed all of these limitations.

Study 2

In Study 2, we drew from a large-scale data collection undertaken just before the COVID-19 pandemic to preregister

measures/analyses that could afford convergent tests of the hypotheses. Given the measures available, we operationalized the predictor variable (a) *social rejection* through self-reports of social disconnection on the UCLA *state* loneliness scale (Russell et al., 1980) and Social Connectedness scale (Lee & Robbins, 1995). Complementing Study 1, the Study 2 measure of social rejection thus captured the natural amalgamation or internalization of daily feelings of hurt/rejection into more general feelings of not belonging or being accepted by others. Paralleling Study 1, we operationalized (b) *risk-mitigation ability* through the amount of time participants recently spent in the company of close others, and (c) *engagement with symbolic social bonds*, the hypothesized outcome, through the amount of time participants *recently* spent with *favorite* TV shows and celebrities, etc.

Because people share favorite books, TV shows, or movies with close others (Gomillion et al., 2017), turning to such a favorite could reflect the desire to surround oneself with reminders of real-world social connections, rather than the desire to escape into a safer, one-sided relationship. If that were the case in this study, daily difficulties mitigating social risk should also predict the time participants spend with even more direct reminders of real-world social connections. Questions tapping the amount of time participants recently spent perusing old photographs, personal mementos, and social networking sites indexed this alternate possibility.

We expected feeling *more* socially disconnected to motivate *greater* engagement with symbolic social bonds when participants had *less* (vs. more) ability to mitigate real-world social risk—that is, when participants spent *more* (vs. less) time than usual in the company of close others. In addition, we expected spending *more* time than usual with close others to motivate *greater* engagement with symbolic social bonds when participants felt *more* (vs. less) disconnected from close others—that is, when the pressure to mitigate risk was *high* (vs. low). However, we did *not* expect to find similar effects predicting time spent in perusing reminders of real-world social connections. Finding such contrasting effects in Study 2 would provide suggestive evidence that difficulties mitigating real-world social risk motivate people to seek symbolic social bonds for the comparative *safety* these one-sided relationships afford. (The analyses predicting time spent engaging in reminders of real-world social connections were conducted in response to reviewer comments and were not preregistered.)

Method

Participants and Procedure

Six-hundred ninety-one undergraduates participated, providing .80 power to detect a small effect (partial $\eta^2 = .0113$; Faul et al., 2009). About 51% identified as female; 47% as male. Their mean age was 19.1. The sample was diverse, with 39.8% identifying as White, 12.4 % as Black, 8.9% as Hispanic, 29.8% as Asian or Pacific Islander, and the remainder as "other" or preferred not to identify. Participants completed questionnaires online, which are included in the SOM. The data, syntax, and preregistered analysis plan are available on OSF: https://osf.io/yhj36/.

Measures

Feelings of Disconnection. Two scales captured acute social disconnection, that is, the recent, experienced absence of close, intimate connections to others. Participants completed: (a) the 20-item UCLA *State* Loneliness Inventory (e.g., "I feel alone right now," 1 = *not at all true*, 5 = *true*; Russell et al., 1980), and (b) the eight-item Social Connectedness scale (e.g., "Even around people that I know, I don't feel like I really belong," 1 = *agree* to 6 = *disagree*; Lee & Robbins, 1995). To create a single measure across both scales, all items were scored so that higher values reflected greater disconnection, then *z*-scores were calculated for each individual item. Finally, a single mean was calculated across all item *z*-scores from the two component scales ($\alpha = .95$), such that higher scores captured recent feelings of greater disconnection.

Recent Time Spent With Close Others. Participants reported how much they had interacted with "close friends or romantic partners," "groups of friends," and "family members" over the last week, 1 = *I didn't do that* to 7 = *multiple times a day*, which we summed.

Typical Time Spent With Close Others. Participants also reported how much they interacted with each of the three target groups in a *typical* week, 1 = *I never do that* to 7 = *multiple times a day*, which we summed.

Recent Time Spent With Symbolic Social Bonds. Participants reported how often they "watched their favorite TV show (a new episode)," "watched their favorite TV show (a rerun)," "read one of their favorite books," "watched one of their favorite movies," "looked up information on one of their favorite celebrities," "read a celebrity magazine," and "watched a show or movie starring one of their favorite celebrities" over the last week, 1 = *I didn't do that* to 7 = *multiple times a day*, which we summed.

Typical Time Spent With Symbolic Social Bonds. Participants also reported how much they engaged in the same seven social surrogate activities in a typical week, 1 = *I never do that* to 7 = *multiple times a day*, which we summed.

Recent Time Spent With Reminders of Real-World Social Connections. Participants reported how often they "looked at old pictures," "looked through old stuff," or "went on a social networking site just to look around," over the last week, 1 = *I didn't do that* to 7 = *multiple times a day*, which we summed.

Table 5. Study 2 Descriptive Statistics.

Variable	*M*	*SD*	Scale range
Recent time with symbolic social bonds	17.09	7.72	7–49
Typical time with symbolic social bonds	16.85	6.72	7–49
Recent time with reminders of real-world social connections	10.29	4.15	3–21
Typical time with reminders of real-world social connections	10.30	3.88	3–21
Recent time with close others	11.26	3.52	3–21
Typical time with close others	12.89	3.33	3–21
Social connectedness (lower = more disconnected)	4.50	1.06	1–6
Loneliness	2.25	0.76	1–5

Typical Time Spent With Reminders of Real-World Social Connections. Participants also reported how much they engaged in the same three activities in a typical week, 1 = *I never do that* to 7 = *multiple times a day*, which we summed.

Results

Table 5 presents descriptive statistics, and Table 6 presents the intercorrelations. We conducted a preregistered simultaneous regression analysis predicting recent time spent engaged with symbolic social bonds from the centered main effect of typical time spent with symbolic social bonds (to differentiate the situation from the person), the centered main effects of recent feelings of social disconnection and recent time spent with close others, and their hypothesized two-way interaction. Table 7 presents the results predicting time spent with symbolic social bonds (top half of table) and time spent with reminders of social connection (bottom half of table). We report effect sizes as partial eta squared (η_p^2) for all regression model terms, including tests of simple effects within interactions; η_p^2 values were calculated identically across terms in the model. Although η_p^2 is related to change in R^2 for a single model term (which in this context is equivalent to eta squared, η^2), η_p^2 yields larger values and should be interpreted accordingly.

As expected, the two-way interaction between feeling disconnected and recent time spent with close others significantly predicted recent engagement with symbolic social bonds. However, the two-way interaction between feeling disconnected and recent time spent with close others did *not* significantly predict time spent with reminders of real-world social connection. In addition, the two-way interaction between feeling disconnected and recent time spent with close others was still significant in predicting recent engagement with symbolic social bonds when we controlled for time recently spent with reminders of real-world social connection, $b = .580$ $SE = .171$, $t(669) = 3.39$, $p < .001$, $\eta_p^2 = .017$.

Figure 2 presents the association between feeling disconnected and engagement with symbolic social bonds when participants recently spent more (vs. less) time with close others. As expected, feeling *more* disconnected predicted *greater* recent engagement with symbolic social bonds when participants were *less* able to mitigate real-world social risk, but not when they were *more* able. That is, feeling *more* disconnected predicted *greater* engagement with symbolic social bonds when participants recently spent *more* time with close others ($M + 1SD$), $b = .839$, $SE = .269$, $t(669) = 3.123$, $p = .002$, $\eta_p^2 = .014$. However, when participants had recently spent *less* time with close others ($M - 1SD$), the corresponding simple effect of social disconnection was negative and marginal, $b = -.444$, $SE = .237$, $t(669) = -1.873$, $p = .062$, $\eta_p^2 = .005$. Also, as expected, spending *more* time with close others predicted *greater* engagement with symbolic social bonds when the pressure to mitigate risk was *high*, but not when it was low. That is, recently spending *more* time with close others predicted *greater* engagement with symbolic social bonds when participants felt *more* disconnected from others ($M + 1SD$), $b = 1.32$, $SE = .269$, $t(669) = 4.922$, $p < .001$, $\eta_p^2 = .035$. However, spending more time with close others did *not* significantly predict engagement with symbolic social bonds when participants felt *less* disconnected ($M - 1$ *SD*), $b = .039$, $SE = .241$, $t(669) = -0.162$, $p = .871$, $\eta_p^2 = .000$.

Importantly, the two-way interaction in Figure 2 was also significant when we omitted the control for typical time spent with symbolic social bonds, $b = 1.794$, $SE = .273$, $t(670) = 6.56$, $p < .001$, $\eta_p^2 = .061$. In addition, the two-way interaction in Figure 2 was also still significant when we also controlled for the interaction between social disconnection and typical time spent with close others in predicting recent time spent with symbolic social bonds, $b = .967$, $SE = .206$, $t(666) = 4.71$, $p < .001$, $\eta_p^2 = .032$, although this specific analysis was not preregistered.

Discussion

Study 2 further suggests that struggling to mitigate social risk in real-world relationships may motivate individuals to seek out symbolic social bonds. Feeling socially disconnected predicted greater engagement with symbolic social bonds when people were *less* able to mitigate real-world social risk—that is, when they spent *more* time with close others, but not when they were *more* able to mitigate risk—that is, when people spent *less* time with close others. In addition, spending *more* time with close others predicted greater engagement with symbolic social bonds when people experienced *more* pressure to mitigate social risk—that is, when they felt *more* disconnected, but not when people experienced *less* pressure to mitigate social risk—that is, when they felt *less* disconnected. However, no such effects emerged in predicting recent time spent engaging with reminders of social connection, such as old photographs and mementos.

Table 6. Intercorrelations Among the Study 2 Variables.

Variable	1	2	3	4	5	6	7
1. Feelings of disconnection	—						
2. Recent time with symbolic social bonds	.153	—					
3. Usual time with symbolic social bonds	.194	.813	—				
4. Recent with close others	−.191	.287	.265	—			
5. Usual time with close others	−.352	.133	.176	.527	—		
6. Recent time with reminders of real-world social connections	−.017	.409	.326	.239	.264	—	

Note. All correlations are significant, $p < .001$ except for the correlations between disconnection and time spent with reminders of real-world social connections, which are not significant.

Table 7. Predicting Recent Time With Symbolic Social Bonds From Typical Time With Symbolic Social Bonds, Feelings of Disconnection, Recent Time With Close Others, and the Interaction Between Recent Time Spent With Close Others and Feelings of Disconnection.

Criterion: recent time spent with symbolic social bonds						
Predictors	*b*	*SE*	*t*	*p*	η_p^2	ΔR^2
Typical time spent with symbolic social bonds	5.953	.187	31.79	<.001	.602	
Recent time with close others	.680	.184	3.70	<.001	.020	
Feelings of disconnection	.197	.182	1.09	.278	.002	
Recent time with close others × feelings of disconnection	.641	.176	3.64	<.001	.019	.007
Criterion: recent time spent with reminders of real-world social connections						
Typical time spent with reminders of social connection	.786	.028	28.04	<.001	.540	
Feelings of disconnection	−.106	.108	−0.99	.325	.001	
Recent time with close others × feelings of disconnection	.153	.107	1.43	.152	.003	.001

These contrasting effects suggest that struggling to mitigate social risk in the real world motivates participants to seek symbolic social bonds for the comparatively greater comfort and safety these one-side relationships afford.

General Discussion

Experiences with social rejection are a relatively routine part of daily life, making it crucial to understand how people can sustain feelings of safety in social connection in the face of such experiences. The present findings suggest that people are especially drawn to symbolic social bonds when it proves difficult to protect themselves against real-world social rejection.

Specifically, experiencing *greater* social rejection in real-world close relationships predicted *increased* engagement with symbolic social bonds when participants were *less able* to mitigate or protect themselves against social risk—that is, when participants spent *more* (vs. less) time with close others. In Study 1, feeling *more* hurt/rejected by close others than usual predicted the next day's *increased* engagement with symbolic social bonds when participants spent *more* time with close others on the prior day (i.e., *low mitigation*), but not when they spent *less* time than usual in the company of close others (i.e., *high mitigation*). Similarly, in Study 2, feeling *more* disconnected from close others predicted *greater* engagement with symbolic social bonds when participants had recently spent *more* time with close others (i.e., *low mitigation*), but not when they had recently spent *less* time in the company of close others (i.e., *high mitigation*).

In addition, spending *more* time with close others predicted *increased* engagement with symbolic social bonds when participants experienced stronger pressures to mitigate social risk—that is, when they experienced *high*, but not low, levels of social rejection. In Study 1, spending *more* time than usual with close others predicted the next day's *increased* engagement with symbolic social bonds when participants felt *more* hurt/rejected on the prior day, but not when participants felt *less* hurt/rejected. Similarly, in Study 2, recently spending *more* time with close others predicted *greater* engagement with symbolic social bonds when participants currently felt *more* disconnected, but not when they currently felt *less* disconnected.

In Study 1, a generally parallel and significant interaction emerged when we examined the between-person effects (see SOM). These effects revealed that the tendency for people who felt *more* hurt/rejected by others across the assessment days to report *greater* engagement with symbolic social bonds was *stronger* when participants were generally *less* able to physically mitigate or protect themselves against

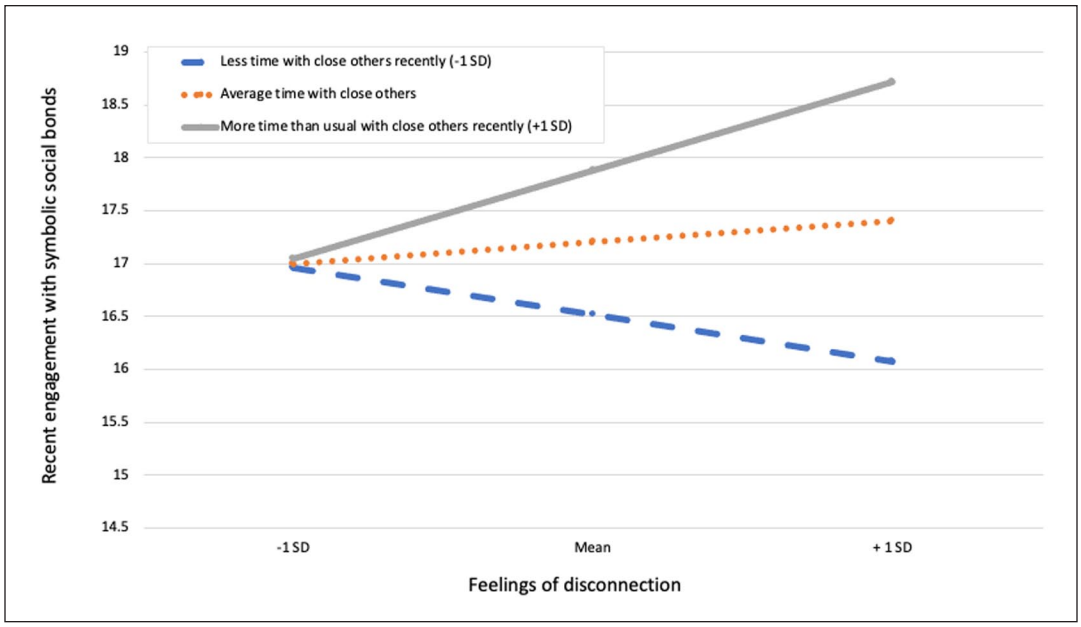

Figure 2. Predicting Engagement With Symbolic Social Bonds This Week From Feelings of Disconnection (an Average of z-Scored Items) and Time Spent With Close Others This Week.

social rejection—that is, when participants generally spent *more* (vs. less) time in the company of others. In addition, the tendency for people who spent *more* time in the company of close others to report *greater* engagement with symbolic social bonds was *stronger* when participants experienced *greater* real-world social rejection—that is, when participants generally felt *more* (vs. less) hurt/rejected by others.

The present studies provide consistent support for the hypotheses using convergent approaches for separating the situation from the person (i.e., daily diary vs. retrospective reporting) and convergent operationalizations of real-world social rejection (i.e., feeling hurt/rejected vs. feeling disconnected). They also provided at least suggestive evidence that struggling to mitigate real-world social risk motivates people to seek out symbolic social bonds for safety rather than for alternate reasons. On the one hand, if participants were engaging with symbolic social bonds because they desired some means of distracting or entertaining themselves, then struggling to mitigate real-world social risk should also affect *other* forms of media consumption, such as news consumption. However, in Study 1, the two-way interaction between the prior day's feelings of hurt/rejection and time spent with close others was *not* significant in predicting the subsequent amount of time participants spent consuming mainstream and nonmainstream news. On the other hand, if participants were engaging with symbolic social bonds because they wanted to remind themselves of close others, then struggling to mitigate social risk should also predict greater engagement with direct reminders of real-world social connections. However, in Study 2, the two-way interaction between recent feelings of social disconnection and time spent with close others was not significant in predicting the time participants spent exploring old photographs, mementoes, or social networking sites.

The present studies do have limitations. First, the studies are nonexperimental, and as such, they cannot offer definitive proof of causality. Second, the Study 1 diary studies were conducted during the initial months of the COVID-19 pandemic in the United States. This raises the possibility that the effects might be limited to this unusual point in human history. However, Study 2 was conducted prior to the pandemic and we found conceptually parallel effects. The majority of the participants were also White, heterosexual, and involved in romantic relationships, potentially restricting the generality of the effects. Third, the effects were small in magnitude. Because behavior is multiply determined, small effects are common in psychological research (Götz et al., 2021). The time people spend engaging with symbolic social bonds is likely subject to many influences we did not assess, putting a ceiling on the size of the effect we could hope to observe. Nevertheless, even small effects speak to the explanatory power of conceptual models (Götz et al., 2021; Prentice & Miller, 1992). Indeed, the present studies are the first to identify unmitigated risk as a specific characteristic of social rejection experiences that motivates people to seek the comfort and safety afforded by spending time with symbolic social bonds.

The studies also leave additional questions for future research. First, we do not know from the present studies whether the individuals that caused participants to feel rejected/hurt or disconnected from others were the *same* individuals whose physical company they could more or less readily

escape. Social rejection is thought to activate an adaptive short-term motivation to withdraw from social interaction (Ike et al., 2020; Murray & Pascuzzi, 2024). Therefore, when people are feeling hurt/rejected, being in the continued presence of close others should frustrate the motivation to mitigate risk regardless of the source of the original rejection. Indeed, from the perspective of the risk-regulation model (Murray & Pascuzzi, 2024), being acutely hurt/rejected, whether by a friend, romantic partner, or casual acquaintance, equivalently activates a *diffuse* motivation to mitigate social risk. Because this motivation is diffuse, it should be flexibly satiated. For instance, Jamie, a hypothetical participant in Study 1, could mitigate social risk by avoiding her best friend Quinn (the source of her hurt feelings) or by avoiding her sibling (limiting their opportunity to hurt her feelings anew). The nonspecific nature of the measures in the present studies suggests that risk mitigation does operate in such a diffuse manner. That said, future research may benefit from examining whether people are even more drawn to symbolic social bonds when they cannot escape the company of the exact source of their hurt.

Second, the present studies examined only one means of mitigating real-world social rejection—physically avoiding close others, whether by limiting in-person or virtual contact with close others. However, people can also mitigate social rejection by psychologically distancing themselves from rejecting others (see Murray & Pascuzzi, 2024 for a review). For instance, when people lower in self-esteem felt acutely rejected by their romantic partner, they protected themselves against feeling hurt/rejected by finding greater fault in their partner or relationship (Murray et al., 2008). Future research is needed to establish whether people are also drawn to symbolic social bonds when circumstance constrains their capacity to self-protectively psychologically distance from their partner.

Third, the present studies assessed engagement with symbolic social bonds through engagement in parasocial relationships with celebrities, bloggers, or favorite television characters. However, people can also symbolically affirm the safety of their connections to others by eating comfort foods or engaging with religious artifacts (Paravati et al., 2021). Therefore, future research is needed to establish whether or not struggling to mitigate or protect against the risk of being hurt/rejected by close others in the real world also motivates people to seek out these alternate forms of symbolic safety.

Finally, the present studies examined only one possible operationalization of the protective properties of symbolic social bonds. That is, they limited themselves to examining whether people are especially likely to seek out symbolic social bonds as an antidote to *unmitigated* experiences with social rejection. However, symbolic social bonds might also have an inoculating property. Namely, spending time with symbolic social bonds may also protect people against feeling hurt/rejected when their real-world bonds are temporarily lacking. Indeed, further analyses of the Study 1 data revealed that the time participants spent with close others and symbolic social bonds interacted to predict hurt/rejection sensitivity. Spending greater time with symbolic social bonds completely inoculated or protected participants against feeling hurt and rejected when they spent less time than usual with close others (see SOM).

Conclusion

The present studies echo the idea that human beings are an ultrasocial species with enormous flexibility in how they fill their needs to feel safe in social connection (Murray & Pascuzzi, 2024; Paravati et al., 2021). Past work suggests that being able to draw on multiple sources of belongingness is good for well-being (Collins et al., 2022; Paravati et al., 2021). The current research suggests one possible mechanism for why this may be the case. When the risks of real-world relationships prove too great, people can flexibly and selectively seek the comfort and safety afforded by symbolic social bonds. Indeed, rather than being a form of social connection that only lonely or isolated people might seek, the present studies suggest that symbolic social bonds are an important part of most people's psychological toolkits.

ORCID iDs

Sandra L. Murray https://orcid.org/0000-0002-4506-9285
Shira Gabriel https://orcid.org/0000-0002-3384-8900
Veronica M. Lamarche https://orcid.org/0000-0002-2199-6463
Mark D. Seery https://orcid.org/0000-0001-7368-2493
James K. McNulty https://orcid.org/0000-0002-5476-7472
Deborah E. Ward https://orcid.org/0000-0002-2574-4861
Esha Naidu https://orcid.org/0000-0002-4061-0773

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Supplemental Material

Supplemental material is available online with this article.

Notes

1. Because we had no expectation that participants who used one of the social surrogate activities would necessarily use others, we do not report internal consistencies (McNulty & Russell, 2010).
2. In complex models with multiple predictors, specifying multiple random effects can result in models failing to converge, making fixed specification appropriate on a case-by-case basis (Bates et al., 2018). We, therefore, fit random coefficient models to the intercept term, feeling hurt/rejected on the prior day, and time

spent with close others on the prior day, following recommendations supporting the use of maximally random models (Barr et al., 2013).

3. The effects were parallel when we included sample as a Level 3 variable.

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