

Fear of Being Single Priming predicts Maladaptive Relationship Pursuits

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Abstract

We tested a priming paradigm for inducing fear of being single, and explored its causal role on longing for ex-partners and settling for less. In Studies 1 and 2, fear of being single was primed by focusing on positive/negative aspects of singlehood/relationships. In Study 3, the paradigm focused only on the positive/negative aspects of singlehood and included a no-task control.

Across studies, focusing on negative aspects of singlehood produced greater fear of being single than focusing on positive aspects, an effect that appears to be driven by the negative focus.

Mixed effects emerged when focusing on relationships. Supporting a causal effect, fear of being single prompted by the priming task predicted longing for ex-partners and willingness to settle for less.

Keywords: fear of being single, singlehood, ex-partners, settling for less

Fear of Being Single Priming predicts Maladaptive Relationship Pursuits

The challenges of being single in a couples' world may encourage potentially unhealthy relational behaviors aimed at changing one's relationship status as quickly as possible. The number of singles in the U.S. is on the rise (e.g., Pepping, MacDonald, & Davis, 2018), and, in many countries, singles outnumber those in relationships (e.g., Fisher & Sakaluk, 2020). However, Western ideologies that committed romantic relationships are the ideal persist (Day, Kay, Holmes, & Napier, 2011). In many contexts, singlehood continues to be stigmatized, with stigma against singles generally perceived as more acceptable than other forms of stigma (DePaulo & Morris, 2005; Fisher & Sakaluk, 2020; Morris, Sinclair, & DePaulo, 2007). For those navigating singlehood, distress about the consequences or implications of being single may negatively impact well-being (Adamczyk, 2018; Weisskirch, 2017) and attitudes and behavior toward relationships (Hadden, Agnew, & Tan, 2018; Spielmann, MacDonald, et al., 2013; Spielmann, Maxwell, MacDonald, Peragine, & Impett, 2020). The present study aims to introduce and refine an experimental paradigm for priming fear of being single in order to better understand the cognitions contributing to the experience of fear of being single and exploring the causal role of fear of being single on maladaptive relationship pursuits. Better understanding conditions under which fear of being single is exacerbated or minimized may inform strategies for navigating singlehood in healthier ways.

Fear of Being Single

Fear of being single refers to “concern, anxiety, or distress regarding the current or prospective experience of being without a romantic partner” (Spielmann et al., 2013, p. 1049). Although a relatively understudied construct in the relationships literature, research to date on fear of being single has consistently demonstrated that those with stronger fear of being single

are more vulnerable to engaging in relatively unhealthy romantic pursuits, arguably focused on pursuing available means to avoiding singlehood or changing their single status.

Longing for Ex-Partners out of Fear of Being Single. One example of a relatively unhealthy romantic pursuit involves continued longing for ex-partners. For instance, in the immediate wake of a breakup, fear of being single (both chronic and daily) predicts pining after the ex-partner and attempting to renew the relationship (Spielmann, MacDonald, Joel, & Impett, 2016). Continuing to hold onto emotional attachments to ex-partners after a breakup is generally considered relatively maladaptive, as it is often associated with prolonged negative affect, such as anger and sadness (Davis, Shaver, & Vernon, 2003; Sbarra, 2006; Sbarra & Emery, 2005), and with poorer breakup adjustment over time (Fagundes, 2012; Frazier & Cook, 1993). Importantly, fear of being single predicted pining after ex-partners regardless of who initiated the breakup (Spielmann et al., 2016). The prospect of renewal with recent ex-partners may represent a tangible means of changing one's single status.

Settling for Less out of Fear of Being Single. Another potentially maladaptive relational pursuit documented among those who fear being single involves settling for less during the selection of new prospective romantic partners. For instance, Spielmann et al. (2013) found that while those who were relatively unafraid of being single preferred a dating prospect who was high in responsiveness rather than low, those with stronger fear of being single were equally interested in either dating prospect—despite accurately recognizing their differences in responsiveness. Furthermore, two independent studies replicated the finding that those with stronger fear of being single engaged in relatively unselective matching strategies when participating in speed-dating events (Spielmann et al., 2013, 2020). On a daily basis, those with stronger (vs. weaker) fear of being single tend to express greater interest in dating, but also

anticipate a lower likelihood of starting a relationship (Hadden et al., 2018), which may encourage lowering one's standards to prioritize partner availability over quality.

Taken together, prior research suggests that those with stronger fear of being single appear to engage in relational pursuits that are arguably focused on changing one's single status, but may result in relatively unhealthy or substandard relationship experiences.

Priming Fear of Being Single

To date, research on fear of being single has relied solely on correlational methods, which limits our ability to understand the causal role of fear of being single within relational pursuits. The goal of the present research was to develop a task aimed at experimentally priming state levels of fear of being single. Although fear of being single is typically considered to be a trait-like individual difference, there is support that it should also be malleable to situational influences. For instance, 27% of the variation in daily fluctuations in fear of being single over the course of a month was due to variation within participants, and some relational experiences, such as breakups, may heighten fears about being single (Spielmann et al., 2016).

Development of a task for priming fear of being single is important for many reasons. For one, very little is known to date on the antecedents and triggering factors of fear of being single. Even in Spielmann et al.'s (2016) daily measurement study, the authors were unable to predict daily fluctuations in fear of being single. Although we do not claim that a successful priming task would be representative of the naturalistic or even most prominent cognitions contributing to fear of being single, it will begin to shed light on thoughts that potentially exacerbate or buffer fears about being single.

Additionally, developing a priming task for fear of being single will be important from continuing to distinguish it from more general relational insecurities, such as anxious attachment.

Like fear of being single, anxious attachment represents a relational insecurity focused on dependence and concern about partner availability (Mikulincer & Shaver, 2007). Although statistically and theoretically distinct constructs (Spielmann et al., 2013), fear of being single and anxious attachment are strongly, positively correlated. Because of their strong association, it is common in research on fear of being single to strive to speak to the unique effects of fear of being single above and beyond its similarity to anxious attachment (e.g., Spielmann et al., 2013, 2016, 2020). Developing a task focused on uniquely priming fear of being single will help to further isolate the distinct implications of fear of being single on relational outcomes, relative to anxious attachment.

Current Research

The goal of the present research was to develop an effective, replicable priming task for changing momentary levels of fear of being single, and to explore the causal effect of situationally primed fear of being single on relational behaviors such as longing for ex-partners (all studies) and settling for less when selecting new prospective partners (Studies 2 & 3). Studies 1 and 2 utilized a novel task for experimentally priming fears about being single, asking currently-single participants to focus on either the positive or negative aspects of singlehood or relationships.¹ Study 3 adjusted the paradigm by prompting participants to only focus on the positive or negative aspects of singlehood, and also included a control condition. Across studies, we hypothesized that experimentally priming fear of being single would in turn predict longing for ex-partners, replicating the correlational effects of Spielmann et al. (2016). Furthermore, in Studies 2 and 3, we hypothesized that experimentally priming fear of being single would in turn increase willingness to settle for less in relationships, replicating the correlational effects of Spielmann et al. (2013, 2020).

Study 1

The primary goal of Study 1 was to develop a priming task aimed at influencing fear of being single. Single participants engaged in a writing task in which they were prompted to focus on either the positive or negative outcomes of an imagined future in which they remain single or in a relationship. As the first test of this experimental method, our hypotheses in Study 1 about the specific effects of each condition on fear of being single scores were largely exploratory. We suspected that those prompted to focus on the negative aspects of singlehood would experience heightened fear of being single compared to those prompted to consider the positive aspects of singlehood. Furthermore, we expected that this increase in fear of being single would be associated with increased emotional attachment to their ex-partner, replicating correlational findings by Spielmann et al. (2016). Although we did not have clear predictions in advance about how the conditions involving consideration of the positive and negative aspects of being in a relationship would influence fear of being single or longing for ex-partners, we suspected that focusing on the positive aspects of a relationship could increase fears of being single due to emphasis on lost reward potential and that focusing on the negative aspects of a relationship could decrease fears of being single due to emphasis on avoiding threat potential.

Method

Participants and Procedure

Participants were recruited from our undergraduate participant pool and Amazon's Mechanical Turk. To be eligible, participants needed to be single and to have experienced a breakup in the past. A total of 478 eligible participants completed the online survey. Data were excluded from 16 participants for multiple survey entries, from 46 for inattention (e.g., failed attention checks and patterned responses), from 41 for failing to complete the experimental

manipulation writing task (either leaving it blank or providing a nonsensical response), and from 8 whose responses were outliers (defined as greater than 3 SD from the mean) on age and time passed since their most recent breakup. The final sample consisted of 367 participants (245 women, 122 men), ages 18-65 ($M = 29.68$, $SD = 11.99$). Sixty percent identified their ethnicity as European American/White, 13% as Middle Eastern, and 11% as African American/Black (other options each represented less than 10%). A power analysis using G*Power 3.1.9.2 suggested a sample size goal of 357 participants to achieve 80% power to detect a small-to-moderate effect (e.g., $\eta_p^2 = .03$).

Participants completed the online survey containing the following measures in the order presented.

Measures

Details of Most Recent Breakup. Participants reported on their most recent breakup experience. Participants indicated how many months the relationship had lasted ($M = 27.89$, $SD = 44.84$; range = 0 months-32 years) and how many months had passed since the breakup ($M = 16.77$, $SD = 22.41$; range = 0 months-12 years). On a scale from 1(*entirely my decision*) to 3(*entirely mutual*) to 5(*entirely my partner's decision*), participants indicated who had initiated the breakup ($M = 2.94$, $SD = 1.43$).

Fear of Being Single Priming Task. Participants completed a writing task aimed at priming fear of being single. Participants were prompted to write about either the positive or negative aspects of being single or in a relationship in the future. Therefore, participants were randomly assigned to one of four conditions: *Negative Single*, *Positive Single*, *Negative Relationship*, or *Positive Relationship*. Participants who were randomly assigned to consider a future self as single, read the following writing prompt (with italics indicating phrasing for the

negative condition):

“We are interested in how people envision their future selves. Take a few moments to imagine yourself 20 years from now. Imagine that you are currently single. Although you have experienced some positive relationships over the years, you have struggled to make any of those relationships last. As time goes on, the odds become greater and greater that you will end up single for the long-term. With this future in mind, take a moment to write down the ways in which you would be happy [*unhappy*] about this outcome. That is, what might be some of the upsides or positive aspects [*downsides or negative aspects*] of remaining single for the long-term?”

Participants assigned to consider a future self in a relationship read the following prompt (with italics indicating phrasing for the negative condition):

“We are interested in how people envision their future selves. Take a few moments to imagine yourself 20 years from now. Imagine that you are currently in a romantic relationship that has already lasted for a few years. As time goes on, the odds become greater and greater that you still stay in this relationship for the long-term. With this future in mind, take a moment to write down the ways in which you would be happy [*unhappy*] about this outcome. That is, what might be some of the upsides or positive aspects [*downsides or negative aspects*] of remaining in this relationship for the long-term?”

Participants then wrote about their imagined futures in the text box provided.

Fear of Being Single. Following the task, participants completed the Fear of Being Single Scale (Spielmann et al., 2013). Participants responded on a scale from 1(*not at all true*) to 5(*very true*) to six items such as, “I feel anxious when I think about being single forever” ($M = 2.97$, $SD = 1.03$, $\alpha = .81$).²

Emotional Attachment to Ex-Partner. Participants reported on their current feelings of love and longing for their most recent ex-partner on four items such as, “I am still in love with him/her,” and “Losing him/her was the worst thing that ever happened to me” (Spielmann, MacDonald, & Wilson, 2009; Wegner & Gold, 1995). Participants responded on a scale from 1(*strongly disagree*) to 5(*strongly agree*); $M = 2.26$, $SD = 1.21$, $\alpha = .89$.

Results and Discussion

Pearson correlations between variables in Study 1 and 2, respectively, are presented in

Table 1.

Priming Fear of Being Single

We first tested whether the writing task successfully primed fears about being single. We conducted an ANOVA to test the effect of priming condition on fear of being single scores. There was a marginally significant effect of condition on fear of being single, $F(3, 360) = 2.36$, $p = .07$, $\eta_p^2 = .02$ (see Table 2). Post-hoc tests revealed that those in the *Negative Single* condition had significantly stronger fear of being single than those in the *Positive Single* condition, but did not differ significantly from those in the *Negative Relationship* or *Positive Relationship* conditions. Finally, those in the *Positive Single* condition had significantly lower fear of being single than those in the *Positive Relationship* condition. It may be that focusing on future relationships more generally created a contrast effect for currently-single participants that served to increase their fear of being single.

Taken together, it appears that the priming task was generally successful in affecting fear of being single scores. In particular, those focusing on the negative aspects of singlehood experienced heightened fear of being single compared to those focusing on the positive aspects of singlehood.

Emotional Attachment to Ex-Partners out of Fear of Being Single

We next tested whether the fear of being single primed by the writing task predicted participants' emotional attachment to their most recent ex-partner. To test this, we conducted a bootstrapping mediation model using Model 4 in the PROCESS macro in SPSS 26. Condition was entered as a multicategorical independent variable with the *Negative Single* condition as the indicator/reference group. We also controlled for time since the breakup and breakup initiator status (as is common in research on emotional attachment to ex-partners; e.g., Spielmann et al.,

2016; and supported by the strong correlations between these variables and emotional attachment to the ex-partner in Table 1). To obtain a complete set of relative indirect effects with our multicategorical independent variable, we subsequently tested the same model with the *Positive Single* condition as indicator and then the *Negative Relationship* condition as indicator. Statistics for the relative indirect effects are presented in Table 3.

Neither the total effect, $F(3, 355) = .52, p = .67$, nor direct effect, $F(3, 355) = .31, p = .82$, of condition on emotional attachment to the ex-partner were significant. However, there were significant relative indirect effects of condition on emotional attachment to the ex-partner through fear of being single. Specifically, in both cases where the priming task had produced differences between conditions on fear of being single (i.e., comparisons between the *Negative Single* and *Positive Single* conditions, and the *Positive Single* and *Positive Relationship* conditions), heightened fear of being single in turn predicted greater emotional attachment to the ex-partner, $b = .24, SE = .06, p < .001, CI_{95\%} [.128, .357]$. These findings provide preliminary support for the causal role of fear of being single on longing for ex-partners.

Study 2

Because the present research introduces a novel priming paradigm for inducing fear of being single, it was important to test the robustness of the task via replication within an independent sample. The primary goal of Study 2 was therefore to conduct a pre-registered replication of the effectiveness of the priming task for affecting participants' fear of being single and to replicate the indirect effects of primed fear of being single on longing for ex-partners. Furthermore, we explored the indirect effect of fear of being single on another outcome typically associated with fear of being single (Spielmann et al., 2013, 2020), willingness to settle for less in a new relationship.

Method

Participants and Procedure

Study 2 was pre-registered at <http://aspredicted.org/blind.php?x=j6jm4d>.³ Participants were recruited via Mechanical Turk, and were required to be single and to have experienced a breakup. A total of 519 eligible participants completed the online survey. However, 82 participants were excluded from analyses for failing to complete the manipulation writing task and one participant who did not complete the task in English, 20 were excluded for failing at least two out of three attention checks or demonstrating patterned responding, and seven were excluded as outliers (defined as greater than 3SD from the mean) on time passed since the breakup and one as an outlier on age. Our final sample following exclusions consisted of 408 participants (255 women, 149 men, 4 unreported). Seventy-five percent identified their ethnicity as European American/White, and 9.6% as African American. Participants ranged in age from 18 to 67 years old ($M = 35.19$, $SD = 11.57$). We pre-registered a sample size goal of at least 400 participants following exclusions, which was informed by the power analysis in Study 1. Note, however, that a post-hoc power analysis suggested that we had approximately 99% power to detect the slightly larger effect size documented in Study 2.

The procedure was the same as Study 1, with additional measures to further explore how priming fear of being single predicted relational outcomes of longing for ex-partners and willingness to settle for less.

Measures

Details of Most Recent Breakup. Participants indicated how many months the relationship with their most recent partner had lasted ($M = 36.84$ months, $SD = 50.81$; range = 1 month-30 years) and how many months had passed since the breakup occurred ($M = 21.00$

months, $SD = 26.21$; range = 0 months-11.67 years). On a scale from 1(*entirely my decision*) to 3(*entirely mutual*) to 5(*entirely my partner's decision*), participants indicated who initiated the breakup ($M = 3.06$, $SD = 1.36$).

Fear of Being Single Priming Task. Participants completed the same writing task as in Study 1, randomly assigned to either the *Negative Single*, *Positive Single*, *Negative Relationship*, or *Positive Relationship* condition.

Fear of Being Single. Participants completed the Fear of Being Single Scale (Spielmann et al., 2013) immediately following the priming task ($M = 2.97$, $SD = 1.10$, $\alpha = .84$).

Emotional Attachment to the Ex-partner. As in Study 1, participants completed the measure of emotional attachment to their most recent ex-partner (Spielmann et al., 2009; $M = 2.40$, $SD = 1.26$, $\alpha = .88$).

Willingness to Settle for Less in Relationships. To assess willingness to settle for less in relationships, participants completed items created by the authors assessing prioritization of availability of a new partner rather than quality. On a scale from 1(*strongly disagree*) to 7(*strongly agree*), participants responded to the following eight items: “I would prefer to start a new relationship as quickly as possible,” “I would really like to be in a relationship soon, even if it’s not perfect,” “Finding a partner to do things with is more important than compatibility,” “I think I have pretty high standards for a romantic partner” (reversed), “I am focused on finding a really satisfying romantic partner, no matter how long it takes” (reversed), “I would be happy to date just about anyone right now,” “It would be worth lowering my standards for a partner if it meant starting a relationship right now,” and “No matter what, being in a relationship is better than being single.” Higher scores reflected a greater prioritization of partner availability over quality ($M = 2.84$, $SD = 1.17$, $\alpha = .82$).

Results and Discussion

Priming Fear of Being Single

We first tested whether the writing task successfully primed fears about being single. We conducted an ANOVA to test the effect of priming condition on fear of being single scores. There was a significant effect of condition on fear of being single scores, $F(3, 404) = 6.53, p < .001, \eta_p^2 = .05$ (see Table 2). Similar to Study 1, those in the *Negative Single* condition had significantly higher fear of being single than those in the *Positive Single* condition. Another consistent effect compared to Study 1, though unexpected in both studies, was a nonsignificant difference between those in the *Negative Single* and *Negative Relationship* conditions. In contrast to Study 1, those in the *Negative Single* condition also had significantly higher fear of being single than those in the *Positive Relationship* condition. Furthermore, the pairwise differences between the other conditions were similarly inconsistent with those of Study 1. In sum, the most consistent pattern of effects across Studies 1 and 2 was the comparison between the *Negative Single* and *Positive Single* conditions and between the *Negative Single* and *Negative Relationship* conditions. But it appears that having people consider the positive and negative aspects of being in a future relationship yielded rather mixed effects across studies.

Emotional Attachment to Ex-Partners out of Fear of Being Single

We next tested for an indirect path between priming condition to emotional attachment to the ex-partner through fear of being single, controlling for time passed since the breakup, and breakup initiator (see Table 4). As in Study 1, neither the total effect, $F(3, 402) = .49, p = .69$, nor direct effect, $F(3, 401) = .86, p = .46$, between condition and emotional attachment to the ex-partner were significant. Although the unique pattern of significant indirect effects is different from that of Study 1, this is aligned with the mixed effects across studies in terms of the fear of

being single priming. In other words, the results of Study 2 again demonstrate that heightened fear of being single following the priming task in turn prompted greater longing for an ex-partner, $b = .35$, $SE = .05$, $p < .001$, $CI_{95\%} [.248, .452]$. For example, those in the *Negative Single* condition had stronger fear of being single than those in the *Positive Single* condition, and stronger fear of being single was in turn associated with greater emotional attachment to the ex-partner.

Exploratory Analyses: Willingness to Settle for Less out of Fear of Being Single

In order to gain a broader perspective on the range of maladaptive relational decisions prompted by fear of being single priming, we noted in our pre-registration that we would conduct exploratory analyses on measures regarding preferences for future partners. Though we did not articulate specific hypotheses, our goal was to explore whether fear of being single priming might in turn influence willingness to settle for less in terms of prioritizing prospective partner availability over partner quality. To explore this possibility, we tested for indirect effects from the priming task to willingness to settle for less through fear of being single (see Table 4). Neither the total effect, $F(3, 402) = .08$, $p = .97$, nor direct effect, $F(3, 402) = 1.25$, $p = .29$, between condition and willingness to settle for less were significant. However, there were again significant indirect effects for all paths in which the priming task had significantly affected fear of being single. That is, heightened fear of being single prompted by the priming task in turn predicted increased preference for partner availability over quality, $b = .41$, $SE = .05$, $p < .001$, $CI_{95\%} [.313, .510]$.

Taken together, the goals of Study 2 were generally supported. Results suggested that the priming task had an effect on fear of being single scores, with consistent effects across studies emerging primarily between those focusing on the negative aspects of singlehood compared to

those focusing on the positive aspects of singlehood. There were, however, mixed effects across studies in terms of the relationships-focused conditions. Although we cannot determine the reasons for these mixed effects, there were some notable differences between participants in each study in terms of age and time spent single. Participants in Study 2 were significantly older than those in Study 1, $p < .001$, and had been single for longer, $p = .02$. It is possible, therefore, that such factors played a role in the considerations of the costs and benefits of being in a relationship.

Because of the mixed effects across studies and uncertainty about the mechanisms underlying responses to the relationships-focused conditions, our next goal in refining the priming paradigm was to focus only on the conditions in which participants considered future singlehood. Furthermore, in the absence of a control condition in Studies 1 and 2, it was impossible to determine whether those thinking of negative aspects of singlehood experienced heightened fears about being single or whether those thinking of positive aspects of singlehood experienced relief from some fears about being single, or whether both tasks had an effect.

Study 3

Study 3 was pre-registered at <https://aspredicted.org/blind.php?x=ku37ej>. The key goal of Study 3 was to replicate the comparisons of the *Negative Single* and *Positive Single* conditions with the inclusion of a control condition in which participants did not complete a writing task. A second goal of Study 3 was to replicate the results from Studies 1 and 2 on the effects of the priming manipulation on longing for ex-partners and willingness to settle for less.

Another goal of Study 3, although only pre-registered as an exploratory secondary analysis, was to distinguish whether the priming task had unique priming effects on fear of being single, rather than increasing relational insecurities more generally. Specifically, in Study 3, we

also assessed the effect of the writing task on state levels of anxious attachment. Because fear of being single and anxious attachment are strongly, positively correlated, the literature on fear of being single commonly strives to document the statistical and theoretical uniqueness between the two constructs (e.g., Spielmann et al., 2013, 2016, 2020). Testing that the priming paradigm uniquely predicts fear of being single, and not anxious attachment, would further contribute to the usefulness of the paradigm for establishing the distinct role of fear of being single on relevant relational outcomes.

Method

Participants and Procedure

Participants were recruited via the undergraduate student pool and Prolific.co to complete an online survey. Participants were required to be single and to have experienced a breakup. A total of 404 eligible participants completed the online survey. However, 9 participants were excluded from analyses for failing to complete the manipulation writing task, 37 were excluded for failing at least two out of three attention checks or demonstrating patterned responding, and seven were excluded as outliers (defined as greater than 3SD from the mean) on time passed since the breakup. Our final sample following exclusions consisted of 351 participants (246 women, 101 men, 4 unreported; $N = 250$ from undergraduate pool, $N = 101$ from Prolific). Fifty-one percent identified their ethnicity as European American/White, 17% as Middle Eastern, 11% as South Asian, and 9% as African American. Participants ranged in age from 18 to 63 years old ($M = 23.11$, $SD = 7.38$). We pre-registered to collect 315 participants to be powered at 80% to detect an effect size of $\eta_p^2 = .03$. However, a post-hoc power analysis suggests we were powered at only 66.2% to detect our effect size of $\eta_p^2 = .02$.

Perhaps important for consideration and providing context for replication, is to note that

data collection for this study occurred between January and April 2020, during the COVID-19 pandemic, including the transition to stay-at-home orders for our undergraduate students.

Measures

Details of Most Recent Breakup. Participants indicated how many months the relationship with their most recent partner had lasted ($M = 17.73$ months, $SD = 22.22$; range = 1 month-17 years) and how many months had passed since the breakup occurred ($M = 15.88$ months, $SD = 16.46$; range = 0 months-7 years). On a scale from 1(*entirely my decision*) to 3(*entirely mutual*) to 5(*entirely my partner's decision*), participants indicated who initiated the breakup ($M = 2.89$, $SD = 1.52$).

Fear of Being Single Priming Task. The priming task in Study 3 included only the *Negative Single* and *Positive Single* conditions from the earlier studies, as well as a control condition in which participants did not complete a writing task.

Fear of Being Single. Participants completed the Fear of Being Single Scale (Spielmann et al., 2013) immediately following the priming task. Unexpectedly, one item from the six-item scale did not load well with the others. The scale loaded onto a single factor, but the first item (“I feel it is close to being too late for me to find the love of my life”) had a factor loading of only .41. We therefore present results of the Fear of Being Single Scale with the remaining 5 items ($M = 3.18$, $SD = 1.12$, $\alpha = .85$). However, we present results with the original six-item scale in a supplementary document

(https://osf.io/gbv6u/?view_only=e6c4c4d704ae4a7a92b51a16e4880a57).

State Anxious Attachment. Participants also completed the anxious attachment subscale of the State Adult Attachment Measure (Gillath, Hart, Nofle, & Stockdale, 2009). Participants responded on a scale from 1(*Disagree strongly*) to 7(*Agree strongly*) to seven items such as, “I

wish someone would tell me they really love me,” and “I really need someone’s emotional support” ($M = 4.60$, $SD = 1.24$, $\alpha = .85$).

Emotional Attachment to the Ex-partner. Participants completed the same measure of emotional attachment to their most recent ex-partner as in previous studies (Spielmann et al., 2009; $M = 2.11$, $SD = 1.04$, $\alpha = .84$).

Willingness to Settle for Less in Relationships. To assess participants’ willingness to settle for less in relationships, they completed the same self-reported measure of preference for partner availability over quality, as in Study 2. Higher scores reflected a greater prioritization of partner availability over quality ($M = 2.45$, $SD = .95$, $\alpha = .77$).

Results and Discussion

Correlations between variables in Study 3 are presented in Table 5.

Priming Fear of Being Single

We first conducted a one-way ANOVA to test the effects of the priming task on fear of being single. There was a marginally significant effect of condition on fear of being single scores, $F(2, 348) = 2.85$, $p = .06$, with the same effect size as Study 1 of $\eta_p^2 = .02$. Because this was a pre-registered hypothesis, we explored the post-hoc tests. Specifically, those in the *Negative Single* condition ($M = 3.37$, $SE = .10$, $CI_{95\%}[3.175, 3.565]$) had significantly higher fear of being single than those in the *Control* condition ($M = 3.07$, $SE = .11$, $CI_{95\%}[2.859, 3.282]$), $p = .04$, and those in the *Positive Single* condition ($M = 3.08$, $SE = .10$, $CI_{95\%}[2.874, 3.282]$), $p = .04$. However, those in the *Positive Single* condition did not differ from those in the *Control* condition, $p = .96$. Therefore, the results of Study 3 replicate those from Studies 1 and 2 in terms of a difference in fear of being single between those considering the positive and negative aspects of singlehood. However, comparisons to the control condition suggest that it is the

consideration of negative aspects of singlehood that seems to heighten fears about being single rather than the consideration of positive aspects of singlehood that reduces fears. Including a control condition therefore provided some important insights into the functioning of this priming paradigm.

The next step was to test whether the priming task uniquely primes fear of being single, and not also anxious attachment. We therefore ran another ANOVA with state anxious attachment as the dependent variable. There was not a significant effect of condition on state anxious attachment, $F(2, 348) = .65, p = .52, \eta_p^2 = .004$, and none of the post-hoc pairwise comparisons between conditions were significant, $ps > .27$. Therefore, the priming task seemed to be successful in heightening only fear of being single, rather than increasing relational insecurities more generally.

Emotional Attachment to Ex-Partners out of Fear of Being Single

We next tested for an indirect path between priming condition to emotional attachment to the ex-partner through fear of being single, controlling for time passed since the breakup, and breakup initiator. As in previous studies, neither the total effect, $F(2, 344) = .82, p = .44$, nor the direct effect, $F(2, 343) = 1.32, p = .27$, between condition and emotional attachment to the ex-partner were significant. However, results of the relative indirect effects revealed a significant indirect path for the *Negative Single* condition compared to the *Control* condition, indirect effect = $-.05, SE = .03, CI_{95\%}[-.108, -.003]$, and compared to the *Positive Single* condition, indirect effect = $-.05, SE = .03, CI_{95\%}[-.115, -.003]$. It is worth noting that each indirect path was just barely significant, with confidence intervals essentially containing zero. However, the pattern of results was consistent with Study 2, such that the heightened fear of being single experienced in the *Negative Single* condition compared to other conditions in turn predicted greater emotional

attachment to an ex-partner, $b = .17$, $SE = .05$, $p < .001$, $CI_{95\%} [.075, .258]$.

Willingness to Settle for Less out of Fear of Being Single

We next tested for an indirect path between priming condition to willingness to settle for less in a relationship through fear of being single. Neither the total effect, $F(2, 347) = .09$, $p = .91$, nor the direct effect, $F(2, 346) = .19$, $p = .82$, between condition and willingness to settle for less were significant. However, results of the relative indirect effects revealed significant indirect paths for the *Negative Single* condition compared to the *Control* condition, indirect effect = $-.07$, $SE = .04$, $CI_{95\%} [-.150, -.001]$, and compared to the *Positive Single* condition, indirect effect = $-.07$, $SE = .03$, $CI_{95\%} [-.137, -.004]$. It is worth noting that, again, each indirect path was just barely significant, with confidence intervals essentially containing zero. However, the pattern of results was again consistent with Study 2, such that the heightened fear of being single experienced in the *Negative Single* condition compared to other conditions in turn predicted greater willingness to settle for less in a relationship, $b = .23$, $SE = .04$, $p < .001$, $CI_{95\%} [.141, .315]$.

General Discussion

The present research introduced a simple writing task that is easy to administer, requires few resources, and does not require a cover story or deception (e.g., compared to the paradigm reported in Note 1). A consistent pattern emerged across all three studies that focusing on the negative aspects of being single prompted participants to experience greater fear of being single than focusing on the positive aspects of being single. Comparison to a control condition in Study 3 revealed that it was the focus on negative aspects of singlehood that exacerbated fear of being single, rather than focusing on the positive aspects of singlehood that buffered it. The inclusion of the control condition in Study 3 helps to shed preliminary insights into the maladaptive cognitions that potentially contribute to chronic fears of being single. That is, it may be that those

with stronger fear of being single are more sensitive to, and dwell more frequently on, the negative aspects of singlehood. Those who are less afraid of being single may not necessarily be embracing the advantages of singlehood, but rather are likely focusing less on the disadvantages.

Studies 1 and 2 also included conditions in which participants considered the positive and negative aspects of a future long-term relationship. Although the effectiveness of the relationship-focused conditions in Studies 1 and 2 yielded mixed results, an unexpected, though consistent, finding across studies was that fear of being single among those in the *Negative Single* condition did not differ significantly from those in the *Negative Relationship* condition. One would think that focusing on the negative aspects of being in a relationship might ease fears of being single given that singlehood would imply avoiding such costs. However, it is possible that the negative aspects of relationships nominated by participants were not as severe or extreme as those nominated in other conditions. That is, although a systematic coding of responses was not conducted in the present research, a broad reading of responses reveals that perceptions of the negative aspects of being in a relationship commonly included factors such as risks of boredom and general challenges associated with interdependence, such as an inability to liberally pursue one's own self-interests. Participants may view such downsides as part and parcel with being in a committed relationship, and may not consider such costs to outweigh the benefits of interdependence. Perhaps the *Negative Relationship* condition failed to ease fears of being single in part due to the downsides of relationships being relatively benign. In general, because many of the results associated with the relationship-focused conditions were mixed across Studies 1 and 2, it is unclear exactly what focusing on relationships (good or bad) does for people's fear of being single. The authors would recommend focusing exclusively on the single conditions, with a control group, for researchers aiming to simply prime fear of being single, and suggest that

future research aimed at elucidating the effects of focusing on relationships would be beneficial.

Developing an effective method to induce state feelings of fear of being single is important for establishing the causal role of fear of being single in relational decisions, and for further establishing the unique role of fear of being single beyond other relational insecurities, such as anxious attachment. Across studies, primed fear of being single in turn increased longing for an ex-partner, even controlling for time since the breakup and one's role in breakup initiation. These findings support the causal role of fear of being single in responses to breakups that has been documented in prior correlational research (Spielmann et al., 2016). Additionally, Studies 2 and 3 demonstrated that primed fear of being single in turn increased willingness to settle for less in relationships, in terms of reporting a prioritization of a prospective partner's availability over quality. These results align with a growing literature on the ways in which those who fear being single settle for less in their relationships (George, Hart, & Rholes, 2020; Spielmann et al., 2013, 2020). Furthermore, it is important to note that Study 3 also included a post-manipulation assessment of anxious attachment, and found no effect of the priming task on attachment scores. Therefore, this priming task appears to uniquely affect fears about being single and does not necessarily heighten relational anxieties more broadly. This effect should be interpreted with caution because it was only assessed in Study 3, and its replicability has not yet been tested. However, a paradigm that can uniquely prime fear of being single and not anxious attachment is critical for continuing to establish the statistical and theoretical distinctions between these two relational insecurities.

Limitations and Additional Considerations

Although the present research introduces a novel method for priming fear of being single, there are several caveats to consider when interpreting the current findings and considering

future use of the priming task. First, it is important to emphasize that the present research can only speak to momentary changes in fears about being single, and cannot speak to the long-term effectiveness of interventions aimed at reducing chronic fear of being single. The present research provides only preliminary insights into the cognitions and attitudes associated with fear of being single, and we therefore do not yet have the foundational knowledge necessary to aim to intervene in chronic fears about being single. The field of relationship science would benefit from identifying methods to lessen fear of being single over time, but additional research is needed to develop and test the effectiveness of such interventions.

Another important consideration involves the magnitude and real-world impact of the priming effect. Across studies, the effect size was relatively small (ranging from η_p^2 of .02 in Studies 1 and 3 to .05 in Study 2), and the marginal effects in Studies 1 and 3 suggest that significant differences likely require a rather large sample to detect. Indeed, significant differences in fear of being single across conditions appear to represent magnitudes of only .30 to .58 points on the 5-point scale (roughly a third to a half of a standard deviation). Those implementing this priming paradigm should therefore be mindful of the rather small effects and necessity for large samples for sufficient power. The marginally significant, albeit consistent, effects may also signal the risk of false positives. Therefore, despite consistent patterns of effects across studies, additional research aimed at replication is important.

When considering whether such small effects represent practically meaningful changes, an interesting point of comparison can be found in the longitudinal changes in fear of being single documented before and after experiencing a romantic breakup (Spielmann et al., 2016). This study captured a major life event directly relevant to singlehood concerns, as participants had just transitioned into being single again. Spielmann et al. found a significant increase in fear

of being single in the immediate wake of a breakup (on average 8 days post-breakup; $M = 3.07$, $SD = 1.09$) compared to assessments before the breakup (on average 10 weeks pre-breakup; $M = 2.83$, $SD = 1.02$)—an effect that was not moderated by breakup initiator status. Although these reflect within-person changes, and some caution is advised on directly comparing fear of being single among those who are single compared to those in relationships (Cantarella, Spielmann, Partridge, MacDonald, Joel, & Impett, in preparation), it is insightful that even a real-world breakup experience only increases fear of being single by .24, or roughly a quarter of a standard deviation. This may serve to gauge expectations about the realistic magnitude with which a one-time priming paradigm may be capable of changing fear of being single. Certainly more work is needed to better understand the practical impact of this novel priming task and what degree of change manifests in meaningful relational consequences.

Some final thoughts are focused on how to move forward with implementing and improving this priming paradigm. First, it is unknown exactly which elements of the current paradigm were critical for inducing changes in fear of being single. For instance, the current paradigm had participants focus on a distant future self (e.g., “20 years from now”), rather than present or near future, and predicted that the status under consideration would be long-lasting (e.g., “As time goes on, the odds become greater and greater that you will end up single for the long-term”). Distant future selves tend to be represented in a number of distinct ways compared to near future selves, such as with more abstraction, less complexity, greater schematicity, and more cross-situational consistency (Wakslak, Nussbaum, Liberman, & Trope, 2008). However, predictions for oneself in the distant future tend to be more positive than those in the near future (Heller, Stephan, Kifer, & Sedikides, 2011), which may have impacted the present task of considering the negative aspects of future singlehood. It is unknown exactly how adjusting

elements of this phrasing could impact results. Having participants focus on a temporally closer self may provoke more negative feelings than a distant self, but may also be viewed with more nuance and context so as to buffer the effects on current fear of being single. The present research can only speak to the effects of the current phrasing, but future research may benefit from exploring the potential implications of revising the temporal focus of this priming paradigm. Indeed, the authors are hopeful that this priming paradigm and others like it will continue to emerge and be modified. Particularly in light of the small effects noted above, the present paradigm does not likely represent the strongest possible paradigm for inducing or reducing fear of being single. It provides a firm starting point for those wanting to prime fear of being single, but developing a paradigm with more robust, potent effects on fear of being single would be especially productive for the field of relationship science.

Conclusions

In conclusion, the present work adds to our understanding of fear of being single by introducing a novel task for priming fears about being single, and exploring its effects on longing for ex-partners and willingness to settle for less in relationships. These findings provide preliminary insights into the cognitions that may distinguish those with stronger vs. weaker fear of being single, and serve to emphasize the distinct role of fear of being single in seemingly maladaptive relational pursuits.

Notes

¹ An additional study, not reported here, was conducted utilizing a different paradigm to prime fear of being single: a false feedback paradigm adapted from Twenge, Baumeister, Tice, & Stucke (2001). Single participants received ostensibly real diagnostic feedback that they were prone to have a future without romantic relationships, or that they were likely to have a future with lasting romantic relationships. Although this prime was successful in manipulating fear of being single, $F(1, 113) = 3.99$, $p = .05$, $\eta_p^2 = .03$, and had a similar pattern of results to Study 1 in terms of an indirect path predicting emotional attachment to ex-partners, indirect effect = $-.05$, $SE = .03$, $CI_{95\%}[-.134, -.0002]$, we have opted not to further pursue this priming paradigm because it confounds relationship status with valence, focusing only on whether or not one is in a relationship rather than the perceived costs and benefits.

² It is important to note that Studies 1 and 2 also included a pre-manipulation assessment of fear of being single based on one item created by the authors (“In general, I tend to worry about whether or not I will find and maintain a romantic relationship”). While initially proposed to be included as a covariate in all analyses, it has been removed following reviewer recommendations. However, analyses with or without this covariate followed a similar pattern of results. Importantly, in case its inclusion had a priming effect on participants, Study 3 did not include such a measure.

³ Following recommendations from reviewers, the focus of Study 2 analyses reported here deviates from the pre-registration in the following ways: analyses associated with regulatory focus have been removed, and the single item pre-manipulation assessment of fear of being single is no longer included as a covariate.

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Tables*Table 1.* Correlations between variables in Studies 1 and 2, respectively

	1	2	3	4
1. Time since breakup	—	.07	-.13*	-.22***
2. Breakup initiator	-.05	—	.16**	.27***
3. Fear of Being Single	-.10*	.24***	—	.27***
4. Emotional Attachment to Ex-partner	-.19***	.39***	.39***	—
5. Willingness to Settle for Less	-.09+	.11*	.37***	.31***

Notes. Correlations for Study 1 presented above the diagonal and Study 2 below the diagonal. Breakup initiator coded such that lower scores reflect self as initiator and higher scores reflect partner as initiator. *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$.

Table 2. Post-hoc Tests for Fear of being Single in Studies 1 & 2

					<i>p</i> -values of LSD Post-hoc Tests		
	<i>Condition</i>	<i>M</i>	<i>SE</i>	<i>CI</i> _{95%}	Positive Single	Negative Relationship	Positive Relationship
Study 1	Negative Single	3.10	.11	[2.892, 3.311]	.02	.29	.84
	Positive Single	2.74	.11	[2.529, 2.953]	—	.21	.03
	Negative Relationship	2.94	.11	[2.717, 3.156]		—	.38
	Positive Relationship	3.07	.10	[2.867, 3.274]			—
Study 2	Negative Single	3.25	.11	[3.040, 3.460]	< .001	.57	.005
	Positive Single	2.67	.11	[2.455, 2.878]	—	.001	.26
	Negative Relationship	3.16	.11	[2.944, 3.382]		—	.03
	Positive Relationship	2.84	.10	[2.633, 3.036]			—

Table 3. Relative indirect effects of Condition on Emotional Attachment to Ex-Partner through fear of being single (Study 1)

Indicator	Comparison Group	Relative Indirect Effect	SE	CI _{95%}
Negative Single	Positive Single	-.08	.04	[-.170, -.015]
	Negative Relationship	-.04	.04	[-.128, .035]
	Positive Relationship	-.001	.03	[-.077, .063]
Positive Single	Negative Relationship	.04	.04	[-.035, .126]
	Positive Relationship	.07	.04	[-.004, .165]
Negative Relationship	Positive Relationship	.03	.04	[-.041, .122]

Table 4. Relative indirect effects of Condition on Emotional Attachment to Ex-Partner and Willingness to Settle for Less, respectively, through fear of being single (Study 2)

Indicator	Comparison Group	<i>Outcomes</i>					
		Emotional Attachment to Ex-partner			Willingness to Settle for Less		
		Relative Indirect Effect	SE	CI _{95%}	Relative Indirect Effect	SE	CI _{95%}
Negative Single	Positive Single	-.20	.06	[-.329, -.089]	-.24	.07	[-.380, -.108]
	Negative Relationship	-.03	.06	[-.138, .084]	-.04	.07	[-.170, .095]
	Positive Relationship	-.14	.05	[-.258, -.043]	-.17	.06	[-.305, -.058]
Positive Single	Negative Relationship	.17	.06	[.059, .301]	.20	.07	[.070, .347]
	Positive Relationship	.05	.05	[-.041, .160]	.07	.06	[-.048, .184]
Negative Relationship	Positive Relationship	-.12	.05	[-.231, -.015]	-.14	.07	[-.272, -.010]

Table 5. Correlations between variables in Study 3

	1	2	3	4	5
1. Time since breakup	—				
2. Breakup initiator	.10+	—			
3. Fear of Being Single	-.09	.18**	—		
4. State Anxious Attachment	-.06	.12*	.53***	—	
5. Emotional Attachment to Ex-partner	-.26***	.27***	.24***	.21***	—
6. Willingness to Settle for Less	.02	.10+	.27***	.25***	.06

Notes. Breakup initiator coded such that lower scores reflect self as initiator and higher scores reflect partner as initiator. *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$.