

From Presents to Presence: High Quality Targets Amplify the Benefits of Gratitude Expression

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REF: Nelson-Coffey, S. K., Beesley, K., Coffey, J. K., Vuong, T., & Rumsey, M. (in press). From presents to presence: High quality targets amplify the benefits of gratitude expression. *Emotion*.

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Preregistrations, data, and study materials are available on the Open Science Framework at <https://osf.io/v9z6w>.

We gratefully acknowledge the contributions of Eric Bandin, Yana Balynska, Joseph Chirillo, Lilli Kish, and Joshua Wolff, who assisted with coding the gratitude letters in Study 1. We are also grateful to Lahnna Catalino, Kristin Layous, and Laura Saslow for their helpful comments and feedback on earlier versions of this manuscript. Their contributions strengthened the final paper.

Abstract

Drawing on the robust literature on the benefits of gratitude, we present two preregistered studies demonstrating the advantages of expressing gratitude in the context of high quality relationships—namely, gratitude for people who foster feelings of being cherished, protected, accepted (i.e., safe haven gratitude). In a longitudinal experiment conducted in 2023 ($N=485$), expressing gratitude for safe haven relationships and gratitude for gifts predicted immediate improvements in positive emotions and perceived partner responsiveness, along with reductions in negative emotions, relative to control, which predicted greater well-being and relationship quality one week later. Safe haven gratitude also predicted greater perceived partner responsiveness than gift gratitude, suggesting a unique mechanism differentiating this form of gratitude expression. Second, in a 2 (gratitude target: safe haven, gift) x 3 (gratitude expression: safe haven gratitude, gift gratitude, control) longitudinal experiment ($N=755$) conducted in 2023-2024, we found that prompting people to consider a safe haven target led them to choose someone they perceived as more responsive than someone who gave them a gift. Further, when expressed to a safe haven target, both forms of gratitude expression were similarly beneficial; however, when expressed to a general target, focusing on the ways the person made participants feel cherished, protected, or accepted led to even greater feelings of gratitude than gift gratitude expression or control, which in turn predicted well-being and relationship quality one week later. Taken together, these findings highlight the well-being benefits of expressing gratitude for high quality relationships and responsive behaviors.

Keywords: gratitude, well-being, relationship quality, perceived partner responsiveness

From Presents to Presence: High Quality Targets Amplify the Benefits of Gratitude Expression

Expressing gratitude is often touted as an indisputable way to improve happiness. Indeed, studies reveal that writing gratitude letters improves well-being (see Dickens, 2017 for a meta-analytic review), and receiving gratitude expressions from others also improves well-being and relationship quality (Algoe et al., 2008; Algoe & Zhaoyang, 2016; Park et al., 2021). In other words, expressing gratitude benefits individual expressers as well as gratitude targets. Yet some forms of gratitude expression may be more effective than others. For example, gratitude targets reported greater well-being and relationship quality following gratitude expressions that highlighted their responsive behavior (Algoe & Zhaoyang, 2016; Park et al., 2021); however, few studies have considered potential boundary conditions that could magnify the well-being benefits of gratitude for expressers. In two preregistered longitudinal randomized experiments, we investigated whether expressing gratitude to high quality targets for responsive actions (i.e., safe haven gratitude) would amplify well-being and relationship gains of writing gratitude letters for expressers.

Gratitude and Well-Being

Gratitude is a social emotion that arises when people benefit from another person's actions (Algoe, 2012; Wood et al., 2010). Such actions might include seemingly minor acts of kindness, such as treating a friend to a cup of coffee, as well as more substantial gestures, like raising money to support someone coping with a chronic illness. Prior research reveals that expressing gratitude for these acts of kindness increases well-being (Dickens, 2017; Layous et al., 2017; Nelson-Coffey & Coffey, 2024; Regan et al., 2023). In one experiment, writing three gratitude letters over the course of one week increased gratitude, positive and social emotions,

life satisfaction, and connectedness, and reduced loneliness compared to a control activity (Walsh et al., 2023). Meta-analyses also indicate that gratitude interventions improve well-being and reduce depression and anxiety (Cregg & Cheavens, 2020; Davis et al., 2016; Dickens, 2017).

Despite this evidence, gratitude may not always increase well-being. In one experiment, expressing gratitude led to well-being declines among depressed participants (Sin et al., 2011). Additionally, other studies have demonstrated that expressing gratitude increases feelings of indebtedness and guilt (Layous et al., 2017; Walsh et al., 2022), and one study revealed that gratitude expression backfired for up to 37% of participants, who reported increased negative affect and decreased positive affect following a gratitude exercise (Vannoy et al., 2026). In light of this evidence, some studies have explored contextual factors that strengthen or diminish the effects of gratitude and whether certain types of gratitude expression benefit well-being more than others (e.g., Walsh et al., 2023). One series of studies revealed that gift price was not associated with felt gratitude (Flynn & Adams, 2009). By contrast, in another experiment, expressing gratitude to specific people (i.e., social gratitude) led to greater well-being than expressing gratitude for specific things (i.e., non-social gratitude; Regan et al., 2023). Moreover, this study revealed that writing a gratitude letter to a specific person elicited greater feelings of gratitude, elevation, and other positive emotions relative to other forms of gratitude expression.

This evidence suggests that targeting specific people may amplify effects of gratitude expression, but which individuals should people focus on when expressing gratitude? One approach to answering this question could involve investigating whether expressing gratitude in the context of certain types of relationships—to parents or partners, for example—enhances the well-being benefits of gratitude expression. We postulate that such an approach may ultimately backfire because it could limit individual autonomy in gratitude expression, which has been

linked to the efficacy of positive activities in prior research (Nelson et al., 2015). Relatedly, not everyone may participate in various types of relationships: Some people may be happily single or estranged from family members and encouraging them to express gratitude to those individuals may not be fruitful. Rather than investigating gratitude for certain types of relationship partners, we considered the quality of the relationship as an important context for gratitude expression.

In the current studies, we contrast gratitude in the context of high quality relationships (i.e., gratitude for people who foster feelings of being cherished, protected, or accepted; safe haven gratitude; Nelson-Coffey et al., 2023) with another ubiquitous form of gratitude expression (i.e., gratitude for a gift received; gift gratitude). Additionally, gifts are often shared in the context of close relationships as a way to show love and build connection (McNeely & Barber, 2010). When prompted to express gratitude for a gift, people are likely to choose a gift that was personally meaningful, which may similarly improve well-being (Hallford & Mellor, 2016). Furthermore, although we postulate that safe haven gratitude expression will lead to relatively stronger well-being improvements, gift gratitude expression may facilitate well-being by encouraging a focus on a specific action, which may be easier for people to recall than broad reflections on supportive behavior. Indeed, gratitude activities that are perceived to be more effortful may undermine well-being by leading people to believe that they do not have anything to feel grateful for (Fritz & Lyubomirsky, 2018). Thus, comparing safe haven gratitude expression to gift gratitude expression is a stringent test of our hypothesis as it holds constant gratitude expression but varies its focus. This approach offers insights into the framing and focus of the gratitude letter—to supportive and responsive people for their actions rather than gifts received—and the extent to which these subtle shifts in the focus of a gratitude letter contribute to well-being.

Perceived Partner Responsiveness

We suggest that expressing gratitude to high quality relationship partners—to safe haven targets—will boost the personal and relationship benefits of gratitude expression in part by encouraging a focus on a partner’s responsive actions. Perceived partner responsiveness is an interpersonal process by which people come to believe that their relationship partners attend to and support their important goals, needs, dispositions, and values (Reis et al., 2004). Furthermore, perceived partner responsiveness predicts a variety of positive outcomes, including relationship satisfaction and security (Lemay et al., 2007; Rice et al., 2020), well-being (Selcuk et al., 2016; Tasfiliz et al., 2018), and physical health (Stanton et al., 2019). Accordingly, expressing gratitude for people who are perceived to be more responsive may magnify the well-being benefits of gratitude expression.

Indeed, perceived partner responsiveness is central to the experience of gratitude (e.g., Algoe & Chandler, 2024). According to the find, remind, and bind theory, gratitude draws people’s attention to particularly responsive behaviors and motivates actions to solidify bonds with those individuals (Algoe, 2012). One of the key points of this theory is that people feel especially grateful when their benefactors are perceived to be more responsive to their needs and preferences when providing care. For example, after a stressful and exhausting week, someone might feel especially grateful to their partner for picking up takeout from their favorite restaurant, because this kind act demonstrates understanding of their need for rest. In the same week, this person might also have received a book as a gift from a friend but may perceive that gift as relatively generic and not responsive to their needs and preferences. According to the find, remind, and bind theory, the first scenario would elicit stronger feelings of gratitude, in part because the act of kindness was more responsive to the recipient’s needs. Indeed, in one study

examining gratitude and gift-giving within college sororities, participants felt more grateful for gifts that were more thoughtful and responsive (Algoe et al., 2008). Thus, encouraging a specific focus on responsive care may improve well-being and relationship quality more strongly than a more general gratitude expression.

Additional research on gratitude expression and perceived partner responsiveness has focused on the effects of receiving gratitude expressions. In one dyadic experiment, couples were randomly assigned to have gratitude or self-disclosure conversations over the course of one month (Algoe & Zhaoyang, 2016). In this study, expressing gratitude that highlighted a partner's responsive behavior improved the partner's well-being and relationship quality. In another dyadic study, couples were instructed to have a gratitude conversation about something their partner did for them that made them feel thankful, which were coded for the extent to which the gratitude expression highlighted the partner's responsive behavior (i.e., responsive-highlighting gratitude) and the extent to which the gratitude expression highlighted costs incurred by their partner (i.e., cost-highlighting gratitude; Park et al., 2021). Relative to cost-highlighting gratitude, gratitude expressions that highlight a partner's responsive actions led to greater positive emotions and relationship quality for partners.

Together, these studies demonstrate that focusing on a partner's responsive behavior when expressing gratitude is associated with greater well-being and relationship quality for partners, but, to our knowledge, fewer studies have considered whether targeting responsive partners and behaviors also benefits expressers' well-being and relationship quality. Further, prior research on perceived partner responsiveness and gratitude expression is primarily correlational, which limits the ability to determine whether highlighting responsiveness in gratitude expressions causes well-being and relationship improvements. For example, people in

more satisfying relationships might be more likely to highlight a partner's responsive behavior when expressing gratitude, potentially explaining benefits of responsive-highlighting gratitude. Moreover, although dyadic studies suggest that expressing gratitude within the context of specific relationships is linked to improved relationship quality (e.g., Algoe & Zhaoyang, 2016), most experiments investigating the effects of expressing gratitude via letter do not instruct participants to deliver their gratitude letters and only consider whether writing gratitude letters improves personal well-being (e.g., Regan et al., 2023), neglecting potential effects on relationship quality. Given that writing a gratitude letter is an individual practice and therefore limits positive interpersonal dynamics that may contribute to effects on relationship quality, it remains unclear whether expressing gratitude via letter would similarly improve relationship quality.

In the current studies, we manipulated the focus of gratitude expression by randomly assigning participants to express safe haven gratitude (i.e., gratitude directed to someone who fosters feelings of being cherished, protected, or accepted; Nelson-Coffey et al., 2023) or express gratitude for a gift received—another common form of gratitude expression. Relative to expressing gratitude for a gift or practicing a neutral control activity, we hypothesize that expressing safe haven gratitude would lead to greater well-being and relationship quality by prompting people to relive experiences of responsive care and by encouraging a focus on responsive partners. First, safe haven gratitude encourages people to recall and describe experiences of responsive care. Thus, the gratitude expression itself might drive positive outcomes. This possibility is consistent with evidence that people felt more grateful for gifts they perceived to be more responsive (Algoe et al., 2008). Second, safe haven gratitude might improve well-being and relationship quality because it leads people to express gratitude to

someone who is generally responsive. Perhaps expressing gratitude to a close, responsive target is better for well-being than expressing gratitude to other targets, regardless of the focus of gratitude expression. In our second study, we sought to disentangle the effects of gratitude target and gratitude expression, along with their interaction.

Mechanisms: Perceived Partner Responsiveness, Positive Emotions, and Negative Emotions

In the current research, we tested the degree to which safe haven gratitude and gift gratitude contribute to well-being and relationship quality for expressers over the course of one week. We also sought to test potential mechanisms by which safe haven and gift gratitude would improve well-being and relationship quality—namely, by increasing perceived partner responsiveness and positive emotions and decreasing negative emotions. We hypothesize that not only does responsive behavior prompt people to feel grateful (Algoe et al., 2020; Algoe et al., 2008), but that reliving and expressing gratitude for those moments in which someone provided responsive care may also increase perceived partner responsiveness. This hypothesis is consistent with theory arguing that gratitude promotes upward spirals of perceived partner responsiveness (Algoe & Chandler, 2024), which would in turn predict subsequent well-being and relationship quality (e.g., Lemay et al., 2007; Selcuk et al., 2016).

We also considered increased positive emotions and decreased negative emotions as mechanisms of the effects of gratitude expression. Prior research reveals that expressing gratitude increases a variety of positive emotions (Layous et al., 2017; Nelson-Coffey & Coffey, 2024; Nelson-Coffey et al., 2023). Furthermore, one experiment revealed that expressing both safe haven gratitude and general gratitude improved parents' well-being and parent-child relationship quality via increases in positive emotions (Nelson-Coffey & Coffey, 2024). In our second study, we also considered a subset of positive emotions—namely, felt gratitude and

empathic emotions—as mechanisms explaining the effects of gratitude expression, given prior evidence that gratitude elicits a variety of positive and social emotions (Layous et al., 2017). Evidence regarding the effects of gratitude exercises on negative emotions are somewhat less consistent. Although some studies find no effect of gratitude expression on negative emotions (e.g., Layous et al., 2017), meta-analytic evidence suggests that gratitude interventions reduce depressive and anxiety symptoms (Cregg & Cheavens, 2020). Furthermore, experiencing frequent negative emotions predicts reduced well-being (Coffey et al., 2016; Kuppens et al., 2008). Accordingly, we investigated both positive and negative emotions as potential mechanisms explaining why gratitude would improve well-being and relationship quality.

Current Research

In sum, evidence suggests that expressing gratitude to responsive partners and for more responsive behavior would likely lead to greater well-being and relationship quality, although experimental studies have not evaluated this question. In two preregistered short-term longitudinal randomized experiments, we investigated whether expressing gratitude in the context of high quality relationships improves well-being and relationship quality relative to other forms of gratitude expression and a neutral control. Furthermore, we included several indicators of well-being (i.e., emotions, life satisfaction, meaning, social connection) and relationship quality (i.e., perceived partner responsiveness, relationship satisfaction, closeness) to represent the multidimensional nature of these constructs (e.g., Goodman et al., 2020; Iasiello et al., 2024).

In our first study, we manipulated responsiveness of gratitude targets by randomly assigning participants to express gratitude for someone who made them feel cherished, protected, or accepted (i.e., safe haven gratitude; high quality target), to express gratitude for someone who

gave them a gift (i.e., gift gratitude; general target), or to write the events of the previous week (i.e., neutral control) to first establish whether these unique forms of gratitude expression differentially contribute to well-being and relationship quality. Notably, however, any effects of safe haven gratitude expression on well-being and relationship quality could be due to stable characteristics of a target (target effects), effects of thinking about this person and expressing gratitude to them (expression effects), or both. In our second study, we consider the possibility that safe haven gratitude expression may lead to superior well-being and relationship quality in part due to stable qualities of the gratitude target, independent of gratitude expression itself. In other words, expressing gratitude to a partner who is generally responsive may lead to relatively greater well-being, regardless of the focus of the gratitude expression (for responsive behaviors or for a gift). We tested this possibility by first randomly assigning people to reflect on a person who made them feel cherished, protected, or accepted (safe haven target) or who gave them a gift (general target). Participants were then randomized to one of three expression conditions with this person in mind: 1) a safe haven gratitude letter, 2) a gift gratitude letter, or 3) a neutral control activity. This approach lets us consider independent roles of the gratitude target and gratitude expression in evaluating potential effects of safe haven gratitude. In both studies, we evaluated well-being and relationship quality immediately following the assigned activities and one week later.

Transparency and Open Science Practices

We preregistered our hypotheses, design, and analyses for both studies and reported how we determined our sample size and all data exclusions, manipulations, and measures for each study. Preregistrations, data, and study materials are available at <https://osf.io/v9z6w>. To promote parsimony, clarity, and focus, we report a subset of preregistered hypotheses here.

Additional preregistered hypotheses, along with all associated analyses and results, are included in the online supplement.

Study 1

Method

Participants

Participants ($N=485$; 73.9% women) were recruited via the department participant pool ($n=406$) in exchange for course credit or via Prolific ($n=79$) in exchange for \$8. Ages ranged from 18 to 75 ($M=26.34$, $SD=10.70$). Most participants were non-Hispanic white, (49.9%), followed by Hispanic/Latinx (31.7%), Asian American (11.7%), other (11.7%), Black (9.7%), Native American (1.9%), and Native Hawaiian/Pacific Islander (0.2%).

We estimated that we would need at least 138 participants per condition ($N=414$) to achieve 90% power using the pwr package in R ($k=3$, $f=.175$, $\text{sig.level}=.05$, $\text{power}=.90$), given small-to-medium effects of safe haven gratitude on well-being in prior research (Nelson-Coffey et al., 2023). We rounded up to 150 participants per cell for our minimum sample ($N=450$). Of the 486 participants, 166 did not complete the follow-up survey. Attrition was evenly distributed across conditions $\chi^2(2)=0.09$, $p=.95$. Participants with missing follow-up data did not differ on any post-manipulation outcome, $t_s < 1.94$, $p_s > .054$. For analyses of the immediate effects of writing safe haven and gift gratitude letters, we included all participants who completed the initial survey, and analyses of the follow-up measures only included participants who completed those measures ($n=320$), which provides 80% power to detect a small-to-medium effect ($f=.175$).

Procedure

After logging into the survey and providing consent, participants were randomly assigned

to one of three conditions: (a) to write a gratitude letter to someone who made them feel cherished, protected, or accepted (i.e., safe haven gratitude, $n=150$), (b) to write a gratitude letter to someone who gave them a gift (i.e., gift gratitude, $n=171$), or (c) to write about the events of the previous week (i.e., control, $n=164$). Immediately following the writing activity, participants completed well-being measures (e.g., emotions, satisfaction). Next, we prompted participants in both gratitude conditions to think about the recipient of their gratitude letter and control participants to think about the first person they interacted with the previous day. Participants then reported relationship quality with that target (e.g., closeness, satisfaction). One week later, participants completed a follow-up survey including all of these measures, except for perceived partner responsiveness, which was included to evaluate immediate effects of the gratitude activities.¹

Measures

Gratitude Letter Coding. Participants' safe haven and gift gratitude letters were coded for expressions of perceived partner responsiveness, repetition, and recency. Five independent judges blind to condition were trained on a separate sample of 50 letters to establish reliability, which was high for each outcome: perceived partner responsiveness $ICC(1,k) = .91$, repetition $ICC(1,k) = .88$, recency $ICC(1,k) = .92$. Next, each letter was randomly assigned for coding by 3 of the 5 judges. Specifically, to represent expressed *responsiveness*, judges rated the degree to which the letter writer expressed feeling personally valued, cared for, or understood by the gratitude target on a scale ranging from 1 (*not present*) to 5 (*thematically dominant*). To

¹ In addition to these measures, participants also completed the Twenty Statements Test along with measures of interpersonal goals and humility. To promote cohesion, the current manuscript focuses on self-reported well-being (i.e., emotions, perceived connectedness, meaning, satisfaction) and relationship quality (i.e., perceived partner responsiveness, relationship satisfaction, closeness). Findings regarding the Twenty Statements Test, interpersonal goals, and humility are included in supplemental materials (<https://osf.io/v9z6w>).

represent *repetition*, judges rated the extent to which the experience is repeatedly experienced or continues to affect them over time on a scale ranging from 1 (*single, discrete instance*) to 5 (*ongoing/habitual*). Finally, to represent *recency*, judges rated the extent to which the experience was recent on a scale ranging from 1 (*less than 2 months ago or current*) to 5 (*more than 5 years ago/childhood*). Interrater reliability was estimated using a linear mixed-effects model with random intercepts for participants and coders. Reliability of the average of three coders was good for responsiveness $ICC(1,3) = .78$, repetition $ICC(1,3) = .83$, and recency $ICC(1,3) = .92$.

Personal Well-Being.

Emotions. At each time point, participants reported the extent to which they were currently experiencing 9 positive (e.g., happy, joyful), 9 negative (e.g., worried, angry), and 6 empathic (e.g., tenderness, compassion) emotions on a scale ranging from 0 (*not at all*) to 6 (*extremely*; adapted from the Affect Adjective Scale to include empathic emotions; Diener & Emmons, 1984; Lishner et al., 2011). Following our pre-registered analysis plan, we created composites for positive emotions ($\alpha_{t1}=.94$; $\alpha_{t2}=.93$), negative emotions ($\alpha_{t1}=.87$; $\alpha_{t2}=.88$), empathic emotions ($\alpha_{t1}=.90$; $\alpha_{t2}=.87$), felt love (i.e., love, caring, affection; $\alpha_{t1}=.90$; $\alpha_{t2}=.82$), and felt gratitude (i.e., grateful, appreciative, thankful; $\alpha_{t1}=.90$; $\alpha_{t2}=.82$).

State Satisfaction. Participants rated their life satisfaction on one item (i.e., “How satisfied do you feel with your life right now?”, 1=*not at all*, 7=*very much*). Single-item measures of life satisfaction are reasonably valid, correlating with a variety of other well-being measures (Sandvik et al., 1993).

State Meaning. Participants rated their feelings of meaning in life on the two-item Daily Meaning Scale (e.g., “How meaningful does your life feel right now?”; Steger et al., 2008) on a scale from 1 (*not at all*) to 7 (*very much*). Participants' responses were averaged to create a

meaning composite, which demonstrated strong reliability ($\alpha_{t1}=.92$; $\alpha_{t2}=.95$).

Social Connection. Participants completed the 10-item UBC State Social Connection Scale (e.g., "I feel close to people"; Lok & Dunn, 2023), with responses ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). We calculated composites by reverse-coding relevant items and creating an average across items. This scale demonstrated strong reliability ($\alpha_{t1}=.93$; $\alpha_{t2}=.94$).

Relationship Quality. To explore the benefits of safe haven and gift gratitude on relationship well-being relative to control, participants in the gratitude conditions were prompted to think about the recipient of their letter, and participants in the control condition were prompted to think about the first person they interacted with the previous day. We first asked participants to indicate their relationship with the target person (e.g., friend, parent/stepparent, current partner). The relationship types were largely similar across conditions, with the most frequent relationship types including current partner (27.4%), parent/stepparent (24.7%), and friend (22.2%). See Supplemental Table S1 for all relationship categories and comparisons across conditions.

Perceived Partner Responsiveness. In the initial survey, participants completed the 18-item Perceived Partner Responsiveness Scale (e.g., "This person sees the same virtues in me as I see in myself"; Reis et al., 2017), with responses ranging from 1 (*not at all true*) to 9 (*completely true*). We averaged all items to create a composite ($\alpha_{t1}=.97$).

Relationship Satisfaction. Participants completed a modified version of the Relationship Assessment Scale (e.g., "In general, how satisfied are you with your relationship?"; 1 = unsatisfied, 5 = extremely satisfied; Hendrick, 1988), excluding the item "How much do you love your partner?". Scores were calculated by reverse-coding relevant items and averaging all items, which demonstrated strong reliability ($\alpha_{t1}=.84$, $\alpha_{t2}=.85$).

Closeness. Participants reported how close they felt with the target person on the Inclusion of Other in Self Scale (Aron et al., 1992), which presents people with two circles reflecting themselves and the relationship target, ranging from *not touching* (1) to *almost overlapping* (7), and instructs them to choose the pair that best represents their relationship.

Results

We originally intended to discuss effects at $p < .05$ as described in our preregistration; however, given the number of analyses, we focus primarily on results significant at $p < .01$ to be conservative, and we include results with $ps < .05$, which may provide insights for future research.

Preliminary Analyses: Contextualizing Gratitude Letters

To better understand differences in content of safe haven and gift gratitude letters, we explored differences in the extent to which these letters focused on the target's responsive behaviors, repeated experiences, and recent events, as rated by independent judges. Safe haven gratitude letters included more coder-rated responsiveness ($M = 3.39$, $SD = 0.98$) than gift gratitude letters ($M = 2.31$, $SD = 0.81$), $t(313) = 10.71$, $p < .001$, $r = .52$. Safe haven gratitude letters also focused on more distant ($M = 4.58$, $SD = 0.76$, $t[313] = 14.45$, $p < .001$, $r = .63$) and repeated ($M = 4.72$, $SD = 0.53$, $t[313] = 16.46$, $p < .001$, $r = .68$) experiences than gift gratitude letters (recency: $M = 2.80$, $SD = 1.31$; repetition: $M = 2.76$, $SD = 1.36$).²

Immediate Effects of Gratitude Letters

As a manipulation check, we confirmed that participants in the two gratitude conditions reported elevated feelings of gratitude relative to the control (Table 1).

² Correlations between coded responsiveness, recency, and repetition and post-activity outcomes are included in the online supplement. In ancillary analyses also included in the supplement, we did not find that these differences in gratitude letter conditions explained other differences in outcomes.

We tested two hypotheses regarding the immediate effects of expressing safe haven and gift gratitude. First, we preregistered a hypothesis that safe haven gratitude and gift gratitude would both predict immediate increases in personal and relationship well-being relative to control. To test this hypothesis, we conducted focused contrast analyses comparing the two gratitude conditions (each weighted + 1) to the control condition (weighted -2) on all outcomes. Both safe haven and gift gratitude predicted greater positive emotions, empathic emotions, felt love, state satisfaction, state meaning, and social connectedness, and lower negative emotions. Participants in both gratitude conditions also reported greater perceived partner responsiveness and relationship satisfaction, but not closeness. See Table 1, Contrast 1. These findings suggest that both forms of gratitude expression predict personal and relationship well-being.

Next, we tested the exploratory hypothesis that safe haven gratitude would predict greater well-being and relationship quality relative to gift gratitude directly. We tested this hypothesis with a second focused contrast analysis, which compared safe haven gratitude (+1) to gift gratitude (-1), with control weighted 0. Results of this contrast revealed that safe haven gratitude predicted greater empathic emotions, felt love, and perceived partner responsiveness than gift gratitude ($ps < .05$). See Table 1, Contrast 2.

Indirect Effects

Next, we investigated the indirect effects of expressing safe haven and gift gratitude on follow-up well-being and relationship outcomes via immediate improvements in perceived partner responsiveness, positive emotions, negative emotions, and connectedness (see Table 2). We tested this hypothesis using the PROCESS Macro in SPSS (Model 4, 5,000 bootstrapped samples; Hayes, 2018). Following our preregistration, we evaluated the indirect effects of safe haven and gift gratitude relative to control. Although not preregistered, we also evaluated the

indirect effects of safe haven gratitude relative to gift gratitude to better understand the differences between these two forms of gratitude expression. We began by including all four variables (perceived partner responsiveness, positive emotions, negative emotions, and connectedness) as parallel mediators in our models to account for their intercorrelations. This approach evaluates the unique effects of each mediator on each outcome, independent of the other mediators in the model. Connectedness was not significant for any of these analyses, so we removed this variable to present a more parsimonious model, as described in our pre-registration. For transparency, we present the full models including all four parallel mediators in supplemental materials.

Well-Being. Relative to control, both safe haven gratitude and gift gratitude predicted greater perceived partner responsiveness (safe haven gratitude: $b=1.35, p < .001$; gift gratitude: $b=0.80, p < .001$), greater positive emotions (safe haven gratitude: $b=1.51, p < .001$; gift gratitude: $b=1.26, p < .001$), and reduced negative emotions (safe haven gratitude: $b=-0.40, p=.011$; gift gratitude: $b=-0.48, p=.002$). Relative to gift gratitude, safe haven gratitude predicted greater perceived partner responsiveness ($b=0.55, p=.01$), but not positive or negative emotions ($|bs| < 0.25, ps > .16$). In turn, post-activity perceived partner responsiveness, positive emotions, and negative emotions, were each associated with well-being one week later. Specifically, perceived partner responsiveness predicted increased positive emotions ($b=0.14, p < .001$), empathic emotions ($b=0.15, p < .001$), and connectedness ($b=0.09, p=.043$), but not negative emotions, state satisfaction, or state meaning ($|bs| < 0.11, ps > .10$). The indirect effects of safe haven and gift gratitude relative to control on positive emotions, empathic emotions, and connectedness via perceived partner responsiveness were significant, and the indirect effects of safe haven gratitude relative to gift gratitude via post-activity perceived partner responsiveness

on follow-up positive emotions, empathic emotions, and connectedness were also significant (see Table 2 for indirect effects).

Post-activity positive emotions predicted greater follow-up positive emotions ($b=.46, p < .001$), empathic emotions ($b=0.34, p < .001$), state satisfaction ($b=0.34, p < .001$), state meaning ($b=0.35, p < .001$), and connectedness ($b=0.20, p < .001$), but not negative emotions ($b=0.01, p=.90$). Indirect effects of safe haven and gift gratitude relative to control on positive emotions, empathic emotions, satisfaction, meaning, and connectedness via positive emotions were significant, but no indirect effects of safe haven gratitude relative to gift gratitude via positive emotions were significant (see Table 3). Finally, post-activity negative emotions also predicted greater follow-up negative emotions ($0.55, p < .001$), empathic emotions ($b=0.15, p=.009$), as well as lower state satisfaction ($b=-0.33, p < .001$), lower meaning ($b=-0.40, p < .001$), and lower connectedness ($b=-0.39, p < .001$), but not positive emotions ($b=-.004, p=.93$). The indirect effects of safe haven and gift gratitude on empathic emotions, negative emotions, satisfaction, meaning, and connectedness via negative emotions were significant, but none of the indirect effects of safe haven gratitude relative to gift gratitude via negative emotions were significant.

Relationship Quality. Expressing gratitude also led to subsequent improvements in most indicators of relationship quality via increases in perceived partner responsiveness and positive emotions, and reductions in negative emotions. Again, both safe haven gratitude and gift gratitude elicited greater perceived partner responsiveness (safe haven gratitude: $b=1.35, p < .001$; gift gratitude: $b=0.80, p < .001$), greater positive emotions (safe haven gratitude: $b=1.51, p < .001$; gift gratitude: $b=1.26, p < .001$), and reduced negative emotions (safe haven gratitude: $b=-0.40, p=.011$; gift gratitude: $b=-0.48, p=.002$). Relative to gift gratitude, safe haven gratitude elicited greater perceived partner responsiveness ($b=0.55, p=.01$), but not positive or negative

emotions ($|bs| < 0.25$, $ps > .16$). In turn, perceived partner responsiveness predicted greater relationship satisfaction ($b=0.21$, $p < .001$) and closeness ($b=0.24$, $p < .001$). Indirect effects of safe haven and gift gratitude relative to control via perceived partner responsiveness on relationship satisfaction and closeness were significant. Indirect effects of safe haven gratitude relative to gift gratitude via perceived partner responsiveness on greater relationship satisfaction and closeness were also significant.

Positive emotions also predicted greater relationship satisfaction ($b=0.11$, $p < .001$) and closeness ($b=0.20$, $p=.02$). Indirect effects of safe haven and gift gratitude relative to control via positive emotions on relationship satisfaction and closeness were significant, but no indirect effects of safe haven gratitude relative to gift gratitude via positive emotions were significant. Negative emotions did not predict relationship satisfaction or closeness ($|bs| < 0.06$, $ps > .09$), and none of the indirect effects involving negative emotions on relationship quality were significant.

Study 2

Our first study revealed that expressing gratitude to a high quality partner—someone who makes people feel cherished, protected, or accepted—predicted greater well-being and relationship quality than a control activity and to somewhat greater perceived partner responsiveness, empathic emotions, and felt love than expressing gratitude for a gift. Notably, all well-being and relationship outcomes were measured after participants completed their respective exercises. Thus, the benefits of safe haven gratitude expression in this study could be due to stable characteristics of the gratitude target in addition to potential mood-boosting effects of thinking about that person. Although safe haven gratitude letters included a stronger focus on the gratitude target's responsive behavior as rated by independent judges, we cannot determine

whether we are capturing pre-existing differences between safe haven benefactors or gift benefactors or benefits of gratitude expression itself. In our second study, we sought to disentangle the role of the gratitude target from the benefits of gratitude expression in a 2 (target) x 3 (expression) preregistered experiment (<https://osf.io/v9z6w>).

Method

Participants

Participants ($N=811$) were recruited via the department participant pool in exchange for course credit or from an online recruitment platform in exchange for \$8. Following the results from our first study, we anticipated that the gratitude activities would elicit small-to-medium effects on well-being. Thus, a power analysis revealed that we would need at least 90 participants per condition ($N=540$) to achieve 90% power using the pwr package in R ($k=6$, $f=.175$, $\text{sig.level}=.05$, $\text{power}=.9$). We increased this number to 130 participants per condition for our minimum target sample $N=780$ given the novelty of the gratitude target manipulation and to account for attrition. Of the 811 participants, 56 dropped out before completing any writing activity, for a final sample of $N=755$ (53.5% women, 44.1% men, 1.1% non-binary). Participants were recruited from the department participant pool ($n=94$), Prolific ($n=224$), or Connect ($n=437$). Ages ranged from 18 to 79 ($M=37.27$, $SD=15.25$). Most participants were non-Hispanic white (66.1%), followed by Hispanic/Latinx (11.5%), Black (10.1%), Asian American (5.8%), multiracial (4.4%), other (0.4%), and Native Hawaiian/Pacific Islander (0.1%).

Of the 755 participants, 105 did not complete the follow-up survey. Attrition was comparable across conditions $\chi^2(5)=5.57$, $p=.35$. Participants with missing follow-up data did not differ on any post-manipulation outcome, $t_s < 1.51$, $p_s > .133$. For analyses of the immediate effects of writing gratitude letters, we included all participants who completed the initial survey,

and analyses of the follow-up measures only included participants who completed those measures ($n=650$), which provides >90% power to detect a small-to-medium effect.

Measures and Procedure

This study follows a 2 (target prompt: safe haven, gift) x 3 (gratitude expression: safe haven, gift, control) experimental design. After logging into the survey, participants were randomly assigned to one of two target prompt conditions: (a) a safe haven target condition, in which they were instructed to consider someone who made them feel cherished, protected, or accepted, or (b) a gift target condition, in which they were instructed to think about someone who gave them a gift. After this target manipulation, participants responded to a 3-item measure of the target person's perceived partner responsiveness (e.g., "This person tries to make me feel valued as a person;" 1=*not at all true*, 9=*completely true*; $\alpha=.93$; Rice et al., 2020). Then, paralleling the method from Study 1, they were randomly assigned to one of three writing activity conditions, while considering this person: (a) safe haven gratitude expression, (b) gift gratitude expression, or (c) a control activity. This design resulted in six distinct conditions: (a) expressing gratitude to a safe haven target for the ways in which they make them feel cherished, protected, or accepted (safe haven target; safe haven gratitude expression; $n=128$); (b) expressing gratitude to a safe haven target for a gift (safe haven target; gift gratitude expression; $n=122$) (c) identifying a safe haven target and writing about the events of the prior week (safe haven target; control; $n=122$); (d) expressing gratitude to someone who gave them a gift for the ways in which they make them feel cherished, protected, or accepted (gift target; safe haven gratitude expression; $n=125$); (e) expressing gratitude to someone who gave them a gift for a gift (gift target; gift gratitude expression; $n=127$) (f) identifying someone who gave them a gift and writing about the events of the previous week (gift target; control; $n=121$).

After completing the writing activity, participants completed the same measures as Study 1, aside from perceived partner responsiveness, which was again measured using the 3-item scale. One week later, participants completed a follow-up survey including all of these measures. In the post-manipulation survey, participants were prompted to report how they currently feel, and in the follow-up survey, they were prompted to think about how they felt over the course of the past week. Specifically, participants reported their emotions (positive emotions: $\alpha_{t1}=.95$, $\alpha_{t2}=.96$, negative emotions: $\alpha_{t1}=.85$, $\alpha_{t2}=.90$, empathic emotions: $\alpha_{t1}=.91$, $\alpha_{t2}=.92$, gratitude: $\alpha_{t1}=.94$, $\alpha_{t2}=.94$, felt love: $\alpha_{t1}=.91$, $\alpha_{t2}=.89$), perceived connectedness ($\alpha_{t1}=.95$, $\alpha_{t2}=.96$), meaning ($\alpha_{t1}=.93$, $\alpha_{t2}=.97$), and satisfaction. Next, we prompted participants to continue thinking about the target they identified at the beginning of the survey. Participants then reported their current or past-week perceived partner responsiveness ($\alpha_{t1}=.94$, $\alpha_{t2}=.95$), relationship satisfaction ($\alpha_{t1}=.85$, $\alpha_{t2}=.88$), and closeness about that person³. Preregistration, data, and materials for this study are available at (<https://osf.io/v9z6w>).

Results

As with our first study, we originally intended to discuss effects at $p < .05$ as described in our preregistration; however, given the number of analyses, we focus primarily on results significant at $p < .01$ to be conservative, and we include results with $ps < .05$, which may provide insights for future research.

Are Safe Haven Targets Perceived as More Responsive than Gift Targets?

To evaluate our pre-registered hypothesis that safe haven targets would be perceived as more responsive than gift targets, we conducted a focused contrast analysis comparing all safe

³As with Study 1, this study also included the Twenty Statements Test along with measures of interpersonal goals and humility. Findings regarding these measures are presented in the online supplement to retain cohesion and focus on well-being and relationship quality in the current manuscript.

haven target conditions (each weighted +1) with all gift target conditions (each weighted -1) on post-target manipulation (prior to the gratitude expression manipulation) perceived partner responsiveness. Consistent with our hypothesis, participants in the safe haven target condition ($M=8.03$, $SD=1.78$) perceived these targets to be more responsive than participants in the gift target condition ($M=7.64$, $SD=1.63$), $t_{\text{contrast}}(752)=3.65$, $p < .001$, $r=.13$.

We also explored whether the target manipulation (safe haven vs. gift) led to greater well-being and relationship quality after the gratitude expression manipulation. Regardless of their gratitude expression conditions, people in the safe haven target conditions also reported greater perceived partner responsiveness, $t_{\text{contrast}}(743)=3.91$, $p < .001$, $r=.14$ and relationship satisfaction, $t_{\text{contrast}}(743)=3.54$, $p < .001$, $r=.13$ after completing their writing activity. No other comparisons on post-activity outcomes were statistically significant, $ts < 1.23$, $ps > .22$.

Does Expressing Gratitude Improve Well-Being and Relationship Quality?

To evaluate our hypothesis that both safe haven gratitude and gift gratitude would elicit greater well-being and relationship quality relative to control, we conducted a contrast analysis comparing both gratitude expression conditions (each weighted +1) to control conditions (each weighted -2). Regardless of their target prompt, people who expressed safe haven and gift gratitude reported greater positive emotions, gratitude, empathic emotions, satisfaction, meaning, connectedness, and less negative emotions. They also reported greater perceived partner responsiveness and relationship satisfaction, but not closeness. See Table 3.

Next, we evaluated the exploratory hypothesis that safe haven gratitude expression would elicit greater well-being and relationship quality relative to gift gratitude expression directly. To test this hypothesis, we conducted a contrast analysis comparing safe haven gratitude expression conditions (weighted +1) to gift gratitude (weighted -1) with control weighted 0. None of these

comparisons were statistically significant. See Table 3.

Does Target Quality Moderate the Effects of Safe Haven and Gift Gratitude Expression Relative to Control on Post-Activity Well-Being and Relationship Quality?

We tested our hypothesis that gratitude target (safe haven vs. gift) would moderate the effects of safe haven gratitude and gift gratitude expression on immediate well-being and relationship quality using the PROCESS Macro (Model 1) in SPSS with 5,000 bootstrapped samples (Hayes, 2018). These analyses revealed that gratitude target condition moderated the effects of gift gratitude expression on felt gratitude ($b=-0.58$, $SE=0.23$, $p=.013$), felt love ($b=-0.56$, $SE=0.25$, $p=.029$), and empathic emotions (marginally; $b=-0.48$, $SE=0.25$, $p=.053$). In addition, gratitude target (safe haven vs. gift) moderated the effects of safe haven gratitude expression on reported connectedness ($b=0.61$, $SE=0.25$, $p=.016$). Gratitude target did not moderate the effects of gratitude expression on any other outcome. See Figure 1 for a depiction of significant moderation effects.

Simple slopes analyses revealed that for safe haven targets, both safe haven gratitude expression and gift gratitude expression had similar effects on felt gratitude (safe haven expression: $b=1.78$, $SE=0.16$, $p < .001$; gift gratitude expression: $b=1.80$, $SE=0.16$, $p < .001$), felt love (safe haven gratitude expression: $b=1.78$, $SE=0.18$, $p < .001$; gift gratitude expression: $b=1.75$, $SE=0.18$, $p < .001$), and empathic emotions (safe haven gratitude expression: $b=1.53$, $SE=0.17$, $p < .001$; gift gratitude expression: $b=1.47$, $SE=0.18$, $p < .001$). Conversely, for gift targets, safe haven gratitude expression elicited a relatively stronger effect on felt gratitude (safe haven expression: $b=1.38$, $SE=0.16$, $p < .001$; gift gratitude expression: $b=1.22$, $SE=0.16$, $p < .001$), felt love (safe haven gratitude expression: $b=1.47$, $SE=0.18$, $p < .001$; gift gratitude expression: $b=1.20$, $SE=0.18$, $p < .001$), and empathic emotions (safe haven gratitude

expression: $b=1.32$, $SE=0.17$, $p < .001$; gift gratitude expression: $b=0.99$, $SE=0.17$, $p < .001$).

Moderation results for connectedness followed a slightly different pattern. For safe haven targets, gift gratitude expression, but not safe haven gratitude expression, led to greater feelings of connectedness (gift gratitude: $b=0.31$, $SE=0.18$, $p=.09$; safe haven gratitude: $b=-0.01$, $SE=0.18$, $p=.95$). However, for gift targets, both safe haven gratitude ($b=0.60$, $SE=0.18$, $p=.0009$) and gift gratitude ($b=0.54$, $SE=0.18$, $p=.003$) led to greater connectedness.

Does Target Quality Moderate the Effects of Safe Haven and Gift Gratitude Expression Relative to Control on Follow-Up Well-Being and Relationship Quality via Post-Activity Gratitude and Empathic Emotions?

Next, we explored whether target quality moderated the effects of safe haven and gift gratitude expression relative to control on follow-up well-being and relationship quality via post-activity gratitude and empathic emotions⁴. Gratitude and empathic emotions were included simultaneously as parallel mediators in our models, allowing estimation of each mediator's unique indirect effect on the outcome while controlling for the other mediator. Target quality (safe haven vs. gift) moderated the effects of gratitude expression on felt gratitude ($b=-0.59$, $SE=0.25$, $p=.02$) and empathic emotions ($b=-0.54$, $SE=0.26$, $p=.043$). Participants in the gift target condition reported significantly greater gratitude and empathic emotions after expressing safe haven gratitude than gift gratitude, whereas the effects of safe haven gratitude expression and gift gratitude expression were similar for participants in the safe haven target condition. In turn, felt gratitude predicted greater positive emotions ($b=0.33$, $SE=0.05$, $p < .001$), gratitude ($b=0.45$, $SE=0.06$, $p < .001$), felt love ($b=0.15$, $SE=0.06$, $p=.009$), satisfaction ($b=0.44$,

⁴ We also evaluated our pre-registered moderated mediation hypothesis including perceived partner responsiveness, positive emotions, and negative emotions as mediators; however, because we did not find that target quality significantly moderated the effects of gratitude expression on any of these mediators, none of the moderated mediation results were significant. We present the full results from those models in supplemental materials.

$SE=0.08, p < .001$), meaning ($b=0.39, SE=0.07, p < .001$), and less negative emotion ($b=-0.23, SE=0.05, p < .001$), as well as greater connectedness ($b=0.22, SE=0.07, p=.001$), perceived partner responsiveness ($b=0.26, SE=0.08, p=.001$), and relationship satisfaction ($b=0.11, SE=0.03, p=.001$), but not empathic emotions or closeness ($|bs| < 0.06, ps > .12$).

Empathic emotions predicted greater follow-up positive emotions ($b=0.22, SE=0.05, p < .001$), negative emotions ($b=0.16, SE=0.05, p=.003$), gratitude ($b=0.20, SE=0.06, p=.001$), empathic emotions ($b=0.50, SE=0.50, p < .001$), felt love ($b=0.40, SE=0.06, p < .001$), as well as perceived partner responsiveness ($b=0.28, SE=0.07, p < .001$), but not satisfaction, meaning, connectedness, relationship satisfaction, or closeness ($|bs| < 0.12, ps > .10$).

Indices of moderated mediation revealed differences in the conditional indirect effects for gift gratitude expression in the safe haven target relative to control via greater gratitude ($ps < .05$), but not empathic emotions, on follow-up positive emotions, gratitude, negative emotions, satisfaction, connectedness, meaning, perceived partner responsive responsiveness, and relationship satisfaction, but not follow-up empathic emotions or closeness. See Table 4 and Table 5 for indices of moderated mediation and conditional indirect effects.

Discussion

Across two longitudinal pre-registered randomized experiments, we discovered that the effects of gratitude expression depend on to whom and how it is expressed. Specifically, expressing gratitude to high quality relationship partners and for responsive actions boosts the relationship and well-being benefits of gratitude expression. In our first study, participants who expressed safe haven gratitude—to someone who made them feel cherished, protected, or accepted—reported greater well-being and relationship quality relative to those who practiced a control activity. These gains were largely mediated by elevated perceived partner responsiveness

and positive emotions and reduced negative emotions. Our second study disentangled the role of gratitude target and type of gratitude expression. In this study, both safe haven gratitude expression and gift gratitude expression elicited greater felt gratitude, felt love, and empathic emotions when expressed to a high quality target. By contrast, when focused on a general target, safe haven gratitude expression elicited even greater gains in gratitude, felt love, and empathic emotions than expressing gratitude for a gift. Furthermore, the immediate boosts in felt gratitude predicted well-being and relationship quality one week later. Taken together, these findings suggest that expressing gratitude in the context of high quality relationships and for high quality behaviors contributes to well-being and relationship quality without engaging with the benefactor.

Contributions to the Science of Gratitude

These findings offer several insights regarding the benefits of gratitude expression. First, this research informs the contexts in which expressing gratitude may be beneficial or costly for well-being (e.g., Vannoy et al., 2026). For example, one prior experiment indicated that gratitude expressed to people led to greater well-being than gratitude expressed for things (Regan et al., 2023). Our findings indicate that even within social gratitude expression, focusing on responsive behaviors led to greater well-being and relationship quality than focusing on gifts. These findings are also consistent with evidence indicating that receiving gratitude expressions that highlight one's own responsive behavior is associated with well-being and relationship quality (Algoe & Zhaoyang, 2016; Park et al., 2021). To our knowledge, however, the current studies are the first to demonstrate the unique causal benefits of responsive-highlighting gratitude for expressers.

Second, our second study is among the first to causally demonstrate the role that gratitude targets play in the benefits of gratitude for expressers. We found that asking people to

focus on someone who made them feel cherished, protected, or accepted led them to select gratitude targets who they perceived to be responsive and to include a stronger focus on responsive behavior in their gratitude letters. Subsequently, expressing either safe haven gratitude or gift gratitude to these high quality targets led to greater empathic emotions, felt love, and felt gratitude compared to control. Conversely, participants who were instructed to focus on someone who gave them a gift selected people who they perceived to be relatively less responsive, even though participants largely selected the same types of relationships across conditions (with parents, partners, and friends among the most frequent choices). Furthermore, when choosing these somewhat lower quality partners, they benefitted more from gratitude expression that focused on their responsive behaviors than when they focused directly on the gift. Taken together, these findings suggest that the well-being benefits of gratitude expression depend on the relational context in which it occurs and, in turn, gratitude expression amplifies differences between higher- and lower-quality relationships: In high-quality relationships, multiple forms of gratitude expression improve well-being and relationship quality, whereas in lower-quality relationships, safe haven gratitude expression elicited stronger well-being gains. We would note, however, that the gratitude expression manipulation in our second study was robust even beyond somewhat subtle differences across gratitude targets.

The Role of Perceived Partner Responsiveness, Positive Emotions, and Negative Emotions

Our findings suggest that gratitude improves well-being and relationship quality in part by increasing perceived partner responsiveness and positive emotions and reducing negative emotions. Across studies, both forms of gratitude expressions increased positive emotions and reduced negative emotions, which were in turn associated with greater well-being and relationship quality one week later. The indirect effects of gratitude expression via increased

positive emotion is consistent with prior research demonstrating that gratitude elicits a range of positive and social emotions (Layous et al., 2017), as well as evidence that the immediate boosts in positive emotions following gratitude expression predict parents' well-being and family functioning (Nelson-Coffey & Coffey, 2024). Our second study pointed to a specific positive emotion—namely, felt gratitude—as particularly relevant in the context of safe haven gratitude. Specifically, when expressed to a safe haven target, any form of gratitude expression elicited similar levels of gratitude, but in the context of a gift target, expressing safe haven gratitude led to even greater levels of gratitude. These findings are consistent with the find, remind, and bind theory of gratitude, which suggests that gratitude is elicited most strongly to those who are perceived to be more responsive (Algoe, 2012).

Our finding that expressing gratitude reduced negative emotions was consistent across our two studies; however, prior research has less consistently demonstrated a reduction in negative emotions following gratitude. Indeed, some prior studies revealed that expressing gratitude increases feelings of guilt and indebtedness (Armenta et al., 2017; Layous et al., 2017), but not negative emotions more generally (Layous et al., 2017; Nelson-Coffey & Coffey, 2024). Yet our research suggests that expressing gratitude reduces momentary negative emotions, which was linked with well-being and relationship quality one week later. This finding is consistent with other studies showing that experiencing frequent negative emotions is associated with poor well-being (Kuppens et al., 2008). Thus, expressing gratitude may be one method to disrupt this cycle; however, additional research on the effect of expressing gratitude on negative emotions is warranted, given the inconsistency of prior literature.

Although both safe haven gratitude and gift gratitude improved positive emotions and reduced negative emotions, perceived partner responsiveness appeared to play a unique role in

the effect of safe haven gratitude. In our first study, safe haven gratitude letters included a stronger focus on the gratitude target's responsive behaviors and elicited greater perceived partner responsiveness relative to both gift gratitude and control. In turn, post-activity perceived partner responsiveness predicted greater positive emotions, empathic emotions, and connectedness one week later, along with improved relationship quality with the target of their gratitude letter. Our second study revealed that simply thinking of someone who fostered feelings of being cherished, protected, or accepted led people to choose gratitude targets who they perceived as more responsive. Thus, some of the benefits of safe haven gratitude expression may result from focusing on higher quality gratitude targets. Indeed, prior research reveals that perceived partner responsiveness is associated with greater relationship quality and well-being (Lemay et al., 2007; Selcuk et al., 2016), along with greater willingness to express gratitude (Kumar & Epley, 2018).

Strengths, Limitations, and Future Directions

The strengths of this research include the use of well-powered, preregistered, longitudinal experimental designs across two studies providing converging evidence. Indeed, relatively few investigations of the well-being benefits of positive activities, including gratitude, have been preregistered or well-powered (Folk & Dunn, 2024). In their systematic review of the literature on well-being interventions, Folk and Dunn (2024) highlighted that only two gratitude experiments conducted to date were well-powered and pre-registered. Thus, the current studies contribute important knowledge to the reestablishment of the well-being benefits of gratitude practice using transparent and open scientific methods. In addition, our rigorous experimental design compared safe haven gratitude to another form of gratitude expression—gratitude for a gift received—thus demonstrating unique benefits of safe haven gratitude.

Despite these strengths, our findings should be considered alongside a few limitations, which offer ideas for future research. First, participants in each study were instructed to complete a single gratitude exercise and report well-being and relationship quality immediately and at a one-week follow-up. This approach provided a snapshot of the immediate benefits of gratitude and the indirect effects over the course of one week but does not provide information about the durability of these effects over longer periods of time. We opted for this approach to prioritize sample size and maximize power for detecting between-person differences and to provide insights regarding potential causal mechanisms that may confer benefits over time, yet additional research is needed to determine the sustainability of these effects. Prior research has revealed that practicing gratitude weekly for several weeks contributes to improvements in well-being over the course of 6 months (Bohlmeijer et al., 2021). To date, however, safe haven gratitude has only been investigated as a single gratitude exercise (Nelson-Coffey et al., 2023).

Relatedly, the effect sizes of safe haven gratitude relative to gift gratitude and control were relatively small. Given these small effects, some of our findings were significant at $p < .05$, but not at the more conservative $p < .01$ —particularly, the moderated mediation analyses in Study 2. These findings bear replication and ought to be interpreted with some caution. Moreover, these small effects are unsurprising given that gratitude exercises are relatively “light touch” approaches to improving well-being and relationship quality, and many of our analyses compared two positive experiences, which provides a conservative test of our hypotheses. Notably, theorists argue that an effect-size r of .30—which is comparable to the effects of safe haven gratitude relative to control presented here—may be powerful in both short and long-term (Funder & Ozer, 2019). Additional research on the long-term effects of safe haven gratitude following repeated practice would be illuminating.

Moreover, our studies only considered the effects of safe haven gratitude expression for expressers, although prior research revealed that receiving gratitude expressions highlighting one's own responsive behavior benefits well-being (Park et al., 2021). Additional research employing dyadic methods to evaluate how expressing safe haven gratitude contributes to both expressers' and targets' well-being and relationship quality would be informative. Such studies could randomly assign one person to express safe haven gratitude to a partner and consider well-being and relationship quality for both individuals. Additionally, although our analytic approach accounted for overlap in parallel mediators, it did not account for intercorrelations in outcomes. Future studies using similar methods could evaluate these effects using a multivariate approach, such as structural equation modeling, to account for correlated outcomes.

In the current studies, we compared safe haven gratitude to gift gratitude to isolate safe haven gratitude from another common form of gratitude expression; however, more research is needed to compare safe haven gratitude to other positive activities. Studies could consider whether focusing on responsive partners also enhances the benefits of other positive activities, such as prosociality. In addition, people may draw on many experiences when expressing safe haven gratitude whereas gift gratitude may rely on a single instance. We would note, however, that although a gift may seem like a solitary act, many gifts are given with the intent of repeated use over time. Future research evaluating the effects of considering repeated actions within gratitude letters would be informative. Additional research could also account for potential temporal differences across these activities by instructing participants across conditions to reflect on gifts received or instances of feeling cherished, protected, or accepted in the prior year.

Constraints on Generality

The findings presented here demonstrate the effects of safe haven and gift gratitude

among young adults living in the United States. Although we included people across a variety of backgrounds, more than half of our samples were white and identified as women. Future research could explore the effects of safe haven and gift gratitude, along with the role of perceived partner responsiveness, across more diverse racial, ethnic, and cultural backgrounds. In one study, the effects of expressing gratitude on emotional well-being differed across cultures (Shin et al., 2020), and another study revealed that European Americans reported higher levels of perceived partner responsiveness than East Asians (Choi & Oishi, 2022). Thus, the effects of safe haven gratitude on well-being and relationship quality may differ across cultures.

Implications and Conclusion

This research provides insights into methods of maximizing the gains of gratitude expression—namely, by focusing on high quality targets and responsive behavior. Prior research indicates gratitude expressions highlighting a partner’s responsive behavior improves well-being and relationship quality for targets (Algoe et al., 2013; Park et al., 2021), and the findings of our studies demonstrate that these forms of gratitude expression also improve well-being and relationship quality for expressers. Given that expressing gratitude is often undervalued, in part due to concern about recipients’ reactions (Kumar & Epley, 2018), encouraging people to express gratitude to someone who makes them feel cherished, protected, or accepted may guide people to more effectively express gratitude, with benefits for themselves and the recipients.

Table 1

Descriptive statistics, contrast tests, and effect sizes for post-activity well-being and relationship quality (Study 1)

	Experimental Conditions								
	Safe Haven Gratitude	Gift Gratitude	Control						
	Contrast 1: +1	Contrast 1: +1	Contrast 1: -2						
	Contrast 2: +1	Contrast 2: -1	Contrast 2: 0						
	<i>M (SE)</i>	<i>M (SE)</i>	<i>M (SE)</i>	<i>t_{contrast}</i>	<i>p</i>	<i>r</i> [95% CI]	<i>t_{contrast}</i>	<i>p</i>	<i>r</i> [95% CI]
<i>Well-Being</i>									
Gratitude	5.50 (0.07)	5.28 (0.09)	3.86 (0.14)	12.03***	< .001	.48 [.41, .55]	1.46	.145	.07 [-.02, .16]
Positive Emotions	4.74 (0.08)	4.54 (0.10)	3.29 (0.12)	10.92***	< .001	.45 [.38, .52]	1.42	.157	.07 [-.02, .16]
Negative Emotions	1.22 (0.09)	1.09 (0.08)	1.59 (0.10)	3.91***	< .001	-.18 [-.27, -.09]	1.04	.299	.05 [-.04, .14]
Empathic Emotions	4.64 (0.08)	4.34 (0.07)	2.72 (0.12)	13.88***	<.001	.53 [.46, .59]	2.06*	.040	.09 [.001, .18]
Felt Love	5.21 (0.08)	4.86 (0.10)	3.19 (0.14)	13.55***	< .001	.52 [.45, .58]	2.19*	.029	.10 [.01, .19]
Meaning	5.40 (0.12)	5.21 (0.12)	4.74 (0.14)	3.69***	< .001	.17 [.08, .26]	1.10	.273	.05 [-.04, .14]
Satisfaction	4.90 (0.13)	4.79 (0.13)	4.34 (0.14)	3.13**	.002	.14 [.05, .23]	0.59	.553	.03 [-.06, .12]
Connectedness	4.75 (0.12)	4.77 (0.11)	4.37 (0.12)	2.74**	.006	.12 [.03, .21]	-0.16	.876	-.01 [-.10, .08]
<i>Relationship Quality</i>									
Perceived Partner Responsiveness	7.78 (0.10)	7.39 (0.12)	6.47 (0.16)	7.08***	< .001	.31 [.23, .39]	2.13*	.034	.10 [.01, .19]
Relationship Satisfaction	4.42 (0.05)	4.28 (0.03)	4.02 (0.07)	4.58***	< .001	.21 [.12, .29]	1.70 ⁺	.091	.08 [-.01, .17]
Closeness	3.63 (0.16)	3.73 (0.14)	3.53 (0.15)	0.81	.42	.04 [-.05, .13]	-0.45	.657	.02 [-.07, .11]

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 2

Summary of indirect effects and 95% confidence intervals of safe haven gratitude and gift gratitude on well-being and relationship quality via perceived partner responsiveness, positive emotions, and negative emotions (Study 1)

	Safe Haven Gratitude v. Control			Gift Gratitude v. Control			Safe Haven Gratitude vs. Gift Gratitude		
	PPR	PE	NE	PPR	PE	NE	PPR	PE	NE
<i>Follow-Up</i>									
<i>Well-Being</i>									
Positive	0.18*	0.69*	0.002	0.11*	0.58*	0.002	0.07*	0.11	-0.0004
Emotions	[0.07, 0.31]	[0.48, 0.91]	[-0.04, 0.05]	[0.03, 0.21]	[0.38, 0.80]	[-0.04, 0.05]	[0.15, 0.02]	[-0.02, 0.25]	[-0.02, 0.02]
Negative	-0.03	0.01	-0.22*	-0.02	0.01	-0.26*	-0.01	0.002	0.04
Emotions	[-0.14, 0.08]	[-0.15, 0.17]	[-0.41, -0.04]	[-0.09, 0.05]	[-0.13, 0.14]	[-0.44, -0.09]	[-0.06, 0.03]	[-0.03, 0.04]	[-0.11, 0.19]
Empathic	0.20*	0.52*	-0.06*	0.12*	0.43*	-0.07*	0.08*	0.08	0.01
Emotions	[0.07, 0.33]	[0.31, 0.75]	[-0.14, -0.01]	[0.03, 0.22]	[0.24, 0.65]	[-0.15, -0.01]	[0.02, .16]	[-0.01, -0.20]	[-0.03, 0.06]
Satisfaction	0.12	0.51*	0.13*	0.07	0.42*	0.15*	0.05	0.09	0.02
	[-0.04, 0.31]	[0.27, 0.79]	[0.02, 0.28]	[-0.03, 0.20]	[0.22, 0.66]	[0.04, 0.31]	[-0.02, 0.15]	[-0.01, 0.22]	[-0.13, 0.07]
Meaning	0.08	0.53*	0.16*	0.05	0.44*	0.19*	0.03	0.09	0.02
	[-0.09, 0.25]	[0.28, 0.82]	[0.03, 0.32]	[-0.06, 0.16]	[0.23, 0.69]	[0.06, 0.35]	[-0.04, 0.11]	[-0.01, 0.22]	[-0.14, 0.08]
Connectedness	0.12*	0.31*	0.15*	0.07*	0.26*	0.18*	0.05*	0.05	-0.03
	[0.004, 0.27]	[0.13, 0.50]	[0.03, 0.29]	[0.002, 0.17]	[0.11, 0.42]	[0.06, 0.32]	[0.002, 0.12]	[-0.01, 0.14]	[-0.14, 0.08]
<i>Follow-Up</i>									
<i>Relationship</i>									
<i>Quality</i>									
Relationship	0.28*	0.16*	0.02	0.17*	0.13*	0.03	0.11*	0.03	-0.004
Satisfaction	[0.17, 0.40]	[0.06, 0.26]	[-0.01, 0.06]	[0.08, 0.28]	[0.05, 0.23]	[-0.01, 0.06]	[0.03, 0.20]	[-0.004, 0.07]	[-0.02, 0.01]
Closeness	0.32*	0.30*	-0.01	0.20*	0.25*	-0.01	0.12*	0.04	0.002
	[0.13, 0.54]	[0.04, 0.56]	[-0.09, 0.07]	[0.06, 0.39]	[0.04, 0.49]	[-0.11, 0.08]	[0.03, 0.24]	[-0.01, 0.13]	[-0.03, 0.04]

* $p < .05$

Table 3

Descriptive statistics, contrast tests, and effect sizes for post-activity well-being and relationship quality (Study 2)

	Experimental Conditions								
	Safe Haven Gratitude Expression	Gift Gratitude Expression	Control	Contrast 1			Contrast 2		
	Contrast 1: +1 Contrast 2: +1	Contrast 1: +1 Contrast 3: -1	Contrast 1: -2 Contrast 3: 0						
	<i>M (SE)</i>	<i>M (SE)</i>	<i>M (SE)</i>	<i>t</i> _{contrast}	<i>p</i>	<i>r</i> [95% CI]	<i>t</i> _{contrast}	<i>p</i>	<i>r</i> [95% CI]
Positive Emotions	4.63 (0.07)	4.59 (0.07)	3.32 (0.11)	12.54***	< .001	.42 [.36, .48]	0.30	.766	.01 [-.06, .08]
Gratitude	5.28 (0.06)	5.20 (0.07)	3.70 (0.11)	15.39***	<.001	.49 [.43, .54]	0.68	.728	.02 [-.05, .09]
Empathic Emotions	4.45 (0.07)	4.25 (0.08)	3.02 (0.11)	12.37***	<.001	.41 [.35, .47]	1.59	.112	.06 [-.01, .13]
Felt Love	4.93 (0.07)	4.78 (0.08)	3.31 (0.11)	14.00***	<.001	.21 [.14, .28]	1.21	.228	.04 [-.03, .11]
Negative Emotions	0.99 (0.06)	0.90 (0.06)	1.35 (0.08)	5.07***	<.001	-.18 [-.25, -.11]	1.09	.277	.04 [-.03, .11]
Satisfaction	4.97 (0.10)	5.06 (0.11)	4.51 (0.12)	3.72***	<.001	.14 [.07, .21]	-0.62	.535	-.02 [-.09, .05]
Meaning	5.25 (0.10)	5.27 (0.10)	4.88 (0.11)	2.98**	.003	.11 [.04, .18]	-0.18	.857	-.01 [-.08, .06]
Connectedness	4.57 (0.09)	4.70 (0.05)	4.27 (0.10)	3.25**	.001	.12 [.05, .19]	-1.05	.294	.04 [-.03, .11]
Perceived Partner Responsiveness	8.06 (0.09)	8.01 (0.09)	7.58 (0.11)	3.88***	<.001	.14 [.07, .21]	0.31	.754	.01 [-.06, .08]
Relationship Satisfaction	4.47 (0.04)	4.38 (0.04)	4.20 (0.05)	4.25***	<.001	.15 [.08, .22]	1.52	.128	.06 [-.01, .13]
Closeness	3.62 (0.13)	3.58 (0.13)	3.50 (0.13)	0.66	.507	.03 [-.04, .10]	0.23	.821	.01 [-.06, .08]

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 4

Indices of moderated mediation and Conditional indirect effects of safe haven gratitude expression and gift gratitude expression relative to control via felt gratitude and empathic emotions on follow-up well-being (Study 2)

	Safe Haven Gratitude → Gratitude → Follow-Up Well-Being			Safe Haven Gratitude → Empathic Emotions → Follow-Up Well-Being			Gift Gratitude → Gratitude → Follow-Up Well-Being			Gift Gratitude → Empathic Emotions → Follow-Up Well-Being		
	SH Target	Gift Target	Index of Moderated Mediation	SH Target	Gift Target	Index of Moderated Mediation	SH Target	Gift Target	Index of Moderated Mediation	SH Target	Gift Target	Index of Moderated Mediation
Positive Emotions	0.57* [0.34, 0.82]	0.46* [0.27, 0.68]	-0.11 [-0.30, 0.08]	0.31* [0.14, 0.51]	0.29* [0.13, 0.47]	-0.03 [-0.16, 0.11]	0.59* [0.36, 0.86]	0.39* [0.22, 0.62]	-0.20* [-0.40, -0.01]	0.32* [0.15, 0.52]	0.20* [0.08, 0.34]	-0.12 [-0.28, 0.01]
Gratitude	0.77* [0.49, 1.09]	0.62* [0.39, 0.91]	-0.15 [-0.42, 0.10]	0.28* [0.09, 0.49]	0.25* [0.09, 0.45]	-0.02 [-0.15, 0.10]	0.80* [0.52, 1.11]	0.53* [0.31, 0.80]	-0.26* [-0.53, -0.01]	0.28* [0.09, 0.50]	0.17* [0.06, 0.33]	-0.11 [-0.27, 0.01]
Empathic Emotions	0.07 [-0.11, 0.26]	0.06 [-0.09, 0.21]	-0.01 [-0.08, 0.03]	0.70* [0.46, 0.97]	0.65* [0.43, 0.88]	-0.06 [-0.35, 0.22]	0.08 [- 0.11, 0.27]	0.05 [- 0.07, 0.19]	-0.02 [-0.11, 0.04]	0.72* [0.48, 0.98]	0.44* [0.24, 0.66]	-0.27 [-0.59, .003]
Felt Love	0.27* [0.05, 0.49]	0.22* [0.04, 0.40]	-0.05 [-0.17, 0.03]	0.56* [0.35, 0.80]	0.51* [0.32, 0.73]	-0.05 [-0.28, 0.18]	0.28* [0.06, 0.51]	0.18* [0.03, 0.36]	-0.09 [-0.22, 0.0001]	0.56* [0.36, 0.81]	0.35* [0.18, 0.54]	-0.21 [-0.47, 0.004]
Negative Emotions	-0.40* [-0.62, -0.19]	-0.32* [-0.51, -0.15]	0.08 [-0.05, 0.22]	0.22* [0.06, 0.41]	0.20* [0.05, 0.37]	-0.02 [-0.12, 0.07]	-0.41* [-0.65, -0.19]	-0.27* [-0.45, -0.13]	0.13* [0.01, 0.30]	0.22* [0.06, 0.41]	0.14* [0.04, 0.27]	-0.08 [-0.22, 0.005]
Satisfaction	0.76* [0.46, 1.10]	0.61* [0.36, 0.90]	-0.16 [-0.40, 0.08]	0.07 [-0.14, 0.29]	0.06 [- 0.13, 0.27]	-0.01 [-0.07, 0.05]	0.78* [0.47, 1.12]	0.52* [0.29, 0.79]	-0.26* [-0.53, -0.02]	0.07 [- 0.14, 0.29]	0.04 [- 0.09, 0.19]	-0.03 [-0.14, 0.06]
Meaning	0.69* [0.38, 1.03]	0.55* [0.31, 0.83]	-0.14 [-0.38, 0.08]	0.16 [-0.05, 0.40]	0.14 [- 0.05, 0.36]	-0.02 [-0.11, 0.06]	0.71* [0.40, 1.06]	0.47* [0.25, 0.74]	-0.24* [-0.50, -0.02]	0.16 [- 0.06, 0.40]	0.10 [- 0.04, 0.26]	-0.06 [-0.20, 0.02]
Connectedness	0.38* [0.16, 0.64]	0.31* [0.12, 0.51]	-0.08 [-0.22, 0.05]	0.13 [-0.04, 0.31]	0.12 [- 0.04, 0.29]	-0.01 [-0.09, 0.05]	0.40* [0.16, 0.66]	0.27* [0.10, 0.46]	-0.13* [-0.30, -0.001]	0.13 [- 0.04, 0.31]	0.08 [- 0.03, 0.21]	-0.05 [-0.15, 0.02]

* $p < .05$

Table 5

Indices of moderated mediation and Conditional indirect effects of safe haven gratitude expression and gift gratitude expression relative to control via felt gratitude and empathic emotions on follow-up relationship quality (Study 2)

	Safe Haven Gratitude → Gratitude → Follow-Up Relationship Quality			Safe Haven Gratitude → Empathic Emotions → Follow-Up Relationship Quality			Gift Gratitude → Gratitude → Follow-Up Relationship Quality			Gift Gratitude → Empathic Emotions → Follow-Up Relationship Quality		
	SH Target	Gift Target	Index of Moderated Mediation	SH Target	Gift Target	Index of Moderated Mediation	SH Target	Gift Target	Index of Moderated Mediation	SH Target	Gift Target	Index of Moderated Mediation
Perceived	0.46*	0.37*	0.40*	0.36*	-0.04	-0.04	0.47*	0.32*	-0.16*	0.40*	0.25*	-0.15
Partner	[0.18,	[0.14,	[0.18, 0.64]	[0.16,	[-0.21,	[-0.21, 0.12]	[0.18,	[0.12,	[-0.36, -	[0.19,	[0.10,	[-0.34,
Responsiveness	0.77]	0.62]		0.58]	0.12]		0.79]	0.55]	0.01]	0.64]	0.42]	0.01]
Relationship	0.20*	0.16*	-0.04	0.03	0.03	-0.003	0.20*	0.14*	-0.07*	0.03 [-	0.02 [-	-0.01
Satisfaction	[0.08,	[0.06,	[-0.12,	[-0.05,	[-0.05,	[-0.03,	[0.08,	[0.05,	[-0.15, -	0.05,	0.03,	[-0.06,
	0.33]	0.27]	0.02]	0.12]	0.11]	0.02]	0.34]	0.24]	0.003]	0.12]	0.08]	0.02]
Closeness	-0.02	-0.01	0.004	-0.18	-0.16	0.02	-0.02	-0.01	0.01	-0.18	-0.11	0.07
	[-0.32,	[-0.36,	[-0.08,	[-0.42,	[-0.39,	[-0.07, 0.11]	[-0.33,	[-0.22,	[-0.11,	[-0.42,	[-0.28,	[-0.02,
	0.30]	0.23]	0.09]	0.05]	0.04]		0.30]	0.20]	0.13]	0.05]	0.03]	0.21]

* $p < .05$ ** $p < .01$ *** $p < .001$

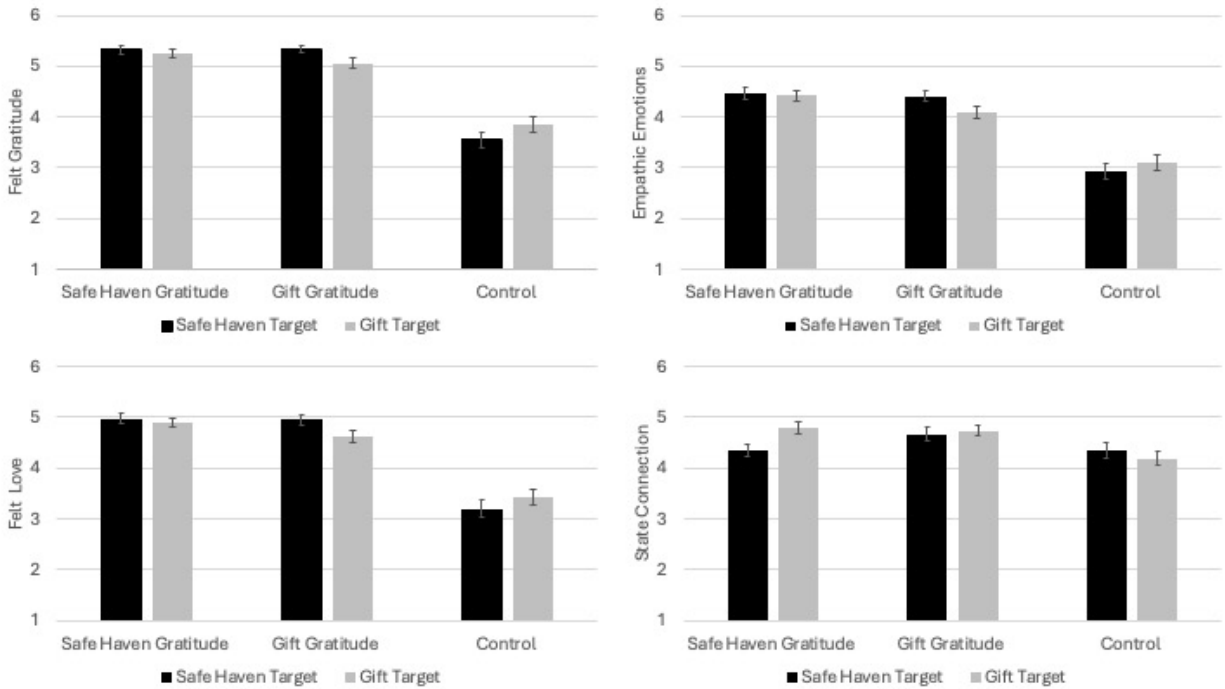


Figure 1. Gratitude target moderates the effects of gratitude expression on felt gratitude, empathic emotions, felt love, and state connection in Study 2. Key differences emerged in the gift gratitude expression condition, such that expressing gratitude for gifts to safe haven targets improved well-being more than expressing gratitude for gifts to gift targets. Both forms of gratitude expression similarly improved well-being when expressed to safe haven targets.

References

- Algoe, S. B. (2012). Find, remind, and bind: The functions of gratitude in everyday relationships. *Social and Personality Psychology Compass*, 6(6), 455-469.
<https://doi.org/10.1111/j.1751-9004.2012.00439.x>
- Algoe, S. B., & Chandler, K. R. (2024). Experienced gratitude is a catalyst for upward spirals of perceived partner responsiveness. *Current Opinion in Psychology*, 55, 101764.
<https://doi.org/10.1016/j.copsyc.2023.101764>
- Algoe, S. B., Dwyer, P. C., Young, A., & Oveis, C. (2020). A new perspective on the social functions of emotions: Gratitude and the witnessing effect. *Journal of Personality and Social Psychology*, 119(1), 40-74. <https://doi.org/10.1037/pspi0000202>
- Algoe, S. B., Fredrickson, B. L., & Gable, S. L. (2013). The social functions of the emotion of gratitude via expression. *Emotion*, 13(4), 605-609. <https://doi.org/10.1037/a0032701>
- Algoe, S. B., Haidt, J., & Gable, S. L. (2008). Beyond reciprocity: Gratitude and relationships in everyday life. *Emotion*, 8(3), 425-429. <https://doi.org/10.1037/1528-3542.8.3.425>
- Algoe, S. B., & Zhaoyang, R. (2016). Positive psychology in context: Effects of expressing gratitude in ongoing relationships depend on perceptions of enactor responsiveness. *The Journal of Positive Psychology*, 11(4), 399-415.
<https://doi.org/10.1080/17439760.2015.1117131>
- Armenta, C. N., Fritz, M. M., & Lyubomirsky, S. (2017). Functions of positive emotions: Gratitude as a motivator of self-improvement and positive change. *Emotion Review*, 9(3), 183-190. <https://doi.org/10.1177/1754073916669596>

- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of Other in the Self Scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63(4), 596-612. <https://doi.org/10.1037/0022-3514.63.4.596>
- Bohlmeijer, E. T., Kraiss, J. T., Watkins, P., & Schotanus-Dijkstra, M. (2021). Promoting gratitude as a resource for sustainable mental health: Results of a 3-armed randomized controlled trial up to 6 months follow-up. *Journal of Happiness Studies*, 22(3), 1011-1032. <https://doi.org/10.1007/s10902-020-00261-5>
- Choi, H., & Oishi, S. (2022). Cultural variations in perceived partner responsiveness: The role of self-consistency. *Journal of Cross-Cultural Psychology*, 54(2), 303-318. <https://doi.org/10.1177/00220221221132786>
- Coffey, J. K., Wray-Lake, L., Mashek, D., & Branand, B. (2016). A multi-study examination of well-being theory in college and community samples. *Journal of Happiness Studies*, 17(1), 187-211. <https://doi.org/10.1007/s10902-014-9590-8>
- Cregg, D. R., & Cheavens, J. S. (2020). Gratitude interventions: Effective self-help? A meta-analysis of the impact on symptoms of depression and anxiety. *Journal of Happiness Studies*, 22(1), 413-445. <https://doi.org/10.1007/s10902-020-00236-6>
- Davis, D. E., Choe, E., Meyers, J., Wade, N., Varjas, K., Gifford, A., Quinn, A., Hook, J. N., Van Tongeren, D. R., Griffin, B. J., & Worthington, E. L. (2016). Thankful for the little things: A meta-analysis of gratitude interventions. *Journal of Counseling Psychology*, 63(1), 20-31. <https://doi.org/10.1037/cou0000107>
- Dickens, L. R. (2017). Using gratitude to promote positive change: A series of meta-analyses investigating the effectiveness of gratitude interventions. *Basic and Applied Social Psychology*, 39(4), 193-208. <https://doi.org/10.1080/01973533.2017.1323638>

- Diener, E., & Emmons, R. (1984). The independence of positive and negative affect. *Journal of Personality*, 47(5), 1105-1117. <https://doi.org/10.1037/0022-3514.47.5.1105>
- Flynn, F. J., & Adams, G. S. (2009). Money can't buy love: Asymmetric beliefs about gift price and feelings of appreciation. *Journal of Experimental Social Psychology*, 45(2), 404-409. <https://doi.org/10.1016/j.jesp.2008.11.003>
- Folk, D., & Dunn, E. (2024). How can people become happier? A systematic review of preregistered experiments. *Annual Review of Psychology*, 75, 467-493. <https://doi.org/10.1146/annurev-psych-022423-030818>
- Fritz, M. M., & Lyubomirsky, S. (2018). Whither happiness?: When, how, and why might positive activities undermine well-being. *The Social Psychology of Living Well*, 101-115. <https://doi.org/10.4324/9781351189712>
- Funder, D. C., & Ozer, D. J. (2019). Evaluating effect size in psychological research: Sense and nonsense. *Advances in Methods and Practices in Psychological Science*, 2(2), 156-168. <https://doi.org/10.1177/2515245919847202>
- Goodman, F. R., Disabato, D. J., & Kashdan, T. B. (2020). Reflections on unspoken problems and potential solutions for the well-being juggernaut in positive psychology. *The Journal of Positive Psychology*, 16(6), 831-837. <https://doi.org/10.1080/17439760.2020.1818815>
- Hallford, D. J., & Mellor, D. (2016). Brief reminiscence activities improve state well-being and self-concept in young adults: A randomised controlled experiment. *Memory*, 24(10), 1311-1320. <https://doi.org/10.1080/09658211.2015.1103875>
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). New York: Guilford Press.

- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and Family*, 50(1), 93-98. <https://doi.org/10.2307/352430>
- Iasiello, M., Ali, K., van Agteren, J., Kolovos, E., Kyrios, M., Kashdan, T. B., & Fassnacht, D. B. (2024). What's the difference between measures of wellbeing, quality of life, resilience, and coping? An umbrella review and concept map of 155 measures of positive mental health. *International Journal of Wellbeing*, 14(2), 1-25. <https://doi.org/10.5502/ijw.v14i2.3621>
- Kumar, A., & Epley, N. (2018). Undervaluing gratitude: Expressers misunderstand the consequences of showing appreciation. *Psychological Science*, 29(9), 1423-1435. <https://doi.org/10.1177/0956797618772506>
- Kuppens, P., Realo, A., & Diener, E. (2008). The role of positive and negative emotions in life satisfaction judgment across nations. *Journal of Personality and Social Psychology*, 95(1), 66-75. <https://doi.org/10.1037/0022-3514.95.1.66>
- Layous, K., Sweeny, K., Armenta, C., Na, S., Choi, I., & Lyubomirsky, S. (2017). The proximal experience of gratitude. *Plos One*, 12(7), e0179123. <https://doi.org/10.1371/journal.pone.0179123>
- Lemay, E. P., Jr., Clark, M. S., & Feeney, B. C. (2007). Projection of responsiveness to needs and the construction of satisfying communal relationships. *Journal of Personality and Social Psychology*, 92(5), 834-853. <https://doi.org/10.1037/0022-3514.92.5.834>
- Lishner, D. A., Batson, C. D., & Huss, E. (2011). Tenderness and sympathy: Distinct empathic emotions elicited by different forms of need. *Personality and Social Psychology Bulletin*, 37(5), 614-625. <https://doi.org/10.1177/0146167211403157>

- Lok, I., & Dunn, E. (2023). The UBC State Social Connection Scale: Factor structure, reliability, and validity. *Social Psychological and Personality Science*, 14(7), 835-844.
<https://doi.org/10.1177/19485506221132090>
- McNeely, C. A., & Barber, B. K. (2010). How do parents make adolescents feel loved? Perspectives on supportive parenting from adolescents in 12 cultures. *Journal of Adolescent Research*, 25(4), 601-631. <https://doi.org/10.1177/0743558409357235>
- Nelson, S. K., Della Porta, M. D., Jacobs Bao, K., Lee, H. J. C., Choi, I., & Lyubomirsky, S. (2015). 'It's up to you': Experimentally manipulated autonomy support for prosocial behavior improves well-being in two cultures over six weeks. *Journal of Positive Psychology*, 10(5), 463-476. <https://doi.org/10.1080/17439760.2014.983959>
- Nelson-Coffey, S. K., Beesley, K., Coffey, J. K., Vuong, T., & Rumsey, M. (2026). *High quality targets amplify the benefits of gratitude expression*. <https://osf.io/v9z6w>
- Nelson-Coffey, S. K., & Coffey, J. K. (2024). Gratitude improves parents' well-being and family functioning. *Emotion*, 24(2), 357-369. <https://doi.org/10.1037/emo0001283>
- Nelson-Coffey, S. K., Johnson, C., & Coffey, J. K. (2023). Safe haven gratitude improves emotions, well-being, and parenting outcomes among parents with high levels of attachment insecurity. *The Journal of Positive Psychology*, 18(1), 75-85.
<https://doi.org/10.1080/17439760.2021.1991454>
- Park, Y., Visserman, M. L., Sisson, N. M., Le, B. M., Stellar, J. E., & Impett, E. A. (2021). How can I thank you? Highlighting the benefactor's responsiveness or costs when expressing gratitude. *Journal of Social and Personal Relationships*, 38(2), 504-523.
<https://doi.org/10.1177/0265407520966049>

- Regan, A., Walsh, L. C., & Lyubomirsky, S. (2023). Are some ways of expressing gratitude more beneficial than others? Results from a randomized controlled experiment. *Affective Science*, 4(1), 72-81. <https://doi.org/10.1007/s42761-022-00160-3>
- Reis, H. T., Clark, M. S., & Holmes, J. G. (2004). Perceived partner responsiveness as an organizing construct in the study of intimacy and closeness. In D. J. Mashek & A. P. Aron (Eds.), *Handbook of closeness and intimacy* (pp. 201-225). Lawrence Erlbaum Associates Publishers.
- Reis, H. T., Crasta, D., Rogge, R. D., Maniaci, M. R., & Carmichael, C. L. (2017). Perceived partner responsiveness scale. In D. L. Worthington & G. D. Bodie (Eds.), *The sourcebook of listening research: Methodology and measures*. Wiley.
<https://doi.org/10.1002/9781119102991.ch57>
- Rice, T. M., Kumashiro, M., & Arriaga, X. B. (2020). Mind the gap: Perceived partner responsiveness as a bridge between general and partner-specific attachment security. *International Journal of Environmental Research and Public Health*, 17(19).
<https://doi.org/10.3390/ijerph17197178>
- Sandvik, E., Diener, E., & Seidlitz, L. (1993). Subjective well-being: The convergence and stability of self-report and non-self-report measures. *Journal of Personality*, 61(3), 317-342. <https://doi.org/10.1111/j.1467-6494.1993.tb00283.x>
- Selcuk, E., Gunaydin, G., Ong, A. D., & Almeida, D. M. (2016). Does partner responsiveness predict hedonic and eudaimonic well-being? A 10-year longitudinal study. *Journal of Marriage and Family*, 78(2), 311-325. <https://doi.org/10.1111/jomf.12272>

- Shin, L. J., Armenta, C. N., Kamble, S. V., Chang, S.-L., Wu, H.-Y., & Lyubomirsky, S. (2020). Gratitude in collectivist and individualist cultures. *The Journal of Positive Psychology, 15*(5), 598-604. <https://doi.org/10.1080/17439760.2020.1789699>
- Stanton, S. C. E., Selcuk, E., Farrell, A. K., Slatcher, R. B., & Ong, A. D. (2019). Perceived partner responsiveness, daily negative affect reactivity, and all-cause mortality: A 20-year longitudinal study. *Psychosomatic Medicine, 81*(1), 7-15. <https://doi.org/10.1097/PSY.0000000000000618>
- Steger, M. F., Kashdan, T. B., & Oishi, S. (2008). Being good by doing good: Daily eudaimonic activity and well-being. *Journal of Research in Personality, 42*(1), 22-42. <https://doi.org/10.1016/j.jrp.2007.03.004>
- Tasfiliz, D., Selcuk, E., Gunaydin, G., Slatcher, R. B., Corriero, E. F., & Ong, A. D. (2018). Patterns of perceived partner responsiveness and well-being in Japan and the United States. *Journal of Family Psychology, 32*(3), 355-365. <https://doi.org/10.1037/fam0000378>
- Vannoy, T. K., Walsh, L. C., Liao, L., & Lyubomirsky, S. (2026). Individual differences in the affective experience of writing a gratitude letter: Who benefits most? *Behavioral Sciences, 16*(2), 232. <https://doi.org/10.3390/bs16020232>
- Walsh, L. C., Armenta, C. N., Itzhakov, G., Fritz, M. M., & Lyubomirsky, S. (2022). More than merely positive: The immediate affective and motivational consequences of gratitude. *Sustainability, 14*(14). <https://doi.org/10.3390/su14148679>
- Walsh, L. C., Regan, A., Twenge, J. M., & Lyubomirsky, S. (2023). What is the optimal way to give thanks? Comparing the effects of gratitude expressed privately, one-to-one via text,

or publicly on social media. *Affective Science*, 4(1), 82-91.

<https://doi.org/10.1007/s42761-022-00150-5>

Wood, A. M., Froh, J. J., & Geraghty, A. W. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review*, 30(7), 890-905.

<https://doi.org/10.1016/j.cpr.2010.03.005>