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The Benefits of Reflecting on Gratitude Received at Home for Leaders at Work: Insights From Three Field Experiments

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Expressions of gratitude by leaders tend to yield positive effects in the workplace. Leaders, however, are not solely bestowers of gratitude but also recipients of it. Although leaders are often studied for their influence on others in the workplace, it is crucial to acknowledge that they are also complete individuals with personal lives outside of work that can spill over and affect their feelings and leadership behaviors at work. To advance research on leadership and gratitude, we take a whole-person view of leaders to understand the interpersonal crossover and intrapersonal spillover of gratitude. By integrating the moral affect theory of gratitude and savoring interventions research, we investigate how an intervention involving reflecting on gratitude received from family members at home motivates leaders to be more helpful and empowering toward their followers at work. We studied these ideas across three daily field experiments with 103 full-time managers from high schools, 116 leader–follower dyads from a variety of industries, and 109 leaders across various industries. Our findings demonstrate that when leaders reflected on receiving gratitude from family members at home, they felt higher prosocial impact at home, which in turn fulfilled their basic daily needs, consequently motivating them to engage in more helping and empowering behavior toward their followers at work. We also found some evidence that leaders higher in trait negative affect benefited the least from reflecting on receiving gratitude at home. We discuss how our findings provide extensions to literatures on gratitude, leadership, and work–family issues.

Keywords: gratitude intervention, prosocial impact, need fulfillment, leader helping, empowering leadership

Gratitude interventions, also known as "grateful contemplation interventions" (Locklear et al., 2021, p. 1316), encompass practices such as deliberately reflecting on and recalling things, people, or events for which one feels grateful, as well as contemplating about gratitude experiences via expressive writing (Wood et al., 2010). Gratitude interventions have a long tradition in the positive psychology movement (Bono et al., 2004; Emmons & McCullough, 2003) and have been shown to have robust and beneficial effects on mood and well-being (Davis et al., 2016; Emmons & McCullough, 2003; Locklear et al., 2021; Seligman et al., 2005; Sheldon & Lyubomirsky, 2006; Watkins et al., 2003). Such interventions have the ability to evoke vivid and meaningful memories, exerting a lasting impact not only on the well-being of the beneficiary but also on the subsequent experiences of the recipient of gratitude (Dickerhoof, 2007; Grant & Wrzesniewski, 2010; Lyubomirsky et al., 2011; Peters et al., 2013).

Despite the well-established benefits of gratitude for recipients in various domains, it is only recently that organizational scholarship has begun to explore its implications in the workplace (Fehr et al., 2017; Locklear et al., 2023). Notably, the study of gratitude from the perspective of leaders remains rather limited, which is a significant oversight given their crucial role in shaping workplace dynamics (Yukl, 2010). A handful of studies have demonstrated that leaders' expressions of gratitude can serve as powerful tools for enhancing job satisfaction and fostering helping behavior among employees (Grant & Gino, 2010; Ritzenhöfer et al., 2019; Stocker et al., 2019). This research, however, has primarily focused on the perspective of leaders as gratitude providers, overlooking their experiences as

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recipients of gratitude. An exception is a study by Sheridan and Ambrose (2022), which found that leaders who received gratitude from subordinates felt more energized and experienced enhanced well-being. Establishing a link between receiving gratitude and leader well-being is an important first step. Equally important, however, is understanding the broader implications that receiving gratitude has not only for leader well-being but also for their subsequent interactions with followers.

In addition, most research on gratitude has focused on the direct exchange between the help recipient and the help giver, assuming that gratitude's influence is confined to this specific dyadic relationship within a working context (Tang et al., 2022). This perspective, however, overlooks the potential crossover and spillover effects of gratitude that may extend beyond the recipient to third parties as well as across contexts (e.g., Locklear et al., 2023). For example, gratitude research has not explored whether reflecting on gratitude received at home may yield spillover effects at work, influencing colleagues who were not involved in the experience of gratitude. This oversight may stem from the following assumptions in the gratitude literature: (a) that recalling gratitude experiences that occurred at home might produce effects confined to the home environment, not translating to the workplace, or (b) that such reflections might not impact relevant work behaviors, potentially because gratitude from a spouse or family member is not valued equivalently in the work domain. These assumptions, however, may not hold true, especially in light of recent evidence showing that leaders' home experiences matter for their work behaviors (e.g., Lanaj, Gabriel, & Jennings, 2023; McClean et al., 2021). It is possible, therefore, that when leaders are impacted by gratitude received at home, their feelings and perceptions may hold implications for their interactions with those they lead at work.

Considering that gratitude is less commonly observed in the workplace compared to other domains (Locklear et al., 2023), it is important to examine whether receiving gratitude from family members outside of work may enrich leaders' attitudes in ways that subsequently enhance their effectiveness in their leader roles. Specifically, reflecting on gratitude experienced in the home domain may impact how leaders feel and how they subsequently interact with their followers because the attitudes of those holding leadership positions tend to significantly impact behaviors toward their followers (e.g., Friedman, 2008; Lin et al., 2021). Neglecting to examine the potential spillover effects that gratitude experiences at home may have on subsequent leader behaviors at work may underestimate the breadth of effects that gratitude may have for leaders across these two domains. Thus, shifting the focus to leaders as recipients of gratitude and considering the influence of their family experiences on their behaviors at work allows for a deeper understanding of the role that the experience of gratitude plays in leadership positions.

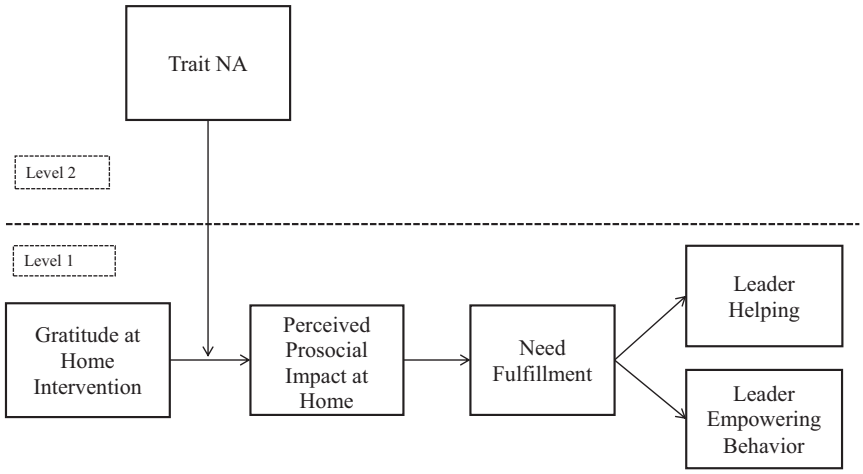
To address these important research problems, we developed a theoretical model that integrates the moral affect theory of gratitude (McCullough et al., 2001), which explains how receiving gratitude reinforces recipients' prosocial behavior and expands their inclination to help others, with savoring interventions research (Bryant & Veroff, 2007; Smith et al., 2014), which describes the mindful process of transforming positive stimuli into positive feelings that guide positive behaviors. Our theoretical model suggests that merely receiving gratitude at home may not suffice for its effects to carry over to the work domain. Instead, savoring research suggests that the savoring aspect of the intervention—where leaders take time to reflect on and write about their at-home gratitude experience—is important for gratitude to carry over to the work domain because such savoring prolongs and amplifies the experience (Bryant & Veroff, 2007).

Drawing from our integrated theoretical model, we propose that leaders who take a moment to reflect on receiving gratitude from family members—what we call a gratitude at home intervention—will experience an enhanced sense of prosocial impact at home that subsequently fulfills their basic needs in ways that render them more prosocial at work. Thus, the gratitude at home intervention and the resulting prosocial perceptions may act as reinforcers that motivate leaders to exhibit more prosocial behavior toward their followers at work (e.g., McCullough et al., 2001), as captured by leader helping and empowering behavior. We focus on helping as a key indicator of leader prosocial behavior in the workplace because leader helping is often a key outcome of gratitude interventions (Bartlett & DeSteno, 2006; Locklear et al., 2021) and a clear indicator of interpersonal prosocial behavior at work (e.g., Sawyer et al., 2022). We investigate empowering leader behavior as another relevant indicator of prosocial behavior because it involves sharing power with employees, involving them in the decision-making process, and instilling confidence in them, and research indicates that such other-oriented behavior ultimately promotes followers' effectiveness and well-being (Arnold et al., 2000; Pearce et al., 2003). Indeed, although leaders may engage in a variety of other prosocial behavior at work, recent leadership work shows that day-to-day leader prosocial behavior often manifests as helping and empowering behaviors (e.g., Lanaj et al., 2022; Schilpzand et al., 2018).

Furthermore, the moral affect theory of gratitude suggests that certain predispositions may weaken the beneficial effects of gratitude interventions. For example, this theory suggests that when people express gratitude in nongenuine ways, it may lead to reactance instead of positive consequences (McCullough et al., 2001). Accordingly, we posit that the effectiveness of the gratitude at home intervention may vary among leaders based on individual differences in how negatively they tend to perceive such expressions (Leong et al., 2020). In this regard, we identify leader trait negative affect (NA) as a potential boundary condition for the effects of the gratitude at home intervention. Individuals high in trait NA tend to perceive social interactions as threatening and exhibit reduced reactivity to positive events (e.g., Geiger et al., 2019). Consequently, we expect that trait NA may diminish the positive downstream consequences of reflecting on gratitude experienced at home. Figure 1 depicts our theoretical model.

Our research offers several contributions to theory and practices. First, we integrate research on gratitude interventions and leadership to explicate how leaders can benefit from gratitude interventions both personally and in their leadership roles. Our studies highlight the importance of the gratitude at home intervention and its influence on leaders' subsequent perceptions of prosocial impact, need fulfillment, and prosocial behavior toward their followers at work. Indeed, recognizing the value of gratitude interventions among leaders carries important theoretical and practical implications given the demanding and depleting nature of leadership roles (Lanaj et al., 2019), as well as the common feeling among leaders that they lack support and personal resources to lead effectively (Gabriel et al., 2021). Our work reveals how we can better support

Figure 1
Conceptual Model



Note. NA = negative affect.

leaders by enhancing not only their well-being but, consequently, also their effectiveness in their leadership roles. Second, our research contributes to the advancement of gratitude intervention research by shedding light on its wide-ranging benefits that go beyond a simple exchange involving a beneficiary and recipient to affecting third parties that were not involved in the exchange. As we show in our work, reflecting on gratitude received at home influences leaders in ways that motivate them to be more prosocial toward their followers. Thus, we demonstrate that gratitude interventions have an impact not only on the recipient leaders and their relationships with family members but also on their followers in the workplace. In doing so, we document the broader scope of influence and interpersonal crossover effects that gratitude interventions hold. Third, we also add value to the extant gratitude research by showing the intrapersonal spillover effects of gratitude. Specifically, reflecting on instances of gratitude outside of work may have positive spillover effects for the recipients at work. This novel perspective expands the understanding of gratitude and its implications not only within the gratitude literature but also within the domains of leadership research and family–work spillover research. Specifically, it redirects attention from how leaders may impact employees' work–family experiences (Hammer et al., 2009; Kossek et al., 2011) to how leaders' own home experiences can enhance their prosocial behavior in the workplace, ultimately benefiting their followers.

Theory and Hypotheses Development

Reflecting on Gratitude Received at Home and Its Positive Spillover Effect: Perspectives From the Moral Affect Theory of Gratitude and Savoring Interventions Research

The word gratitude is derived from the Latin terms *gratia* and *gratus*, meaning it is related to "kindness, generousness, gifts, and the beauty of giving and receiving" (Pruyser, 1976, p. 69). Fehr et al. (2017) proposed three essential elements that effective gratitude initiatives should incorporate: individual appreciation, beneficiary contact, and feedback. In line with this framework, our intervention of reflecting on gratitude received at home encompasses all these elements. It not only involves leaders recalling instances when their family members expressed appreciation for their actions (beneficiary contact and individual appreciation) but also consists of reflecting on how they personally felt about such expressions of gratitude (feedback).

The moral affect theory of gratitude (McCullough et al., 2001) and savoring interventions research (Bryant & Veroff, 2007) provide appropriate theoretical foundations to understand how a gratitude intervention, which asks leaders to reflect on gratitude received from family members at home, may influence their subsequent workplace experiences and behaviors. Our gratitude at home intervention can be considered as a form of past-focused savoring intervention, as it allows individuals to reminisce about positive past experiences and bring related memories to mind (Smith et al., 2014). A savoring experience is captured by the "totality of a person's sensations, perceptions, thoughts, behaviors, and emotions when mindfully attending to and appreciating a positive stimulus, outcome, or event" (Bryant & Veroff, 2007, p. 13). Thus, we propose that by recalling meaningful memories of past positive experiences, such as receiving gratitude from family members, leaders are able to fully focus on positive at-home experiences (Hurley & Kwon, 2012) that consequently guide their behaviors toward promoting the well-being of others at work (McCullough et al., 2001).

Building on these ideas, spillover research suggests that reflecting on gratitude received at home may have positive spillover effects for leaders at work. In particular, Bakker and Derks (2010, p. 213) defined spillover as a process where "experience or participation in one role increases quality or performance in the other role." The gratitude at home intervention prompts managers to immerse themselves in their family experiences by recalling an event where they received gratitude from family members for a positive action at home. This savoring aspect of the intervention reminds participant leaders of their "experience or participation" in the family role, thus triggering perceptions and behaviors that may spillover at

work. Consistent with previous research that has examined recall interventions and their subsequent effects across work and home domains (Bono et al., 2013), we expect that reflecting on gratitude received at home will have beneficial effects on leaders' attitudes and behaviors at work.

Receiving Gratitude at Home and Perceived Prosocial Impact at Home

We propose that the act of recalling and reflecting on instances of receiving gratitude from family members serves as a powerful reminder for leaders that their actions have made a positive difference in the lives of their loved ones, as captured by perceptions of prosocial impact within family dynamics (i.e., Sonnentag & Grant, 2012). Through a gratitude at home intervention, leaders engage in the process of reminiscing about these positive gratitude experiences, which may trigger "rosy retrospection" (Mitchell et al., 1997) and allow leaders to savor them in the present, consequently rekindling the strong social bonds they have with their family members (Smith et al., 2014). As a result, leaders are likely to become more aware of their positive influence on others at home. Furthermore, recalling receiving gratitude from family members can be seen as a form of beneficiary contact (Fehr et al., 2017) that enhances the salience and vividness of leaders' impact at home (e.g., Grant, 2007, 2012). For example, when reflecting on a time when a leader's spouse expressed appreciation for how present and connected this leader was at home, the recipient leader may become more acutely aware of the positive difference that she is making in their family life. This savoring process allows the leader to attend to both tangible (e.g., sharing responsibilities) and intangible (e.g., being present and connected) benefits that her actions bring to the family (Bryant & Veroff, 2007; McCullough et al., 2001). Furthermore, reflecting on gratitude received at home can be construed as a positive experience (Hurley & Kwon, 2012; McCullough et al., 2001), further contributing to favorable evaluations of contributions made to family members, even when faced with challenges or stress (Bryant et al., 2021; Fredrickson, 2004). For these reasons, we propose the following:

> *Hypothesis 1:* The gratitude at home intervention will increase perceptions of having a prosocial impact at home.

The Moderating Effect of Trait Negative Affect

The moral affect theory of gratitude posits that people may interpret and respond to expressions of gratitude differently (McCullough et al., 2001). For example, research has shown that when expressions of gratitude are perceived as insincere or as attempts to exploit the benefactor's generosity, individuals are likely to exhibit reactance (Carey et al., 1976). In addition, for some individuals, receiving gratitude from family members may elicit stress and a sense of burden (e.g., Kashdan et al., 2009). However, for others, especially those with fewer negatively activated emotions, gratitude may have a particularly powerful impact. Building on and extending the moral affect theory of gratitude, we propose that a relevant individual difference influencing leaders' interpretations of and responses to receipt of gratitude is trait NA, the dispositional tendency toward negative affective experiences such as agitation, distress, and fear (Watson & Tellegen, 1985).

Specifically, compared to those with lower trait NA, leaders with higher trait NA may be less susceptible to the benefits of the gratitude at home intervention for their perceptions of prosocial impact at home. This is because leaders with higher trait NA tend to have a cognitive bias through which they approach and interpret life experiences (Levin & Stokes, 1989), are less sensitive to positive feedback (Judge & Ilies, 2004), and are more likely to perceive positive feedback in a negative light (Lam et al., 2002). When recalling expressions of appreciation from family members, leaders with higher trait NA may doubt the motives behind such positive feedback or hold a cynical view of the event (Lam et al., 2002; Watson et al., 1987), thus reducing their likelihood of feeling impactful at home. In addition, people high on trait NA tend to experience and create more stressors and constraints (Spector & Jex, 1998). Even if they have favorable feelings after recalling family members' appreciation, they may quickly revert to their baseline view and feel less confident about their prosocial contributions at home. Furthermore, higher trait NA is related to persistent self-doubt (Kaplan et al., 2009; Watson & Pennebaker, 1989). This suggests that when leaders recall receiving appreciation from family members, those higher in trait NA may attribute their family's gratitude to factors beyond themselves (e.g., luck or help from outside), casting doubt on their abilities to make a positive difference at home. As a result, the positive influence of receiving gratitude from family members on perceived prosocial impact may be weaker for leaders higher in trait NA. In contrast, leaders with lower trait NA are more likely to report positive self-assessments following the gratitude at home intervention because they are more likely to see their family members' gratitude as genuine, thereby experiencing heightened perceptions of prosocial impact at home. Consistent with these arguments, we propose the following:

> *Hypothesis 2:* Trait NA will moderate the positive association between the gratitude at home intervention and perceptions of having a prosocial impact at home, such that this association will be weaker for leaders higher (vs. lower) in trait NA.

Spillover Effects: Leader Need Fulfillment and Leader Prosocial Behavior

The moral affect theory of gratitude, coupled with savoring intervention research, suggests that benefactors who reflect on receiving appreciation for their prior actions are likely to not only translate this positive experience into positive attitudes but also to expand their sense of belonging and to translate these feelings into actions that benefit a broader group (Frijda & Sundararajan, 2007; McCullough et al., 2001; Smith et al., 2014). In particular, studies on gratitude document that gratitude interventions promote a positive outlook and psychological well-being (Davis et al., 2016; Locklear et al., 2023) and enable recipients to develop a general sense of positivity about themselves (Jackowska et al., 2016; Peters et al., 2013). Based on this research and as discussed above, reflecting on gratitude received at home is likely to enhance leaders' view that they made a positive difference in the lives of their family members, which may fulfill leaders' subsequent basic daily needs.

Need fulfillment is a critical measure of well-being that captures people's satisfaction of their needs for relatedness, competence, and autonomy (Deci & Ryan, 2000; La Guardia et al., 2000; Ryan & Frederick, 1997), and research suggests that once these basic needs

are met, people are fundamentally motivated to thrive (Deci & Ryan, 2000; Ryan, 1995; Sheldon & Niemiec, 2006). From a self-determination theory perspective, these psychological needs are interdependent and mutually supportive, necessitating the satisfaction of all three for genuine need satisfaction and psychological thriving, which is why theory treats them as a single higher order construct (Ryan & Deci, 2017). The savoring experience, inherent to the gratitude at home intervention, enables leaders to feel impactful at home and enhances the breadth and depth of such feelings (Frijda & Sundararajan, 2007; Smith et al., 2014) by subsequently fostering sensations of connectedness, autonomy, and competence. Thus, we posit that reflecting on gratitude received from family members is likely to contribute to each psychological need through leaders' perceptions of their prosocial impact at home.

First, the need for relatedness is a feeling of connectedness and a sense of being significant to others (Deci & Ryan, 2000). Gratitude fosters an orientation toward others (Grant & Wrzesniewski, 2010), suggesting that when leaders recall receiving gratitude from their family, it allows them to mentally revisit their interactions with family members and be more aware of the prosocial impact they have at home, activating a deeper sense of connectedness and fulfilling their need for relatedness (Deci & Ryan, 2012; McCullough et al., 2001; Sonnentag & Grant, 2012; Weinstein & Ryan, 2010). This resonates with Algoe's (2012) find-remind-and-bind theory, which suggests that reflecting on received gratitude creates short-term cognitive shifts resulting in positive evaluations of the relationship that is involved in the gratitude interaction. Applied to our context, this theory suggests that when leaders reflect on gratitude received at home, they are *reminded* of the relationships they share with their family members, which further reinforces the *bonds* between leaders and their families, subsequently fulfilling their need for relatedness.

Second, the need for competence is a feeling of being effective in one's environment and capable of achieving valued outcomes (La Guardia et al., 2000). As suggested by Brockner and Sherman (2019, p. 8), gratitude interventions have the potential to fulfill basic needs by strengthening an individual's "sense of competence or personal agency" and by nurturing "a greater sense of social connection." Through the process of savoring the gratitude they received at home, leaders are likely to engage in a form of basking, where they link the receipt of gratitude to a sense of personal accomplishment (Smith et al., 2014). When leaders recall receiving explicit acknowledgment from family members that they were helpful with their actions at home, they are able to recognize that their contributions were significant (McCullough et al., 2001), consequently satisfying their need to feel capable and competent.

Third, the need for autonomy describes the feeling of having options and agency and not being controlled by forces alien to the self (Deci & Ryan, 2000). We propose that reflecting on gratitude received from family and the resulting perceptions of prosocial impact at home validate the leader's approach to their lives and encourage them to be more self-determined (e.g., Locklear et al., 2021), contributing to their perceptions of autonomy. Put together, we propose that the gratitude at home intervention promotes need fulfillment by enhancing feelings of prosocial impact at home. For these reasons, we propose the following:

> *Hypothesis 3:* The gratitude at home intervention will be positively associated with need fulfillment via perceptions of having a prosocial impact at home.

A core tenet of the moral affect theory of gratitude is that receiving gratitude serves as a moral reinforcer, fostering prosocial feelings and promoting engagement in prosocial behavior that extends beyond the original benefactors to include third parties (McCullough et al., 2001). This means that when leaders recall expressions of gratitude from their family members, they are likely to be motivated to contribute to the well-being of others in different domains (e.g., Locklear et al., 2021). In line with this theory, we suggest that perceptions of one's prosocial impact at home and the satisfaction of psychological needs stemming from the gratitude at home intervention serve as moral reinforcement, inspiring leaders to exhibit other-oriented leadership behaviors like helping and empowering others. We chose to focus on leader helping behavior because previous studies testing the moral affect theory of gratitude have frequently examined its influence on prosocial behavior, such as helping (e.g., Bartlett & DeSteno, 2006). Indeed, leader helping behavior is a direct measure of interpersonal prosocial behavior at work (e.g., Sawyer et al., 2022). Additionally, we consider empowering leadership behavior because, within the leadership domain, leaders' prosocial behavior often involves how they utilize their positional power and whether they are willing to share their power with followers to instill confidence and enable more effective and fulfilling work (Arnold et al., 2000). Thus, we argue that these two leadership behaviors, helping behavior and empowering leadership, are theoretically relevant manifestations of prosocial behavior resulting from the gratitude at home intervention and the accompanying feelings of prosocial impact and need fulfillment.

Leader Helping

Effective leadership often involves helping followers with task and personal issues (Katz & Kahn, 1978; Lanaj & Jennings, 2020). Leader helping behavior is an other-oriented action indicating that leaders care for their followers' performance and well-being (Lanaj et al., 2022; Quinn & Spreitzer, 2006). We posit that need fulfillment derived from perceived prosocial impact as a result of the gratitude at home intervention can motivate leaders to engage in prosocial behavior in the workplace and contribute to the welfare of their followers (McCullough et al., 2001). Specifically, these positive experiences derived from the gratitude at home intervention serve as a source of energy and enable leaders to engage in prosocial behavior at work (Smith et al., 2014). Indeed, existing evidence suggests that when employees' basic needs are satisfied, they are motivated to help others at work (Foulk et al., 2019). Thus, when leaders experience need fulfillment, they have both the capacity as well the motivation to care for the welfare of those around them because they see helping others as an internalized and achievable value (e.g., Foulk et al., 2019; Lanaj et al., 2016). Accordingly, we expect that leaders who experience need satisfaction from making a difference at home will be more likely to display helping behavior at work.

Leader Empowering Behavior

Empowering leadership is another key form of other-oriented behavior in leadership. It involves the process of enabling conditions that increase employees' feelings of control, reducing conditions that make employees feel powerless, and providing employees with the autonomy to be as flexible as the situation permits (Arnold et al., 2000).

Specifically, empowering leadership includes four interrelated behaviors: enhancing the meaningfulness of work, fostering participation in decision making, expressing confidence in high performance, and providing autonomy from bureaucratic constraints (Ahearne et al., 2005; Conger & Kanungo, 1988). The moral affect theory of gratitude posits that being the recipient of gratitude enhances the drive to contribute to the welfare of others while decreasing tendencies to undermine colleagues or foster feelings of superiority (Cortina et al., 2001; Locklear et al., 2021; McCullough et al., 2001). Applied to a leadership context, this theory suggests that leaders who participate in a gratitude at home intervention may experience psychological changes that render them more likely to view their coworkers as equals and be motivated to share power with them when making decisions. Drawing from these ideas, we propose that the gratitude at home intervention will enable leaders to experience an amplified sense of prosocial impact, leading to the fulfillment of their needs and subsequently fostering more empowering leadership behavior. Specifically, leaders whose basic needs are fulfilled because they feel bonded with people who matter to them may be more likely to carry these positive feelings to their interactions with followers and lead in a manner that is focused on others rather than being egocentric (e.g., Grahek et al., 2010; van Dierendonck & Patterson, 2015). As such, these leaders may be more likely to share power and remove bureaucratic constraints to help followers feel motivated to make decisions regarding how to achieve desired outcomes. Furthermore, leaders who feel fulfilled in terms of their needs for autonomy, competence, and relatedness due to making a positive difference in the lives of family members may engage in upstream reciprocity (Frijda, 1986; Keltner & Haidt, 1999) by seeking to evoke similar positive feelings in their followers. They are, therefore, more likely to involve employees in decision making, enhancing employees' feelings of control and relatedness, and to express confidence in employees' abilities to reach high goals, thus increasing employees' feelings of competence (Kirkman & Rosen, 1999; Zhang & Bartol, 2010). Together, these ideas suggest that need fulfillment due to making a positive difference at home is likely to orient leaders' attention to others' needs at work and to prompt them to engage in empowering leadership toward their followers. For these reasons, we propose the following:

Hypothesis 4: Need fulfillment will be positively associated with (a) leader helping and (b) leader empowering behavior.

Hypothesis 5: The gratitude at home intervention will be positively associated with (a) leader helping and (b) leader empowering behavior via perceptions of having a prosocial impact at home and need fulfillment.

Integrated Model

Drawing from the moral affect theory of gratitude and savoring intervention research, which together explain why reflecting on gratitude received at home may produce prosocial feelings and behavior (Bryant & Veroff, 2007; McCullough et al., 2001), we expect that the gratitude at home intervention will elicit positive personal perceptions in leaders, manifesting as a sense of prosocial impact and subsequent need fulfillment. These positive experiences, in turn, are likely to enable leaders to adopt a more other-oriented approach in their leadership roles, as reflected in leader helping and empowering behavior. However, given their propensity to skepticism toward positive social exchanges, including expressions of gratitude, leaders with a higher trait NA may be less likely to believe that their prosocial actions significantly impacted the welfare of others in the family (Judge & Larsen, 2001; Kaplan et al., 2009). Thus, while receiving gratitude expressed by their family members can foster stronger social ties, leaders higher on trait NA may experience a lesser degree of prosocial impact and consequently lower levels of need satisfaction. As a result, they may possess less motivation to engage in helping and empowering behavior toward their followers at work (Judge & Ilies, 2004). Based on these arguments, we propose that the gratitude at home intervention will have a diminished impact on subsequent experiences and behavior for leaders higher in trait NA. Hence, we propose:

Hypothesis 6: Trait NA will moderate the indirect effect between the gratitude at home intervention and (a) leader helping and (b) leader empowering behavior via perceptions of having a prosocial impact at home and need fulfillment, such that this serial indirect effect will be weaker for leaders with higher (vs. lower) levels of trait NA.

Overview of Studies

We conducted three daily field experiments to test the overall theoretical model, involving 103 full-time managers from high schools, 116 leader–follower pairs from a variety of industries, and 109 leaders across different industries.

Transparency and Openness

The syntax and output for analyses from all studies are available in an Open Science Framework repository (https://osf.io/5kst8/?view_only=50cc0cc8658744ea9ea805d366a0f7a9). We also provide the full scales used in our studies as well as the exact wording we used for each manipulation across all studies (Studies 1–3). Below, we describe our sampling plan, manipulation procedures, as well as all measures across all studies, and we have adhered to the *Journal of Applied Psychology* methodological checklist. Data are available upon request. Studies 1 and 2 and their analyses were not preregistered. Study 3 and its analysis were preregistered at AsPredicted.org (https://aspredicted.org/M8Z_H9J).

Study 1

Sample and Procedure

We emailed invitations to 2,187 managers from 359 high schools in a Midwestern state in the United States to participate in our study (The Ohio State University, institutional review board Study Number: 2019B0080). Prior to sending these invitations, we identified potential participants based on their publicly listed job titles, which indicated whether they were in leadership roles. Example job titles included director of student services, dean of students, chief financial officer, and athletic director. Out of the invited managers, 258 emails were bounced back because they were no longer affiliated with their schools or were out of office for a leave, and 140 managers agreed to participate. During recruitment, participants were informed that they would be provided with a background survey followed by three daily surveys for 10 consecutive workdays and that they could receive up to $100

depending on their completion of the background survey and the daily surveys.

Data were collected in two phases over a 3-week period. In the first phase, we sent the background survey to the participants, which included the informed consent, trait NA measure, and demographic information. Out of the 140 managers who agreed to participate, 123 completed the baseline survey.[1] During the second and third weeks of the study, we emailed the daily surveys to participants three times each day (morning, afternoon, and evening) for 10 consecutive workdays (Monday–Friday). At 6:00 a.m. on workdays, we sent out the morning survey, which contained a writing manipulation (gratitude at home intervention or control), a measure of perceived prosocial impact at home, as well as the control variables of positive and negative affect. Participants were asked to complete the morning survey before the start of their workday. The average completion time of the morning survey was 7:42 a.m. At 3:00 p.m., we sent out the afternoon survey, which included the need fulfillment measure, and asked participants to complete the survey by the end of their workday. The average completion time of the afternoon survey was 4:08 p.m. At 7:00 p.m., we sent out the evening survey, which included measures of leader helping and empowering behavior, and asked participants to complete it before they went to sleep. The average completion time of the evening survey was 8:17 p.m. In order to properly model within-person variance in our hypothesized associations and in line with other experience sampling studies (da Motta Veiga & Gabriel, 2016; Matta et al., 2020), we only kept respondents who completed at least 3 days of surveys. From the 123 managers who participated in the study, we received usable responses from 103 of them and a total of 828 day-level responses (out of a total possible of 1,030), resulting in a response rate of 80%. On average, participants were 45 years old (SD = 9.6) and had an average of 18 direct reports (SD = 24.5). Of total, 54% of participants were women, 95.8% were White, and 87.4% received a bachelor's degree or above.

Gratitude at Home Intervention and Control Condition

In the first week of the daily survey distribution, we randomly assigned half of the participants to the gratitude at home intervention and then assigned these participants to the control condition during the second week. We assigned the other half of the sample to the control condition during the first week and then to the gratitude at home intervention during the second week. Thus, participants in our sample were in the gratitude at home intervention for five out of the 10 workdays of the study and in the control condition for the other five workdays. The order of manipulation and control conditions was random within and across participants. This approach counterbalances the sequence of the experiment treatment at the week level (Song et al., 2018).

In the gratitude at home condition, we followed Fehr et al.'s (2017) suggestions and Weinstein and Ryan's (2010) and Song et al.'s (2018) design, as well as Grant and Gino's (2010) measurement of receipt of gratitude, to develop the intervention. Specifically, we asked participants to recall a time when they did something for a good cause in their family, and their family members showed appreciation for their behavior. We instructed participants to use a few (3–5) sentences to describe what they did, what their family members said/did to them in this situation, and their feelings after receiving their family's appreciation. Because each manager was in the experimental condition for five workdays, we asked them not to refer to the same event that they had described the day before. In the control condition, we developed five versions of the instructions for the five workdays of the study. Specifically, in random order, we asked participants to take a moment to describe 3–5 things they recently purchased, they bought the last time they went grocery shopping, they saw at the moment, they ate recently, and they had in their living room. Similar control tasks have been utilized in prior experimental experience sampling method studies (Foulk et al., 2018; Lanaj et al., 2019; Song et al., 2018). Example writing responses for the gratitude at home condition are listed in the Appendix.

To ensure that participants followed instructions for manipulation writing tasks, we recruited four graduate students as independent raters to check the writing responses we received from the participants during the 10-day study. These raters read participants' responses and evaluated whether they reflected recall of family gratitude or everyday things. Each rater evaluated half of the writings mixed with responses from both the experiment and control conditions, and consequently, each response was rated by two raters. The results showed that 99% of the responses fell into the assigned condition, experimental or control (interrater reliability for rater pairs = .98). We also conducted a post hoc manipulation check (e.g., Foulk et al., 2018) and asked two independent raters who were unaware of the study's hypotheses to evaluate all writing responses and rate the extent to which the narrator was writing about "receiving appreciation for doing good at home" and "feeling appreciated" using a scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. We aggregated their responses (intraclass correlation coefficient, ICC[1] range = .32–.75, ICC[1] mean = .58, ICC[2] range = .49–.86, ICC[2] mean = .73) and ran a one-way analysis of variance (ANOVA) in SPSS with the intervention condition as the factor and the ratings as the dependent variables. Results showed that, compared to the control condition, participants in the gratitude at home condition showed a higher likelihood of writing about receiving appreciation for doing good at home, $M_{\text{gratitude at home}} = 3.86$, $SD_{\text{gratitude at home}} = 1.34$; $M_{\text{control}} = 1.07$, $SD_{\text{control}} = 0.37$; $F(1, 826) = 1711.74$, $p < .001$, and feeling appreciated, $M_{\text{gratitude at home}} = 2.93$, $SD_{\text{gratitude at home}} = 1.14$; $M_{\text{control}} = 1.08$, $SD_{\text{control}} = 0.39$; $F(1, 826) = 1004.04$, $p < .001$.[2]

Measures

Unless otherwise noted, participants responded using a Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

Perceived Prosocial Impact at Home

In the morning survey, after completing the gratitude at home intervention (control), leaders reported their perceptions of having a prosocial impact at home using a three-item scale adapted from Grant (2008). A sample item was "At this moment, I feel that I can

[1] In addition to reviewing their titles, in the baseline survey, we asked participants to provide the number of their direct reports, and we used this information as another check to verify their leadership role.

[2] We also asked these two coders to rate the extent to which the narrator was writing about "doing good at home," $M_{\text{gratitude at home}} = 4.43$, $SD_{\text{gratitude at home}} = 0.94$; $M_{\text{control}} = 1.47$, $SD_{\text{control}} = 0.84$; $F(1, 826) = 2290.68$, $p < .001$, and "receiving appreciation at home," $M_{\text{gratitude at home}} = 3.62$, $SD_{\text{gratitude at home}} = 1.30$; $M_{\text{control}} = 1.08$, $SD_{\text{control}} = 0.37$; $F(1, 826) = 1497.10$, $p < .001$, and results showed very similar patterns with the other manipulation checks.

have a positive impact on my family through my work in the family" (α = .91).

Need Fulfillment

In the afternoon survey, leaders were asked to think about their feelings of the day and to rate their need fulfillment using seven items from La Guardia et al.'s (2000) scale. Two items were removed from the original scale due to misfit with the context (i.e., "I feel a lot of closeness and intimacy" and "I feel loved and cared about"). A sample item was "Today, I feel very capable and effective" (α = .82).

Leader Helping

In the evening survey, leaders reported their helping behavior using three items from Lee and Allen's (2002) scale. The three items were chosen because of their appropriateness to the daily context. They were "Today at work, I willingly gave my time to help others who had work-related problems," "Today at work, I showed genuine concern and courtesy toward coworkers, even under the most trying business or personal situations," and "Today at work, I gave up time to help others who have work or nonwork problems" (α = .81).

Leader Empowering Behavior

In the evening survey, managers also rated their empowering behavior using four items from Ahearne et al.'s (2005) scale. We chose one item from each of the four dimensions of the empowering leadership scale. They were as follows: (a) enhancing the meaningfulness of work: "Today at work, I helped my subordinates understand how their objectives and goals relate to that of the work group," (b) fostering participation in decision making: "Today at work, I made decisions together with my subordinates," (c) expressing confidence in high performance: "Today at work, I showed that I believe that my subordinate can handle demanding tasks," and (d) providing autonomy from bureaucratic constraints: "Today at work, I allowed my subordinates to do their jobs their ways" (α = .84).[3]

Trait Negative Affect

In the baseline survey, managers reported their trait NA with a five-item scale from Mackinnon et al. (1999) using a 5-point Likert scale (1 = *not at all* to 5 = *extremely*). Managers were asked how they felt in general, and example items included "upset" and "distressed" (α = .77).

Control Variables

We controlled for state positive and negative affect in our analyses in order to mitigate concerns of common method bias (Gabriel et al., 2019) and also because affect may influence participants' perceived prosocial impact and the leadership behaviors that we assessed here (e.g., Aknin et al., 2018; Sonnentag & Grant, 2012). We measured positive and negative affect in the morning survey with four items each from the Positive and Negative Affect Schedule (Watson & Clark, 1994). An example item for positive affect is "excited" and for negative affect is "distressed," and average coefficient alpha was α = .94 and α = .75 for positive and negative affect, respectively. To account for potential time and cyclical variations in our data, we also controlled for day of study (taking values of 1–10), day of week (taking values of 1–5), and the sine and cosine for the day of the week (Beal, 2015; Gabriel et al., 2019). Finally, we also controlled for lagged measurements on all of our endogenous variables to mitigate concerns of reverse causality. Importantly, dropping all of these controls does not change the pattern or significance of our hypothesized effects.

Analytical Approach

We tested all of our hypotheses simultaneously using multilevel path modeling in Mplus 8.1 (Muthén & Muthén, 1998–2017). Supporting the appropriateness of multilevel modeling for our data, a null model revealed that our endogenous variables had substantial variance at the within-person level (50.0% for perceived prosocial impact at home, 38.0% in need fulfillment, 59.1% in leader helping, and 66.7% in leader empowering behavior). In our multilevel path analyses, we person-mean centered our Level-1 predictors and controls, which allows for proper interpretation of within-person associations, and we grand-mean centered trait NA, as is appropriate in multilevel models (Enders & Tofighi, 2007; Hofmann et al., 2000). Following recommendations and best practices, we specified hypothesized paths as free and control paths as fixed slopes in the path model (Beal, 2015; Gabriel et al., 2018). When testing multilevel mediation and conditional multilevel mediation, we built on the model described by Preacher et al. (2010) and used Monte Carlo bootstrap simulation with 20,000 replications to build 95% bias-corrected confidence intervals (CIs) in *R* (Selig & Preacher, 2008). Missing data were handled with full information maximum likelihood estimation (Arbuckle, 1996) in Mplus. This approach is recommended for experience sampling data as it computes model parameters on all available data (Beal, 2015) and estimates correct standard errors (Larsen, 2011).

We conducted multilevel factor analyses in Mplus to evaluate the factor structure of our constructs. At Level 1, we modeled the items for positive affect, negative affect, prosocial impact at home, need fulfillment, leader helping, and leader empowering behavior on their respective factors. At Level 2, we modeled items for trait negative affect on its factor. To account for the nested nature of our data, we person-mean centered Level-1 items, and grand-mean centered the Level-2 items. The fit of this model was acceptable: $\chi^2(265) = 639.80$, $p < .001$; comparative fit index (CFI) = .92; Tucker–Lewis Index (TLI) = .90; root-mean-square error of approximation

[3] We conducted a validation study via Prolific, an online research platform, where we included our shortened empowering scale and the full 12-item Ahearne et al.'s (2005) scale. The study received approval by IRB at The Ohio State University (Study Number: 2023E0631). We recruited 287 managers, who were majority male (65.2%) and White (70.4%; 11.1% Asian/Pacific Islander; 8.7% Black; 7.0% Hispanic; 0.3% American Indian/Alaskan Native; 2.4% other), with an average age of 39.7 years old (*SD* = 11.4) and an average work experience of 17.5 years (*SD* = 11.5). Participants were mostly college educated (76.0% had at least a bachelor's degree) and worked in industries including finance, retail, and health care. We asked participants to provide self-reports as well as to rate their managers' daily empowering behavior since we have follower-reports of these behaviors in Study 2. For the self-report scales, the correlation between our shortened scale and the full scale was $r = .75$, $p < .001$. For the scales rating managers' empowering behavior, the correlation of the two scales was $r = .91$, $p < .001$. In all, these results indicate that our shortened scale captures the focal construct well when using both self- and other-reported ratings.

(RMSEA) = .04; standardized root-mean-square residual (SRMR) $SRMR_{within}$ = .04; $SRMR_{between}$ = .05. To evaluate construct distinctiveness, we compared the proposed model to two alternative models using the Satorra–Bentler χ^2 difference test with the Maximum Likelihood Restricted scaled correction factors (Satorra & Bentler, 2001). First, we compared our proposed model to an alternative model where we collapsed the items for morning positive affect and perceived prosocial impact at home on one factor and modeled the rest of the items on their respective factors. Fit indices for this model were: $\chi^2(270) = 1373.55$, $p < .001$; CFI = .76; TLI = .72; RMSEA = .07; $SRMR_{within}$ = .07; $SRMR_{between}$ = .05. Second, we compared the full model to a second alternative model where we collapsed the leader helping and empowering behavior items on one factor and modeled the rest of the items on their respective constructs. The fit indices of this model were: $\chi^2(270) = 848.45$, $p < .001$; CFI = .87; TLI = .85; RMSEA = .05; $SRMR_{within}$ = .05; $SRMR_{between}$ = .05. Supporting the empirical distinctiveness of our constructs, our proposed model fits the data better than these two alternative models (Alternative Model 1: $\Delta\chi^2 = 345.64$, $\Delta df = 5$, $p < .001$; Alternative Model 2: $\Delta\chi^2 = 118.03$, $\Delta df = 5$, $p < .001$).

Results

Table 1 summarizes means, standard deviations, and correlations among study variables and demographics. Hypothesis 1 predicted that the gratitude at home intervention would be positively associated with perceived prosocial impact at home. As shown in Table 2, the gratitude at home intervention had a positive impact on perceived prosocial impact at home ($\gamma = .13$, $SE = .05$, $p = .004$), supporting Hypothesis 1. Hypothesis 2 predicted that trait NA would moderate the association between the gratitude at home intervention and perceived prosocial impact at home, such that this effect would be weaker for managers who are higher (+1 *SD*) versus lower (−1 *SD*) in trait NA. As shown in Table 2, there was a significant interaction effect between the gratitude at home intervention and trait NA in predicting perceived prosocial impact at home ($\gamma = -.14$, $SE = .06$, $p = .016$). To test the pattern of this association, we estimated simple slopes in Mplus at higher (+1 *SD*) and lower (−1 *SD*) levels of trait NA. Supporting Hypothesis 2, we found that the slope for higher trait NA was not significant ($\gamma = .04$, $SE = .05$, $p = .364$), whereas the slope for lower trait NA was significant and positive ($\gamma = .22$, $SE = .07$, $p = .001$). In all, we found support for Hypothesis 2, and Figure 2 depicts the shape of the interaction.

Hypothesis 3 posited that the gratitude at home intervention would be positively associated with need satisfaction via perceptions of having a prosocial impact at home. As shown in Table 2, the intervention was positively associated with perceived prosocial impact at home ($\gamma = .13$, $SE = .05$, $p = .004$), and perceived prosocial impact at home was, in turn, positively related to need fulfillment ($\gamma = .08$, $SE = .04$, $p = .028$). Furthermore, as Table 3 shows, the indirect effect of the intervention on need fulfillment via perceived prosocial impact at home was positive and significant (estimate = .011, 95% CI [.0024, .0259]), supporting Hypothesis 3. Hypothesis 4 stated that need fulfillment would be positively related to (a) leader helping and (b) leader empowering behavior. Supporting this hypothesis, we found that need fulfillment was positively and significantly associated with (a) leader helping ($\gamma = .20$, $SE = .05$, $p < .001$) and (b) leader empowering behavior ($\gamma = .21$, $SE = .05$, $p < .001$), as shown in Table 2.

Hypothesis 5 posited that the intervention would be positively associated with (a) leader helping and (b) leader empowering behavior via perceptions of having a prosocial impact at home and need fulfillment. We found support for Hypothesis 5a: as shown in Table 3, the indirect effect of the intervention on leader helping via perceived prosocial impact and need fulfillment was positive and significant (estimate = .002, 95% CI [.0006, .0059]). Similarly, we found support for Hypothesis 5b as the indirect effect of the gratitude at home intervention on leader empowering behavior via perceptions of prosocial impact at home and need fulfillment was also positive and significant (estimate = .002, 95% CI [.0005, .0067]).

Hypothesis 6 predicted that trait NA would moderate the indirect association between the gratitude at home intervention and (a) leader helping and (b) leader empowering behavior via perceptions of prosocial impact at home and need fulfillment, such that this serial indirect effect would be stronger for managers with lower (vs. higher) levels of trait NA. Table 3 summarizes all conditional indirect effects in our path model. As this table shows, the conditional serial indirect effect of the intervention on leader helping via perceived prosocial impact at home and need fulfillment was not significant for higher levels of trait NA (+1 *SD*; estimate = .001, 95% CI [−.0005, .0033]), but it was significant for lower levels of trait NA (−1 *SD*; estimate = .004, 95% CI [.0009, .0100]), supporting Hypothesis 6a. Similarly, the serial indirect effect of the gratitude at home intervention on leader empowering behavior via perceived prosocial impact at home and need fulfillment was not significant at higher levels (+1 *SD*) of trait NA (estimate = .001, 95% CI [−.0006, .0037]), but it was significant at lower levels of trait NA (−1 *SD*; estimate = .004, 95% CI [.0008, .0108]), supporting Hypothesis 6b.

Finally, we estimated the variance explained (pseudo R^2) in our dependent variables by each hypothesized predictor using model likelihood statistics. This method was developed by Lang et al. (2021) and has been recently utilized in experience sampling studies (Anicich et al., 2020; Koopman et al., 2021). We found that the gratitude at home intervention explained 2% of the variance in perceived prosocial impact at home, and trait NA explained 3% of the individual-level relationship between the gratitude at home intervention and perceived prosocial impact at home. Furthermore, perceived prosocial impact at home explained 1% of the variance in need fulfillment, and need fulfillment explained 3% of the variance in leader helping and 3% in leader empowering behavior.

Discussion

Results of Study 1 suggest that reflecting on gratitude received at home can lead to increased leader helping and empowering leadership behavior at work via increased perceived prosocial impact at home and need fulfillment. In addition, these effects tend to be weaker for leaders who are higher (vs. lower) in trait NA. Study 1 has several strengths, including an experimental design using time-separated field data. However, all data were self-reported by leaders. We address this limitation in Study 2, where we test our full model using experimental field data with follower-reported leader helping and empowering behavior.

Table 1

Study 1: Means, Standard Deviations, and Correlations of Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Intervention	0.47	0.15	—	.18	−.12	.10	.01	.03	−.34**	.24*	.33**	.08	.17	−.14	−.13	.09	.01
2. Study day	5.54	0.77	.02	—	.26**	−.19	.22*	.11	−.22*	.01	.30**	.12	.19	−.26**	−.09	.24*	−.11
3. Day of week	3.06	0.30	.01	.47**	—	−.74**	.63**	.00	.14	.04	−.01	.03	.03	.11	−.04	.04	−.13
4. Sine	−0.02	0.13	.00	−.30**	−.67**	—	−.20*	.07	−.12	−.07	−.05	−.02	.02	−.04	.04	−.05	.08
5. Cosine	−0.01	0.14	−.01	.27**	.53**	−.01	—	−.01	.01	−.01	.00	−.03	.02	.13	−.14	.11	−.02
6. Positive affect	3.37	1.16	−.07	.07*	.05	−.04	.06	—	−.24*	.50**	.42**	.38**	.39**	.01	−.06	−.02	.17
7. Negative affect	1.39	0.48	.02	−.08*	−.03	.02	−.01	−.34**	—	−.28**	−.43**	−.06	−.12	.28**	.19	−.08	.09
8. Prosocial impact at home	5.87	0.61	.12**	.10**	−.01	−.01	.00	.09**	−.04	—	.59**	.56**	.51**	−.01	.07	.01	.04
9. Need fulfillment	5.61	0.71	.08*	−.04	.04	−.01	.01	.08*	−.11**	.04	—	.44**	.51**	−.32**	.04	.15	−.01
10. Leader helping	5.54	0.65	−.05	−.04	−.01	.03	.02	.08*	−.03	−.01	.08*	—	.70**	−.03	.02	.13	.15
11. Empowering behavior	5.53	0.56	.01	.04	−.03	.05	.00	.04	−.08*	.03	.07*	.40**	—	−.05	.04	.13	.13
12. Trait NA	1.73	0.64	−.14	−.26**	.11	−.04	.13	.01	.28**	.00	−.32**	−.03	−.05	—	.02	−.22*	.16
13. Gender	0.54	0.50	−.13	−.09	−.04	.04	−.14	−.06	.19	.07	.04	.02	.04	.02	—	.12	−.07
14. Age	45.15	9.55	.09	.24*	.04	−.05	.11	−.02	−.08	−.01	.15	.13	.13	−.22*	.12	—	−.02
15. Race	4.03	0.17	.01	−.11	−.13	.08	−.02	.17	.09	.04	−.01	.15	.13	.16	−.07	−.02	—

Note. Level-1 $n = 828$. Pairwise Level-2 $n = 103$. Variables 1–11 are Level 1 variables, and their correlations below the diagonal are based on person-centered scores, whereas their correlations above the diagonal are based on between-person scores, where these variables were aggregated to Level 2. Variables 12–15 are Level-2 variables, and all correlations for Variables 12–15 are based on between-person scores. Means and standard deviations are based on between-person scores. Gender was coded 1 = female, 0 = male. Intervention = gratitude at home intervention (1 = intervention day, 0 = control day). Race was coded 1 = Native American or Alaska Native, 2 = Hispanic, Latino, or Spanish origin, 3 = Asian or Pacific islands, 4 = White (not Hispanic), 5 = African American, 6 = multiracial American, 7 = other (please note). NA = negative affect.

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

Table 2
Study 1: Simultaneous Multilevel Path Model Results

Variable	Prosocial impact at home (morning)		Need fulfillment (afternoon)		Leader helping (evening)		Leader empowering behavior (evening)	
	γ	*SE*	γ	*SE*	γ	*SE*	γ	*SE*
Intercept	5.88**	.06	5.12**	.24	4.40**	.31	4.35**	.27
Level-2 predictor								
Trait NA	−.01	.11						
Level-1 predictors								
Intervention	.13**	.05	.08	.04	−.08	.07	−.01	.07
Study day	.02*	.01	−.02*	.01	−.01	.01	.02	.01
Day of week	−.04	.03	.05	.03	.02	.04	−.02	.03
Sine	−.02	.04	.04	.04	.05	.06	.04	.05
Cosine	.01	.04	−.02	.03	.00	.05	.00	.04
Previous day lag	−.03	.06	−.04	.05	−.11*	.05	−.02	.06
Positive affect	.07*	.03	.04	.03	.06	.04	.00	.04
Negative affect	.00	.06	−.10*	.05	.02	.08	−.10	.07
Prosocial impact at home			.08*	.04	.01	.05	.03	.06
Need fulfillment					.20**	.05	.21**	.05
Level-2 moderator								
Trait NA × Intervention	−.14*	.06						

Note. Level-1 $n = 828$. Level-2 $n = 103$. We centered Level-1 predictors at each person's mean; we grand-mean centered trait NA. Study day takes values of 1–10, corresponding to the day of the study. Day of week takes values of 1–5, corresponding to Monday–Friday. We modeled control variables and nonhypothesized paths as fixed effects and hypothesized paths as free. We report unstandardized effects in the table. Intervention = gratitude at home intervention (1 = intervention day, 0 = control day). Previous day lag = previous day measurement of same dependent variable modeled as control; *SE* = standard error; NA = negative affect.
* $p < .05$. ** $p < .01$.

Study 2

Sample and Procedure

We recruited full-time managers and their followers via ResearchMatch, an online platform for research (for a similar approach, see Gabriel et al., 2021; The Ohio State University, IRB Study Number: 2022B0174). We advertised our study to organizational leaders, and those who expressed interest in our study were sent an enrollment survey consisting of the informed consent form, measures of the leaders' trait negative affect, as well as basic demographic information. We also asked each leader to provide the contact information of up to three of their followers who might be interested in participating in our study. Consistent with others (e.g., Gabriel et al., 2021), we then randomly chose one follower for each leader and invited them via email to participate in our study. This email also included the link to an enrollment survey that consisted of the informed consent form as well as basic demographic information. To be eligible, participants were required to work full time in the United States, be at least 18 years of age, and have a traditional work schedule. Leaders were offered up to $17, while followers were offered up to $10 for their participation based on survey completion rates. Using this method, we recruited 166 dyads to participate.

We then sent daily surveys to leaders two times a day (morning and noon) and to followers once a day (afternoon). We sent the leader morning survey at 7:00 a.m., and it included a writing manipulation (gratitude at home intervention or control) and a measure of perceived prosocial impact at home, as well as their positive and negative affect (as controls). We sent the leader noon survey at 12:00 p.m., and it included the measure of need fulfillment. Finally, we sent the follower afternoon survey at 4:00 p.m., and it included measures of leader helping and empowering behavior as well as followers' positive and negative affect (as controls). On average, the leader morning survey was completed at 8:32 a.m. and the leader noon survey at 1:00 p.m., while the follower afternoon survey was completed at 5:59 p.m. Accordingly, the average time between the leader morning and leader noon surveys was 4 hr 28 min, and the average time between the leader noon and follower afternoon surveys was 4 hr 59 min. Having participants complete the gratitude at home intervention before commencing their daily work provides a psychological space for leaders to engage with their family role (through recalling and writing about receiving gratitude from family) prior to interacting with followers in their workplace leadership roles.

Figure 2
The Cross-Level Moderating Effect of Trait Negative Affect in Study 1

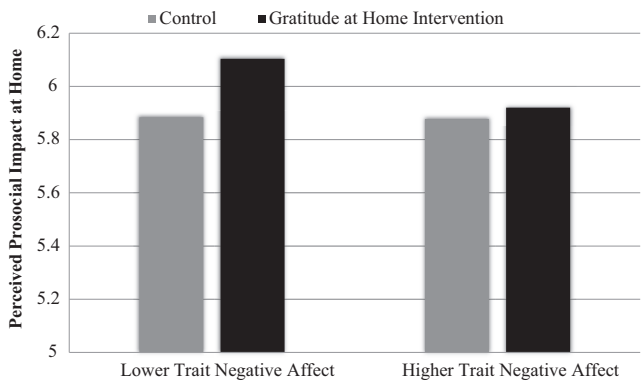


Table 3
Study 1: Results of Conditional Indirect Effects From Multilevel Path Analysis

Indirect effect	Trait NA	Estimate	[95% CI]
Intervention → need fulfillment (via perceived prosocial impact at home)		.011*	[.0024, .0259]
	High	.004	[−.0030, .0150]
	Low	.019*	[.0037, .0429]
Intervention → leader helping (via perceived prosocial impact at home and need fulfillment)		.002*	[.0006, .0059]
	High	.001	[−.0005, .0033]
	Low	.004*	[.0009, .0100]
Intervention → leader empowering behavior (via perceived prosocial impact at home and need fulfillment)		.002*	[.0005, .0067]
	High	.001	[−.0006, .0037]
	Low	.004*	[.0008, .0108]

Note. Bias-corrected conditional indirect effect confidence intervals are based on 20,000 Monte Carlo bootstrap samples. All indirect effects were calculated simultaneously, accounting for direct effects. NA = negative affect; CI = confidence interval.
* $p < .05$.

We retained dyads for which we had matched data on all days of the study. In addition, we removed participants whose written responses did not adhere to writing prompts. Accordingly, our final sample was 116 leader–follower dyads, with a total of 232 day-level observations. Leaders in the sample were majority male (59.5%) and Black (66.4%; 25.0% White; 3.4% American Indian/Alaskan Native; 1.7% Hispanic; 1.7% Asian/Pacific Islander; 0.9% multiracial; 0.9% other), while their average age was 35.7 years old ($SD = 6.2$). On average, leaders had an organizational tenure of 6.4 years ($SD = 3.8$), and 85.3% had earned at least a bachelor's degree.

Followers in the sample were majority female (50.9%) and Black (54.3%; 34.5% White; 4.3% Asian/Pacific Islander; 3.4% American Indian/Alaskan Native; 1.7% Hispanic; 1.7% multiracial), while their average age was 31.8 years old ($SD = 5.1$). On average, employees had an organizational tenure of 4.3 years ($SD = 3.3$), and 62.9% held at least a bachelor's degree. Participants worked in a variety of positions, including accountant, sales representative, real estate manager, and information technology manager.

Gratitude at Home Intervention and Control Condition

In administering our interventions, we implemented the Latin square design to control for the order of the conditions (Grant, 1948). On each day, participants were randomly assigned to either the intervention condition or to a control condition, such that each participant received all conditions throughout the study period in a counter-balanced way (e.g., on the first day of the study, half of the participants received the intervention whereas the other half received the control condition, and we flipped this order for the next 2 days). Accordingly, participants were randomly assigned to complete both the gratitude at home intervention and the control condition across the study period, following a within-person experimental design.[4]

In the gratitude at home condition, we used the same intervention from Study 1. In the control condition, we chose one of the prompts used in Study 1 and asked participants to take a moment to describe something they had purchased recently in 3–5 sentences. As in Study 1, we also conducted a post hoc manipulation check (e.g., Foulk et al., 2018) and asked two independent raters who were unaware of the study's hypotheses to evaluate all writing responses and rate the extent to which the narrator was writing about "receiving appreciation for doing good at home" and "feeling appreciated" using a scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. We aggregated their responses (ICC[1] range = .46–.49, ICC[1] mean = .48, ICC[2] range = .63–.65, ICC[2] mean = .64) and ran a one-way ANOVA in SPSS with the intervention condition as the factor and the ratings as the dependent variables. Results showed that, compared to the control condition, participants in the gratitude at home condition showed a higher likelihood of writing about receiving appreciation for doing good at home, $M_{\text{gratitude at home}} = 3.90$, $SD_{\text{gratitude at home}} = 0.72$; $M_{\text{control}} = 1.78$, $SD_{\text{control}} = 0.56$; $F(1, 293) = 796.02$, $p < .001$, and feeling appreciated, $M_{\text{gratitude at home}} = 3.79$, $SD_{\text{gratitude at home}} = 0.75$; $M_{\text{control}} = 1.65$, $SD_{\text{control}} = 0.60$; $F(1, 293) = 729.77$, $p < .001$.[5] Example writing responses for the gratitude at home condition are listed in the Appendix.

Measures

Unless otherwise noted, participants responded using a Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*.

[4] Following an anonymous reviewer's suggestion, in the main-text analyses and results, we dropped a condition that we had included in the original study design. In our original data collection, we had included a third condition in which participants were also randomly assigned to a gratitude at work intervention. We included this condition to test whether reflecting on one's receipt of gratitude at work would exhibit similar effects on one's perceived prosocial impact at home. We adapted the gratitude at home intervention by asking participants to recall a time when they did something for their colleagues at work and their colleagues showed appreciation for their behavior. We instructed them to use a few (3–5) sentences to describe what they did, what their colleagues said/did to them in this situation, and their feelings after receiving their colleagues' appreciation. Results showed that the gratitude at work intervention also had a positive and significant impact on perceived prosocial impact at home ($\gamma = .13$, $SE = .04$, $p = .001$). In addition, patterns of significance for the remaining hypothesized effects were consistent with the results we report in the article.

[5] As in Study 1, we also asked these two coders to rate the extent to which the narrator was writing about "doing good at home," $M_{\text{gratitude at home}} = 4.16$, $SD_{\text{gratitude at home}} = 0.62$; $M_{\text{control}} = 2.07$, $SD_{\text{control}} = 0.71$; $F(1, 293) = 720.70$, $p < .001$, and "receiving appreciation at home," $M_{\text{gratitude at home}} = 3.90$, $SD_{\text{gratitude at home}} = 0.72$; $M_{\text{control}} = 1.74$, $SD_{\text{control}} = 0.58$; $F(1, 293) = 791.74$, $p < .001$, and results showed very similar patterns with the other manipulation checks.

Perceived Prosocial Impact at Home

In the leader morning survey, after completing the gratitude at home intervention, leaders reported their perceptions of having a prosocial impact at home using a three-item scale adapted from Grant (2008), as in Study 1 (α = .71).

Need Fulfillment

In the leader noon survey, leaders reported their need fulfillment using seven items from La Guardia et al.'s (2000) scale, as in Study 1 (α = .82).

Leader Helping

In the follower afternoon survey, followers reported their leader's helping behavior using three items from Lee and Allen's (2002) scale, as in Study 1 (α = .64).

Leader Empowering Behavior

In the follower afternoon survey, followers also rated their leaders' empowering behavior using four items from Ahearne et al.'s (2005) scale, as in Study 1 (α = .65).

Trait Negative Affect

In the enrollment survey, leaders reported their trait NA with a five-item scale from Mackinnon et al. (1999) using a 5-point Likert scale (1 = *not at all* to 5 = *extremely*), as in Study 1 (α = .83).

Control Variables

To be consistent with Study 1, we controlled for both leaders' and followers' positive and negative affect in our analyses to mitigate concerns of common method bias (Gabriel et al., 2019) and because of the influence affect may have on the dependent variables (e.g., Aknin et al., 2018; Sonnentag & Grant, 2012). We measured leaders' positive and negative affect in the leader morning survey with five items each from the Positive and Negative Affect Schedule (Watson & Clark, 1994), with an example item for positive affect being "excited" and an example item for negative affect being "distressed" (positive affect: α = .79, negative affect: α = .86). We measured followers' positive and negative affect in the follower afternoon survey using the same items (positive affect: α = .88, negative affect: α = .80). The pattern and significance of our hypothesized effects remain the same without these controls.[6]

Analytical Approach

Due to the nested nature of our data (i.e., days nested within people), we tested all our hypotheses simultaneously using multilevel path analysis in Mplus 8.5 (Muthén & Muthén, 1998–2017). A null model revealed that all of our focal variables had considerable within-person variance (24.6% for perceived prosocial impact at home, 14.9% in need fulfillment, 37.3% in leader helping, and 28.4% in leader empowering behavior), further supporting our use of multilevel modeling.

In our multilevel analyses, we person-mean centered Level-1 predictors and control variables and grand-mean centered our Level-2 predictor, trait NA (Enders & Tofighi, 2007). We modeled the path from the gratitude at home intervention to perceived prosocial impact as a free slope because we test the cross-level moderation effect of trait NA on this path, and because the model would not converge with all hypothesized paths specified to be free. We modeled all other paths as fixed slopes (Beal, 2015). In order to analyze multilevel mediation and moderated mediation effects, we followed the model described by Preacher et al. (2010) and used a Monte Carlo bootstrap simulation with 20,000 simulations to calculated 95% bias-corrected confidence intervals (CIs) in *R* (Selig & Preacher, 2008). Missing data were handled using full information maximum likelihood estimation (Arbuckle, 1996), as is the default in Mplus.

We conducted a multilevel confirmatory factor analysis (CFA), in which we modeled items for positive affect, negative affect, perceived prosocial impact at home, need fulfillment, leader helping, and leader empowering behavior at Level 1 and items for trait NA at Level 2. Results of the CFA indicated acceptable fit, $\chi^2(606) = 917.55$, $p < .001$; CFI = .91; TLI = .90; RMSEA = .05; $SRMR_{within} = .06$; $SRMR_{between} = .05$.

To establish discriminant validity, we again compared our proposed model to the two alternative models also tested in Study 1 using the Satorra–Bentler χ^2 difference test with the Maximum Likelihood Restricted scaled correction factors (Satorra & Bentler, 2001). First, we tested a model where the items for morning positive affect and perceived prosocial impact at home loaded onto a single construct and all other items loaded onto their respective factors. Fit indices for this model were: $\chi^2(613) = 1200.10$, $p < .001$; CFI = .83; TLI = .81; RMSEA = .06; $SRMR_{within} = .13$; $SRMR_{between} = .05$. Second, we tested a model where we collapsed the items for leader helping and empowering behavior on one factor and modeled all other items on their respective constructs. Fit indices were: $\chi^2(613) = 944.35$, $p < .001$; CFI = .90; TLI = .89; RMSEA = .05; $SRMR_{within} = .06$; $SRMR_{between} = .05$. Results showed that our proposed model fit the data better than these two alternative models (Alternative Model 1: $\Delta\chi^2 = 257.38$, $\Delta df = 7$, $p < .001$; Alternative Model 2: $\Delta\chi^2 = 23.37$, $\Delta df = 7$, $p = .001$).

Results

Table 4 reports the means, standard deviations, and correlations between study variables and demographic variables. Table 5 provides the results of the simultaneous multilevel path analysis. Hypothesis 1 proposed that reflecting on receiving gratitude from family members would be positively associated with leaders' perceived prosocial impact at home. Results indicated that the gratitude at home intervention was positively and significantly related to perceived prosocial impact at home ($\gamma = .12$, $SE = .05$, $p = .020$), thus supporting Hypothesis 1.

Hypothesis 2 posited that the association between the gratitude at home intervention and perceived prosocial impact at home would

[6] Based on an anonymous reviewer's comment, we also tested our model with daily and cyclical controls. We controlled for the study day and the cosine of the day of the week (Beal, 2015; Gabriel et al., 2019). We did not control for the day of the week or the sine of the day of the week because the study day (taking values of 1–3) was perfectly correlated with the day of the week (taking values of 1–3 for Monday–Wednesday) as well as the sine of the day of the week (given that we only had 3 days in the study). Patterns of significance did not change when including these controls.

Table 4

Study 2: Means, Standard Deviations, and Correlations of Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Intervention	0.50	0.00	—															
2. Positive affect (leader)	4.09	0.72	.10	—	−.13	.81**	−.12	.18*	.12	.27**	.44**	−.13	.11	.09	.25**	−.16	.09	.21*
3. Negative affect (leader)	1.62	0.70	.10	−.19**	—	.06	.89**	−.70**	−.71**	−.62**	−.59**	.70**	−.31**	−.18	−.56**	.08	−.07	−.63**
4. Positive affect (follower)	3.92	0.94	.27**	−.02	.01	—	.01	.01	−.01	.21*	.35**	−.01	.10	−.01	.03	−.18	−.02	−.01
5. Negative affect (follower)	1.70	0.70	−.19**	.05	−.10	−.19**	—	−.69**	−.69**	−.66**	−.65**	.69**	−.33**	−.19*	−.56**	.14	−.11	−.60**
6. Prosocial impact at home	4.26	0.74	.22**	−.06	.11	.10	−.08	—	.80**	.80**	.75**	−.55**	.22*	−.10	.48**	−.08	−.09	.51**
7. Need fulfillment	4.08	0.75	.09	.09	−.16*	.00	.04	.06	—	.78**	.73**	−.55**	.28**	.16	.42**	−.07	.04	.48**
8. Leader helping	4.19	0.67	−.01	−.13	.17*	.18**	−.14*	−.02	.13*	—	.84**	−.51**	.24**	.07	.48**	−.10	.00	.44**
9. Empowering behavior	4.15	0.65	.00	.22**	−.01	.15*	−.06	.07	.03	.10	—	−.47**	.25**	.09	.50**	−.15	−.07	.44**
10. Trait NA	1.77	0.80		−.15	.71**	−.01	.72**	−.56**	−.56**	−.52**	−.48**	—	−.20*	−.15	−.39**	.12	−.14	−.48**
11. Leader gender	0.41	0.49		.12	−.32**	.08	−.32**	.25**	.24**	.20*	.24**	−.20*	—	.11	.15	.04	.07	.24**
12. Leader age	35.74	6.20		.09	−.18	−.03	−.21*	−.03	.17	.08	.07	−.15	.11	—	.13	.11	.61**	.15
13. Leader race	4.14	0.86		.23*	−.55**	.03	−.56**	.48**	.42**	.46**	.47**	−.39**	.15	.13	—	−.04	.02	.65**
14. Follower gender	0.51	0.50		−.21*	.10	−.17	.11	−.08	−.07	−.13	−.14	.12	.04	.11	−.04	—	.04	−.13
15. Follower age	31.81	5.12		.12	−.09	−.02	−.13	−.06	.03	−.01	−.10	−.14	.07	.61**	.02	.04	—	.07
16. Follower race	4.17	0.94		.21*	−.63**	−.01	−.60**	.51**	.48**	.44**	.44**	−.48**	.24**	.15	.65**	−.13	.07	—

Note. Level-1 $n = 232$. Pairwise Level-2 $n = 116$. Variables 1–9 are Level 1 variables, and their correlations below the diagonal are based on person-centered scores, whereas their correlations above the diagonal are based on between-person scores, where these variables were aggregated to Level 2. Variables 10–16 are Level-2 variables, and all correlations for Variables 10–16 are based on between-person scores. Means and standard deviations are based on between-person scores. Gender was coded 1 = female, 0 = male. Intervention was coded 1 = gratitude at home intervention, 0 = control condition. Race was coded 1 = Native American or Alaskan Native, 2 = Asian/Pacific Islander, 3 = Hispanic/Latinx, 4 = Black/African American, 5 = White/Caucasian, 6 = multiracial, and 7 = other. The correlations between interventions and all other variables are null because the intervention values are all the same across all participants (everyone was in each condition). NA = negative affect.
* $p < .05$. ** $p < .01$.

Table 5
Study 2: Simultaneous Multilevel Path Analysis Results for Hypothesized Model

Variable	Prosocial impact at home (morning)		Need fulfillment (noon)		Leader helping (afternoon)		Leader empowering behavior (afternoon)	
	γ	*SE*	γ	*SE*	γ	*SE*	γ	*SE*
Intercept	4.26**	.06	4.08**	.07	4.19**	.06	4.15**	.06
Level-2 predictor								
Trait NA	−.18**	.06						
Level-1 predictors								
Intervention	.12*	.05	−.04	.05	−.11	.08	−.08	.06
Positive affect (leader)	−.06	.05	.07	.06				
Negative affect (leader)	.11	.11	−.24	.12				
Positive affect (follower)					.15	.11	.10	.07
Negative affect (follower)					−.18	.13	−.05	.11
Prosocial impact at home			.71**	.10	.26*	.13	.31**	.10
Need fulfillment					.70**	.12	.54**	.12
Level-2 moderator								
Trait NA × Intervention	−.03	.05						

Note. Level-1 $n = 232$. Level-2 $n = 116$. We centered Level-1 predictors at each person's mean; we grand-mean centered trait NA. We report unstandardized effects in the table. Intervention was coded 1 = gratitude at home intervention, 0 = control condition. *SE* = standard error; NA = negative affect.
* $p < .05$. ** $p < .01$.

be weaker for leaders who are higher (+1 *SD*) versus lower (−1 *SD*) in trait NA. The interaction effect between the gratitude at home intervention and trait NA was nonsignificant ($\gamma = -.03$, $SE = .05$, $p = .552$), and therefore we did not find support for Hypothesis 2.

Hypothesis 3 predicted that the gratitude at home intervention would be positively related with need fulfillment via perceived prosocial impact at home. Results showed that the relationship between perceived prosocial impact at home and need fulfillment was positive and significant ($\gamma = .71$, $SE = .10$, $p < .001$), as was the indirect effect of the intervention to need fulfillment via perceived prosocial impact at home (estimate = .083, 95% CI [.0186, .1505]). Thus, we found support for Hypothesis 3.

Hypothesis 4 proposed that need fulfillment would be positively associated with both leader helping and leader empowering behavior. We found that need fulfillment was positively related to follower-reported leader helping ($\gamma = .70$, $SE = .12$, $p < .001$), as well as follower-reported leader empowering behavior ($\gamma = .54$, $SE = .12$, $p < .001$), supporting Hypothesis 4.

Hypothesis 5 predicted that the gratitude at home intervention would be positively associated with (a) leader helping and (b) leader empowering behavior via perceived prosocial impact at home and need fulfillment. As hypothesized, the indirect effect of the gratitude at home intervention on leader helping was positive and significant via prosocial impact at home and daily need fulfillment, supporting Hypothesis 5a (estimate = .058, 95% CI [.0119, .1176]). Hypothesis 5b stated that the gratitude at home intervention would also be positively related to leader empowering behavior via perceived prosocial impact at home and need fulfillment, and in support of this hypothesis, we found that this indirect effect was positive and significant (estimate = .045, 95% CI [.0089, .0856]).

Hypothesis 6 posited that the serial indirect association between the gratitude at home intervention and (a) leader helping and (b) leader empowering behavior via perceived prosocial impact at home and daily need fulfillment would be weaker for managers with higher (vs. lower) levels of trait NA. Due to the lack of support for the first-stage moderation effect of trait NA, this hypothesis was not supported.

Finally, as in Study 1, we used the method developed by Lang et al. (2021) to estimate the variance explained in our dependent variables by each hypothesized predictor. We found that the gratitude at home intervention explained 1% of the variance in perceived prosocial impact at home. Furthermore, perceived prosocial impact explained 28% of the variance in need fulfillment, and daily need fulfillment explained 18% of the variance in leader helping and 12% in leader empowering behavior.

Discussion

In Study 2, we found that reflecting on gratitude received at home leads to increased follower-rated leader helping and empowering leader behavior via leaders' increased perceived prosocial impact at home and need fulfillment. A strength of Study 2 was that we replicated most of our findings using matched leader–follower data (although we did not replicate effects for trait NA). However, this study has a few limitations as well. First, as in Study 1, the gratitude at home intervention consists of two components: reflecting on receiving gratitude at home and doing good at home. We relied on these two components because Fehr et al. (2017) noted that effective gratitude initiatives ought to include individual appreciation, beneficiary contact, and feedback. Therefore, doing good and feeling good about such actions often go hand in hand in gratitude interventions. That said, we wanted to investigate whether the downstream effects of reflecting on gratitude received for one's actions at home were the same as those of simply reflecting on gratitude received at home. Accordingly, in Study 3, we tested both our original intervention (which asked participants to reflect on gratitude and help at home) as well as a gratitude at home only intervention in which participants are asked to simply reflect and write about a time when their family members showed appreciation

without explicitly mentioning prior helping behavior. Furthermore, in our first two studies, we utilized post hoc manipulation checks, but in Study 3, we included explicit manipulation checks.

Study 3

Sample and Procedure

We recruited full-time managers via Prolific, an online platform for research (University of Florida, IRB Study Number: ET00018754). Participants were first invited to complete an enrollment survey consisting of the informed consent form, a measure of trait negative affect, as well as basic demographic information. We also included quality check questions to ensure that participants were full-time managers and were eligible for the study. To be eligible, participants were required to work full time in the United States, be at least 18 years of age, have a traditional work schedule, and supervise one or more employees at work. Participants were offered up to $15 for their participation based on survey completion rates. Using this method, we recruited 180 leaders.[7]

As in Study 2, the daily portion of the study was conducted over a 3-day period. We sent daily surveys to leaders three times a day (morning, noon, and afternoon) for three consecutive workdays. We sent the morning survey at 7:00 a.m., and it included a writing manipulation (the gratitude and help at home intervention used in Studies 1 and 2, the gratitude at home only intervention, or control) and a measure of perceived prosocial impact at home, as well as their positive and negative affect (as controls). For readability purposes, we shortened the labels that we assigned to our interventions when designing the study. In particular, the "gratitude and help at home intervention" (our original gratitude intervention used in Studies 1 and 2) refers to the intervention in which participants were asked to recall receiving gratitude from family members at home for a positive act. The "gratitude at home only intervention" refers to an intervention in which participants were simply asked to recall receiving gratitude from family members at home without explicit prompts regarding the positive acts that preceded the receipt of gratitude. We sent the noon survey at 12:00 p.m., and it included the measure of need fulfillment. Finally, we sent the afternoon survey at 4:00 p.m., and it included measures of leader helping and empowering behavior. On average, the morning survey was completed at 8:14 a.m., the noon survey at 12:38 p.m., and the afternoon survey at 5:06 p.m. Accordingly, the average time between the morning and noon surveys was 4 hr 24 min, and the average time between the noon and afternoon surveys was 4 hr 28 min.

As in Study 2, we retained leaders who completed surveys on all 3 days. In addition, in accordance with our preregistration, we removed participants whose responses did not adhere to writing prompts as well as those who failed quality checks. Accordingly, our final sample consisted of 109 leaders, with a total of 327 day-level observations. Leaders in the sample were majority male (64.2%) and White (83.5%; 7.3% Black; 6.4% Asian/Pacific Islander; 1.8% Hispanic; 0.9% multiracial), while their average age was 41.2 years old (SD = 11.2). On average, leaders had an organizational tenure of 10.3 years (SD = 7.8), and 73.4% had earned at least a bachelor's degree. Leaders worked in a variety of industries, including manufacturing, IT, retail, and health care.

Gratitude and Help at Home Intervention and Gratitude at Home Only Intervention

Following our approach in Study 2, in administering our interventions, we implemented a Latin square design to control for their order (Grant, 1948). On the first day of the study, we randomly assigned a third of the participants to the gratitude and help at home intervention, a third to the gratitude at home only intervention, and a third to the control condition. On the second day of the study, those who had been in the gratitude and help at home intervention on Day 1 were given the gratitude at home only intervention, those in the gratitude at home only intervention on Day 1 were given the control condition, and those in the control condition on Day 1 were given the gratitude and help at home intervention. On the third day of the study, we followed the same pattern, such that all participants were placed in each condition across the 3 days in random order. In the gratitude and help at home condition, we used the same interventions from Studies 1 and 2. For the gratitude at home only condition, we adapted the gratitude and help at home intervention by removing the instructions pertaining to participants recalling a time when they did something good at home. Instead, we asked participants to simply recall and write about a time when their family members showed appreciation to them. We instructed them to use a few (3–5) sentences to describe what their family members said/did to them in this situation and their feelings after receiving their family members' appreciation. In the control condition, we used the same writing prompt from Study 2. The intervention instructions and example writing responses from the gratitude and help at home and gratitude at home only condition are listed in the Appendix.

To ensure that our intervention had the intended effect, we included a manipulation check after the intervention. Participants rated the extent to which they received gratitude from their family members in the event described using the three-item scale developed by Lee et al. (2019) on a scale ranging from 1 = *very slightly or not at all* to 5 = *very much*. A sample item was "In the event described above, one or more of my family members expressed gratitude toward me" (α = .98). We ran a one-way ANOVA in SPSS with the intervention condition as the factor and the gratitude received measure as the dependent variable, and results showed that there were significant differences across conditions, $F(2, 324) = 305.88$, $p < .001$. In particular, Bonferroni pairwise comparisons revealed that participants reported receiving significantly higher levels of gratitude in the gratitude and help at home condition ($M_{\text{gratitude and help at home}} = 4.58$, $SD_{\text{gratitude and help at home}} = 0.62$) and the gratitude at home only condition ($M_{\text{gratitude at home only}} = 4.71$, $SD_{\text{gratitude at home only}} = 0.53$) as compared to the control condition ($M_{\text{control}} = 2.09$, $SD_{\text{control}} = 1.29$). In addition, there was no significant difference between the gratitude and help at home condition and the gratitude at home only condition ($p = .848$).

We also asked participants to rate the extent to which they felt their family members were grateful to them at that moment (state gratitude received) using the same three items from Lee et al. (2019). A sample item was "Right now, I feel that one or more of my family members are grateful toward me" (α = .96). We similarly ran a

[7] Following our preregistration, we initially recruited 150 individuals. However, given participant dropout rates across study days, we then increased our recruitment to 180 individuals to ensure that we had a sufficient sample size for analyses (in line with Study 2).

one-way ANOVA in SPSS with the intervention condition as the factor and the state gratitude received measure as the dependent variable, and results showed that there were significant differences across conditions, $F(2, 324) = 21.38$, $p < .001$. As with the manipulation check above, Bonferroni pairwise comparisons revealed that participants reported higher state gratitude received in the gratitude and help at home condition ($M_{\text{gratitude and help at home}} = 4.35$, $SD_{\text{gratitude and help at home}} = 0.83$) and the gratitude at home only condition ($M_{\text{gratitude at home only}} = 4.35$, $SD_{\text{gratitude at home only}} = 0.80$) as compared to the control condition ($M_{\text{control}} = 3.60$, $SD_{\text{control}} = 1.25$). In addition, there was no significant difference between the gratitude and help at home condition and the gratitude at home only condition ($p = 1.00$). These results provide evidence that our gratitude and help at home intervention functioned in the way we intended it to.[8,9]

Measures

Unless otherwise noted, participants responded using a Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*.

Perceived Prosocial Impact at Home

As in Study 1, leaders reported their perceptions of having a prosocial impact at home using a three-item scale adapted from Grant (2008; α = .93).

Need Fulfillment

As in Study 1, leaders reported their need fulfillment using seven items from La Guardia et al.'s (2000) scale (α = .90).

Leader Helping

As in Study 1, leaders reported their helping behavior using three items from Lee and Allen's (2002) scale (α = .88).

Leader Empowering Behavior

As in Study 1, leaders also rated their empowering behavior using four items from Ahearne et al.'s (2005) scale (α = .80).

Trait Negative Affect

As in Study 1, leaders reported their trait NA with a five-item scale from Mackinnon et al. (1999) using a 5-point Likert scale (1 = *not at all* to 5 = *extremely*; α = .91).

Control Variables

As we did in Studies 1 and 2, we controlled for leaders' positive and negative affect in our analyses. We measured leaders' positive and negative affect with five items each from the Positive and Negative Affect Schedule (Watson & Clark, 1994; positive affect: α = .87, negative affect: α = .87). We also controlled for prior measures of each endogenous variable to mitigate concerns of reverse causality. The pattern or significance of our hypothesized effects remain the same without these controls.[10]

Analytical Approach

Due to the nested nature of our data (i.e., days nested within people), we tested all our hypotheses simultaneously using multilevel path analysis in Mplus 8.5 (Muthén & Muthén, 1998–2017). A null model revealed that our focal variables had notable within-person variance (52.0% for perceived prosocial impact, 27.0% in need fulfillment, 47.1% in leader helping, and 23.8% in leader empowering behavior), further supporting our use of multilevel modeling.

In our multilevel analyses, we person-mean centered Level-1 predictors and control variables and grand-mean centered our Level-2 predictor, trait NA (Enders & Tofighi, 2007). We modeled hypothesized paths as free and control paths as fixed slopes (Beal, 2015; Gabriel et al., 2018). In order to analyze multilevel mediation effects, we followed the model described by Preacher et al. (2010) and used a Monte Carlo bootstrap simulation with 20,000 simulations to calculated 95% bias-corrected confidence intervals

[8] In response to an anonymous reviewer, we also tested a path model in which we included state gratitude received as a micromechanism in our model linking the intervention and prosocial impact. Results showed that the patterns of significance for all hypothesized paths remained consistent, while the relationship between the gratitude at home intervention and state gratitude received was positive and significant ($\gamma = .78$, $SE = .10$, $p < .001$), as was the relationship between state gratitude received and prosocial impact ($\gamma = .40$, $SE = .06$, $p < .001$). State gratitude also mediated the effects of the gratitude and help at home intervention on prosocial impact (estimate = .285, 95% CI [.1716, .4363]). Similarly, we also tested a path model in which we included the gratitude received in the event as a micromechanism. Results were similar, as patterns of significance for all hypothesized paths remained consistent, while the relationship between the gratitude and help at home intervention and gratitude received in the event was positive and significant ($\gamma = 2.47$, $SE = .13$, $p < .001$), as was the relationship between gratitude received and prosocial impact ($\gamma = .18$, $SE = .05$, $p < .001$). Gratitude received also mediated the effects of the gratitude and help at home intervention on prosocial impact (estimate = .446, 95% CI [.1943, .7011]). Thus, empirically, our results provide evidence that the effects of our gratitude intervention may work through increased perceptions of receiving appreciation from family members.

[9] As in Studies 1 and 2, we also ran post hoc manipulation checks by asking two independent raters who were unaware of the study's hypotheses to evaluate the intervention responses (e.g., Foulk et al., 2018). We asked these raters to assess the extent to which participants were writing about "receiving appreciation for doing good at home" and "feeling appreciated" using a scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Given that the results revealed moderate agreement between raters (ICC[1] = .27 and .37, ICC[2] = .43 and .54), we aggregated the ratings of each question to form a single variable. As we had three conditions, results showed that there was a significant difference across conditions for both questions, received appreciation for doing good at home: $F(2, 360) = 627.19$, $p < .001$; felt appreciation: $F(2, 360) = 479.95$, $p < .001$. Specifically, Bonferroni pairwise comparisons revealed that rater scores were significantly higher in the gratitude and help at home condition and the gratitude at home only condition as compared to the control condition for receiving appreciation for doing good at home ($M_{\text{gratitude and help at home}} = 4.45$, $SD_{\text{gratitude and help at home}} = 0.56$; $M_{\text{gratitude at home only}} = 4.33$, $SD_{\text{gratitude at home only}} = 0.64$; $M_{\text{control}} = 1.92$, $SD_{\text{control}} = 0.68$), as well as feeling appreciated ($M_{\text{gratitude and help at home}} = 4.42$, $SD_{\text{gratitude and help at home}} = 0.57$; $M_{\text{gratitude at home only}} = 4.42$, $SD_{\text{gratitude at home only}} = 0.60$; $M_{\text{control}} = 2.12$, $SD_{\text{control}} = 0.81$). In addition, there was no significant difference between the gratitude and help at home condition and the gratitude at home only condition for both questions (received appreciation for doing good at home: $p = .459$; felt appreciation: $p = 1.000$).

[10] As in Study 2, we also tested our model with daily and cyclical controls. We controlled for the study day and the cosine of the day of the week (Beal, 2015; Gabriel et al., 2019). Patterns of significance did not change when including these controls.

(CIs) in *R* (Selig & Preacher, 2008). Missing data were handled using full information maximum likelihood estimation (Arbuckle, 1996), as is the default in Mplus.

We conducted a multilevel CFA, in which we modeled items for positive affect, negative affect, perceived prosocial impact at home, need fulfillment, leader helping, and leader empowering behavior at Level 1 and items for trait NA at Level 2. Results of the CFA indicated acceptable fit, $\chi^2(314) = 659.29$, $p < .001$; CFI = .92; TLI = .91; RMSEA = .06; $SRMR_{within} = .07$; $SRMR_{between} = .02$. As in Studies 1 and 2, we compared the proposed model to two alternative models using the Satorra–Bentler χ^2 difference test with the Maximum Likelihood Restricted scaled correction factors (Satorra & Bentler, 2001). We first tested an alternative model where we collapsed the items for morning positive affect and perceived prosocial impact at home on one factor and modeled the rest of the items on their respective factors. Fit indices for this model were: $\chi^2(319) = 1173.12$, $p < .001$; CFI = .80; TLI = .77; RMSEA = .09; $SRMR_{within} = .10$; $SRMR_{between} = .02$. We then tested a second alternative model where we collapsed the items for leader helping and empowering behavior on one factor and modeled the rest of the items on their respective constructs. The fit indices of this model were: $\chi^2(319) = 744.44$, $p < .001$; CFI = .90; TLI = .89; RMSEA = .06; $SRMR_{within} = .07$; $SRMR_{between} = .02$. Supporting the empirical distinctiveness of our constructs, our proposed model fit the data better than these two alternative models (Alternative Model 1: $\Delta\chi^2 = 320.88$, $\Delta df = 5$, $p < .001$; Alternative Model 2: $\Delta\chi^2 = 57.32$, $\Delta df = 5$, $p < .001$).

Results

Table 6 reports the means, standard deviations, and correlations between study variables and demographic variables. Table 7 provides the results of the simultaneous multilevel path analysis. Results showed that the gratitude and help at home intervention was positively and significantly related to perceived prosocial impact at home ($\gamma = .34$, $SE = .08$, $p < .001$), thus supporting Hypothesis 1.[11] As previously mentioned, we also examined the effect of the gratitude at home only intervention on leaders' perceived prosocial impact at home. Results showed that the gratitude at home only intervention also had a positive and significant impact on perceived prosocial impact at home ($\gamma = .27$, $SE = .09$, $p = .002$). Contrary to what we expected, the interaction effect between the gratitude and help at home intervention and trait NA was nonsignificant ($\gamma = .19$, $SE = .12$, $p = .113$), and therefore we did not find support for Hypothesis 2.

In support of Hypothesis 3, results showed that the relationship between perceived prosocial impact at home and need fulfillment was positive and significant ($\gamma = .11$, $SE = .05$, $p = .041$), as was the indirect effect of the gratitude and help at home intervention to need fulfillment via perceived prosocial impact at home (estimate = .037, 95% CI [.0048, .0805]). We also found that need fulfillment was positively related to leader helping ($\gamma = .19$, $SE = .09$, $p = .043$), as well as leader empowering behavior ($\gamma = .17$, $SE = .06$, $p = .007$), supporting Hypothesis 4.

In support of Hypothesis 5a, the indirect effect of the gratitude and help at home intervention on leader helping was positive and significant via prosocial impact at home and daily need fulfillment, supporting Hypothesis 5a (estimate = .007, 95% CI [.0006, .0227]). Similarly, in support of Hypothesis 5b, we also found that this indirect effect of the gratitude and help at home intervention on leader empowering behavior was positive and significant via prosocial impact at home and daily need fulfillment (estimate = .006, 95% CI [.0013, .0172]). On the other hand, Hypothesis 6 posited that the serial indirect association between the gratitude and help at home intervention and (a) leader helping and (b) leader empowering behavior via perceived prosocial impact at home and daily need fulfillment would be weaker for managers with higher (vs. lower) levels of trait NA. Due to the lack of support for the first-stage moderation effect of trait NA, this hypothesis was not supported.

Finally, we used the method developed by Lang et al. (2021) to estimate the variance explained in our dependent variables by each hypothesized predictor. We found that the gratitude and help at home intervention explained 6% of the variance in perceived prosocial impact at home. Furthermore, perceived prosocial impact explained 2% of the variance in need fulfillment, and daily need fulfillment explained 5% of the variance in leader helping and 5% in leader empowering behavior.

Discussion

The purpose of Study 3 was to show that our original gratitude intervention (gratitude and help at home intervention)—which asked participants to reflect on instances when they received gratitude at home for doing something good at home—worked in similar ways as a gratitude at home only intervention, which simply asked participants to reflect on instances when they received gratitude at home without referring to their acts at home. In alignment with theory (Fehr et al., 2017; McCullough et al., 2001) and our expectations, we found that both interventions had similar effects on perceptions of prosocial impact at home, on subsequent need fulfillment, and, in turn, on leader helping and empowering leader behavior.[12] Thus, our study reinforces the notion by Fehr et al. (2017) that gratitude initiatives often involve not only feedback and individual appreciation (e.g., receiving gratitude) but also beneficiary contact (e.g., doing something good).

General Discussion

In this research, we take a whole-person view of leaders to better understand how reflecting on gratitude received from family

[11] Given that we had three conditions in our study, we included two dummy variables in our analyses. The first dummy variable was coded as 1 = gratitude and help at home condition and 0 = gratitude at home only condition/control condition. The second dummy variable was coded as 1 = gratitude at home only condition and 0 = gratitude and help at home condition/control condition. We then included both dummy variables in analyses, allowing us to model the control condition as the reference group and compare the gratitude and help at home condition with the control condition and the gratitude at home only condition with the control condition (e.g., Schuster et al., 2023; Zhou et al., 2022).

[12] Interestingly, we found that nearly all participants in the gratitude at home only intervention voluntarily mentioned the positive act they performed at home when recalling an event in which they received gratitude from family members. Indeed, in the post hoc manipulation check we ran, two independent raters coded the responses based on the extent to which the narrator was writing about "doing good at home," and results of a one-way ANOVA in SPSS revealed that there was no significant difference between the two gratitude conditions, $M_{\text{gratitude and help at home}} = 4.10$, $SD_{\text{gratitude and help at home}} = 0.53$; $M_{\text{gratitude at home only}} = 4.12$, $SD_{\text{gratitude at home only}} = 0.67$; $F(1, 240) = 0.07$, $p = 1.00$.

Table 6
Study 3: Means, Standard Deviations, and Correlations of Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
1. Gratitude and help at home intervention	0.33	0.00	—											
2. Gratitude at home only intervention	0.33	0.00	−.50**	—										
3. Positive affect	2.96	0.92	−.02	.28**	—	−.19	.46**	.44**	.43**	.29**	−.07	.04	.15	−.05
4. Negative affect	1.18	0.38	−.04	−.02	−.10	—	−.16	−.49**	−.19*	−.14	.68**	.02	−.21*	.07
5. Prosocial impact at home	4.29	0.65	.17**	.19**	.11*	.04	—	.48**	.52**	.41**	−.16	−.07	.14	.00
6. Daily need fulfillment	4.33	0.67	.00	.04	.14*	.02	.01	—	.50**	.50**	−.49**	−.05	.30**	.07
7. Leader helping	4.17	0.76	.09	−.06	.04	.13*	.17**	.04	—	.77**	−.18	.03	.22*	.18
8. Empowering behavior	4.23	0.65	.11	−.01	.08	.14**	.10	.03	.25**	—	−.11	.14	.18	.31**
9. Trait NA	1.34	0.59			−.07	.68**	−.16	−.49**	−.18	−.11	—	.02	−.25**	−.01
10. Gender	0.36	0.48			.04	.02	−.07	−.05	.03	.14	.02	—	.08	.11
11. Age	41.25	11.25			.15	−.21*	.14	.30**	.22*	.18	−.25**	.08	—	.14
12. Race	4.71	0.81			−.05	.07	.00	.07	.18	.31**	−.01	.11	.14	—

Note. Level-1 $n = 327$. Pairwise Level-2 $n = 109$. Variables 1–8 are Level-1 variables, and their correlations below the diagonal are based on person-centered scores, whereas their correlations above the diagonal are based on between-person scores, where these variables were aggregated to Level 2. Variables 9–12 are Level-2 variables, and all correlations for Variables 9–12 are based on between-person scores. Means and standard deviations are based on between-person scores. Gender was coded 1 = female, 0 = male. Gratitude and help at home intervention was coded 1 = gratitude and help at home intervention (as explained in text, this is the same intervention as our original "Gratitude at Home Intervention" in Studies 1 and 2, but we are labeling it differently here to distinguish it from the "Gratitude at Home Only Intervention"), 0 = control condition/gratitude at home only intervention and gratitude at home only intervention was coded 1 = gratitude at home only intervention, 0 = control condition/gratitude and help at home intervention. Race was coded 1 = Native American or Alaskan Native, 2 = Asian/Pacific Islander, 3 = Hispanic/Latinx, 4 = Black/African American, 5 = White/Caucasian, 6 = multiracial, and 7 = other. The correlations between interventions and all other variables are null because the intervention values are all the same across all participants (everyone was in each condition). NA = negative affect.
* $p < .05$. ** $p < .01$.

members at home can shape leaders' prosocial perceptions and behavior at work. By integrating the moral affect theory of gratitude and savoring interventions research, we propose and test mechanisms by which reflecting on gratitude received from family at home motivates leaders to be more helpful and empowering at work. Through three field experiments, we show that reflecting on gratitude received from family members enhances leaders' feelings of making a prosocial impact at home in ways that fulfill their basic psychological needs. Perceptions of prosocial impact and need fulfillment, in turn, spill over into the work domain, motivating leaders to exhibit more helping and empowering behavior toward their followers. We also found some evidence that leaders higher

Table 7
Study 3: Simultaneous Multilevel Path Analysis Results for Hypothesized Model

	Prosocial impact at home (morning)		Need fulfillment (noon)		Leader helping (afternoon)		Leader empowering behavior (afternoon)	
Variable	γ	*SE*	γ	*SE*	γ	*SE*	γ	*SE*
Intercept	4.30**	.06	3.85**	.24	3.36**	.41	3.52**	.27
Level-2 predictor								
Trait NA	−.17	.09						
Level-1 predictors								
Gratitude and help at home intervention	.34**	.08	−.02	.04	−.04	.09	.05	.05
Gratitude at home only intervention	.27**	.09	−.04	.06	−.12	.09	−.01	.06
Previous day lag	−.44*	.19	−.37**	.11	−.51**	.14	−.51**	.12
Positive affect	.04	.10	.11	.06	.04	.10	.02	.06
Negative affect	.17	.22	.03	.17	.22	.18	.23	.14
Prosocial impact at home			.11*	.05	.24*	.11	.08	.05
Need fulfillment					.19*	.09	.17**	.06
Level-2 moderator								
Trait NA × Intervention	.19	.12						

Note. Level-1 $n = 327$. Level-2 $n = 109$. We centered Level-1 predictors at each person's mean; we grand-mean centered trait NA. We modeled control variables and nonhypothesized paths as fixed effects and hypothesized paths as free. We report unstandardized effects in the table. Gratitude and help at home intervention was coded 1 = gratitude and help at home intervention, 0 = control condition/gratitude at home only intervention and gratitude at home only intervention was coded 1 = gratitude at home only intervention, 0 = control condition/gratitude and help at home intervention. Previous day lag = previous day measurement of same dependent variable modeled as control; *SE* = standard error; NA = negative affect.
* $p < .05$. ** $p < .01$.

in trait NA were less impacted by the beneficial effects of receiving gratitude at home. Our findings provide a meaningful extension to literatures on gratitude, leadership, and work–family issues.

Theoretical Implications

Our work makes several theoretical contributions. First, we contribute to both research on gratitude and leadership by providing a fresh perspective on the crossover effects that gratitude experienced in the home domain may have on leaders' actions in the work domain. In particular, drawing on the moral affect theory of gratitude, our research makes three key contributions to the gratitude research by (a) highlighting the role of leaders recalling gratitude received at home in promoting prosocial behavior toward followers in the workplace; (b) elucidating the pathway from home-based gratitude interventions to managerial actions at work, mediated by prosocial impact at home and fulfillment of basic needs; and (c) casting leaders as active participants in receiving gratitude. The notion that gratitude may have third-party effects has been largely overlooked in prior research, which tends to primarily focus on the dyadic influence of gratitude between the benefactor and beneficiary. In addition, recent studies have begun exploring the significance of gratitude interventions for workplace issues, with Locklear et al. (2021) introducing the gratitude journal intervention as a novel method to mitigate interpersonal conflicts in workplaces and Lee et al. (2019) emphasizing the importance of receiving gratitude for the well-being of helpers. Furthermore, while previous studies have primarily focused on leaders expressing appreciation toward their followers (e.g., Grant & Gino, 2010), leaders themselves can also be recipients of gratitude (Sheridan & Ambrose, 2022), and although they may not receive much gratitude at work (e.g., Locklear et al., 2023), they are likely to experience gratitude at home, and this experience may then impact their perceptions and behaviors at work, subsequently influencing their followers. Accordingly, supported by three field experiments, our findings significantly enhance our understanding of the cross-domain and cross-person impact that a gratitude at home intervention can have on leaders and their followers, providing a broader and more comprehensive perspective on gratitude and leadership.

Second, our work also makes an important contribution to leadership research by taking a whole-person perspective on leaders. Our work highlights that leaders are multifaceted individuals and that the home environment represents a rich context that has implications for leaders in the work domain (e.g., Lanaj, Gabriel, & Jennings, 2023). As Courtright et al. (2016) noted, "While practitioners are increasingly becoming more aware of the linkages between the nonwork domain and leader effectiveness (Friedman, 2008), leadership research has largely neglected this perspective in seeking to explain why leaders behave the way they do" (p. 1632). In this regard, we contribute to leadership research by showing the importance of gratitude expressions within the home environment in enhancing leader effectiveness at work. Moreover, we extend recent research on leaders' home-to-family spillover (Lin et al., 2021; McClean et al., 2021) by investigating an intervention—reflecting on gratitude experienced at home—that creates a positive enrichment effect that transcends the family domain and positively impacts leaders' behaviors in the workplace. Our research is particularly valuable as leaders in the modern business environment face high pressure and can easily become disengaged amidst competitiveness and uncertainty (Gallup, 2017). Recognizing that their motivation and well-being are critical not only for maintaining their own behaviors but also for their teams' overall effectiveness (e.g., Lanaj et al., 2019), it becomes imperative to identify experiences that energize and fulfill leaders, enabling them to be more effective at work (Lanaj, Foulk, & Jennings, 2023). Our findings highlight the home environment as a promising venue that allows leaders to feel recharged and fulfilled in ways that positively impact their behaviors at work.

Third, our research makes a valuable contribution to research on prosocial leader behavior and leader development. While there is a robust literature documenting the positive influence of leadership behaviors when responding to employee needs (Burke et al., 2006; Lee et al., 2018; Morgeson et al., 2010), there is still a need to explore situational factors that may elicit other-oriented leadership behaviors. We show that a gratitude at home intervention motivates leaders to be more other-oriented at work, thus providing a meaningful extension to the leadership development literature, which suggests that leaders' self-perceptions, particularly those influenced by their experiences in the home domain, constitute an important but not fully comprehended aspect of leader development (e.g., Day & Dragoni, 2015; Liu et al., 2021; Vogel et al., 2021).

Fourth, our work adds value to gratitude research by introducing leader trait NA as a potential boundary condition that shapes the influence of receiving gratitude from family. While research has extensively examined individual differences in expressing gratitude toward others (Kaczmarek et al., 2014, 2015; Sun et al., 2019), there is limited understanding regarding the individuals who may derive varying benefits from receiving gratitude. We argue that trait NA can influence how people interpret expressions of gratitude from family members. In line with these expectations, in Study 1, we found that leaders with higher trait NA experienced less prosocial impact at home from reflecting on gratitude received from family members, which then interfered with their ability to feel fulfilled and to consequently help and empower their employees at work. However, in Studies 2 and 3, the interaction of the gratitude at home intervention with trait NA in predicting prosocial impact at home was not significant. It is important, therefore, for future research to replicate our results and to explore whether trait NA or other emotion-based traits influence the downstream effects of gratitude at home interventions on other-oriented leadership behaviors.

Practical Implications

Our findings carry practical implications that can be beneficial in today's fast-paced business environment. Despite leaders' hectic schedules, research suggests that taking a few minutes in the morning to cognitively reframe their day may help leaders be more effective at work (e.g., Lanaj et al., 2019, 2022). Building on these ideas, our work highlights the importance of leaders taking a moment to reflect on gratitude received from family members because doing so enables them to be more prosocial at work. As mounting evidence endorses the positive value of leader helping and empowering behavior on employee performance and creativity outcomes (Chen et al., 2007; Kirkman & Rosen, 1999; Zhang & Bartol, 2010), leaders could consider incorporating a daily gratitude reflection into their routine. This practice can help leaders develop more prosocial perceptions, experience a greater sense of need satisfaction, and ultimately become more helpful and empowering. Furthermore, organizational decision-makers can facilitate leader

development by designing interventions or training programs that encourage leaders to allocate time for reflecting on instances of received gratitude. By creating opportunities for leaders to engage in such reflections, organizations can foster a positive and supportive work environment that encourages prosocial behavior and enhances overall leadership effectiveness.

Our work has important practical implications for leaders' family members as well. Although employees may hesitate to express gratitude at work because it may feel awkward or risky (e.g., Abel et al., 2022; Kumar, 2022; Kumar & Epley, 2018), expressing gratitude within the safe and familiar environment of the home may be less uncomfortable (e.g., Grandey & Krannitz, 2016). Our work suggests that gratitude expressions at home may be beneficial not only for the recipient leader but also for their colleagues because experienced gratitude motivates prosocial acts. Family members, therefore, may do well to show appreciation for each other, not only because doing so may benefit their relationship (Lambert et al., 2010) but also because such expressions may improve their loved ones' work experiences as well.

Limitations and Future Directions

Despite their strengths (experimental design, time-separated surveys, multisource measurement), our studies are subject to a number of limitations that may inform future research. First, in our studies, we focused on receiving gratitude from any close family member. It is possible that receiving gratitude from different family members, such as spouse, children, parents, and siblings, might have differentiated influences on leaders' prosocial impact perceptions and subsequent need fulfillment. For instance, receiving gratitude from young children may be more inspiring than other sources because such gratitude is more unexpected and precious (Weiss et al., 2020). It would be interesting for future research, therefore, to examine the source and manner in which gratitude is expressed as potential moderators. Second, and relatedly, we specifically examined recalling gratitude received from family members, but leaders may experience gratitude from other parties such as customers, clients, and members of the community. Indeed, in Study 2, we found that a gratitude at work intervention had similarly positive implications for leaders. Thus, it is difficult to parse out the role of the context of gratitude (i.e., from whom managers received gratitude) from the role of the act of savoring gratitude in driving the intervention's effects. We hope that future research will investigate whether reflecting on gratitude received from various stakeholders across different life domains yields similar or additional benefits for leaders, as well as elucidate the unique mechanisms via which these effects may occur. Third, we do not consider preferences for the segmentation of work and family roles and how they might influence the impact of the gratitude at home intervention. On one hand, individuals with strong preferences for segmentation might experience weaker effects from the gratitude at home intervention on subsequent reactions and work outcomes because they may resist fully embracing the intervention due to their inclination to keep work and family experiences separate. On the other hand, it is conceivable that those with high segmentation preferences could actually experience stronger effects from the intervention because they might find the process of savoring at-home experiences to be particularly noteworthy or novel. We encourage future research to explore this potentially complex effect and to consider how both norms and preferences can shape the outcomes observed across different studies. Last, we considered leaders' helping and empowering behavior as key manifestations of their prosocial behavior. However, reflecting on gratitude received at home may also encourage other forms of cross-domain prosocial behavior among leaders. For example, leaders may engage in activities that create value for the community (Liden et al., 2008) or exhibit a reduction in dysfunctional behaviors such as abusive supervision (Tepper, 2000) or supervisory mistreatment (Locklear et al., 2021). It would be valuable for future studies, therefore, to expand on our research by examining whether reflecting on gratitude received from family members influences the display or avoidance of other types of leadership behaviors in the workplace.

Conclusion

Across three experimental studies with leaders (Studies 1 and 3) and leader–follower dyads (Study 2), we investigated how reflecting on gratitude received from family members at home impacts leaders' prosocial behavior at work. By integrating the moral affect theory of gratitude with savoring interventions research, we show that an intervention prompting leaders to pause and reflect on instances of receiving gratitude at home leads to increased helping and empowering behavior at work. These effects are attributed to the improvement in leaders' perceptions of making a prosocial difference at home, which in turn fulfill their basic psychological needs. We are hopeful that future research will expand our findings to consider other sources of gratitude and additional outcomes.

References

Abel, J. E., Vani, P., Abi-Esber, N., Blunden, H., & Schroeder, J. (2022). Kindness in short supply: Evidence for inadequate prosocial input. *Current Opinion in Psychology*, *48*, Article 101458. https://doi.org/10.1016/j.copsyc.2022.101458

Ahearne, M., Mathieu, J., & Rapp, A. (2005). To empower or not to empower your sales force? An empirical examination of the influence of leadership empowerment behavior on customer satisfaction and performance. *Journal of Applied Psychology*, *90*(5), 945–955. https://doi.org/10.1037/0021-9010.90.5.945

Aknin, L. B., Van de Vondervoort, J. W., & Hamlin, J. K. (2018). Positive feelings reward and promote prosocial behavior. *Current Opinion in Psychology*, *20*, 55–59. https://doi.org/10.1016/j.copsyc.2017.08.017

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

Anicich, E. M., Foulk, T. A., Osborne, M. R., Gale, J., & Schaerer, M. (2020). Getting back to the "new normal": Autonomy restoration during a global pandemic. *Journal of Applied Psychology*, *105*(9), 931–943. https://doi.org/10.1037/apl0000655

Arbuckle, J. L. (1996). Full information estimation in the presence of incomplete data. In G. A. Marcoulides & R. E. Schumacker (Eds.), *Advanced structural equation modeling: Issues and techniques* (pp. 243–277). Psychology Press.

Arnold, J. A., Arad, S., Rhoades, J. A., & Drasgow, F. (2000). The empowering leadership questionnaire: The construction and validation of a new scale for measuring leader behaviors. *Journal of Organizational Behavior*, *21*(3), 249–269. https://doi.org/10.1002/(SICI)1099-1379(200005)21:3<249::AID-JOB10>3.0.CO;2-%23

Bakker, A. B., & Derks, D. (2010). Positive occupational health psychology. In S. Leka & J. Houdmont (Eds.), *Occupational health psychology* (pp. 194–224). Wiley.

Bartlett, M. Y., & DeSteno, D. (2006). Gratitude and prosocial behavior: Helping when it costs you. *Psychological Science*, *17*(4), 319–325. https://doi.org/10.1111/j.1467-9280.2006.01705.x

Beal, D. J. (2015). ESM 2.0: State of the art and future potential of experience sampling methods in organizational research. *Annual Review of Organizational Psychology and Organizational Behavior*, *2*(1), 383–407. https://doi.org/10.1146/annurev-orgpsych-032414-111335

Bono, G., Emmons, R. A., & McCullough, M. E. (2004). Gratitude in practice and the practice of gratitude. In P. A. Linley & S. Joseph (Eds.), *Positive psychology in practice* (pp. 464–481). Wiley. https://doi.org/10.1002/9780470939338.ch29

Bono, J. E., Glomb, T. M., Shen, W., Kim, E., & Koch, A. J. (2013). Building positive resources: Effects of positive events and positive reflection on work stress and health. *Academy of Management Journal*, *56*(6), 1601–1627. https://doi.org/10.5465/amj.2011.0272

Brockner, J., & Sherman, D. K. (2019). Wise interventions in organizations. *Research in Organizational Behavior*, *39*, Article 100125. https://doi.org/10.1016/j.riob.2020.100125

Bryant, F. B., Osowski, K. A., & Smith, J. L. (2021). Gratitude as a mediator of the effects of savoring on positive adjustment to aging. *International Journal of Aging & Human Development*, *92*(3), 275–300. https://doi.org/10.1177/0091415020919999

Bryant, F. B., & Veroff, J. (2007). *Savoring: A new model of positive experience*. Lawrence Erlbaum.

Burke, C. S., Stagl, K. C., Klein, C., Goodwin, G. F., Salas, E., & Halpin, S. M. (2006). What type of leadership behaviors are functional in teams? A meta-analysis. *The Leadership Quarterly*, *17*(3), 288–307. https://doi.org/10.1016/j.leaqua.2006.02.007

Carey, J. R., Clicque, S. H., Leighton, B. A., & Milton, F. (1976). A test of positive reinforcement of customers. *Journal of Marketing*, *40*(4), 98–100. https://doi.org/10.1177/002224297604000413

Chen, G., Kirkman, B. L., Kanfer, R., Allen, D., & Rosen, B. (2007). A multilevel study of leadership, empowerment, and performance in teams. *Journal of Applied Psychology*, *92*(2), 331–346. https://doi.org/10.1037/0021-9010.92.2.331

Conger, J. A., & Kanungo, R. N. (1988). The empowerment process: Integrating theory and practice. *Academy of Management Review*, *13*(3), 471–482. https://doi.org/10.2307/258093

Cortina, L. M., Magley, V. J., Williams, J. H., & Langhout, R. D. (2001). Incivility in the workplace: Incidence and impact. *Journal of Occupational Health Psychology*, *6*(1), 64–80. https://doi.org/10.1037/1076-8998.6.1.64

Courtright, S. H., Gardner, R. G., Smith, T. A., McCormick, B. W., & Colbert, A. E. (2016). My family made me do it: A cross-domain, self-regulatory perspective on antecedents to abusive supervision. *Academy of Management Journal*, *59*(5), 1630–1652. https://doi.org/10.5465/amj.2013.1009

da Motta Veiga, S. P., & Gabriel, A. S. (2016). The role of self-determined motivation in job search: A dynamic approach. *Journal of Applied Psychology*, *101*(3), 350–361. https://doi.org/10.1037/apl0000070

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., Jr. (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

Day, D. V., & Dragoni, L. (2015). Leadership development: An outcome-oriented review based on time and levels of analyses. *Annual Review of Organizational Psychology and Organizational Behavior*, *2*(1), 133–156. https://doi.org/10.1146/annurev-orgpsych-032414-111328

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Deci, E. L., & Ryan, R. M. (2012). Self-determination theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 416–437). Sage Publications. https://doi.org/10.4135/9781446249215.n21

Dickerhoof, R. M. (2007). *Expressing optimism and gratitude: A longitudinal investigation of cognitive strategies to increase well-being* (Publication No. 304878175) [Doctoral dissertation, University of California, Riverside]. ProQuest Dissertations & Theses Global.

Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, *84*(2), 377–389. https://doi.org/10.1037/0022-3514.84.2.377

Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods*, *12*(2), 121–138. https://doi.org/10.1037/1082-989X.12.2.121

Fehr, R., Fulmer, A., Awtrey, E., & Miller, J. A. (2017). The grateful workplace: A multilevel model of gratitude in organizations. *Academy of Management Review*, *42*(2), 361–381. https://doi.org/10.5465/amr.2014.0374

Foulk, T. A., Lanaj, K., & Krishnan, S. (2019). The virtuous cycle of daily motivation: Effects of daily strivings on work behaviors, need satisfaction, and next-day strivings. *Journal of Applied Psychology*, *104*(6), 755–775. https://doi.org/10.1037/apl0000385

Foulk, T. A., Lanaj, K., Tu, M. H., Erez, A., & Archambeau, L. (2018). Heavy is the head that wears the crown: An actor-centric approach to daily psychological power, abusive leader behavior, and perceived incivility. *Academy of Management Journal*, *61*(2), 661–684. https://doi.org/10.5465/amj.2015.1061

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, *359*(1449), 1367–1377. https://doi.org/10.1098/rstb.2004.1512

Friedman, S. D. (2008). Be a better leader, have a richer life. *Harvard Business Review*. https://hbr.org/2008/04/be-a-better-leader-have-a-richer-life

Frijda, N. H. (1986). *The emotions*. Cambridge University Press.

Frijda, N. H., & Sundararajan, L. (2007). Emotion refinement: A theory inspired by Chinese poetics. *Perspectives on Psychological Science*, *2*(3), 227–241. https://doi.org/10.1111/j.1745-6916.2007.00042.x

Gabriel, A. S., Koopman, J., Rosen, C. C., & Johnson, R. E. (2018). Helping others or helping oneself? An episodic examination of the behavioral consequences of helping at work. *Personnel Psychology*, *71*(1), 85–107. https://doi.org/10.1111/peps.12229

Gabriel, A. S., Lanaj, K., & Jennings, R. E. (2021). Is one the loneliest number? A within-person examination of the adaptive and maladaptive consequences of leader loneliness at work. *Journal of Applied Psychology*, *106*(10), 1517–1538. https://doi.org/10.1037/apl0000838

Gabriel, A. S., Podsakoff, N. P., Beal, D. J., Scott, B. A., Sonnentag, S., Trougakos, J. P., & Butts, M. M. (2019). Experience sampling methods: A discussion of critical trends and considerations for scholarly advancement. *Organizational Research Methods*, *22*(4), 969–1006. https://doi.org/10.1177/1094428118802626

Gallup. (2017). *State of the American workplace*. Retrieved August 25, 2017, from https://www.gallup.com/workplace/285818/state-american-workplace-report.aspx

Geiger, M., Lee, J. Y., & Geiger, M. K. (2019). The power of negative disposition: An examination of trait and state negative affect with OCBI and OCBO. *Group & Organization Management*, *44*(6), 1136–1172. https://doi.org/10.1177/1059601118819893

Grahek, M. S., Thompson, A. D., & Toliver, A. (2010). The character to lead: A closer look at character in leadership. *Consulting Psychology Journal*, *62*(4), 270–290. https://doi.org/10.1037/a0022385

Grandey, A. A., & Krannitz, M. A. (2016). Emotion regulation at work and at home. In T. D. Allen & L. T. Eby (Eds.), *The Oxford handbook of work and family* (pp. 81–94). Oxford University Press.

Grant, A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of Management Review*, *32*(2), 393–417. https://doi.org/10.5465/amr.2007.24351328

Grant, A. M. (2008). Employees without a cause: The motivational effects of prosocial impact in public service. *International Public Management Journal*, *11*(1), 48–66. https://doi.org/10.1080/10967490801887905

Grant, A. M. (2012). Leading with meaning: Beneficiary contact, prosocial impact, and the performance effects of transformational leadership. *Academy of Management Journal*, *55*(2), 458–476. https://doi.org/10.5465/amj.2010.0588

Grant, A. M., & Gino, F. (2010). A little thanks goes a long way: Explaining why gratitude expressions motivate prosocial behavior. *Journal of Personality and Social Psychology*, *98*(6), 946–955. https://doi.org/10.1037/a0017935

Grant, A. M., & Wrzesniewski, A. (2010). I won't let you down … or will I? Core self-evaluations, other-orientation, anticipated guilt and gratitude, and job performance. *Journal of Applied Psychology*, *95*(1), 108–121. https://doi.org/10.1037/a0017974

Grant, D. A. (1948). The Latin square principle in the design and analysis of psychological experiments. *Psychological Bulletin*, *45*(5), 427–442. https://doi.org/10.1037/h0053912

Hammer, L. B., Kossek, E. E., Yragui, N. L., Bodner, T. E., & Hanson, G. C. (2009). Development and validation of a multidimensional measure of family supportive supervisor behaviors (FSSB). *Journal of Management*, *35*(4), 837–856. https://doi.org/10.1177/0149206308328510

Hofmann, S. A., Griffin, M. A., & Gavin, M. B. (2000). The application of hierarchical linear modeling to organizational research. In K. Klein & S. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 75–170). Jossey-Bass/Wiley.

Hurley, D. B., & Kwon, P. (2012). Results of a study to increase savoring the moment: Differential impact on positive and negative outcomes. *Journal of Happiness Studies*, *13*(4), 579–588. https://doi.org/10.1007/s10902-011-9280-8

Jackowska, M., Brown, J., Ronaldson, A., & Steptoe, A. (2016). The impact of a brief gratitude intervention on subjective well-being, biology and sleep. *Journal of Health Psychology*, *21*(10), 2207–2217. https://doi.org/10.1177/1359105315572455

Judge, T. A., & Ilies, R. (2004). Affect and job satisfaction: A study of their relationship at work and at home. *Journal of Applied Psychology*, *89*(4), 661–673. https://doi.org/10.1037/0021-9010.89.4.661

Judge, T. A., & Larsen, R. J. (2001). Dispositional affect and job satisfaction: A review and theoretical extension. *Organizational Behavior and Human Decision Processes*, *86*(1), 67–98. https://doi.org/10.1006/obhd.2001.2973

Kaczmarek, L. D., Kashdan, T. B., Drążkowski, D., Bujacz, A., & Goodman, F. R. (2014). Why do greater curiosity and fewer depressive symptoms predict gratitude intervention use? Utility beliefs, social norm, and self-control beliefs. *Personality and Individual Differences*, *66*, 165–170. https://doi.org/10.1016/j.paid.2014.03.032

Kaczmarek, L. D., Kashdan, T. B., Drążkowski, D., Enko, J., Kosakowski, M., Säefer, A., & Bujacz, A. (2015). Why do people prefer gratitude journaling over gratitude letters? The influence of individual differences in motivation and personality on web-based interventions. *Personality and Individual Differences*, *75*, 1–6. https://doi.org/10.1016/j.paid.2014.11.004

Kaplan, S., Bradley, J. C., Luchman, J. N., & Haynes, D. (2009). On the role of positive and negative affectivity in job performance: A meta-analytic investigation. *Journal of Applied Psychology*, *94*(1), 162–176. https://doi.org/10.1037/a0013115

Kashdan, T. B., Mishra, A., Breen, W. E., & Froh, J. J. (2009). Gender differences in gratitude: Examining appraisals, narratives, the willingness to express emotions, and changes in psychological needs. *Journal of Personality*, *77*(3), 691–730. https://doi.org/10.1111/j.1467-6494.2009.00562.x

Katz, D., & Kahn, R. L. (1978). Organizations and the system concept. In J. M. Shafritz, J. S. Ott, & Y. S. Jang (Eds.), *Classics of organization theory* (pp. 347–358). Cengage Learning.

Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition and Emotion*, *13*(5), 505–521. https://doi.org/10.1080/026999399379168

Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management Journal*, *42*(1), 58–74. https://doi.org/10.2307/256874

Koopman, J., Conway, J. M., Dimotakis, N., Tepper, B. J., Lee, Y. E., Rogelberg, S. G., & Lount, R. B., Jr. (2021). Does CWB repair negative affective states, or generate them? Examining the moderating role of trait empathy. *Journal of Applied Psychology*, *106*(10), 1493–1516. https://doi.org/10.1037/apl0000837

Kossek, E. E., Pichler, S., Bodner, T., & Hammer, L. B. (2011). Workplace social support and work–family conflict: A meta-analysis clarifying the influence of general and work–family-specific supervisor and organizational support. *Personnel Psychology*, *64*(2), 289–313. https://doi.org/10.1111/j.1744-6570.2011.01211.x

Kumar, A. (2022). Some things aren't better left unsaid: Interpersonal barriers to gratitude expression and prosocial engagement. *Current Opinion in Psychology*, *43*, 156–160. https://doi.org/10.1016/j.copsyc.2021.07.011

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

La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being. *Journal of Personality and Social Psychology*, *79*(3), 367–384. https://doi.org/10.1037/0022-3514.79.3.367

Lam, S. S., Yik, M. S., & Schaubroeck, J. (2002). Responses to formal performance appraisal feedback: The role of negative affectivity. *Journal of Applied Psychology*, *87*(1), 192–201. https://doi.org/10.1037/0021-9010.87.1.192

Lambert, N. M., Clark, M. S., Durtschi, J., Fincham, F. D., & Graham, S. M. (2010). Benefits of expressing gratitude: Expressing gratitude to a partner changes one's view of the relationship. *Psychological Science*, *21*(4), 574–580. https://doi.org/10.1177/0956797610364003

Lanaj, K., Foulk, T. A., & Erez, A. (2019). Energizing leaders via self-reflection: A within-person field experiment. *Journal of Applied Psychology*, *104*(1), 1–18. https://doi.org/10.1037/apl0000350

Lanaj, K., Foulk, T. A., & Jennings, R. E. (2023). Improving the lives of leaders: The beneficial effects of positive leader self-reflection. *Journal of Management*, *49*(8), 2595–2628. https://doi.org/10.1177/01492063221110205

Lanaj, K., Gabriel, A. S., & Jennings, R. E. (2023). The importance of leader recovery for leader identity and behavior. *Journal of Applied Psychology*, *108*(10), 1717–1736. https://doi.org/10.1037/apl0001092

Lanaj, K., & Jennings, R. E. (2020). Putting leaders in a bad mood: The affective costs of helping followers with personal problems. *Journal of Applied Psychology*, *105*(4), 355–371. https://doi.org/10.1037/apl0000450

Lanaj, K., Jennings, R. E., Ashford, S. J., & Krishnan, S. (2022). When leader self-care begets other care: Leader role self-compassion and helping at work. *Journal of Applied Psychology*, *107*(9), 1543–1560. https://doi.org/10.1037/apl0000957

Lanaj, K., Johnson, R. E., & Wang, M. (2016). When lending a hand depletes the will: The daily costs and benefits of helping. *Journal of Applied Psychology*, *101*(8), 1097–1110. https://doi.org/10.1037/apl0000118

Lang, J. W., Bliese, P. D., & Runge, J. M. (2021). Detecting consensus emergence in organizational multilevel data: Power simulations. *Organizational Research Methods*, *24*(2), 319–341. https://doi.org/10.1177/1094428119873950

Larsen, R. (2011). Missing data imputation versus full information maximum likelihood with second-level dependencies. *Structural Equation Modeling*, *18*(4), 649–662. https://doi.org/10.1080/10705511.2011.607721

Lee, A., Willis, S., & Tian, A. W. (2018). Empowering leadership: A meta-analytic examination of incremental contribution, mediation, and moderation. *Journal of Organizational Behavior*, *39*(3), 306–325. https://doi.org/10.1002/job.2220

Lee, H. W., Bradburn, J., Johnson, R. E., Lin, S. J., & Chang, C. D. (2019). The benefits of receiving gratitude for helpers: A daily investigation of proactive and reactive helping at work. *Journal of Applied Psychology*, *104*(2), 197–213. https://doi.org/10.1037/apl0000346

Lee, K., & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: The role of affect and cognitions. *Journal of Applied Psychology*, *87*(1), 131–142. https://doi.org/10.1037/0021-9010.87.1.131

Leong, J. L. T., Chen, S. X., Fung, H. H. L., Bond, M. H., Siu, N. Y. F., & Zhu, J. Y. (2020). Is gratitude always beneficial to interpersonal relationships? The interplay of grateful disposition, grateful mood, and grateful expression among married couples. *Personality and Social Psychology Bulletin*, *46*(1), 64–78. https://doi.org/10.1177/0146167219842868

Levin, I., & Stokes, J. P. (1989). Dispositional approach to job satisfaction: Role of negative affectivity. *Journal of Applied Psychology*, *74*(5), 752–758. https://doi.org/10.1037/0021-9010.74.5.752

Liden, R. C., Wayne, S. J., Zhao, H., & Henderson, D. (2008). Servant leadership: Development of a multidimensional measure and multi-level assessment. *The Leadership Quarterly*, *19*(2), 161–177. https://doi.org/10.1016/j.leaqua.2008.01.006

Lin, S. J., Chang, C. D., Lee, H. W., & Johnson, R. E. (2021). Positive family events facilitate effective leader behaviors at work: A within-individual investigation of family-work enrichment. *Journal of Applied Psychology*, *106*(9), 1412–1434. https://doi.org/10.1037/apl0000827

Liu, Z., Venkatesh, S., Murphy, S. E., & Riggio, R. E. (2021). Leader development across the lifespan: A dynamic experiences-grounded approach. *The Leadership Quarterly*, *32*(5), Article 101382. https://doi.org/10.1016/j.leaqua.2020.101382

Locklear, L. R., Sheridan, S., & Kong, D. T. (2023). Appreciating social science research on gratitude: An integrative review for organizational scholarship on gratitude in the workplace. *Journal of Organizational Behavior*, *44*(2), 225–260. https://doi.org/10.1002/job.2624

Locklear, L. R., Taylor, S. G., & Ambrose, M. L. (2021). How a gratitude intervention influences workplace mistreatment: A multiple mediation model. *Journal of Applied Psychology*, *106*(9), 1314–1331. https://doi.org/10.1037/apl0000825

Lyubomirsky, S., Dickerhoof, R., Boehm, J. K., & Sheldon, K. M. (2011). Becoming happier takes both a will and a proper way: An experimental longitudinal intervention to boost well-being. *Emotion*, *11*(2), 391–402. https://doi.org/10.1037/a0022575

Mackinnon, A., Jorm, A. F., Christensen, H., Korten, A. E., Jacomb, P. A., & Rodgers, B. (1999). A short form of the positive and negative affect schedule: Evaluation of factorial validity and invariance across demographic variables in a community sample. *Personality and Individual Differences*, *27*(3), 405–416. https://doi.org/10.1016/S0191-8869(98)00251-7

Matta, F. K., Sabey, T. B., Scott, B. A., Lin, S. J., & Koopman, J. (2020). Not all fairness is created equal: A study of employee attributions of supervisor justice motives. *Journal of Applied Psychology*, *105*(3), 274–293. https://doi.org/10.1037/apl0000440

McClean, S. T., Yim, J., Courtright, S. H., & Dunford, B. B. (2021). Transformed by the family: An episodic, attachment theory perspective on family-work enrichment and transformational leadership. *Journal of Applied Psychology*, *106*(12), 1848–1866. https://doi.org/10.1037/apl0000869

McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is gratitude a moral affect? *Psychological Bulletin*, *127*(2), 249–266. https://doi.org/10.1037/0033-2909.127.2.249

Mitchell, T. R., Thompson, L., Peterson, E., & Cronk, R. (1997). Temporal adjustments in the evaluation of events: The "rosy view." *Journal of Experimental Social Psychology*, *33*(4), 421–448. https://doi.org/10.1006/jesp.1997.1333

Morgeson, F. P., DeRue, D. S., & Karam, E. P. (2010). Leadership in teams: A functional approach to understanding leadership structures and processes. *Journal of Management*, *36*(1), 5–39. https://doi.org/10.1177/0149206309347376

Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user's guide*.

Pearce, C. L., Sims, H. P., Jr., Cox, J. F., Ball, G., Schnell, E., Smith, K. A., & Trevino, L. (2003). Transactors, transformers and beyond: A multi-method development of a theoretical typology of leadership. *Journal of Management Development*, *22*(4), 273–307. https://doi.org/10.1108/02621710310467587

Peters, M. L., Meevissen, Y. M. C., & Hanssen, M. M. (2013). Specificity of the best possible self-intervention for increasing optimism: Comparison with a gratitude intervention. *Terapia Psicológica*, *31*(1), 93–100. https://doi.org/10.4067/S0718-48082013000100009

Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods*, *15*(3), 209–233. https://doi.org/10.1037/a0020141

Pruyser, P. W. (1976). *The minister as diagnostician: Personal problems in pastoral perspective*. Westminster John Knox Press.

Quinn, R. E., & Spreitzer, G. M. (2006). Entering the fundamental state of leadership: A framework for the positive transformation of self and others. In R. J. Burke & C. L. Cooper (Eds.), *Inspiring leaders* (pp. 67–83). Routledge.

Ritzenhöfer, L., Brosi, P., Spörrle, M., & Welpe, I. M. (2019). Satisfied with the job, but not with the boss: Leaders' expressions of gratitude and pride differentially signal leader selfishness, resulting in differing levels of followers' satisfaction. *Journal of Business Ethics*, *158*(4), 1185–1202. https://doi.org/10.1007/s10551-017-3746-5

Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, *63*(3), 397–427. https://doi.org/10.1111/j.1467-6494.1995.tb00501.x

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press. https://doi.org/10.1521/978.14625/28806

Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality*, *65*(3), 529–565. https://doi.org/10.1111/j.1467-6494.1997.tb00326.x

Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*, *66*(4), 507–514. https://doi.org/10.1007/BF02296192

Sawyer, K. B., Thoroughgood, C. N., Stillwell, E. E., Duffy, M. K., Scott, K. L., & Adair, E. A. (2022). Being present and thankful: A multi-study investigation of mindfulness, gratitude, and employee helping behavior. *Journal of Applied Psychology*, *107*(2), 240–262. https://doi.org/10.1037/apl0000903

Schilpzand, P., Houston, L., & Cho, J. (2018). Not too tired to be proactive: Daily empowering leadership spurs next-morning employee proactivity as moderated by nightly sleep quality. *Academy of Management Journal*, *61*(6), 2367–2387. https://doi.org/10.5465/amj.2016.0936

Schuster, C., Sparkman, G., Walton, G. M., Alles, A., & Loschelder, D. D. (2023). Egalitarian norm messaging increases human resources professionals' salary offers to women. *Journal of Applied Psychology*, *108*(4), 541–552. https://doi.org/10.1037/apl0001033

Selig, J. P., & Preacher, K. J. (2008). *Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects* [Computer software]. https://quantpsy.org/

Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, *60*(5), 410–421. https://doi.org/10.1037/0003-066X.60.5.410

Sheldon, K. M., & Lyubomirsky, S. (2006). How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves. *The Journal of Positive Psychology*, *1*(2), 73–82. https://doi.org/10.1080/17439760500510676

Sheldon, K. M., & Niemiec, C. P. (2006). It's not just the amount that counts: Balanced need satisfaction also affects well-being. *Journal of Personality and Social Psychology*, *91*(2), 331–341. https://doi.org/10.1037/0022-3514.91.2.331

Sheridan, S., & Ambrose, M. L. (2022). My cup runneth over: A daily study of the energy benefits for supervisors who feel appreciated by their subordinates. *Journal of Management*, *48*(2), 440–471. https://doi.org/10.1177/0149206320967104

Smith, J. L., Harrison, P. R., Kurtz, J. L., & Bryant, F. B. (2014). Nurturing the capacity to savor: Interventions to enhance the enjoyment of positive experiences. In A. C. Parks & S. M. Schueller (Eds.), *The Wiley Blackwell handbook of positive psychological interventions* (pp. 42–65). Wiley. https://doi.org/10.1002/9781118315927.ch3

Song, Y., Liu, Y., Wang, M., Lanaj, K., Johnson, R. E., & Shi, J. (2018). A social mindfulness approach to understanding experienced customer mistreatment: A within-person field experiment. *Academy of Management Journal*, *61*(3), 994–1020. https://doi.org/10.5465/amj.2016.0448

Sonnentag, S., & Grant, A. M. (2012). Doing good at work feels good at home, but not right away: When and why perceived prosocial impact predicts positive affect. *Personnel Psychology*, *65*(3), 495–530. https://doi.org/10.1111/j.1744-6570.2012.01251.x

Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain: Interpersonal conflict at work scale, organizational constraints scale, quantitative workload inventory, and physical symptoms inventory. *Journal of Occupational Health Psychology*, *3*(4), 356–367. https://doi.org/10.1037/1076-8998.3.4.356

Stocker, D., Keller, A. C., Meier, L. L., Elfering, A., Pfister, I. B., Jacobshagen, N., & Semmer, N. K. (2019). Appreciation by supervisors buffers the impact of work interruptions on well-being longitudinally. *International Journal of Stress Management*, *26*(4), 331–343. https://doi.org/10.1037/str0000111

Sun, J., Liden, R. C., & Ouyang, L. (2019). Are servant leaders appreciated? An investigation of how relational attributions influence employee feelings of gratitude and prosocial behaviors. *Journal of Organizational Behavior*, *40*(5), 528–540. https://doi.org/10.1002/job.2354

Tang, P. M., Ilies, R., Aw, S. S. Y., Lin, K. J., Lee, R., & Trombini, C. (2022). How and when service beneficiaries' gratitude enriches employees' daily lives. *Journal of Applied Psychology*, *107*(6), 987–1008. https://doi.org/10.1037/apl0000975

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, *43*(2), 178–190. https://doi.org/10.2307/1556375

van Dierendonck, D., & Patterson, K. (2015). Compassionate love as a cornerstone of servant leadership: An integration of previous theorizing and research. *Journal of Business Ethics*, *128*(1), 119–131. https://doi.org/10.1007/s10551-014-2085-z

Vogel, B., Reichard, R. J., Batistič, S., & Černe, M. (2021). A bibliometric review of the leadership development field: How we got here, where we are, and where we are headed. *The Leadership Quarterly*, *32*(5), Article 101381. https://doi.org/10.1016/j.leaqua.2020.101381

Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. L. (2003). Gratitude and happiness: Development of a measure of gratitude, and relationships with subjective well-being. *Social Behavior and Personality*, *31*(5), 431–451. https://doi.org/10.2224/sbp.2003.31.5.431

Watson, D., & Clark, L. A. (1994). *The PANAS-X: Manual for the positive and negative affect schedule-expanded form*. University of Iowa. https://doi.org/10.17077/48vt-m4t2

Watson, D., & Pennebaker, J. W. (1989). Health complaints, stress, and distress: Exploring the central role of negative affectivity. *Psychological Review*, *96*(2), 234–254. https://doi.org/10.1037/0033-295X.96.2.234

Watson, D., Pennebaker, J. W., & Folger, R. (1987). Beyond negative affectivity: Measuring stress and satisfaction in the workplace. *Journal of Organizational Behavior Management*, *8*(2), 141–158. https://doi.org/10.1300/J075v08n02_09

Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin*, *98*(2), 219–235. https://doi.org/10.1037/0033-2909.98.2.219

Weinstein, N., & Ryan, R. M. (2010). When helping helps: Autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology*, *98*(2), 222–244. https://doi.org/10.1037/a0016984

Weiss, A., Burgmer, P., & Lange, J. (2020). Surprise me! On the impact of unexpected benefits on other-praising gratitude expressions. *Cognition and Emotion*, *34*(8), 1608–1620. https://doi.org/10.1080/02699931.2020.1797638

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

Yukl, G. (2010). *Leadership in organizations*. Pearson.

Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of Management Journal*, *53*(1), 107–128. https://doi.org/10.5465/amj.2010.48037118

Zhou, J., Oldham, G. R., Chuang, A., & Hsu, R. S. (2022). Enhancing employee creativity: Effects of choice, rewards and personality. *Journal of Applied Psychology*, *107*(3), 503–513. https://doi.org/10.1037/apl0000900

(*Appendix follows*)

Appendix

Example Writing Responses From Study Conditions

Study No.	Condition	Example writing response				
		Example 1	Example 2	Example 3	Example 4	Example 5
Study 1	Gratitude at home condition: Please recall a time when you did something for your family members and your family members showed appreciation to you. Please use a few (3–5) sentences to describe what you did, what your family members said/did to you in this situation, and your feelings after receiving your family's appreciation. Please write them down in the box below.	"We celebrated my daughter's birthday last evening. She was very excited to get to pick where we had dinner and to open her presents. She was unusually thankful for her gifts. This made me feel good as it can be challenging to please a teenager!"	"Yesterday, after a long day at work, I cooked dinner for my wife and me. My wife appreciated it because it was a big dinner and she had taken care of many of the other chores. This allowed her the chance to sit while I took care of dinner and the dishes."	"My son is a college freshman and recently has expressed how appreciative he is for the little things I took care of as a mom. Best feeling ever."	"During the winter when it snows I will clean all of my family members' cars off before I leave for work. While it's just a small gesture I know they all appreciate it since they don't have to stand outside freezing to do it. It makes me feel good to do something for them and they are always thankful to me when they see me come home after work"	"This weekend I helped two different family events. 1st communion and birthday parties. I helped and spent all day between the two events. My daughter told me that I had a helping Heart and that it didn't matter if people helped us, we do things because it was the right thing to do. She said she was proud of me. I felt delighted."
Study 2	Gratitude at home condition: Please recall a time when you did something for your family members and your family members showed appreciation to you. Please use a few (3–5) sentences to describe what you did, what your family members said/did to you in this situation, and your feelings after receiving your family's appreciation. Please write them down in the box below.	"A few weeks ago I helped my grandpa clean out his gutters. He was appreciative and made sure I had water while I was outside in the heat. After I finished, he repetitively said thank you and got us a snack. It made me feel appreciated."	"One very good thing that I did for my family member was that I paid off their house bill for 2 years. My mum, dad, and my siblings were so happy and felt grateful for what I did for them. I felt I was on top of the world when I received this appreciations from them."	"It was Halloween and I made matching Halloween costumes for my family. Fairy tales can come true on Halloween and what could bring a family closer together than looking completely ridiculous as a team. My family really appreciated it and I felt extremely happy"	"I recall taking my entire family to a theme park on a weekend. It was an enjoyable and memorable trip that was further boosted by a particular trick my wife performed there. On our way back home from the theme park, my wife and daughter both said they had fun, and my wife said she hasn't had that much fun in a long time. Those comments made me feel that I was doing a good job both as a husband and a father."	"I took time off work last year to go on a picnic with family and also did a read together with everyone. It was well appreciated and they all made me feel my time I took off work was worth it and not a waste of time. I felt valued as everyone showed love towards me."

(*Appendix continues*)

Appendix (*continued*)

Study No.	Condition	Example writing response				
		Example 1	Example 2	Example 3	Example 4	Example 5
Study 3	Gratitude and help at home condition (this is the same as the "Gratitude at home condition" in Studies 1 and 2): Please recall a time when you did something for your family members and your family members showed appreciation to you. Please use a few (3–5) sentences to describe what you did, what your family members said/did to you in this situation, and your feelings after receiving your family's appreciation. Please write them down in the box below.	"Yesterday, I picked up my children from a sleepover. When I got there, I received a huge hug from them - they were so, so happy to see me! I knew they were having a great time, but it felt great to know that they loved the fact that I came and picked them up and that they missed me."	"My mom wanted to get a garden started so I put together some raised garden boxes and brought in a mixture of 50/50 soil to fill them. She continuously shows appreciation for having the garden and is excited to show my the fruits of her labor. I feel great giving her the ability do some active gardening."	"We were supposed to go to the beach one weekend, but it had rained and we didn't get to go. Instead of moping around the house, I paid for my partner, 2 children (17 & 12) to go to a mystery theater dinner. It was interactive, the mystery was a fun one to solve, and the food was phenomenal. My partner and kids loved it and asked when we could do it again. They said they almost forgot about the beach altogether. They said they were grateful that because of my positive attitude and quick thinking we had a great time anyway. I felt positive, happy, and satisfied that that was the case."	"We had a particularly long weekend recently because my daughter had a track meet that required us to get there early (around 6 am). We ended being at the track until after 9 pm due to the number of entries per race. Everyone was exhausted by the time we got home and planned to sleep in the next day. I got up early the next morning and fixed breakfast for everyone and they were really appreciative of the fact that I got up to do so. It made me feel really good that they were happy about the meal."	"On Saturday, I took my 13-year-old daughter to a cat cafe—a place where she was able to drink hot chocolate and hang out with adoptable cats and kittens. I didn't tell my daughter where we were going—just had her get in the car and be surprised with the destination. She showed me that she was grateful for the experience by her generous "thank yous" and positive attitude during the experience; I felt grateful for having the upbeat, happy time with my child."
	Gratitude at home only condition (no instructions for mentioning preceding positive behavior): Please recall a time when your family members showed appreciation to you. Please use a few (3 to 5) sentences to describe what your family members said/did to you in this situation, and your feelings after receiving your family's	"My mom showed me much appreciation for all I did for her on mother's day this year. We went out shopping, went to eat and enjoyed each other's company. I also got her some pretty cool gifts. She kept saying how happy she was and how much she appreciated all that I do."	"It was the dead of winter and several of my elderly family members were snowed in from the recent 8 inches of snow that fell the previous evening. Several had doctors' appointments in the coming days, so I took it upon myself to get my brother and cousins and we cleared all their snow, so they could get in and out of the house with no issues.	"I recently kept my grandkids overnight to allow their parents to have a free night. My boys and their wives were so happy to be able to get a night without the children. When they came to pick the kids up they said thank you a million times and brought me my favorite chocolate as a little token of appreciation. I was very grateful	"I recently brought my wife on a weekend overnight trip so she and I could attend a concert. She was very appreciative of me for doing the driving and booking the hotel as well as taking her out for meals during the trip. I was very appreciative of her appreciation."	"Last year my daughter had a baby, she lives 150 miles away from me, I decided to take a week of my vacation time and go be with her, she was so thankful for me coming to help out. The last night I was there before going home, she took me to my favorite restaurant, there even though she was still very sore. She told me how grateful she

(*Appendix continues*)

Appendix (*continued*)

Study No.	Condition	Example writing response				
		Example 1	Example 2	Example 3	Example 4	Example 5
	appreciation. Please write them down in the box below.		They were so happy they didn't have to deal with the snow and ice. My Aunt baked my favorite cake and cooked lasagna, to show her appreciation."	for my family's appreciation. It made me feel special and loved."		was for my help and cried a little as she was still overwhelmed by the change a baby makes in her life."

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