ABSTRACT

Title of Dissertation: EMOTION AS CURRENCY: AFFECTIVE PERSPECTIVES ON SOCIAL EXCHANGE

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This dissertation explores how affect influences continued engagement in social exchanges, focusing on helping behaviors between coworkers. In organizational settings, individuals often maintain unbalanced social exchange relationships, helping certain coworkers without expecting anything in return while expecting prompt and equal reciprocation from others. This challenges traditional social exchange and equity theories, which suggest that people track the balance of exchanged favors and that unreciprocated help leads to decreased helping in future

exchanges. To explain why such seemingly imbalanced relationships persist, I propose the "emotion as currency" hypothesis. This framework suggests that experienced emotions during exchanges function as a form of psychological currency, shaping individuals' expectations of reciprocation and influencing their future helping behaviors. Specifically, when employees exchange help, the emotions they experience accumulate over time, forming an emotional ledger with their exchange partner. When faced with a new exchange opportunity, the net affect balance (the cumulative emotional currency) can serve as either a previously received benefit or an incurred cost, thereby altering perceptions of entitled reciprocation. Furthermore, gratitude expressed by the exchange partner acts as an additional form of currency, reducing expectations of reciprocation and increasing subsequent helping.

I test these hypotheses through three studies: a cross-sectional survey of working adults, a behavioral experiment, and a longitudinal field study involving undergraduate students engaged in semester-long group projects. The findings contribute to a deeper understanding of how seemingly unfair social exchange relationships are sustained, shifting the focus from purely cognitive explanations to a more comprehensive understanding that includes emotional valuation. This dissertation offers a novel perspective on the role of affect in social exchange, shedding light on how helping behaviors can be sustained in the workplace.

EMOTION AS CURRENCY: AFFECTIVE PERSPECTIVES ON SOCIAL EXCHANGE

by

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Chapter 1: Introduction

Social exchange theory (Blau, 1964) is one of the most widely used frameworks for explaining workplace behavior, particularly discretionary actions like helping, which extend beyond formal job descriptions. Social exchange theorists view helping as a valuable resource exchanged between individuals through a series of sequential transactions (Mitchell, Cropanzano, & Quisenberry, 2012). Building on the norm of reciprocity (Gouldner, 1960), social exchange theory posits that those who provide help anticipate eventual repayment from the recipient, though the timing and nature of this repayment are often unspecified (Blau, 1964). When reciprocation indeed occurs, and the helper perceives that the benefit outweighs the costs, they are more likely to continue providing help to the exchange partner, while unreciprocated help is unsustainable.

Applying the social exchange perspective is valuable for understanding Organizational Citizenship Behavior (OCB), particularly its altruism dimension, often referred to as OCB-I or helping. OCB involves voluntary actions, such as helping colleagues beyond formal job responsibilities, without expecting explicit rewards (Bateman & Organ, 1983). This makes OCB at work inherently a social exchange phenomenon, as it involves the exchange of valuable contributions without clearly defined terms for when and how reciprocation should occur.

A central assumption in social exchange theory is that individuals take a cognitive approach to evaluating these exchanges. They assess the value of what has

been given and received (Kollock, 1993) and adjust their consequent behavior accordingly to maintain an equitable balance (Blau, 1964). Equity theory further suggests that individuals compare their inputs and outcomes to those of others to achieve fair exchange (Adams, 1965). When they perceive an imbalance, they strive to restore equity. Consistent with this, Organ and colleagues argued that employees engage or disengage in OCB based on their perceptions of fair treatment from others or their organizations (Bateman & Organ, 1983).

While the traditional social exchange perspective provides a valuable foundation for understanding the continuity of helping behaviors, its cognitive approach to balancing give-and-take has limitations. First, individuals do not always apply a consistent approach to balancing exchanges. At times, they may be more generous, allowing more extended periods for reciprocation, while in other instances, they may adopt a stricter approach, seeking to quickly restore balance after each interaction (Clark, 1984; Kollock, 1993).

Second, helping exchanges are not purely cognitive transactions; they accompany affective experiences. Positive moods can encourage helping, and providing help can generate feelings of satisfaction for the helper while fostering gratitude in the recipient (e.g., George & Brief, 1992). These affective experiences suggest that social exchanges are not solely driven by rational calculations but are also influenced by emotions. However, research has largely overlooked the interplay between cognitive and affective processes in sustaining helping behaviors over time (a few exceptions: Lawler & Thye, 1999, 2006).

This research extends traditional social exchange theory by incorporating the role of emotions in sustaining helping exchanges. Specifically, I introduce the concept of *emotion-as-currency* to explain how the altruistic dimension of OCB, particularly the balance of given and received help between two individuals over time, shapes future helping behaviors. By positioning emotions as a central component of social exchange, I argue that emotional experiences play a crucial role in influencing individuals' decisions to continue or withdraw from helping exchanges with coworkers.

This research develops its argument through the following steps. First, I review prior research on why individuals engage in helping, focusing on the role of emotions, which generally fall into two categories: (1) emotions directly influencing helping behavior in the moment (reactive function) and (2) individuals provide helping because they anticipate specific emotions from helping behavior (anticipatory function). Since these perspectives rarely consider the social exchange context, overlooking how emotions stemming from past interactions shape future behaviors, I integrate these insights with social exchange theory by introducing the *emotion-as-currency* hypothesis.

This hypothesis proposes that an individual's prior emotional experiences during social exchanges function as a form of currency within specific exchange relationships. Positive and negative emotions accumulate over time, creating an emotional account with each exchange partner, which contributes to a *net affect balance*. This net affect balance, in turn, influences the relationship between social

exchange balance (i.e., give-and-take balance) and perceptions of entitled help, ultimately future helping. Specifically, when the net affect balance is high (e.g., positive emotional experiences outweigh negative ones), individuals may feel less compelled to receive help in return and be more willing to offer additional help. Moreover, expressions of gratitude from the recipient can also serve as psychological currency, reducing the perceived need for reciprocation and reinforcing future help.

To test the hypothesis, I conducted three studies using different methodologies. Study 1 utilized a field setting with employees from various organizations to examine the full model in a real-world work context. Study 2 employed an experimental design in which participants believed they were exchanging help with a partner and decided whether to provide further help. By manipulating social exchange balance (i.e., a ratio of given and received help) and inducing emotional experiences, this study focused on examining whether net affect balance influenced the relationship between social exchange balance and perceived entitlement to reciprocation, ultimately affecting subsequent helping behavior. Study 3 adopted a longitudinal approach using peer evaluation data from undergraduate student groups in business courses. Participants reported the help they gave and received from each group member three times over the course of a semester-long group project, allowing for an analysis of how emotional experiences and helping behaviors evolved over time.

With this research, I contribute to three main literature areas. Firstly, it integrates emotions into the core of social exchange theory by introducing the concept

of emotion as psychological currency. While emotions have been acknowledged in social exchange theory, they have typically been treated as byproducts of the exchange (e.g., pride or shame because of the exchange outcome, gratitude toward the benefactor, or unpleasant feelings from unfair exchanges; Scheff 1990; Molm, 2008) rather than as central drivers of social exchange patterns. Traditional social exchange theories primarily relied on the assumption that individuals make rational choices, leaving emotions underexplored. However, in situations where the resources exchanged appear imbalanced and yet the exchange relationship persists over time, the rational choice framework is insufficient. By framing emotions as currency, my research offers a fresh perspective on how individuals use emotions to value the given and received help and decide expectations on reciprocation. Ultimately, this approach shifts the focus from purely cognitive explanations to a more comprehensive understanding that includes emotional valuation, offering new insights into the dynamics of social exchange relationships.

Secondly, this research contributes to the affect literature by proposing that emotional experiences accumulate within relationships and that these accumulated emotions have an independent influence on helping decisions than momentary emotions. Existing research on affect and helping or OCB primarily focuses on within-person phenomena, such as helping others to feel good or having the mental capacity to help others when in a positive mood. By shifting the focus to emotions accumulated over time within specific relationships, this study accounts for the interaction history between two individuals in shaping helping behavior. This

approach provides a more realistic understanding of workplace helping, where interactions are ongoing and repetitive. While much of the literature emphasizes emotions as relatively short-lived and transient experiences, this research highlights how the cumulative impact of repeated emotional experiences can impact cognitive processes and behavioral patterns.

Lastly, this research contributes to the OCB and prosocial behavior literature by incorporating temporal aspects to explain the sustainability of these behaviors. Prior studies have primarily examined between-subject differences, identifying how individual dispositions, leadership styles, and organizational climates influence OCB, as well as the individual and organizational consequences of these behaviors. These studies typically compare different individuals, teams, or organizations to determine what promotes or is affected by OCB. However, less attention has been given to within-subject dynamics, specifically, how individuals decide their future level of OCB after engaging in helping behaviors. Employees reflect on their past help exchanges and adjust their willingness to help others based on their evaluations of those interactions. This research addresses that gap by examining these decision-making processes and offering insights into how organizations can foster sustained cooperative relationships among employees.

Chapter 2: Theoretical Background

Affect and Helping

Employee affect–a broader concept of affective constructs that includes the emotions, moods, and feelings of employees (Barsade & Gibson, 2007)–has long been recognized as a pivotal variable explaining why individuals undertake altruistic actions (Krebs, 1970) and engage in OCB (Organ, 1988). Early social psychology literature on prosocial behavior predominantly argues that positive mood is the driver of helping others. Krebs (1970) concluded that experiences of success or failure generate specific moods, which consequently influence altruistic actions. Later research echoed this result by inducing positive moods through various means such as giving small gifts (Isen, Clark, & Schwartz, 1976), giving cookies, and enabling participants to discover coins in a public telephone (Isen & Levin, 1972), or immersing them in pleasant environments (Sherrod, Armstrong, Hewitt, Madonia, Speno, & Teruya, 1977), all of which exhibited a positive effect on being helpful towards others. In contrast, negative moods induced by factors like loud noise (Mathews & Canon, 1975), stimulus overload (Sherrod & Downs, 1974), or watching sad movies (Underwood, Froming, & Moore, 1977) diminished the inclination to extend help to others. Later, the idea that "feeling good" leads to "doing good" has been a predominant view explaining people's prosocial behavior in the affect literature(George & Brief, 1992).

These findings can be interpreted through the lens of a mental resource framework: individuals in negative moods tend to conserve their resources, whereas those in positive moods are more likely to allocate resources toward helping others. The broaden-and-build theory of positive emotions (Fredrickson, 2001, 2004) suggests that positive emotions expand individuals' momentary thought-action repertoire, allowing them to build personal resources such as strengthening social bonds, while negative emotions lead to a narrowed mindset, prompting behaviors to safeguard existing resources.

However, mood regulation theories offer an alternative perspective–"doing good to feel good"–on the reasons behind altruistic behavior. The mood maintenance perspective (Clark & Isen, 1982; Isen & Simmonds, 1978) argues that people in good moods engage in helping with the expectation that helping will elicit positive feelings rather than solely because they already feel positive at the moment. The mood repair perspective demonstrated that even individuals in negative moods can engage in helping behaviors to alleviate their negative moods (Carlson & Miller, 1987; Cialdini & Kenrick, 1976; Glomb, Bhave, Miner, & Wall, 2011; Schaller & Cialdini, 1988). This happens because gratification from such actions relieves negative mood (Cialdini & Kenrick, 1976) or shifts attentional focus to others' misfortune, activating an empathetic response (Thompson, Cowan, & Rosenhan, 1980). Shaffer and Graziano (1983) further reinforced the mood regulation explanation by showing that negative moods increased helping behavior only when subjects believed the task would improve their mood, not when they anticipated it would worsen their mood.

Extending this approach, Nifadkar, Tsui, and Ashforth (2012) argued that individuals are likely to show helping behavior if they experienced positive affect with their supervisor in the past interaction and show less if they experienced negative affect, drawing on the emotion as a feedback system theory (Baumeister, Vohs, Nathan DeWall, & Zhang, 2007). Emotion as a feedback system theory suggests that experienced emotions leave an affective residue associated with the memory of the triggering behavior, and individuals may behave in ways to either experience or avoid the recurrence of these anticipated emotions when similar situations arise.

To date, most studies on the relationship between affect and helping behavior have focused on individuals' immediate or anticipated emotions when deciding to engage in helping, often overlooking the role of help recipients or the nature of interaction with them. Research examining affect and helping behavior has rarely considered the broader social exchange context, where individuals develop emotional and helping histories through repeated interactions.

The Emotion as Currency hypothesis

The emotion-as-currency hypothesis posits that individuals accumulate positive and negative experiences to form a *net affect balance* during social exchange interactions with a specific person and use that as a psychological currency when valuing the help they have given and received. Specifically, I argue that *net affect balance* can influence future helping behaviors by shaping perceptions of who owes whom a favor and how much of it.

According to social exchange theory, individuals who provide more help than they receive naturally expect reciprocation, believing they are entitled to future help from the recipient. However, the emotion-as-currency hypothesis suggests that emotional experiences during these exchanges influence this expectation. If individuals experience more positive emotions than negative ones (a positive net affect balance), they perceive that as a benefit, reducing their expectation of reciprocation. Conversely, suppose negative emotions outweigh positive ones (a negative net affect balance). In that case, they may perceive that given help is more costly than it actually is, increasing their sense of entitlement to reciprocation. This occurs because people experience positive emotions as psychological rewards and negative emotions as psychological costs (Russell, 2003), assigning a subjective "price" to their given and received help. In summary, the emotion-as-currency hypothesis suggests that emotions function as a form of psychological currency in social exchanges, impacting expectations of reciprocity. By influencing how individuals value the help they give and receive, emotions ultimately regulate the balance of social exchanges and guide future interactions.

This hypothesis is based on two key arguments that I will elaborate on in the following paragraphs: 1) emotional experiences during social interactions can accumulate over time, contributing to an individual's net affect balance, unique to each exchange relationship, and 2) the net affect balance impacts how individuals respond to their social exchange balance, exerting more significant effects above and beyond the current emotional state or anticipated emotions from the action.

Accumulation of Emotional Experiences and Net Affect Balance

The prevailing view of emotions and moods as short-lived responses to environmental stimuli has made it difficult to conceptualize their role in long-term social relationships (Casciaro, 2014). However, as a feedback system theory of emotions (Baumeister et al. 2007) suggests, emotional experiences leave affective residue and can be used to guide the next behavior. Drawing on that, the emotion-as-currency hypothesis argues that emotional experiences accumulate over time within a specific relationship. This perspective goes beyond the lingering effects of a single emotional episode (Scherer & Wallbott, 1994) and instead highlights the gradual buildup of emotions through repeated interactions.

Research supports the idea of emotional accumulation. Diener, Sandvik, and Pavot (2009) found that individuals' overall happiness is closely linked to the frequency of positive versus negative emotional experiences over time. Moreover, studies suggest that people can accurately recall how often they experienced particular moods, such as the percentage of time they felt happy (Thomas & Diener, 1990), indicating that emotional experiences are mentally stored and aggregated (Hasher & Zacks, 1984).

When emotions of the same valance accumulate (e.g., repeated positive or negative experiences), they will simply add up. However, when both positive and negative emotions accumulate within a relationship, the dominant emotional experiences may outweigh and offset weaker ones (Diener & Iran-Nejad, 1986; Diener, Sandvik, & Pavot, 2009). This accumulation process underpins the emotion-

as-currency hypothesis, suggesting that individuals subconsciously track their emotional exchanges and use this net affect balance information to assess and regulate future social interactions.

Net Affect Balance Impacting How We Evaluate the Social Exchange Balance

Positive emotions, or pleasures, are closely tied to the brain's reward circuits (Sander & Nummenmaa, 2021), while negative emotions are associated with and can even trigger pain responses in the brain (Wiech & Tracey, 2009), as evidenced by neuroscience research. These emotional experiences can function as a form of psychological currency, influencing how individuals assess perceived benefits and costs in social exchanges.

People often take this emotional balance into account when deciding how to engage with others. For example, when someone displays positive emotions during the interaction, evoking positive affective reactions from the recipient, the recipient is more likely to respond with favorable behavior (Wang, Singh, Li, Mishra, Ambrose, Biernat, 2017). On the other hand, if someone shows negative emotions such as contempt, the recipient may react with hostility, including behaviors like undermining the individual's reputation, even though the recipient has not suffered any actual harm from that person (Miranda & Welbourne, 2023).

Even when actual helping or harming behaviors occur, the emotional experiences associated with these exchanges can serve as a psychological currency, influencing the magnitude of reciprocation. The common assumption based on traditional social exchange theory and equity theory is that behaviors exchanged

would typically be reciprocated at a similar intensity and frequency (i.e., homeomorphic reciprocity; Cropanzano, Anthony, Daniels, & Hall, 2017; Lyons & Scott, 2012). However, research on social dynamics, such as incivility spirals (Andersson & Pearson, 1999) and the popcorn model of aggression (Folger & Skarlicki, 1998), suggests that negative reciprocation often intensifies over time rather than remaining proportional (Greco, Whitson, O'Boyle, Wang, & Kim, 2019). This escalation implies that accumulated emotions play a crucial role in shaping the trajectory of repeated interactions, potentially amplifying both prosocial and antisocial behaviors beyond their initial exchange.

These examples illustrate how experienced emotions function as psychological benefits or costs in social exchanges. Unlike traditional affect-based perspectives, which focus on immediate or anticipated emotions as drivers of behavior, this approach emphasizes the cumulative impact of past positive and negative emotional experiences.

It is important to note that both positive and negative emotions should be considered as a balance because employees experience them dynamically–either sequentially or simultaneously–throughout ongoing interactions. Bradburn (1969) first proposed that subjective well-being is best captured by the ratio of positive to negative emotions rather than their absolute levels, arguing that both emotional dimensions interact to shape overall affective experience. Recent research has shown that a higher positivity ratio, or positive affective discrepancy, is uniquely associated with subjective well-being, satisfaction, and workplace behavior (Yoon et al. 2022,

Tov and Lee, 2016; Fredrickson & Losada, 2005). These findings highlight the importance of examining emotional balance rather than treating positive and negative emotions as isolated, independent states.

To summarize, by considering how individuals perceive and utilize these emotional benefits and costs over time, the emotion-as-currency hypothesis sheds light on how prior affective experiences are taken into account when regulating one's behaviors in ongoing social exchanges.

Chapter 3: Hypotheses Development

This study examines the mechanisms that drive individuals to repeatedly engage or disengage in helping behaviors toward specific coworkers. The theoretical model begins with a cognitive explanation rooted in social exchange and equity theory, proposing that an imbalance in social exchange (where more help is given than received) leads to a reduced likelihood of future helping due to heightened expectations of reciprocation. The emotion-as-currency hypothesis suggests that net affect balance, arising from past interactions, alters the perception of entitled help, thereby influencing future helping behaviors. These explanations provide insights into the recurring patterns of helping within coworker dyads over time.

The cognitive explanation for subsequent helping

Classic social exchange theorists assume that individuals are rational and self-interested participants in exchanges, aiming to maximize benefits and minimize costs. In this framework, reciprocation is often explained through *indebtedness*—when recipients receive help, they feel a psychological obligation to repay the favor to sustain a cooperative relationship. However, less attention has been given to how help givers evaluate and react to the relationship. Just as recipients assess their obligations, help givers also track the balance of exchanges to determine whether continuing to provide help is worthwhile.

A key factor in this evaluation is *entitled help*, the psychological state in which a help giver feels they are owed reciprocation. Entitled help serves as the

counterpart to indebtedness. While indebtedness motivates recipients to repay help, entitled help makes help givers care more about whether their contributions are fairly acknowledged and reciprocated.

Helping entails costs in terms of time, effort, or resources (Bolino & Turnley, 2005; Bolino, Klotz, Turnley, & Harvey, 2013; Bolino, Hsiung, Harvey, & LePine, 2015), so people are unlikely to continue providing help indefinitely without receiving corresponding benefits (Blau, 1964). Similarly, equity theory (Adams, 1965) suggests that individuals seek fairness in exchanges. If a person perceives they have contributed more than their exchange partner, they may attempt to restore balance in various ways, such as reducing their own input (i.e., stop giving help), demanding reciprocation, or adjusting their expectations.

Among these options, Organ (1988) argued that reducing OCB, including helping, is a typical response to a perceived imbalance in exchange, as these behaviors are discretionary and withdrawing them carries no formal penalties. In this context, helping is unlikely to persist if the giver believes they have already contributed enough; hence, the exchange partner now owes them reciprocation. Thus, a positive social exchange balance, where a person has provided more help than they have received, creates a higher expectation of reciprocation, which in turn reduces their motivation to continue helping if that expectation remains unmet.

Hypothesis 1: A higher social exchange balance (when given help is bigger than received help) with a particular coworker will be associated with less

helping behavior toward the coworker in the future. An increased perception of entitled help mediates this effect.

Net affect balance influencing the perception of entitled help

While the balance of social exchanges influences future helping behaviors through cognitive processes, past emotional experiences also play a crucial role in how individuals perceive and respond to exchange imbalances. Research suggests that individuals in positive moods from previous tasks are more willing to engage in helping behaviors, even when the tasks are demanding, than those in negative moods (Weyant, 1978). This implies that positive emotional experiences reduce the perceived cost of helping, as individuals may feel psychologically rewarded by their positive state. Conversely, individuals experiencing negative emotions may perceive themselves as already burdened and, therefore, be less inclined to take on additional costs. If they provide help, they may place a higher psychological price on their efforts, expecting greater reciprocation to restore fairness.

This logic extends to affective experiences derived from past social exchange interactions with a specific coworker and their impact on assessing the cost of provided help. In this case, the concept of emotional currency becomes even more relevant. As individuals accumulate positive or negative emotional credits through interactions, they integrate these credits into their broader assessment of exchange fairness. A net negative affect balance (having experienced more negative than

positive emotions) can act as a psychological cost, increasing their sense of entitled help.

Some scholars suggest that help givers may intentionally downplay the value of their helping (e.g., by saying “It was nothing” or “No big deal”) to present themselves as generous exchange partners (Flynn, 2003). However, such downplaying might also reflect a genuine shift in their perception when the help giver has already benefited from positive emotional experiences with the recipient. Feeling emotionally rewarded makes previous help seem less costly, decreasing the perceived entitlement for reciprocation.

Although both positive and negative net affect balance theoretically influence the relationship between social exchange balance and perceptions of entitled help, in positive social exchange situations like helping exchanges, interactions tend to entail more positive emotions. Therefore, it is more practical to consider high versus low positive net affect balance rather than comparing positive versus negative affect balance when testing hypotheses. When the net affect balance is high, the help giver is more likely to discount the recipient’s obligation to reciprocate, weakening the relationship between social exchange balance and entitled help. In turn, the reduced entitled help will offer a better opportunity to engage help toward the coworker again.

Hypothesis 2a. The positive relationship between social exchange balance and entitled help will be moderated by the focal individual’s net affect balance

with the coworker. Specifically, when the net affect balance is high, the relationship between social exchange balance and entitled help will weaken.

Hypothesis 2b. The focal individual's net affect balance will moderate the mediated relationship between social exchange balance and subsequent helping behavior, such that a high net affect balance will weaken the mediation effect of entitled help.

The moderating role of gratitude expressed by the exchange partner

Gratitude is an expressed form of currency often referred to in the social exchange literature. Receiving gratitude from a help recipient can also serve as a compensatory mechanism that weakens the association between perceived imbalance in social exchanges and entitled help. Gratitude arises when help recipients believe that a help giver has acted favorably to benefit the recipient (McCullough, Kilpatrick, Emmons, & Larson, 2001). When gratitude is expressed, it serves as a signal of acknowledgment for the helper's effort and good intentions (Algoe, Kurtz, & Hilaire, 2016), in turn, enhances the helper's well-being and willingness to engage in further prosocial behaviors (McGovern, Ditzian, & Taylor, 1975; Rind & Bordia, 1995; Bartlett & DeSteno, 2006; McCullough et al., 2001).

From the help receiver's perspective, scholars have distinguished gratitude from perceived indebtedness (Locklear, Sheridan, & Kong, 2023; Watkins et al., 2006). Whereas perceived indebtedness and entitlement are often linked to a 'tit-for-tat' type of reciprocity involving resource exchanges, gratitude serves as a

psychological form of reciprocation that helps maintain social exchange balance (Algoe, 2012; Morris & Keltner, 2000). Gratitude is associated with an action tendency to contribute to the benefactor's interest (McCullough et al., 2001), aligning with exchange process principles. Since help recipients who express gratitude are already signaling their willingness to reciprocate when the opportunity arises (Algoe, 2012; Hu & Kaplan, 2015), help givers are reassured about the reciprocity of their exchange, reducing their concern about whether their efforts will be repaid. As a result, they are less likely to feel entitled to their excess help and be willing to offer additional help.

Furthermore, research indicates that receiving gratitude enhances help givers' sense of self-efficacy and self-worth (Grant & Gino, 2010) and reinforces a sense of pride by confirming that their actions were meaningful and beneficial (Kim, Van Dyne, & Lee, 2018). This positive feedback loop reduces the perceived cost of past help because helpers feel socially and emotionally compensated, making them less likely to feel entitled to additional reciprocation. On the other hand, help recipients' failure to express adequate gratitude will disrupt the psychological reciprocation process, regressing to the 'tit-for-tat' exchange trajectories. A lack of gratitude may also be interpreted as a violation of implicit social norms, which dictate that help should be acknowledged and appreciated (Baumeister & Leary, 1995; Hillebrandt & Barcaly, 2017). This absence of appreciation may strengthen the helper's expectation for future reciprocation as a way to compensate for the lack of emotional validation from the recipient.

Thus, received gratitude provides emotional and psychological compensation, reducing the positive relationship between social exchange balance and entitled help.

Hypothesis 3a. The positive relationship between social exchange balance and entitled help will be moderated by the gratitude the focal individual receives from the coworker. Specifically, when received gratitude is high, the relationship between social exchange balance and entitled help will weaken.

Hypothesis 3b. Received gratitude will moderate the mediated relationship between social exchange balance and subsequent helping behavior, such that higher levels of received gratitude will weaken the mediation effect of entitled help.

Chapter 4: Method

Overview of Studies

I tested my theoretical model (see Figure 1) through three studies: an online field survey of employees from diverse organizations (Study 1), a behavioral experiment (Study 2), and a longitudinal study of student project teams (Study 3). Study 1 utilized a field survey of working adults in the United States to examine the full model. Participants reported their past social exchange experiences with two coworkers, providing initial empirical support for the emotion-as-currency hypothesis. Study 2 was an online behavioral experiment conducted with U.S.-based panel participants. This study aimed to replicate the findings from Study 1 while establishing causal relationships, particularly by examining how social exchange balance and net affect balance interactively influence helping behavior in a controlled setting. Study 3 was a longitudinal study using a round-robin survey of undergraduate students participating in semester-long team projects at the Smith School of Business, University of Maryland. This study aimed to provide stronger evidence for the emotion-as-currency process in natural team settings by tracking dyadic exchange patterns within the team over three time points.

These studies were reviewed by the University of Maryland College Park's Institutional Review Board (IRB) before they were conducted. Studies 1 and 2 (Social Exchange and Emotion: 2163417-3) were exempt from full review, and Study 3 (Team Behaviors Study: 1887754-2) received approval.

Study 1

Sample and Procedures

I surveyed working adults in the United States about their experiences of giving and receiving help from two coworkers. I recruited 403 participants from Prolific, targeting individuals currently employed full-time or part-time in the United States. However, despite this criterion, 27 participants later indicated that they were not currently employed, so they were excluded, as the survey focused on workplace social exchange experiences. Additionally, following my pre-registered criteria (AsPredicted #188394), I excluded 25 participants who failed two attention checks or did not provide a valid written description of helping experiences. This resulted in a final sample of 351 participants (115 males, 231 females, 5 non-binaries; M_{age} = 38.81, SD_{age} = 10.67; 75.8% White or Caucasian). Participants received $2.50 for completing the study.

Participants first provided the first name or initial of two coworkers with whom they had exchanged help within their organization over the past month. To aid recall, I provided examples of helping behaviors, such as a coworker covering for them when they were absent or teaching a coworker how to use a specific program. Using the piping function, I presented the same questions for each coworker in sequence.

At the beginning of each set, participants described in a text box the help they had given to and received from that coworker to encourage detailed recollection. They were also reminded that these experiences could be both positive and negative.

This was to reduce potential bias, as helping is often assumed to be solely positive. After completing the written response, they answered questions about key variables, including the amount of help given and received, how frequently they experienced specific emotions during these exchanges, and their future helping intentions.

Once they completed the questions for both coworkers, participants responded to control measures such as trait affect and prosocial orientation. Finally, they answered demographic questions before being thanked and compensated. The materials of Study 1, including detailed items of measures, can be found in Appendix A1.

Measures

Social exchange balance (SEB). I used the Inequality (IE) index from the social exchange literature (Molm, Takahashi, & Peterson, 2000)[1] with a slight adaptation:

$$\boldsymbol{SEB} = \frac{(Given\ Help - Received\ Help)}{(Given\ Help + Received\ Help)}$$

Where *Given Help* is the help A gave to B, and *Received Help* is the help A received from B. This index measures an imbalance in an exchange by calculating the discrepancy between the value given and received, divided by their total sum. This index approach, also known as the relational balance index or a variation of signed proportional difference, is used in social exchange and reciprocity research. It

[1] $IE_{AB} = (V_{AB} - V_{BA}) / (V_{AB} + V_{BA})$, where V_{AB} is the total value A received from B, and V_{BA} is the total value B received from A.

effectively captures the relative balance of exchange while accounting for the overall volume of exchanges.

To evaluate how well the index approach represents the underlying constructs, I conducted a correlation analysis comparing several alternative measures to a one-item, 7-point Likert-type scale adapted from Flynn (2003). Participants responded to the question, "Which does best characterize your interactions with this person?" with options ranging from "I have received far more help and support from this person than I have given to this person (1)" to "I have given and received an equal amount of help and support to and from this person (4)," to "I have given far more help and support to this person than I have received from this person (7)." The index score showed the strongest correlation with the one-item measure (r = 0.70), followed closely by the simple difference score (given help – received help; $r = 0.69$) and the ratio score (given help / received help; $r = 0.59$). Moreover, the index was highly correlated with both the difference ($r = 0.97$) and ratio ($r = 0.91$) scores, suggesting that it aligns closely with participants' subjective perceptions of exchange balance and effectively captures the core of the construct.

Given Help was measured using two items that captured both the value of help and the effort used in helping. Participants responded to two 7-point Likert scale questions: "How much help and support have you given to this person over the past month? (1 = very little, 7 = very much)" and "How much time have you spent helping this person over the past month? (1 = none at all, 7 = a lot of time)" ($\alpha = .91$). Similarly, *Received Help* was measured with parallel items: "How much help and

support have you received from this person past month?" and "How much time has this person spent helping you over the past month?" (α = .93).

The mean SEB index in this dataset was 0.06 (SD = 0.20), with values ranging from -0.60 to +0.75. When I calculated SEB indices separately using value-based (e.g., *"How much help and support…"*) and effort-based (e.g., *"How much time spent…"*) questions, they showed high correlations with the combined SEB index (r = 0.95 with value-based index and r = 0.96 with effort-based index, both $p < .01$). Given these strong correlations, I used the combined SEB index for the subsequent analysis.

Net affect balance (NAB). Building on recent affect research that emphasized affect balance over the isolated effects of positive or negative affect (Yoon et al., 2022), I used the ratio of positive to negative social exchange affect rather than examining them separately. Participants rated how often they experienced specific emotions during help exchanges with each coworker over the past month using a 22-item scale I developed for this research. This scale, I call the Social Exchange Affect (SEA) scale, aims to capture emotions specific to social exchange contexts because commonly used scales in management research, such as PANAS (Positive and Negative Affect Schedule; Watson, Clark, & Tellegen, 1988) or the circumplex model of affect (Russell, 1980), include items that do not typically reflect the emotions experienced during help-giving and receiving (e.g., scared, hostile, and aroused). The scale development process is detailed in Appendix A2.

The *positive social exchange affect* subscale included 11 items: *attentive, active, interested, proud, enthusiastic, excited, satisfied, pleased, happy, relaxed, and calm* (α = .94). The *negative social exchange affect* subscale also contained 11 items: *upset, nervous, tense, distressed, frustrated, annoyed, discontent, unpleasant, unhappy, tired, and bored* (α = .95). I calculated the Net Affect Balance (NAB) using the mean values of positive and negative social exchange affect, applying the following formula (Yoon et al. 2022):

$$\boldsymbol{NAB} = \frac{Positive\ Social\ Exchange\ Affect}{Negaitve\ Social\ Exchange\ Affect}$$

The mean NAB was 3.17 (SD = 1.76), with values ranging from 0.16 to 7.00.

Received gratitude. Participants rated how frequently they received gratitude and appreciation from each coworker using a 7-point scale (1 = not at all, 7 = every time I helped). They appear to have frequently received expressions of gratitude for their help (M = 5.39, SD = 1.49).

Entitled help. I developed five items to measure this construct by adapting the 'indebtedness' measure (Watkins, Scheer, Ovnicek, & Kolts, 2006). Indebtedness refers to "a state of obligation to repay another (Greenberg, 1980, *p.*4)" when individuals receive more help or favors than they give. I reversed these items to reflect the focal individual's expectation that their exchange partner should feel indebted to them. Participants rated the following statement with a 7-point Likert

scale (1 = strongly disagree to 7 = strongly agree): “I believe this person owes me a favor,” “I feel entitled to receive help from this person, “ “I feel that this person is obligated to help me when I need help,” “I feel that this person should help me when the situation is appropriate,” and “I believe that this person is indebted to me” (α = .88).

Helping intention. Since this was a cross-sectional survey, I used helping intention as a proxy for future helping behavior. I used five items adapted from organizational citizenship behavior (OCB-I) scale (Williams and Anderson, 1991). I asked participants how much time they were willing to spend on the following actions using a 7-point scale (1 = very little time to 7 = a lot of time). Sample items are: “Help this person if he or she is absent,” “Help this person if he or she has heavy workloads,” and “Assist this person with his or her work.” (α = .94).

Controls. Several factors that could influence perceptions of entitled helping and helping intentions were included as controls. First, trait factors such as trait affect and prosocial orientation were considered, as individuals with higher levels of positive trait affect and those with stronger prosocial tendencies are generally more inclined to help coworkers (Organ & Ryan, 1995). Trait affect was measured using a shortened version of the social exchange affect scale, which included eight positive emotions (*attentive, interested, proud, enthusiastic, satisfied, happy, relaxed,* and *calm;* α = .93) and eight negative emotions (*upset, tense, frustrated, annoyed, discontent, unhappy, tired,* and *bored*; α = .94). Prosocial orientation was assessed

using a 16-item prosocialness scale developed by Caprara, Steca, Zelli, and Capanna (2005; α = .93).

Second, I controlled for momentary affect, as research suggests that individuals are generally more likely to help others when they are in a positive mood. Using the same 8-item affect scale, participants rated their current emotional state at the beginning of the survey by indicating how they felt "right now" (Positive momentary affect: α = .90; Negative momentary affect: α = .90).

Third, relationship-specific factors, including relationship tenure (in months), interaction frequency, and closeness, were controlled, as these aspects can influence helping behaviors. Participants responded to the following questions with a 7-point Likert scale: "How often do you interact with this person for work and non-work matters? (frequency; 1 = Once a month to 7 = Constantly throughout the day)" and "How close do you feel to this person? (closeness; 1 = Not close at all to 7 = Extremely close)."

Finally, I controlled for basic demographics, such as age, gender (1= Male, 0 = Female and non-binary), and ethnicity (1 = White or Caucasian, 0 = others).

Analysis strategy and results

To test the hypotheses, I used a mixed-effects regression model in Stata (version 15.1), which allowed me to account for both fixed and random effects in the data. This model was appropriate given the nested structure of the data, where each participant had two exchange relationships. The fixed effects examined the average relationship between control variables and helping behavior, while the random effects

captured individual variability in both baseline helping (random intercept) and the influence of social exchange balance, along with two moderators, on helping behavior (random slopes). Although relationship-specific controls, such as relationship tenure and interaction frequency, should also vary within individuals, I limited the random effects to key predictors due to model complexity.

First, I tested the indirect effect between social exchange balance, entitled help, and helping intention, excluding moderators, to test Hypothesis 1. Then, I examined the moderation effects of net affect balance and received gratitude on entitled help, controlling for one another. Finally, I tested the conditional indirect effect, investigating whether the indirect effect was influenced by different levels of the moderators. To estimate confidence intervals for both the main and conditional indirect effects at different moderator levels, I performed bootstrap resampling with 5,000 replications.

Table 1 presents descriptive statistics with correlations of key variables, while Table 2 reports the results of the multilevel regression analyses.

I first examined the regression results to test Hypothesis 1, which posits that entitled help mediates the negative relationship between social exchange balance and helping. Model 1 in Table 2 shows that social exchange balance had a significant positive effect on entitled help (b = 0.59, se = 0.26, p = .03). Additionally, entitled help had a significant negative effect on helping intention (Model 2: b = -0.14, se = 0.03, $p < .001$) when controlling for social exchange balance. These results imply that a higher social exchange balance leads to lower helping intention through an

increased perception of entitled help. The bootstrap result confirmed this, revealing a significant indirect effect (coefficient = -0.08, *Boot SE* = 0.04, 95%CI [-0.19, -0.07]), supporting Hypothesis 1. However, the indirect effect was much smaller than the direct effect (coefficient = -1.18, *Boost SE* = 0.29, 95% CI [-1.91, -0.74]), indicating partial mediation.

Next, I tested the moderating effect of net affect balance and received gratitude on the relationship between social exchange balance and entitled help. The interaction between social exchange balance and net affect balance was significant (Model 4: b = - 0.31, se = 0.14, p = .02), showing that the positive relationship between social exchange balance and entitled help was weaker when net affect balance was higher. As shown in Figure 2, increasing social exchange balance led to a higher perception of entitled help when net affect balance was low. However, when net affect balance was high, the increase in social exchange balance did not lead to a higher entitled help, suggesting emotion serves as currency. This supports Hypothesis 2a. Similarly, received gratitude significantly moderated the relationship between social exchange balance and entitled help (Model 6: b = -0.30, se = .12, p = .009). As shown in Figure 3, individuals who received more gratitude for their help were less likely to feel entitled to their excess helping. This provides support for Hypothesis 3a. When I added the interaction term between social exchange balance and net affect balance, the previously significant interaction between social exchange balance and received gratitude remained significant (Model 8: b = –0.31, se = 0.14, p = .024). This

suggests that received gratitude has an independent moderating effect on entitled help.

Finally, I tested whether these two moderators influenced the mediation path to predict helping. The results indicated that entitled help predicted lower helping intention after considering the moderating effect of net affect balance (Model 5: b = -0.06, se = 0.03, p = .040) and received gratitude (Model 7: b = -0.05, se = 0.03, p = .079; marginally significant). When both interaction terms were included in the same model, entitled help still predicted lower helping intention (Model 9: b = -0.06, se = 0.03, p = .062; marginally significant).

To examine whether the mediation effects were contingent on different levels of the moderators, I tested the conditional indirect effect of social exchange balance on helping intention at lower and higher levels of net affect balance and received gratitude. The results are presented in Table 3. When net affect balance was low, the indirect effect was significant (effect = -0.03, Boot SE = 0.02, 95% CI [-0.19, -0.02]), indicating that individuals with lower net affect balance felt more entitled to their excess helping, which in turn reduced their willingness to help the coworker. In contrast, when net affect balance was high, the indirect effect was not significant, the confidence interval including zero (effect = 0.01, Boost SE = 0.03, 95% CI [-0.02, 0.11]). This supports Hypothesis 2b, which posits that emotions experiences in social exchanges function as a form of psychological currency, shaping perceptions of entitled help and consequent help-giving.

Furthermore, the results indicate that received gratitude similarly influenced the indirect effect. When individuals received less gratitude, the indirect effect between social exchange balance and helping intention was significant (effect = -0.03, Boot SE = 0.02, 95%CI [-0.17, -0.01]). However, when individuals received more gratitude, the indirect effect became non-significant (effect = 0.01, Boost SE = 0.03, 95%CI [-0.01, 0.10]). These findings support Hypothesis 3b, suggesting that expressions of gratitude can also act as a form of currency, even after controlling for emotional experiences.

Discussion

This study provides initial support for the full model of this research. The findings suggest that individuals who perceive an imbalance in their social exchanges–where they have provided more help than they have received–are more likely to feel entitled to future reciprocation, which in turn reduces their willingness to help others. Furthermore, this mediating effect is moderated by both net affect balance and received gratitude. Specifically, when individuals experience more positive than negative emotions in their exchanges (i.e., higher net affect balance), the relationship between social exchange balance and entitled help is weakened, as they may perceive their social exchange experiences as more rewarding and feel less entitled to reciprocation. Similarly, when individuals receive gratitude from a coworker for their help, the effect of social exchange balance on entitled help is mitigated. This suggests that expressing positive gratitude can also work as currency, reducing entitlement-driven withdrawal from helping behavior.

Despite these meaningful results, this study has several limitations that warrant further investigation. First, the cross-sectional design of Study 1 makes it difficult to establish causality between predicting variables, entitled help, and helping intentions. Second, relying on self-reported measures introduces the potential for common method bias, as participants may attempt to provide logically consistent responses, even if they are unaware of the study's hypotheses. Third, a methodological concern arises regarding the independence of the independent variable (social exchange balance) and the moderator (net affect balance). Prior research suggests that providing help can increase positive emotions, while other studies argue that unfair social exchanges can generate negative emotions. This raises the possibility that social exchange balance and net affect balance are not entirely independent, which challenges the assumption that the moderator functions separately from the independent variable. Such dependence could confound the interpretation of the interaction effects. Although the correlation between the two variables was relatively low (r = -0.23), I needed to ensure their independence and test whether the model remained valid under these conditions.

Study 2

I designed a behavioral experiment aimed at isolating the emotional experience arising from the process of social exchange rather than from the specific behavior or intentions of the exchange partner. While one might expect net affect

balance to emerge from directly attributable sources, such as whether a partner is appreciative, dismissive, or fair, my objective in this study was to test whether even incidental emotional states, unrelated to the partner's specific actions, can function as a form of psychological currency. That is, if incidental pleasure or pain experienced during an exchange episode can function as currency, this would serve as a conservative test of the emotion-as-currency mechanism. If such incidental emotions have an effect, then partner-induced emotions, likely more salient and relationally diagnostic, should have even stronger effects.

To achieve this, I manipulated social exchange balance (high vs. low) and emotional valence (via positive vs. negative mood induction) to create variation in participants' net affect balance during the helping exchange while maintaining independence between the two factors. This design allowed me to isolate the emotional valence experienced during the exchange, separate from equity considerations or inferences about the partner's behavior or intent. Importantly, I focused solely on the moderating role of net affect balance and did not include the gratitude exchange component in this study to preserve experimental clarity.

Sample and Procedures

I recruited 406 working adults based in the United States through Prolific. Following the pre-registered exclusion criteria (AsPredicted #213707), I excluded participants who failed attention checks or did not provide relevant keywords during the task rounds. The final sample consisted of 364 participants (147 men, 212 women,

4 non-binary, and 1 undisclosed; M_{age} = 37.54, SD_{age} = 10.80; 72.3% White or Caucasian).

In this study, participants were told they would work in pairs on a keyword extraction task. They were randomly assigned to one of four conditions and informed that they would complete the task with a partner while watching news clips over three rounds. However, the partner was fictitious, and participants actually completed the task alone.

In the first two rounds, participants watched a ~2-minute news clip and generated five keywords, knowing that they would earn one point for each correct keyword. They were also informed that, at the start of each round, the system would randomly select one person as the primary task performer. The selected person could earn points by correctly matching keywords, while their partner's earned points would automatically be donated to them. If the selected person accumulated a total of five points through both their own correct keyword matches and their partner's donations, they would receive a $0.30 bonus for that round. The unselected person, however, would not receive any bonus for such successful round.

After completing the task each round, participants were shown the number of points they and their partner earned, whether they collectively reached the five-point threshold, and whether the selected person received the $0.30 bonus as a result. This task and reward structure was designed to simulate a helping exchange, where the selected person (help recipient) benefited from their partner's donated points, and the

unselected person (help giver) contributed their points to support their partner in reaching the required bonus threshold.

To manipulate *social exchange balance*, rather than merely examining the effects of help-giving or help-receiving, I ensured that all participants experienced both roles: they were assigned as the help giver (unselected person) in the first round and the help recipient (selected person) in the second round. To create high versus low social exchange balance conditions, I varied whether unselected person's donated points helped their partner qualify to receive the bonus.

After completing the two task rounds, participants responded to the mediator and manipulation check questions before proceeding to the final round. In this round, all participants were assigned the help giver (unselected person) role and completed the same keyword extraction task. To minimize any affective influence from the third task round, I used a shorter news clip with neutral content (e.g., an upcoming solar eclipse over some parts of the United States).

Unlike the previous rounds, participants were only shown their own earned points without any information about their partner's performance. They then had to decide how many of their points to donate to their partner. To introduce a dilemma, they were informed that keeping points would earn them $0.05 per point, creating a personal financial incentive. However, since they did not know their partner's performance, donating more points would increase the partner's chance of reaching the five-point threshold and receiving the $0.30 bonus. This setup provided a

behavioral measure of helping in a social exchange context, capturing real decision-making rather than relying on self-reported intentions.

Since this study utilized deception to enhance realism–such as using a fictitious partner, displaying performance results that were not based on actual performance, and introducing a bonus reward system for each round–participants were fully debriefed at the end of the study. During the debriefing, they were informed about the true nature of the study, including the use of deception, to ensure transparency and ethical integrity. Additionally, to maintain fairness, all participants who passed the attention checks were guaranteed the $0.30 bonus, regardless of their performance or decisions during the task.

Social exchange balance manipulation. I manipulated the social exchange balance by varying the feedback participants received about their and their partner's task outcomes and whether the donated points helped the selected person.

In the *high social exchange balance* condition (n = 185), participants were informed that their donated points in the first round successfully helped their partner receive the bonus (high help given). However, in the second round, when participants were in the help-receiving role, their partner's donation was insufficient for them to receive the bonus (low help received). This was designed to create the perception that they had given more help than they received, leading to the perception of a high social exchange balance.

In the *low social exchange balance* condition (n = 179), participants were told that their donation in the first round was insufficient to help their partner receive the

bonus (low help given). However, in the second round, their partner's donation was sufficient for them to receive the bonus (high help received), making them feel they had received more help than they had given, resulting in the perception of a low social exchange balance.

Net affect balance manipulation. I took a conservative approach to manipulating net affect balance within the context of social exchange. In most cases, emotions experienced during social exchanges can be easily attributed to the partner's actions and attitudes (e.g., "the partner seemed happy, so I was happy" or "the partner took my help for granted, and I was upset"). However, this particular study aimed to demonstrate that the emotions arising simply from the helping episode itself–rather than those originating from the partner's behaviors or intentions–can function as a form of currency in the exchange. If this mechanism is valid, it could be extended to emotions directly caused by the partner, which are likely to have an even stronger effect.

To achieve this, I employed the Mood Induction Procedures (MIP) to elicit either positive or negative moods during the help-giving and help-receiving phases of the task. MIP is a well-established method for inducing specific affective experiences in experiment settings, with videos shown to be more effective than other stimuli such as music, images, or texts (Westermann, Spies, Stahl, & Hesse, 1996). For the keyword extraction task, I selected four news clip videos: two designed to induce positive and another two to induce negative moods. These videos were validated in a separate study, confirming that the positive videos significantly increased positive

mood, while the negative videos significantly heightened negative mood among participants. Details of the validation process can be found in Appendix B.

In the *high net affect balance* condition (*n* = 182), participants watched two positive mood-inducing videos, such as an adopted dog saving their owner's baby and a man rescuing ducklings. In the *low net affect balance* condition (*n* = 182), participants watched two negative mood-inducing videos, such as footage of animal abuse on a dairy farm and cases of drug abuse.

Measures

Net affect balance. Rather than using Mood Induction Procedure (MIP) itself (positive vs. negative) as the moderating variable, I followed the guidance of Schabram, Myers, and Hardin (2024) by using participants' self-reported affective states generated by the MIP as a measure of net affect balance. This approach aligns with their recommendation to prioritize *experienced* emotional states over *experimental assignments* in affective research, especially when there is substantial within-condition variability in emotional responses. Measuring participants' self-reported emotional states offers a more proximal and accurate representation of the net affect balance construct and is consistent with the operationalization used in other studies within this research. Following this approach, after completing two task rounds, participants rated how frequently they experienced specific emotions using eight items from the Social Exchange Affect Scale on a 7-point Likert scale (1 = never, 7 = all the time). The positive SE affect included *'attentive, excited, happy,* and *calm* (α = .64)*'* and the negative SE affect included *'tense, frustrated, unpleasant,* and

tired (α = .76).' Net affect balance was calculated by dividing the average positive SE affect score by the average negative SE affect score after the two task rounds. The mean net affect balance was 2.34 (*SD* = 1.53).

Perceived entitled help. Consistent with Study 1, participants rated their agreement with the statements using five items that I developed for this dissertation with a bit of adjustment for the experiment context: "I believe my partner owes me a favor," "I feel entitled to receive help from my partner," "I feel that my partner is obligated to help me if I'm selected for the next round," "I feel that my partner should help me if I'm selected for the next round," and "I believe that my partner is indebted to me." (α = .90).

Helping behavior. I measured helping behavior by the number of points participants chose to donate to their partner at the expense of their own earnings. At the start of the third task round, I introduced a new rule: the unselected person could decide how many points to donate to their partner. Participants were then informed that they were not selected for that round (i.e., they were in the help-giving role).

After completing the keyword extraction task, participants were told they had earned four points and needed to decide how many points to donate to help their partner qualify for the $0.30 bonus. They could keep any points they chose not to donate, receiving $0.05 per retained point. Their options ranged from donating none to all four points. Because the partner's earned points were not disclosed, donating more would increase the partner's chances of receiving the bonus. However, if participants kept all four points, they would receive $0.20—less than the partner's

potential bonus but still a compelling self-interest incentive, making the decision to help more costly.

Results

Manipulation checks. To assess the effectiveness of the social exchange balance manipulation, I asked participants: "*How would you evaluate your given and received help over the two rounds?*" (-5 = I received more help, +5 = I gave more help). Since the assumption of equal variances was not met, I conducted an independent samples *t*-test (Welch's *t*-test) to compare scores between the low and high social exchange balance groups. The results showed a significant difference between the two groups, $t(361.27) = -22.69$, $p < .001$. Participants in the low social exchange balance group reported significantly lower scores ($M = -1.50$, $SD = 1.80$) than those in the high social exchange balance group ($M = 2.95$, $SD = 1.94$), confirming that the manipulation was effective. The mean difference was -4.45 (95% CI [-4.83, -4.06]) with a large effect size (Cohen's $d = 2.38$).

Another independent samples *t*-test was conducted to examine whether the Mood Induction Procedure (MIP) effectively created intended emotions in each net affect balance condition. Results showed that participants in the high net affect balance condition experienced significantly more positive social exchange affect ($M = 4.62$, $SD = 1.12$) than those in the low net affect condition ($M = 4.03$, $SD = 1.13$), $t(361.95) = -4.95$, $p < .001$. The 95% confidence interval for the mean difference (-0.59) ranged from -0.82 to -0.35 with a moderate effect (Cohen's $d = .52$). Conversely, participants in the high net affect balance condition reported significantly

lower negative social exchange affect (M = 2.13, SD = 1.10) compared to those in the low condition (M = 2.91, SD = 1.39), t(343.74) = 5.93, p < .001. The mean difference (0.78) had a 95% confidence interval ranging from 0.52 to 1.04, suggesting a meaningful increase in negative social exchange affect for individuals in the low net affect balance condition (Cohen's d = -.62).

Additionally, when I compared those two groups using the net affect balance measure (positive SE affect divided by negative SE affect), participants in the high net affect balance condition scored significantly higher (M = 2.81, SD = 1.62) than those in the low net affect balance condition (M = 1.88, SD = 1.28; t(343.87) = 6.12, p < .001, Cohen's d = .64). These results confirm that both manipulations were effective in shaping participants' perceptions of social exchange balance and their emotional experiences during the task.

Main analysis. Table 4 displays the study variables' means, standard deviations, and correlations. Table 5 presents the regression results, and Table 6 reports the conditional indirect effects. Social exchange balance was dummy coded, as it represents the experimental condition, whereas all other variables were included as measured variables. The correlation analysis showed no significant relationship between the independent variable (social exchange balance) and the moderator (net affect balance) (r = -0.10, p > 0.10). This lack of correlation suggests that this study's two variables were independent, as intended.

Social exchange balance significantly increased entitled help among participants (Table 5, Model 1: b = 1.34, se = 0.16, p < .001). In turn, this heightened

perception of entitled help reduced their helping behavior toward the partner (Model 4: b = -0.20, se = 0.05, p < .001), controlling for social exchange balance. The indirect effect analysis confirmed that entitled help significantly mediated the negative relationship between social exchange balance and helping behavior (effect = -0.26, Boot SE = .08, 95% CI [-0.42, -0.11]), supporting Hypothesis 1.

To investigate the moderated effect involving net affect balance, I created an interaction term by multiplying the dummy-coded social exchange balance variable with the mean-centered net affect balance variable. The results in Table 5 show a significant interaction between social exchange balance and net affect balance on entitled help (Model 3: b = - 0.24, se = 0.11, p = .024), supporting Hypothesis 2a. As illustrated in Figure 4, when net affect balance was low, participants in the high social exchange balance condition were more likely to perceive their partner as obligated to help them. However, when net affect balance was high, the positive relationship between social exchange balance and entitled help weakened.

After controlling social exchange balance and the interaction term, entitled help predicted less subsequent helping behavior (Model 5: b = - 0.18, se = 0.06, p = .001). A conditional indirect effect analysis using a structural equation model with bootstrap-based analysis (5,000 replications) confirmed a significant moderated mediation effect. The indirect effect was stronger when net affect balance was low (effect = -0.29, Boot SE = 0.10, 95% CI [-0.50, -0.12]) than when net affect balance was high (effect = -0.16, Boot SE = 0.07, 95% CI [-0.32, -0.06]). These findings indicate that a high social exchange balance reduces future helping behavior through

increased entitled help, but this effect diminishes when net affect balance is high. Thus, Hypothesis 2b was supported.

Robustness check

One potential concern is that participants' momentary emotions just before the helping task—rather than emotions tied explicitly to the social exchange experience—could influence their helping behavior. To address this, I controlled for momentary affect. Just before the third round began, participants rated how happy and unpleasant they felt *at the moment* on a 7-point Likert scale (1 = not at all or very slightly to 7 = extremely).

Momentary affect was measured after the social exchange-related affect, manipulation check, and mediator-related questions were asked. The measured momentary affect and social exchange-related affect remained highly correlated (r = .54 with positive momentary affect and r = -.53 with negative momentary affect, respectively; $p < .001$). Despite this high correlation, the results remained consistent even after including positive and negative momentary affect as covariates, reinforcing the robustness of the findings.

Discussion

Study 2 builds on Study 1 using a controlled experimental design to establish causal relationships between social exchange balance, net affect balance, entitled help, and helping behavior. By manipulating social exchange balance and net affect balance, Study 2 provides stronger evidence that emotions experienced during social exchanges function as a form of currency. The results align with Study 1, reinforcing

that individuals who give more help than they receive feel a greater sense of entitled help, and that this perception shaped by their net affect balance influences subsequent helping behavior.

This study addresses several limitations of Study 1. First, whereas Study 1 relied on self-reported perceptions of past social exchanges in workplace relationships, Study 2 introduced an experimental manipulation, allowing for causal inferences. The structured task environment and random assignment of conditions minimized potential confounds inherent in cross-sectional survey data. Second, by incorporating an objective behavioral measure of helping (i.e., the number of points donated at a personal cost), Study 2 offers a stronger test of the proposed relationships beyond self-reported helping intentions.

While the study successfully demonstrates the effects of social exchange balance and net affect balance on helping behavior, it does not capture how emotional experiences accumulate over time and shape future helping behaviors in real-world relationships. Social exchanges in workplaces often unfold over extended periods, with past interactions influencing future ones in ways that a brief, one-time laboratory task cannot fully capture.

Study 3 employs a longitudinal survey design in a natural interaction setting to address this limitation. By tracking real project groups among undergraduate students over three time points, it examines how social exchange balance, net affect balance, and received gratitude develop over time and influence subsequent helping decisions. This design better captures the dynamic nature of social exchanges, offering deeper

insight into the mid- to long-term consequences of exchange-related emotions. Additionally, because participants interact with actual teammates in an ongoing collaboration, Study 3 enhances external validity, complementing the controlled experimental findings of Study 2.

Study 3

Sample and Procedures

I collected three waves of survey data from undergraduate students enrolled in two core management courses at the Smith School of Business, University of Maryland. To facilitate this study, I first contacted the instructors of both courses to explain the project's purpose and procedures. With their approval, I gained access to student rosters for six sections of the courses. The instructors also helped me set up customized round-robin surveys for each section and promote the study to 294 students across 62 teams.

In the first survey, students reviewed a consent form and proceeded only if they agreed to participate. Throughout the study, participants evaluated their peers' contributions and behaviors on a semester-long group project at three time points: The first survey was administered three to four weeks after students began their group project. The second survey took place another three to four weeks after the first survey, and the final survey was conducted at the end of the semester after students had presented or submitted their final project. While the exact timing varied slightly across sections due to differences in course schedules and designs, the overall structure remained consistent. In addition to assessing in-role performance (i.e., contributions to

the group project task), participants answered research-specific questions about each peer, including how much help they had given and received, how often they experienced specific emotions while exchanging help, how often they received gratitude from other members, and other related factors.

Overall, 257 students completed the first survey, 251 completed the second, and 245 completed the final survey. Among the 294 students invited to participate, 210 students (113 males, 93 females; M_{age} = 21.27, SD_{age} = 3.36, 58.7% White or Caucasian) completed all three waves, yielding a response rate of 71.4%. The dataset included 478 unique dyads nested within 62 teams, resulting in 752 total observations for the mixed-effect regression analyses.

Measures

Social exchange balance (SEB). Similar to Study 1, I used the adjusted Inequality (IE) index from the social exchange literature (Molm, Takahashi, & Peterson, 2000) to calculate social exchange balance (SEB):

$$SEB = \frac{(Given\ Help - Received\ Help)}{(Given\ Help + Received\ Help)}$$

Where *Given Help* refers to the help A gave to B, and *Received Help* refers to the help A received from B.

In Study 1, the same person provided ratings for given and received help, relying on the rater's perception of social exchange balance. However, in the present study, both the rater's and ratee's perceptions were considered together to calculate the balance. This adjustment aimed to mitigate potential common method bias

stemming from the same person rating the independent variable, mediator, and dependent variable in Study 1. I used the ratee's response about help given to the rater as the 'rater's received help.' Participants rated the extent of help they provided to each team member using the following item: "How much help and support have you given to this person over the last four weeks?" (measured on a 7-point scale, 1 = Not at all or very little to 7 = Very much). The mean SEB scores were -0.01 (*SD* = 0.35) at Time 1, and 0.00 (*SD* = 0.31) at Time 2. The regression results and indirect effect analyses remained largely consistent when using the rater's response to calculate the social exchange balance.

Net affect balance (NAB). Consistent with Study 1, I measured NAB as the ratio of positive to negative social exchange affect. To minimize participant fatigue from rating multiple team members, I reduced the number of affect items to eight: four positives (*attentive, excited, pleased, and calm*; α = .85 at Time 1; α = .88 at Time 2) and four negatives (*tense, frustrated, discontent, tired*; α = .85 at Time 1; α = .77 at Time 2). Participants rated how frequently they experienced each affect during help exchanges with their team members over the past few weeks. I then calculated NAB scores as the ratio of the mean positive SE affect score to the mean negative SE affect score. The mean NAB scores were 4.69 (*SD* = 1.84) at Time 1 and 4.63 (*SD* = 1.90) at Time 2.

Received gratitude. Participants rated how frequently each team member expressed gratitude and appreciation when receiving their help over the past few weeks. Ratings were given on a 7-point scale (1 = not at all to 7 = always), with an

additional “not applicable” option for cases where no help was provided during that period. The mean scores of received gratitude were 5.73 (*SD* = 1.65) at Time 1 and 5.88 (*SD* = 1.42) at Time 2.

Entitled help. I measured this variable using the five-item scale developed and validated in Studies 1 and 2, rated on a 7-point Likert scale (1 = Strongly disagree to 7 = Strongly agree). Sample items include: “I believe this person owes me a favor” and “I feel entitled to receive help from this person.” The mean scores increased over time, with 2.01 (*SD* = 1.02) at Time 1 and 2.16 (*SD* = 1.17) at Time 2.

Helping behavior. Given the longitudinal nature of the study, I needed to account for prior levels of helping behavior to accurately capture changes in helping over time. Simply measuring helping behavior at Time 2 and Time 3 would not sufficiently control for participants’ baseline levels of given help in the previous period. However, because the Social Exchange Balance (SEB) index already incorporated prior helping behavior, directly controlling for previous help in a standard regression model would have led to statistical redundancy.

To address this, I employed a residual approach to isolate the unique increases or decreases in helping behavior over time. Specifically, I regressed Given Help at Time 2 on Given Help at Time 1 and Given Help at Time 3 on Given Help at Time 2, extracting the residuals from each regression as my dependent variables. This approach allowed me to measure changes from previous helping behavior, effectively capturing whether participants provided more or less help than would be predicted from their previous behavior.

From the time-lagged regression analyses, the first residual value (representing the change from Time 1 to Time 2) was used as the dependent variable for key predictors at Time 1, while the second residual value (representing the change from Time 2 and Time 3) was used for key predictors at Time 2. The mean residual score for the early phase was -0.02 (*SD* = 1.30), while the mean residual for the later phase was 0.02 (*SD* = 1.30).

Controls. Several factors that could influence perceptions of entitled help and helping behavior were included as controls. Similar to Study 1, individual trait factors such as trait affect and prosocial orientation were considered. Trait affect was measured using a shortened version of the social exchange affect scale, which included eight positive emotions (*attentive, interested, proud, enthusiastic, satisfied, happy, relaxed, and calm*) and eight negative emotions (*upset, tense, frustrated, annoyed, discontent, unhappy, tired, and bored*). Prosocial orientation was assessed using the scale in Study 1 ($\alpha = .91$).

As participants may retrieve and evaluate their help exchange experience differently depending on their emotional state at the time of the survey, momentary affect at Time 2 and Time 3 was also controlled for. Momentary affect was measured using the shortened 8-item affect scale, where participants rated how they felt "right now."

In addition, I controlled for each coworker's task performance when predicting subsequent helping, as evaluated by the rater, because task performance can influence helping exchanges within relationships. For instance, if a coworker is

performing well, they may require less help and may be in a better position to offer help to others. In contrast, if a coworker is struggling with their task, they may need more help from others and may not be able to assist others. Task performance was measured using four items adapted from the in-role behavior scale: "This person completed group task assigned to them," "This person fulfilled responsibilities required in this group," "This person performed group tasks that were expected of them," "This person neglected aspects of group tasks they were obligated to do (reverse-coded)."

I also controlled for a relationship-specific factor, liking, since it can influence or be influenced by general social exchange patterns. Liking was assessed with a single item in which participants responded to the question, "How much do you personally like this person?" on a scale from -7 (Dislike a great deal) to 7 (Like a great deal).

Since Study 3 introduces the group contexts, I controlled for group-level factors that could influence members' helping behaviors, specifically team cooperation and team relationship conflict. To measure team cooperation, I averaged two items and then calculated the mean score for each group: "When a team member was busy, other team members often volunteered to help manage the workload" and "Team members were willing to help each other complete tasks" (α = .78 at Time 2; α = .76 at Time 3). Similarly, for team relationship conflict, I averaged two items to create a group-level measure: "There was a relationship tension in my team" and "There was an emotional conflict in my team" (α = .88 at Time 2; α = .79 at Time 3).

Finally, basic demographic variables, including age, gender (1 = male, 0 = female and non-binary), and race (1 = White or Caucasian, 0 = others), were controlled for in the analysis.

Analytical strategy

Study 3 data exhibit a nested structure across multiple levels. Specifically, individuals are nested within dyads, and dyads are further nested within groups. Additionally, each individual provides responses at three time points, creating another layer of nesting. Given the complexity of this structure, with multiple levels of data, a straightforward analysis could become overly complicated. To overcome this issue, I divided the analysis into two time phases (early and later) and conducted multilevel regression analysis separately for each phase. In this analysis, raters were treated as Level 2 and groups as Level 3. Dyads were not included as a clustering level because they did not contribute meaningful variation. The focus was comparing individuals' perceptions and behaviors toward different team members rather than examining intra-dyadic or between-dyadic patterns. This approach allowed me to account for the nested nature of the data while separately examining the effects during the early stage of the project (between Time 1 and Time 2) and the later stage (between Time 2 and Time 3). I used Stata's mixed effect command to conduct the analysis.

Results

Table 7 presents descriptive statistics and correlations among key variables. Tables 8 through 10 display the multilevel regression results, which provide the foundation for testing Hypotheses 1,2 and 3.

I first tested the direct associations to examine whether entitled help mediates the relationship between social exchange balance and subsequent helping behavior. As shown in Table 8, during the early stage, social exchange balance significantly predicted entitled help (Model 1: b = 0.24, se = 0.09, p = .008). In turn, entitled help at Time 1 negatively predicted helping behavior at Time 2 (Model 3: b = -0.16, se = 0.08, p = .043), even after controlling for social exchange balance at Time 1. In the later stage, social exchange balance continued to predict entitled help significantly (Model 4: b = 0.21, se = 0.10, p = .039). However, there was no evidence that entitled help at Time 2 influenced helping behavior at Time 3 (Model 6: b = 0.00, se = 0.06, p = .97). This may be due to the increasing strength of the direct effect of social exchange balance on helping behavior over time, which was stronger in the later stage (Model 6: b = -0.59, se = 0.14, p < .001) than in the earlier stage (Model 3: b = -0.38, se = 0.14, p = .007).

To assess the significance of the indirect effect in the early stage, I conducted bootstrap analyses with 5,000 resamples. The results did not support the indirect effect (effect = -0.04, Boot SE = 0.03, 95% CI [-0.12, -0.00]), primarily because the direct effect was too strong (direct effect = -0.38, Boot SE = 0.18, 95% CI [-0.78, -0.09]; total effect = -0.42, Boot SE = 0.18, 95% CI [-0.80, -0.13]). Consequently, Hypothesis 1 was not supported in this study.

Although the indirect effect was not supported, the positive association between social exchange balance and entitled help was significant in both time stages.

Therefore, I proceeded to test the moderating effects of net affect balance and received gratitude.

As shown in Table 9, net affect balance significantly moderated the relationship between social exchange balance and entitled help in the early (Model 2: b = -0.13, se = 0.05, p = .009). Figure 5 illustrates this result: the positive relationship between the two predicting variables was attenuated when net affect balance was higher. However, this moderating effect disappeared in the later stage (Model 5: b = 0.03, se = 0.05, p = .477), providing partial support for Hypothesis 2a.

Similarly, received gratitude significantly moderated the relationship between social exchange balance and entitled help in the early stage (Table 10, Model 2: b = -0.12, se = 0.05, p = .012). Figure 6 shows that the positive effect between the two weakens when received gratitude was higher. When the interaction term between social exchange balance and net affect balance was introduced, the moderating effect of received gratitude became not significant (Table 11, Model 1: b = -0.09, se = 0.05, p = .10) while the moderating effect of net affect balance held marginally significant (Table 11, Model 1: b = 0.09, se = 0.05, p = .07). In the later stage, the moderating effect of received gratitude was not present (Table 10, Model 5: b = 0.04, se = 0.07, p = .55; Table 11, Model 3: b = 0.02, se = 0.08, p = .76). Thus, Hypothesis 3a was also partially supported.

Since entitled help did not significantly predict subsequent helping behavior after introducing the interaction terms in both stages, I did not conduct further conditional indirect effect analyses for net affect balance or received gratitude.

However, given that the direct effects remained strong, I examined whether these moderators directly influenced helping behavior, controlling for entitled help, to assess whether the emotion-as-currency effect persisted regardless of perceived entitled help.

As shown in Table 9, the interaction between social exchange balance and net affect balance marginally predicted helping behavior in the early stage (Model 3: b = 0.14, se = 0.08, p = .075) but not in the later stage (Model 6: b = -0.03, se = 0.09, p = .712). The early-stage relationship is illustrated in Figure 7. When it comes to received gratitude, the interaction term did not significantly predict helping behavior in either stage (Table 10, Model 3: b = 0.08, se = 0.09, p = .349 in the early stage; Model 6: b = 0.09, se = 0.12, p = .485 in the later stage).

Discussion

Study 3 builds on the findings from Studies 1 and 2 by examining how social exchange balance, net affect balance, and gratitude exchanges evolve over time and influence subsequent helping behavior in real-world team settings. Using a longitudinal design with ongoing project groups, this study offers a more externally valid test of the proposed relationships, capturing the dynamic and cumulative nature of exchange-based emotions. However, the results did not fully support all hypotheses, with some effects being weaker or non-significant compared to previous studies. Several factors may explain these discrepancies, offering important insights for future research.

First, the time intervals between measuring predictor variables and helping behavior (about three to four weeks) may have been too long, potentially leading to a decay in the observed relationships. While social exchange balance and net affect balance likely have immediate effects on perceptions of entitled help and subsequent helping behavior, the duration of these effects is unclear. It is possible that everyone in the group engaged or disengaged in helping behavior shortly after forming perceptions of entitled help and subsequently updated their social exchange balance and net affect balance in response. The frequency of group meetings could also have influenced this updating cycle, potentially explaining why the relationship became less clear in the later stages when groups met more frequently to meet their final project deadline. However, the current data does not account for this factor. Future research could address this by using shorter intervals between measurement waves or employing experience sampling methods to capture more immediate fluctuations in emotions and helping behavior and to investigate whether emotion-as-currency effect is influenced by time duration or interaction frequency.

Second, while the multilevel modeling approach used in this study accounted for the rater's and group's effects, it did not explicitly model the partner's effects, which could have led to an incomplete estimation of helping behavior. Social exchanges are inherently dyadic, meaning a person's willingness to help is shaped not only by their own perceptions but also by their relationship with the specific partner.

Third, the measurement of helping behavior relied on residualized changes in given help, which may have introduced additional noise while controlling for prior

levels of helping. Future research could more objectively measure increases and decreases in helping behavior, possibly through controlled experiments where independent raters evaluate participants' help exchanges.

Despite these limitations, Study 3 makes important contributions by extending the investigation of the social exchange affect into a naturalistic, longitudinal context. The findings suggest that while exchange-based emotions–whether experienced or expressed–play a role in shaping helping behavior, their effect may operate over relatively shorter cycles. Addressing the limitations through refined methodologies and more precise temporal measurements will be critical for understanding how emotions function as a currency in workplace relationships.

Chapter 5: Discussions and Conclusions

This dissertation introduces the concept of "emotion-as-currency" to explain how emotions function as psychological currency in social exchanges, influencing perceptions of entitled help and subsequent helping behavior. Traditional social exchange theories have predominantly focused on the cognitive assessment of fairness and reciprocity, assuming that individuals rationally track the balance of given and received favor to guide future interactions. However, this research demonstrates that emotions experienced during social exchanges accumulate over time, forming an emotional ledger that influences individuals' expectations of reciprocation. This challenges the dominant view that focuses on the cognitive approach to social exchange to broaden our understanding of helping behavior in the workplace.

Theoretical Contributions

A primary theoretical contribution of this research is integrating affective and cognitive perspectives to explain social exchange processes. As Bartlett & DeSteno (2006) noted, scholars have been struggling to "determine the role of affective responding in adherence to the [reciprocity] norm (*p.* 320)." Even after Lawler and colleagues proposed the affect theory of social exchange, there has not been much theoretical development nor empirical testing to effectively address affective aspects in expanding the social exchange literature. By demonstrating how net affect balance–derived from past social exchange experiences–modifies the perceived cost

and benefit of social exchanges, I offer a new perspective on how helping behaviors persist despite an apparent imbalance.

This study also contributes to affect research by emphasizing that emotional experiences can accumulate within relationships and influence helping decisions more independently above and beyond momentary affect. Whereas prior research on affect and helping behavior has focused mainly on the effect of immediate or anticipated emotions, this study shifted the focus to emotions that accumulate over time within specific relationships. While much of the literature conceptualizes emotions as transient experiences, this research underscores the impact of repeated emotional experiences on cognitive evaluations and behavioral patterns.

Lastly, this research contributes to the OCB and prosocial behavior literature by explaining how helping behaviors are sustained over time. While previous research has extensively examined the factors that encourage helping behavior, less is known about what motivates individuals to continue helping after an initial helping engagement. This research offers some clues by focusing on the fundamental social unit, the dyad, to explore how helping exchanges are maintained within relationships. The findings reveal that employees reflect on past helping exchanges, incorporating both cognitive evaluations and emotional experiences, to determine their willingness to help in the future.

Limitations and directions for future research

Despite these contributions, several limitations warrant further investigation. First, while Studies 1 and 2 provided evidence that entitled help mediates the

relationship between social exchange balance and subsequent helping behavior, its indirect effect was relatively small compared to the direct effect. One possible explanation for the weak mediation effect is that the hypotheses and studies primarily focused on positive social exchange balance, where given help exceeded received help. In such cases, *entitled help* is an appropriate mediator. However, when received help surpasses given help, the concept of *indebtedness* (Greenberg, 1980; McCullough, Kilpatrick, Emmons, & Larson, 2001) may offer a more relevant explanation. I initially conceptualized *entitled help* as the inverse of *indebtedness*, but these constructs may be orthogonal rather than opposite ends of the same spectrum. For example, if two individuals frequently exchange help, one may feel indebted to their exchange partner while still expecting a favor in return.

Given that the moderating effects of net affect balance and gratitude on helping behavior were largely consistent across studies, the presence of additional mediating mechanisms does not necessarily undermine the emotion-as-currency hypothesis. Instead, it suggests that other mediators, beyond entitled help, may also be at play. Future research should examine whether entitled help and indebtedness function as distinct mediators and investigate whether additional mechanisms influence the relationship between social exchange balance and helping behavior.

Moreover, another important avenue for future research is examining how the emotion-as-currency hypothesis operates in *balanced* social exchange contexts. In the survey-based studies, net affect balance seemed to predict helping behavior after controlling for social exchange balance and received gratitude (Table 2, Models 5 and

7; Table 9, Model 6). Future research could explore whether individuals are more likely to help based solely on their net affect balance from past exchanges once the given and received help has reached a balanced status. Investigating these dynamics could offer deeper insights into the boundary conditions under which the emotion-as-currency effect applies.

Secondly, this study does not rule out the possibility that net affect balance and perceived social exchange balance influence each other, but their relationships remain unclear. In Study 1, social exchange balance and net affect balance showed a slight negative correlation (r = -0.23, p < .01), yet no significant correlations were found in Study 3, in either the early or later stages. Meanwhile, Study 2 successfully manipulated social exchange balance and experienced emotions, ensuring independence between the two predicting variables. However, real-world interactions are more complex, and emotional experiences may not only shape how individuals respond to objective imbalances but also influence how they perceive the value of given and received help itself.

Future research could explore whether experienced emotions or expressed gratitude influence how individuals *perceive* the social exchange balance. This suggests an alternative or additional pathway within the emotion-as-currency framework, where emotions directly shape perceptions of social exchange balance. In this study, I argued that individuals with a high net affect balance are less likely to expect equivalent reciprocation, even if they perceive they have given more help than they received. However, this new perspective extends the argument further, proposing

that emotions influence how individuals *assess* the balance of their exchanges in the first place.

Lastly, I observed intriguing gender differences in perceptions of entitled help across studies. Specifically, men were more likely to perceive a higher entitled help, controlling for their social exchange balance and net affect balance, which in turn influenced their willingness to help others. When I tested the moderation effect separately for men and women, the emotion-as-currency effect was evident among women (interaction effect in Study 2: b = -0.35, se = 0.29, p = 0.02; Study 3: b = -0.20, se = 0.07, p < .01) but not for men (interaction effect in Study 2: b = -0.07, se = 0.16, p = .64; Study 3: b = -0.04, se = 0.06, p = .43). While Study 1 did not show a similar gender-based pattern, these findings suggest interesting new directions for understanding gender differences in social exchange perceptions and behaviors, particularly the role of emotions in this process.

Previous research suggests that women engage in more extra-role behaviors than men (Allen and Rush, 2001; Farrell and Finkelstein, 2007), mainly due to social norms and expectations about gender roles (Heilman and Chen, 2005). The emotion-as-currency perspective may help explain why men tend to approach social exchanges more transactionally, similar to economic exchanges. In contrast, women incorporate emotions into their exchange calculations, adopting a more communal approach. Future research could examine whether these patterns persist in different contexts, such as workplaces with greater gender parity and inclusive cultures, and how these environments may influence gender differences in emotional exchange.

Practical implications

The findings of this dissertation offer valuable insights into organizational management and leadership. Managers should recognize that sustaining helping behavior is not solely driven by employees' fairness concerns or their simple cost-and-benefit analysis. While equal contributions play a key role in predicting future helping behavior, the accumulated emotional experiences during these exchanges are also important. In many workplaces, achieving perfectly balanced helping behaviors among employees is unrealistic due to differences in expertise and experience. Instead of focusing on equalizing contributions, organizations can foster a culture that enhances positive emotional exchanges among employees. For example, implementing practices that allow employees to share their positive helping experiences may help them feel happy and proud of their efforts. Additionally, fostering a culture of appreciation, such as encouraging employees to express more gratitude when receiving help, can reduce perceptions of entitled reciprocation and promote sustained cooperation over time.

Second, because team cooperation often depends on informal helping exchanges, leaders can play a role in maintaining a positive emotional balance within the group. If employees repeatedly experience negative emotions, whether from giving or receiving help, they may become disengaged or hesitant to offer further help. To prevent this, managers should actively monitor employees' emotional experiences to help exchanges and intervene when negative affective patterns emerge. By fostering a supportive work environment and addressing negative emotions early,

leaders can sustain a culture of cooperation within the group, even when help cannot be directly reciprocated for the reason mentioned above.

Conclusion

This dissertation advances our understanding of social exchange dynamics by integrating affective perspectives into traditional reciprocity frameworks. The emotion-as-currency hypothesis posits that emotions function as a form of psychological currency, influencing perceptions of social exchange balance and guiding future helping behaviors. Through three complementary studies—a field survey, an experimental study, and a longitudinal team study—this research provides robust evidence that accumulated emotional experiences shape workplace interactions in meaningful ways.

The findings suggest that individuals do not merely track helping exchanges in a rational, transactional manner but also rely on their emotional histories with specific coworkers to assess fairness and reciprocation. Ultimately, this dissertation underscores the importance of considering both cognitive and affective factors in understanding workplace social exchanges. By acknowledging the role of emotions in shaping cooperation and reciprocity, organizations can develop strategies that promote sustained prosocial behavior and enhance team collaboration.

Appendices

Appendix A1. Study 1 Measures

[Momentary affect / Trait affect]

Attentive	Satisfied	Upset	Discontent
Interested	Happy	Tense	Unhappy
Proud	Relaxed	Frustrated	Tired
Enthusiastic	Calm	Annoyed	Bored

[Help giving]

- How much time have you spent helping this person over the past month?
- How much help and support have you given this person over the past month?

[Help receiving]

- How much time has this person spent helping you over the past month?
- How much help and support have you received from this person over the past month?

[Social exchange affect]

Think about ALL instances where you have given and received help from this person in the past month. How often have you experienced the following emotions while giving and receiving help from this person over the past month?

Attentive	Satisfied	Upset	Discontent
Interested	Happy	Tense	Unhappy
Proud	Relaxed	Frustrated	Tired
Enthusiastic	Calm	Annoyed	Bored
Active	Excited	Nervous	Distressed
Pleased		Unpleasant	

[Received gratitude]

- How often has this person shown genuine gratitude and appreciation for your help over the past month?

[Entitled Help]

Please indicate your agreement or disagreement with the following statement.

- I believe this person owes me a favor
- I feel entitled to receive help from this person
- I feel that this person is obligated to help me when I need help
- I feel that this person should help me when the situation is appropriate
- I believe that this person is indebted to me

[Helping intention]

Please indicate how much time you are willing to spend on the following actions in the future.

- Helping this person if he/she is absent
- Helping this person if he/she has heavy work loads
- Assisting this person with his/her work
- Taking time to listen to this person's problems and worries
- Going out of way to help this person

[Relationship tenure]

- How many months have you been interacting with this person?

[Interaction frequency]

- How often do you interact with this person for work and non-work matters?

[Closeness]

- How close do you feel to this person?

[Prosocial orientation]

- I am pleased to help my friends/colleagues in their activities
- I share the things that I have with my friends
- I try to help others

- I am available for volunteer activities to help those who are in need
- I am emphatic with those who are in need
- I help immediately those who are in need
- I do what I can to help others avoid getting into trouble
- I intensely feel what others feel
- I am willing to make my knowledge and abilities available to others
- I try to console those who are sad
- I easily lend money or other things
- I easily put myself in the shoes of those who are in discomfort
- I try to be close to and take care of those who are in need
- I easily share with friends any good opportunity that comes to me
- I spend time with those friends who feel lonely
- I immediately sense my friends' discomfort even when it is not directly communicated to me

Appendix A2: Social Exchange Affect (SEA) Scale development process

I developed the Social Exchange Affect(SEA) scale for this research to assess the hedonic tone of emotions commonly experienced during giving and receiving help in social exchanges. Existing affect scales were unsuitable for this purpose because they either included many activation-deactivation-related items that did not clearly contain positive or negative aspects (e.g., Affect Circumplex) or contained emotions less relevant to social exchange situations (e.g., scared or hostile in PANAS).

The initial item pool consisted of 57 affect items drawn from well-established affect measures, including PANAS (Watson, Clark, & Tellegen, 1988), the circumplex model of affect (Russell, 1988; Russell, Lewicka, & Nitt, 1989), the Job Affect Scale (JAS; Brief, Burke, George, Robinson, & Webster, 1988), and social emotions identified by Lazarus (2006). To determine which emotions are frequently experienced in social exchange contexts, I recruited 303 working adults based in the United States from Prolific and obtained 289 usable responses (M_{age} = 37.79, SD_{age} = 9.39; 136 male, 152 female, 1 non-binary; 71.3% White or Caucasian). Participants were asked to recall past experiences in which they had either given or received help from coworkers. To aid recollection, I provided specific examples.

To minimize bias toward positive helping experiences, I designed separate prompts for positive and negative experiences during help exchanges. For positive experiences, participants were asked to recall situations in which helping was voluntary, effective in benefiting the recipient, or easy to provide or receive. For negative experiences, they reflected on instances where helping was involuntary, such as when mandated by a supervisor, ineffective for the recipient, or challenging to provide or receive. Participants then rated the frequency with which they experienced each emotion in these situations using a five-point scale ranging from 1 (never) to 5 (very often).

To refine the scale, I conducted exploratory factor analyses, reliability analyses, and rational judgment to determine which items to retain. The first step was to exclude emotions that were experienced less frequently than others. I set a frequency cutoff of 3.00 (corresponding to "Sometimes") for the positive social exchange (SE) affect and 2.50 (between "Sometimes" and "Rarely") for negative SE affect, given that positive SE affect are typical in social exchange contexts. Based on these criteria, the following items were excluded from the factor analyses: *peppy, placid, loved, aroused, guilty, scared, hostile, ashamed, afraid, astonished, alarmed, miserable, sad, gloomy, depressed, drowsy, sleepy, scornful, dull, sluggish, envious, jealous.* However, *distressed* (M = 2.42) and *bored* (M = 2.45) were retained despite

falling slightly below the cutoff to maintain balance in the number of positive and negative SE affect items.

Next, I extracted factors using the eigenvalue criterion (eigenvalues greater than 1), which initially resulted in four factors for positive SE affect and two for negative affect. This imbalance occurred because the negative SE item pool did not include neutral unpleasant emotions that would correspond to neutral pleasant emotions such as *happy, pleased,* and *satisfied*. To address this, I restructured the factor analysis.

For the positive SE affect, I limited the extraction to three factors: pleasant activation, pleasure, and pleasant deactivation. I used principal axis factoring and Promax rotation with Kaiser normalization as an extraction method. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .95, and Bartlett's test of sphericity was significant, χ^2 (253) = 4616.32, $p < .001$. For the negative SE affect, I limited the extraction to two factors: unpleasant activation and unpleasant deactivation. The KMO measure of sampling adequacy was .91, and Bartlett's test was significant, χ^2 (36) = 1437.25, $p < .001$. To further balance the structure, I incorporated three counterparts items–unhappy, unpleasant, and discontent–to negative SE affect to align with the neutral pleasant emotions. This final adjustment ensured that both positive and negative SE affect were represented theoretically meaningfully and structurally balanced. The factor analysis results with frequency information are shown in Tables A2 and A3.

To enhance the scale's usefulness in research and minimize respondent fatigue, I selected the most representative and distinct items while removing redundant ones based on frequency and rational judgment. This refinement process resulted in a full SEA scale consisting of 22 items. The complete set of final items is visually mapped onto the hedonic-activation framework in Figure A1. Depending on the length of a given study, the scale was further condensed to 16 or 8 items by selecting the most representative items from each subcategory.

Table A1. Selected Item Pool

	PANAS-SF	Affect Circumplex	Job Affect Scale	Social Emotions
	20 items	28 items	20 items	15 themes
1. Interested	Interested			
2. Distressed	Distressed	Distressed	Distressed	
3. Excited	Excited	Excited	Excited	
4. Upset	Upset	Angry		Anger
5. Strong	Strong		Strong	
6. Guilty	Guilty			Guilt
7. Scared	Scared			
8. Hostile	Hostile		Hostile	
9. Enthusiastic	Enthusiastic		Enthusiastic	
10. Proud	Proud			Pride
11. Irritable	Irritable			
12. Annoyed		Annoyed		
13. Alert	Alert			
14. Ashamed	Ashamed			Shame
15. Inspired	Inspired			
16. Nervous	Nervous		Nervous	Anxiety
17. Determined	Determined			
18. Attentive	Attentive			
19. Jittery	Jittery		Jittery	
20. Active	Active		Active	
21. Afraid	Afraid	Afraid	Fearful	Fright
22. Happy		Happy		Happiness
23. Delighted		Delighted		
24. Astonished		Astonished		
25. Aroused		Aroused		
26. Tense		Tense		
27. Alarmed		Alarmed		
28. Frustrated		Frustrated		
29. Miserable		Miserable		
30. Sad		Sad		Sadness
31. Gloomy		Gloomy		
32. Depressed		Depressed		
33. Bored		Bored		
34. Drowsy		Droopy	Drowsy	
35. Tired		Tired		
36. Sleepy		Sleepy	Sleepy	
37. Calm		Calm	Calm	
38. Relaxed		Relaxed	Relaxed	
39. Satisfied		Satisfied		

40. At ease	At ease	At rest	
41. Content	Content		
42. Serene	Serene		
43. Glad	Glad		
44. Pleased	Pleased		
45. Scornful		Scornful	
46. Dull		Dull	
47. Peppy		Peppy	
48. Elated		Elated	
49. Placid		Placid	
50. Sluggish		Sluggish	
51. Envious			Envy
52. Jealous			Jealousy
53. Relieved			Relief
54. Hopeful			Hope
55. Loved			Love
56. Grateful			Gratitude
57. Compassionate			Compassion

Table A2. Loading for Components of Negative Social Exchange Affect Items

		Factor 1	**Factor 2**	**Factor 3**
	Mean	Pleasure	Pleasant Activation	Pleasant Deactivation
Inspired	3.40	**0.818**	0.103	-0.149
Pleased	3.84	**0.792**	-0.035	0.006
Glad	3.86	**0.771**	-0.055	0.034
Happy	3.75	**0.769**	-0.052	0.077
Delighted	3.42	**0.767**	-0.023	0.070
Excited	3.21	**0.723**	0.044	-0.037
Elated	3.05	**0.691**	-0.048	0.131
Hopeful	3.68	**0.638**	0.090	0.064
Relieved	3.50	**0.636**	-0.142	0.104
Enthusiastic	3.58	**0.618**	0.267	-0.018
Proud	3.63	**0.612**	0.189	-0.139
Satisfied	3.90	**0.602**	0.095	0.116
Attentive	4.03	-0.086	**0.863**	-0.021
Alert	3.74	-0.119	**0.749**	0.037
Active	3.66	0.028	**0.582**	0.082
Interested	3.79	0.246	**0.533**	0.072
Determined	3.90	0.238	**0.488**	0.004
Strong	3.54	0.281	**0.457**	-0.008
Relaxed	3.44	-0.018	-0.038	**0.890**
Calm	3.66	-0.185	0.218	**0.748**
At ease	3.60	0.148	-0.088	**0.736**
Serene	3.15	0.264	0.057	**0.468**
Content	3.76	0.293	0.022	**0.448**

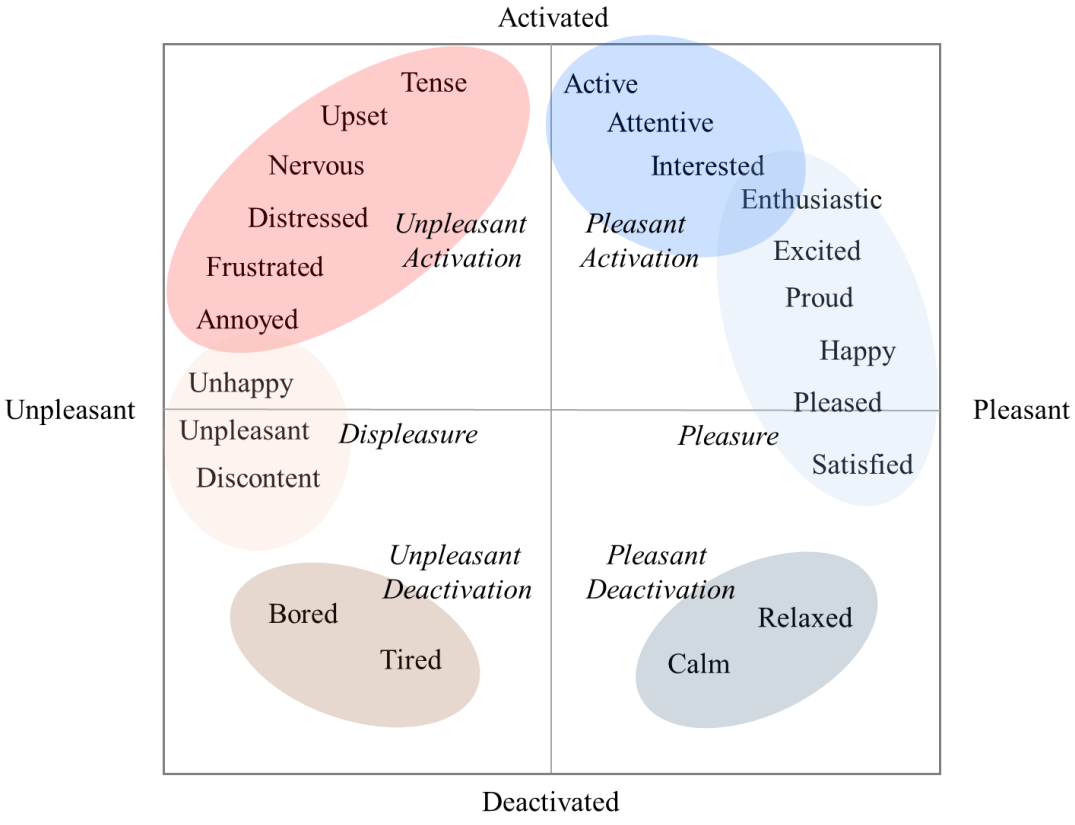
Note. N = 289. Extraction Method: Principal Axis Factoring; α = .91

Table A3. Loading for Components of Negative Social Exchange Affect Items

	Mean	**Factor 1** Unpleasant Activation	**Factor 2** Unpleasant Deactivation
Upset	2.60	**0.883**	-0.134
Frustrated	3.20	**0.857**	0.019
Tense	2.88	**0.800**	0.042
Distressed	2.42	**0.778**	-0.030
Irritable	2.81	**0.749**	0.063
Annoyed	3.00	**0.685**	0.146
Nervous	2.62	**0.541**	0.057
Bored	2.45	-0.053	**0.786**
Tired	2.80	0.072	**0.683**

Note. N = 289. Extraction Method: Principal Axis Factoring; α = .88

Figure A1. Conceptual Map of Selected Social Exchange Affect Scale



Appendix B: Validation of Mood Induction Procedure (MIP) Video Clips

In study 2, I used four video clips to induce target emotions among participants across different conditions. This section details the validation process for selecting these video clips.

Materials

To identify suitable MIP video clips, I first compiled a list of commonly used mood-inducing video content with the assistance of Chat GPT. This provided a range of positive and negative affect-laden news clip suggestions and descriptions. Based on these recommendations, I searched for publicly available news clips on YouTube that were approximately two minutes long. To minimize familiarity and ensure participants had not previously watched the videos, I prioritized older news clips that aired before 2022. I selected ten candidate clips from this process: five intended to induce positive and five to induce negative moods.

Participants and Procedures

I recruited 502 participants based in the United States through Prolific. The process followed a standard Mood Induction Procedure (MIP) validation approach, using a paired-sample *t*-test with induction (pre-MIP vs. post-MIP) as a within-subject factor. The goal was to determine which clips most effectively elicited the intended emotional states.

After providing informed consent, including a warning about potentially distressing content, participants rated their current affective states using the 16-item social exchange affect scale I developed (see Appendix A). Responses were recorded on a 7-point Likert scale (1 = not at all to 7 = extremely).

Participants were then informed that they would watch a short new clip and were instructed to transcribe keywords they heard to help the researcher identify relevant descriptors for the video. This task was designed to ensure participants paid close attention to the clip. Additionally, research by Marcusson-Clavertz, Kjell, Persson, & Cardena (2019) suggests combining multiple MIP techniques enhances mood induction effectiveness, particularly in online settings. Writing down emotionally charged words while watching the video may have further reinforced the intended emotional state. However, the transcribed responses were not analyzed, as the task primarily served to deepen engagement with the clip.

Participants were then randomly assigned to watch one of ten news clips, each lasting approximately two minutes. After watching the video while completing the transcription task, they reported how they felt both during and after it. They were explicitly instructed to indicate their actual emotional experience rather than what they believed they should feel and their emotions during the task rather than their general mood for the day. They then completed the same social exchange affect scale as before.

Results and Selection of Final Clips

The effectiveness of each news clip was evaluated by comparing participants' mood changes before and after watching the video. Specifically, I screened out clips based on the statistical significance of the paired-sample *t*-test and the effect sizes (Hedges G_{av}). Table B1 presents each video's performance, showing increases in the target mood alongside decreases in the non-target mood. Figures B1 and B2 visually depict mood score changes across different video conditions. Based on these results, I

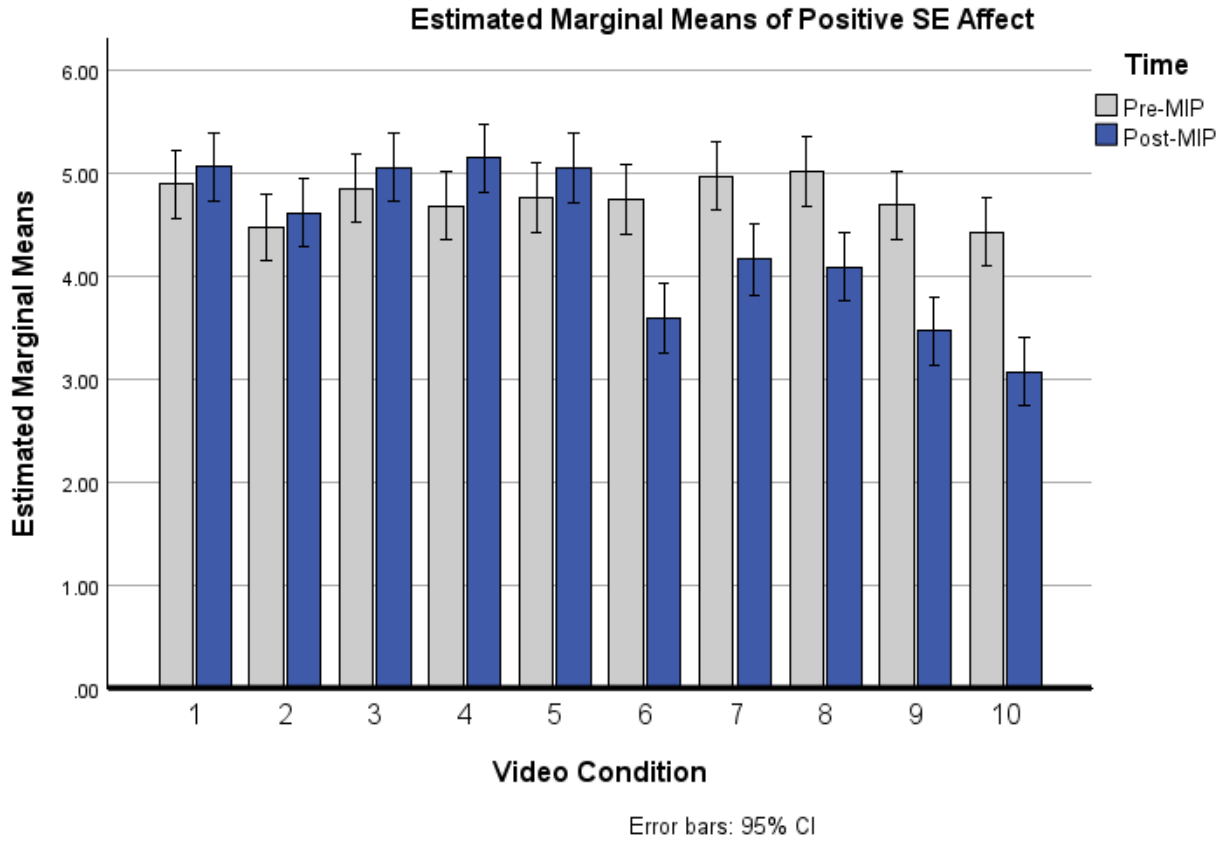
selected the two most effective clips from each category for use in Study 2 (#3 and #4 for positive mood induction and #6 and #10 for negative mood induction; see Table B1). The video files used in this validation study are available upon request.

Table B1. Results of mood change by video condition

Video Conditions		Positive SE affect				Negative SE affect			
#	Content description	Pre Mean (SD)	Post Mean (SD)	Paired t-test for pre vs. Post	Effect size (Hedges G_{av})	Pre Mean (SD)	Post Mean (SD)	Paired t-test for pre vs. Post	Effect size (Hedges G_{av})
1	Reunion with a pet	4.89 (1.29)	5.06 (1.12)	$t(49) = 1.68$	0.73	2.17 (1.30)	1.95 (1.17)	$t(49) = -1.72^{*}$	0.92
2	Teacher's act of kindness for students	4.47 (1.34)	4.62 (1.40)	$t(51) = 1.16$	0.91	2.64 (1.27)	2.29 (1.06)	$t(51) = -2.15^{*}$	1.17
3	Pet's heroic behavior	4.85 (1.26)	5.06 (1.12)	$t(50) = 1.84^{*}$	0.80	2.19 (1.12)	1.62 (0.67)	$t(50) = -5.54^{***}$	0.74
4	Rescued baby animals	4.69 (1.05)	5.15 (1.03)	$t(49) = 3.92^{***}$	0.84	2.07 (0.95)	1.61 (0.62)	$t(49) = -3.86^{***}$	0.85
5	Kinetic technology assisting patients	4.77 (1.14)	5.05 (1.27)	$t(48) = 3.23^{**}$	0.62	2.05 (1.02)	1.67 (0.82)	$t(48) = -4.78^{***}$	0.57
6	Drug crisis	4.74 (1.21)	3.59 (1.29)	$t(48) = -7.53^{***}$	1.09	2.16 (1.07)	2.86 (1.15)	$t(48) = 3.69^{***}$	1.35
7	Subway station crime incident	4.97 (1.08)	4.16 (1.20)	$t(48) = -4.77^{***}$	1.21	2.39 (1.29)	2.68 (1.18)	$t(48) = 1.66$	1.27
8	Hurricane aftermath	5.02 (1.23)	4.09 (1.29)	$t(49) = -6.03^{***}$	1.11	2.01 (0.96)	2.84 (1.29)	$t(49) = 5.23^{***}$	1.14
9	Wildfire devastation	4.69 (1.22)	3.47 (1.22)	$t(49) = -6.40^{***}$	1.38	2.30 (1.23)	3.06 (1.25)	$t(49) = 5.14^{***}$	1.07
10	Animal abuse on a dairy farm	4.43 (1.13)	3.07 (1.12)	$t(50) = -7.81^{***}$	1.26	2.36 (1.28)	3.78 (1.13)	$t(50) = 7.20^{***}$	1.43

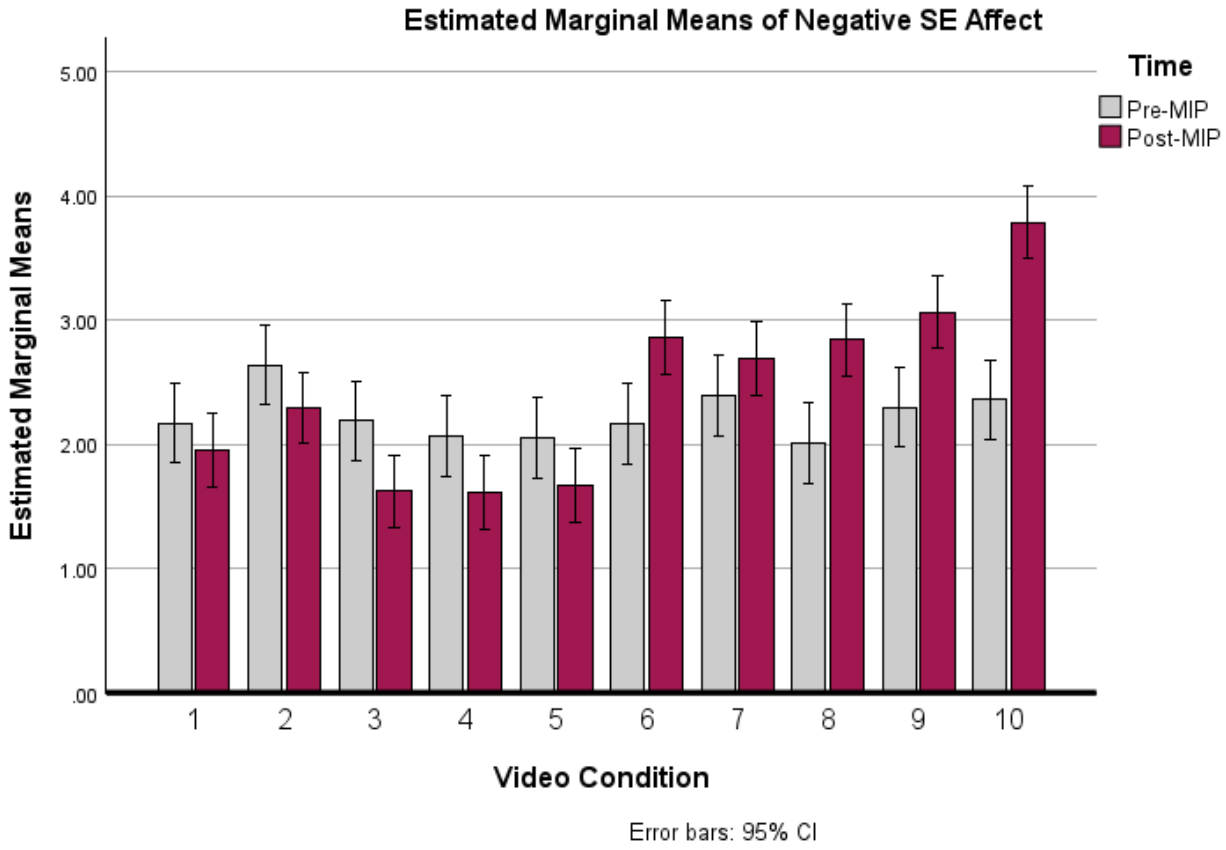
Note. Shaded videos are selected for the main study based on the model significance and the effect size.
*** p <.001, ** <.01, * <.05.

Figure B1. Positive mood scores change across video conditions.



Note. Video conditions 1-5 are positive mood MIPs.

Figure B2. Negative mood scores change across video conditions.



Note. Video conditions 6-10 are negative mood MIPs.

Tables

Table 1. Descriptive Statistics and Correlations of Study 1

Variables	Mean	SD	*n*	1	2	3	4	5	6	7
1. Age	38.81	10.66	702	-						
2. Male	0.33	0.47	702	-0.12**	-					
3. White	0.79	0.40	702	0.18**	0.05	-				
4. Prosocial orientation	5.37	0.96	702	0.14**	-0.12**	0.00	*(.93)*			
5. Trait positive affect	4.82	1.12	702	0.29**	0.03	-0.02	0.44**	*(.93)*		
6. Trait negative affect	3.00	1.23	702	-0.17**	-0.11**	0.04	-0.12**	-0.64**	*(.94)*	
7. Momentary positive affect	4.71	1.19	702	0.28**	0.11**	0.02	0.33**	0.73**	-0.48**	*(.90)*
8. Momentary negative affect	2.38	1.24	702	-0.19**	-0.06	0.02	-0.15**	-0.46**	0.63**	-0.55**
9. Relationship tenure (month)	39.36	67.39	701	0.21**	-0.01	0.12**	0.01	0.03	0.04	0.03
10. Interaction frequency	5.22	1.56	701	0.06	-0.03	0.07	0.07	0.15**	-0.06	0.12**
11. Closeness	4.59	1.63	702	0.07	-0.01	0.03	0.22**	0.26**	-0.16**	0.24**
12. Social exchange balance	0.06	0.20	702	0.08*	0.00	0.07	-0.05	-0.04	0.07	-0.07
13. Net affect balance	3.17	1.76	702	0.15**	0.03	-0.11**	0.32**	0.51**	-0.50**	0.43**
14. Received gratitude	5.39	1.49	702	0.09*	-0.08*	-0.04	0.30**	0.31**	-0.20**	0.27**
15. Entitled help	2.59	1.43	702	0.05	0.12**	0.03	-0.04	0.07	0.07*	0.08*
16. Helping intention	5.67	1.26	702	0.07	0.03	0.00	0.43**	0.25**	-0.12**	0.26**

Note. Alpha in parentheses.
*$p < .05$, **$p < .01$.

Table 1. (continued)

Variables	8	9	10	11	12	13	14	15	16
1. Age									
2. Male									
3. White									
4. Prosocial orientation									
5. Trait positive affect									
6. Trait negative affect									
7. Momentary positive affect									
8. Momentary negative affect	*(.90)*								
9. Relationship tenure	0.03	-							
10. Interaction frequency	-0.02	0.08*	-						
11. Closeness	-0.07*	0.10**	0.37**	-					
12. Social exchange balance (SEB)	0.08*	0.10**	0.04	-0.24**	-				
13. Net affect balance (NAB)	-0.39**	-0.04	0.08*	0.38**	-0.23**	-			
14. Received gratitude	-0.21**	-0.07	0.18**	0.45**	-0.23**	0.50**	-		
15. Entitled help	0.19**	0.11**	0.08*	0.03	0.11**	-0.14**	-0.21**	*(.88)*	
16. Helping intention	-0.17**	0.01	0.13**	0.50**	-0.33**	0.45**	0.55**	-0.18**	*(.94)*

Note. Alpha in parentheses.
*$p < .05$, **$p < .01$.

Table 2. Multilevel Regression Analysis of Study 1

VARIABLES	**Model 1** Entitled Help	**Model 2** Helping Intention	**Model 3** Entitled Help	**Model 4** Entitled Help	**Model 5** Helping Intention	**Model 6** Entitled Help	**Model 7** Helping Intention	**Model 8** Entitled Help	**Model 9** Helping Intention
Entitled Help		-0.14***			-0.06*		-0.05+		-0.05+
		(0.03)			(0.03)		(0.03)		(0.03)
Social Exchange	0.59*	-1.07***	0.32	0.12	-0.75***	0.15	-0.64***	0.08	-0.71***
Balance (SEB)	(0.26)	(0.22)	(0.23)	(0.24)	(0.20)	(0.23)	(0.19)	(0.24)	(0.20)
Net Affect			-0.12**	-0.12**	0.10***	-0.11**	0.10***	-0.12	0.10***
Balance (NAB)			(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)
Received			-0.15***	-0.15***	0.21***	-0.15***	0.21***	-0.14	0.21***
gratitude			(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)
SEB x NAB				-0.31*	0.03			-0.17	-0.19
				(0.14)	(0.11)			(0.16)	(0.12)
SEB x Received						-0.30**	0.36***	-0.23+	0.44***
gratitude						(0.12)	(0.10)	(0.13)	(0.11)
Age	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)
Male	0.34*	0.22*	0.26*	0.26*	0.21*	0.27*	0.20*	0.27*	0.21*
	(0.14)	(0.09)	(0.12)	(0.12)	(0.08)	(0.12)	(0.08)	(0.12)	(0.08)
White	-0.09	-0.00	-0.07	-0.07	0.01	-0.06	0.00	-0.07	0.00
	(0.17)	(0.11)	(0.14)	(0.14)	(0.10)	(0.14)	(0.10)	(0.14)	(0.10)
Prosocial	-0.14+	0.44***	-0.10	-0.10	0.37***	-0.11	0.38***	-0.11	0.38***
orientation	(0.08)	(0.05)	(0.07)	(0.07)	(0.05)	(0.07)	(0.05)	(0.07)	(0.05)
Trait positive	0.16	-0.00	0.13	0.13	-0.08	0.13	-0.08	0.13	-0.08
affect	(0.11)	(0.07)	(0.09)	(0.09)	(0.06)	(0.09)	(0.06)	(0.09)	(0.06)
Trait negative	0.06	0.10+	0.05	0.06	0.11*	0.06	0.11*	0.06	0.11*
affect	(0.08)	(0.05)	(0.07)	(0.07)	(0.05)	(0.07)	(0.05)	(0.07)	(0.05)

Moment positive affect	0.24**	0.06	0.24**	0.25**	0.00	0.24**	0.01	0.25**	0.01
	(0.09)	(0.06)	(0.08)	(0.08)	(0.05)	(0.08)	(0.05)	(0.08)	(0.05)
Moment negative affect	0.34***	-0.09+	0.25***	0.25***	-0.09*	0.25***	-0.10*	0.25***	-0.09*
	(0.07)	(0.05)	(0.06)	(0.06)	(0.04)	(0.06)	(0.04)	(0.06)	(0.04)
Relationship tenure	0.00**	-0.00	0.00+	0.00	-0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Interaction frequency	0.10**	0.03	0.08**	0.08**	0.03	0.08**	0.02	0.08**	0.02
	(0.03)	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)
Closeness	-0.02	0.26***	0.05+	0.05+	0.18***	0.05+	0.17***	0.05+	0.17***
	(0.03)	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)
Constant	-0.15	1.88***	-0.38	-0.38	3.08***	-0.37	3.09***	-0.37	3.07***
	(0.62)	(0.42)	(0.53)	(0.53)	(0.41)	(0.53)	(0.40)	(0.53)	(0.40)
Wald χ^2	71.75***	432.07***	111.86***	113.96***	528.97***	117.28***	552.44***	117.86***	550.60***
Log Likelihood	-1061.90	-863.83	-1044.16	-1003.50	-795.85	-1002.71	-790.17	-1002.12	-789.10
AIC	2157.80	1769.66	2126.31	2061.00	1657.69	2059.42	1646.34	2060.23	1646.21
BIC	2235.17	1865.23	2212.79	2183.88	1807.88	2182.30	1796.53	2187.66	1800.94
LR test vs. linear model (χ^2)	262.24***	174.76***	255.94***	334.65***	214.15***	335.79***	209.95***	336.30***	208.77***
ICC	0.77	0.75	0.77	0.68	0.84	0.68	0.85	0.68	0.85
Observations	700	700	700	700	700	700	700	700	700
Number of groups	351	351	351	351	351	351	351	351	351

Note. $^{+}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$. Standard error in parentheses

Table 3. Results of Conditional Indirect Effects of Study 1

Moderator	Effect	Boot SE	Boot LLCI	Boot ULCI
SEB x Net affect balance → Entitled Help → Helping Intention				
Low Net Affect Balance	-0.03	0.02	-0.19	-0.02
Mean Net Affect Balance	-0.01	0.02	-0.16	-0.00
High Net Affect Balance	0.01	0.03	-0.02	0.11
SEB x Received gratitude → Entitled Help → Helping Intention				
Low Received Gratitude	-0.03	0.02	-0.17	-0.01
Mean Received Gratitude	-0.01	0.02	-0.10	-0.00
High Received Gratitude	0.01	0.03	-0.01	0.11

Note. Based on 5,000 bootstrap samples. Bias-corrected confidence interval

Table 4. Descriptive Statistics and Correlations among Key Variables of Study 2

Variables	Mean	SD	1	2	3
1. Social exchange balance (SEB)[a]	0.51	0.50			
2. Net Affect Balance (NAB)[b]	2.34	1.53	-.10		
3. Perceived entitled help	2.99	1.68	.40**	-.22**	
4. Helping behavior	1.82	1.67	-.26**	.08	-.27**

$n = 364$. $^{*}p < .05$, $^{**}p < .01$

[a] Dummy coded: 0 = negative social exchange balance, 1 = positive social exchange balance

[b] Measured with 8-item survey measure and then the positive SE affect was divided by the negative SE affect

Table 5. Regression Analysis for Entitled Help as the Mediator and Helping Behavior as the Dependent Variable in Study 2

	Perceived Entitled Help			Helping Behavior	
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Mediating Variable					
Entitled help				-0.20***	-0.18**
				(0.05)	(0.06)
Independent Variables					
Social exchange balance (SEB)	1.34***	1.28***	1.28***	-0.61**	-0.62***
	(0.16)	(0.16)	(0.16)	(0.18)	(0.18)
Net affect balance (NAB)		-0.19***	-0.09		-0.07
		(0.05)	(0.07)		(0.07)
Interaction					
SEB x NAB			-0.24*		0.22*
			(0.11)		(0.11)
Intercept	2.30***	2.33***	2.32***	2.71***	2.69***
	(0.12)	(0.11)	(0.11)	(0.17)	(0.18)
R^2	0.16	0.19	0.20	0.10	0.11

$n = 364$. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$. The model reflects unstandardized regression coefficients with standard errors in parentheses.

Table 6. Results of Conditional Indirect Effects of Study 2

Net Affect Balance (NAB)	Effect	Boot SE	Boot LLCI	Boot ULCI
Low NAB	-0.32	0.10	-0.54	-0.14
High NAB	-0.18	0.06	-0.32	-0.07

Note. Based on 5,000 bootstrap samples.

Table 7. Descriptive Statistics and Correlations of Study 3

Variables	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Age	21.14	2.65	-									
(2) Male	0.54	0.50	0.00	-								
(3) White	0.59	0.49	-0.03	0.29**	-							
(4) Trait positive	5.32	1.02	-0.07	0.00	0.05	-						
(5) Trait negative	2.82	1.08	0.01	-0.12**	-0.10**	-0.50**	-					
(6) Prosocial orientation	5.78	0.83	-0.06	-0.02	-0.01	0.45**	-0.18**	-				
(7) Moment positive T2	5.19	1.43	0.03	0.12**	0.09*	0.35**	-0.26**	0.28**	-			
(8) Moment positive T3	5.24	1.44	-0.05	0.20**	0.14**	0.39**	-0.30**	0.26**	0.72**	-		
(9) Moment negative T2	2.09	1.16	-0.05	-0.08*	-0.12**	-0.25**	0.28**	-0.09*	-0.57**	-0.49**	-	
(10) Moment negative T3	2.05	1.20	0.07	-0.11**	-0.04	-0.23**	0.27**	-0.12**	-0.40**	-0.53**	0.64**	-
(11) Liking T1	5.02	2.20	0.05	-0.02	0.04	0.20**	-0.17**	0.18**	0.36**	0.40**	-0.22**	-0.26**
(12) Liking T2	4.93	2.27	0.00	0.01	0.01	0.16**	-0.10**	0.08*	0.38**	0.37**	-0.20**	-0.17**
(13) Task performance T1	6.64	0.76	0.02	-0.01	-0.08*	0.09*	-0.06	0.18**	0.29**	0.23**	-0.19**	-0.21**
(14) Task performance T2	6.51	0.81	0.03	-0.03	-0.04	0.12**	-0.08*	0.19**	0.46**	0.37**	-0.17**	-0.21**
(15) SEB T1	-0.01	0.35	-0.05	-0.01	-0.03	0.02	0.00	0.02	0.12**	0.15**	-0.03	-0.05
(16) SEB T2	0.00	0.31	0.01	0.03	0.06	-0.02	0.06	0.05	0.23**	0.16**	-0.09*	-0.02
(17) NAB T1	4.66	1.86	-0.05	-0.01	0.00	0.25**	-0.16**	0.28**	0.38**	0.42**	-0.29**	-0.28**
(18) NAB T2	4.63	1.91	0.03	0.05	0.02	0.27**	-0.25**	0.24**	0.52**	0.52**	-0.37**	-0.33**
(19) Received gratitude T1	5.71	1.63	0.05	0.01	-0.03	0.24**	-0.16**	0.22**	0.35**	0.33**	-0.22**	-0.23**
(20) Received gratitude T2	5.86	1.42	-0.03	-0.01	0.04	0.32**	-0.23**	0.31**	0.45**	0.42**	-0.19**	-0.15**
(21) Entitled help T1	1.97	0.94	-0.03	0.06	0.08*	0.06	0.03	-0.11**	0.07	0.04	0.05	0.02
(22) Entitled help T2	2.15	1.05	-0.03	0.08*	0.05	0.02	0.13**	-0.01	0.02	0.02	0.10**	0.04
(23) Helping T1 → T2	0.00	1.30	-0.03	-0.05	0.05	0.05	0.04	0.09*	0.17**	0.11**	-0.10**	0.01
(24) Helping T2 → T3	0.00	1.32	-0.01	-0.06	0.00	0.13**	0.00	0.05	0.11**	0.12**	-0.05	0.09*

Note. n = 724 (except for Received gratitude T1 = 643, T2 = 667 as it included '*not applicable*' as an option). This table reports the results of the correlations at the observation level–the individual value is assigned to each observation.
*$p < .05$, **$p < .01$.

Table 7. (Continued)

Variables	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
(11) Liking T1	-												
(12) Liking T2	0.74**	-											
(13) Task performance T1	0.36**	0.30**	-										
(14) Task performance T2	0.39**	0.42**	0.62**	-									
(15) SEB T1	0.11*	0.16**	-0.02	0.04	-								
(16) SEB T2	0.08	0.15**	-0.01	0.05	0.54**	-							
(17) NAB T1	0.44**	0.32**	0.40**	0.37**	0.07	0.08	-						
(18) NAB T2	0.42**	0.40**	0.31**	0.50**	0.05	0.04	0.58**	-					
(19) Received gratitude T1	0.45**	0.36**	0.31**	0.33**	0.32**	0.16**	0.43**	0.38**	-				
(20) Received gratitude T2	0.41**	0.44**	0.27**	0.46**	0.12**	0.14**	0.42**	0.47**	0.57**	-			
(21) Entitled help T1	0.04	0.06	-0.15**	-0.01	0.11*	0.04	-0.09*	-0.10**	0.08*	-0.09*	-		
(22) Entitled help T2	-0.02	-0.01	-0.11**	-0.05	0.00	0.11*	-0.06	-0.17**	-0.01	-0.08*	0.56**	-	
(23) Helping T1 → T2	0.12**	0.13**	-0.02	0.05	-0.08	0.51**	0.08*	0.05	-0.03	0.21**	-0.06	0.13**	-
(24) Helping T2 → T3	0.09*	0.08*	0.00	0.06	0.11*	-0.05	0.03	0.09*	0.06	0.04	0.03	-0.01	-0.16**

Note. n = 724 (except for Received gratitude T1 = 643, T2 = 667 as it included '*not applicable*' as an option). This table reports the results of the correlations at the observation level–the individual value is assigned to each observation.
*$p < .05$, **$p < .01$.

Table 8. Multilevel Regression Results for Social Exchange Balance, Entitled Help, and Helping in Study 3

	Time 1 → Time 2			Time 2 → Time 3		
VARIABLES	**Model 1** Entitled Help	**Model 2** Helping	**Model 3** Helping	**Model 5** Entitled Help	**Model 4** Helping	**Model 6** Helping
Entitled Help			-0.16*			0.00
			(0.08)			(0.06)
SEB	0.24**	-0.38*	-0.38**	0.21*	-0.75***	-0.59***
	(0.09)	(0.16)	(0.14)	(0.10)	(0.17)	(0.17)
Liking	-0.03*	0.04	0.04	-0.02	0.02	0.02
	(0.01)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)
Task performance		-0.21**	-0.18*		-0.05	-0.04
		(0.08)	(0.08)		(0.09)	(0.09)
Moment positive		0.22***	0.23***		0.27***	0.29***
		(0.07)	(0.07)		(0.07)	(0.07)
Moment negative		-0.05	-0.05		0.22**	0.21**
		(0.08)	(0.08)		(0.08)	(0.07)
Team cooperation		0.37+	0.39+		0.13	0.13
		(0.21)	(0.21)		(0.12)	(0.12)
Team conflict		0.46*	0.50*		0.41*	0.48*
		(0.23)	(0.23)		(0.19)	(0.19)
Age	-0.01	-0.02	-0.03	-0.01	-0.04	-0.04
	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)
Male	0.15	-0.19	-0.15	0.27+	-0.26	-0.35*
	(0.13)	(0.16)	(0.16)	(0.15)	(0.16)	(0.16)
White	0.16	0.07	0.12	0.08	0.09	0.12
	(0.13)	(0.16)	(0.16)	(0.15)	(0.16)	(0.16)
Trait positive	0.17*	-0.05	-0.02	0.14	0.14	0.16
	(0.08)	(0.10)	(0.10)	(0.09)	(0.10)	(0.10)
Trait negative	0.09	0.13	0.14+	0.16*	0.12	0.14+
	(0.07)	(0.08)	(0.08)	(0.07)	(0.08)	(0.08)
Prosocial orientation	-0.17*	0.09	0.06	-0.09	0.02	0.01
	(0.08)	(0.10)	(0.10)	(0.09)	(0.10)	(0.10)
Constant	1.89**	-2.30	-2.45	1.56+	-3.18**	-3.48**
	(0.72)	(1.46)	(1.51)	(0.82)	(1.17)	(1.18)
Wald χ^2	21.47**	39.12***	43.41***	14.65+	49.26***	49.77***
Log Likelihood	-463.89	-732.94	-730.88	-574.45	-759.54	-761.43
BIC	1014.89	1584.12	1586.22	1236.02	1637.30	1647.32
LR test (χ^2)	396.95***	160.56***	160.47***	316.85***	126.24***	122.45***
ICC (rater|group)	0.85	0.60	0.73	0.78	0.54	0.68
Observations	504	504	504	504	504	504
Groups	59	59	59	59	59	59

Table 9. Multilevel Regression Results of Social Exchange Balance and Net Affect Balance as Predictors in Study 3

	Time 1 → Time 2			Time 2 → Time 3		
VARIABLES	**Model 1** Entitled Help	**Model 2** Entitled Help	**Model 3** Helping	**Model 4** Entitled Help	**Model 5** Entitled Help	**Model 6** Helping
Entitled Help			-0.09			0.02
			(0.08)			(0.06)
SEB	0.17+	0.14	-0.38*	0.07	0.06	-0.55**
	(0.10)	(0.10)	(0.15)	(0.10)	(0.10)	(0.17)
NAB	-0.05+	-0.04+	0.03	0.01	0.01	0.07+
	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.04)
SEB x NAB		-0.13**	0.14+		0.03	-0.03
		(0.05)	(0.08)		(0.05)	(0.09)
Received gratitude	-0.05+	-0.04+	0.02	0.02	0.01	-0.06
	(0.02)	(0.02)	(0.04)	(0.03)	(0.03)	(0.06)
Liking	-0.03+	-0.03+	0.06+	0.02	0.02	0.02
	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)
Task performance			-0.18*			-0.03
			(0.09)			(0.09)
Moment positive			0.24***			0.26***
			(0.07)			(0.08)
Moment negative			-0.06			0.18*
			(0.08)			(0.08)
Team cooperation			0.40+			0.16
			(0.21)			(0.12)
Team conflict			0.37+			0.50**
			(0.22)			(0.19)
Age	-0.01	-0.01	-0.01	-0.02	-0.02	-0.01
	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)
Male	0.14	0.15	-0.11	0.27+	0.28+	-0.34*
	(0.14)	(0.14)	(0.17)	(0.16)	(0.16)	(0.16)
White	0.21	0.21	0.10	0.06	0.07	0.06
	(0.14)	(0.14)	(0.17)	(0.16)	(0.16)	(0.16)
Trait positive	0.17*	0.17*	-0.07	0.13	0.13	0.14
	(0.08)	(0.08)	(0.10)	(0.09)	(0.09)	(0.10)
Trait negative	0.07	0.07	0.16+	0.14+	0.14+	0.16+
	(0.07)	(0.07)	(0.09)	(0.08)	(0.08)	(0.09)
Prosocial orientation	-0.17+	-0.17*	0.08	-0.12	-0.12	-0.06
	(0.09)	(0.09)	(0.11)	(0.10)	(0.10)	(0.11)

Constant	1.50* (0.75)	1.55* (0.75)	-2.33 (1.55)	1.80* (0.90)	1.80* (0.90)	-2.78* (1.26)
Wald χ^2	37.31***	44.63***	51.64***	10.86	11.60	48.84***
Log Likelihood	-419.50	-416.10	-641.80	-501.14	-500.92	-701.44
BIC	930.68	936.09	1424.16	1094.56	1106.43	1538.24
LR test (χ^2)	361.75***	360.51***	138.75***	369.12***	369.22***	112.84***
ICC (rater | group)	0.86	0.86	0.74	0.85	0.86	0.71
Observations	451	451	451	470	470	470
Groups	59	59	59	59	59	59

Table 10. Multilevel Regression Results of Social Exchange Balance and Received Gratitude as Predictors in Study 3

	Time 1 → Time 2			Time 2 → Time 3		
VARIABLES	**Model 1** Entitled Help	**Model 2** Entitled Help	**Model 3** Helping	**Model 4** Entitled Help	**Model 5** Entitled Help	**Model 6** Helping
Entitled Help			-0.09			-0.039
			(0.08)			(0.049)
SEB	0.17+	0.18+	-0.41**	0.07	0.07	-0.55**
	(0.10)	(0.09)	(0.15)	(0.10)	(0.10)	(0.17)
Received gratitude	0.10***	0.07**	-0.07	0.02	0.02	-0.05
	(0.02)	(0.03)	(0.05)	(0.03)	(0.04)	(0.06)
SEB x Received gratitude		-0.12*	0.08		0.04	0.09
		(0.05)	(0.09)		(0.07)	(0.12)
NAB	-0.05+	-0.05*	0.03	0.01	0.01	0.06
	(0.02)	(0.02)	(0.04)	(0.02)	(0.03)	(0.04)
Liking	-0.03+	-0.03+	0.05	0.02	0.02	0.02
	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)
Task performance			-0.17+			-0.03
			(0.09)			(0.09)
Moment positive			0.24***			0.27***
			(0.07)			(0.08)
Moment negative			-0.05			0.18*
			(0.08)			(0.08)
Team cooperation			0.41+			0.16
			(0.21)			(0.12)
Team conflict			0.38+			0.49**
			(0.22)			(0.19)

Age	-0.01	-0.01	-0.02	-0.02	-0.02	-0.05
	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)
Male	0.14	0.13	-0.10	0.27+	0.28+	-0.36*
	(0.14)	(0.13)	(0.17)	(0.16)	(0.16)	(0.16)
White	0.21	0.21	0.10	0.06	0.07	0.12
	(0.14)	(0.14)	(0.17)	(0.16)	(0.16)	(0.16)
Trait positive	0.17*	0.17*	-0.06	0.13	0.13	0.13
	(0.08)	(0.08)	(0.11)	(0.09)	(0.09)	(0.10)
Trait negative	0.07	0.07	0.16+	0.14+	0.14+	0.16+
	(0.07)	(0.07)	(0.09)	(0.08)	(0.08)	(0.08)
Prosocial orientation	-0.17+	-0.16+	0.08	-0.12	-0.13	-0.02
	(0.09)	(0.09)	(0.11)	(0.10)	(0.10)	(0.11)
Constant	2.27**	2.25**	-2.98+	1.83*	1.85*	-3.46**
	(0.76)	(0.75)	(1.57)	(0.90)	(0.90)	(1.27)
Wald χ^2	37.31***	44.51***	48.75	10.86	11.38	49.22***
Log Likelihood	-419.50	-416.42	-642.93	-510.14	-501.02	-701.26
BIC	930.68	936.74	1426.42	1094.563	1106.63	1537.89
LR test (χ^2)	361.75***	349.09***	138.51***	369.12***	368.58***	112.42***
ICC (rater | group)	0.86	0.86	0.73	0.85	0.86	0.70
Observations	451	451	451	470	470	470
Groups	59	59	59	59	59	59

Table 11. Multilevel Regression Results of Social Exchange Balance, Net Affect Balance, and Received Gratitude as Predictors in Study 3

	Time 1 → Time 2		Time 2 → Time 3	
	Model 1	**Model 2**	**Model 3**	**Model 4**
VARIABLES	Entitled Help	Helping	Entitled Help	Helping
Entitled Help		-0.08		0.02
		(0.08)		(0.06)
SEB	0.15	-0.39*	0.07	-0.55**
	(0.10)	(0.15)	(0.10)	(0.17)
NAB	-0.05+	0.02	0.01	0.07
	(0.03)	(0.04)	(0.03)	(0.04)
Received gratitude	0.08**	-0.07	0.02	-0.04
	(0.03)	(0.05)	(0.04)	(0.06)
SEB x NAB	-0.09+	0.14	0.03	-0.08
	(0.05)	(0.09)	(0.06)	(0.10)
SEB x Received gratitude	-0.09	0.03	0.02	0.14
	(0.05)	(0.09)	(0.08)	(0.14)
Liking	-0.03+	0.06+	0.02	0.02
	(0.02)	(0.03)	(0.02)	(0.03)

Task performance		-0.17*		-0.04
		(0.09)		(0.09)
Moment positive		0.24**		0.27**
		(0.07)		(0.08)
Moment negative		-0.06		0.18*
		(0.08)		(0.08)
Team cooperation		0.41+		0.16
		(0.22)		(0.12)
Team conflict		0.37+		0.49**
		(0.22)		(0.19)
Age	-0.01	-0.01	-0.02	-0.05
	(0.02)	(0.03)	(0.02)	(0.03)
Male	0.14	-0.11	0.28+	-0.36
	(0.13)	(0.17)	(0.16)	(0.16)
White	0.21	0.11	0.07	0.12
	(0.14)	(0.17)	(0.16)	(0.16)
Trait positive	0.17*	-0.07	0.13	0.13
	(0.08)	(0.11)	(0.09)	(0.10)
Trait negative	0.07	0.16+	0.13	0.16+
	(0.07)	(0.09)	(0.08)	(0.08)
Prosocial orientation	-0.16+	0.07	-0.13	-0.02
	(0.09)	(0.11)	(0.10)	(0.11)
Constant	2.04**	-2.74+	1.85*	-3.10*
	(0.75)	(1.59)	(0.90)	(1.31)
Wald χ^2	47.80***	51.90***	11.79	49.99***
Log Likelihood	-414.79	-641.76	-500.94	-700.94
BIC	939.58	1430.20	1112.64	1543.40
LR test (χ^2)	351.91***	138.72***	368.70***	113.04***
ICC (rater | group)	0.86	0.74	0.86	0.71
Observations	451	451	470	470
Groups	59	59	59	59

Figures

Figure 1. Overall Theoretical Model

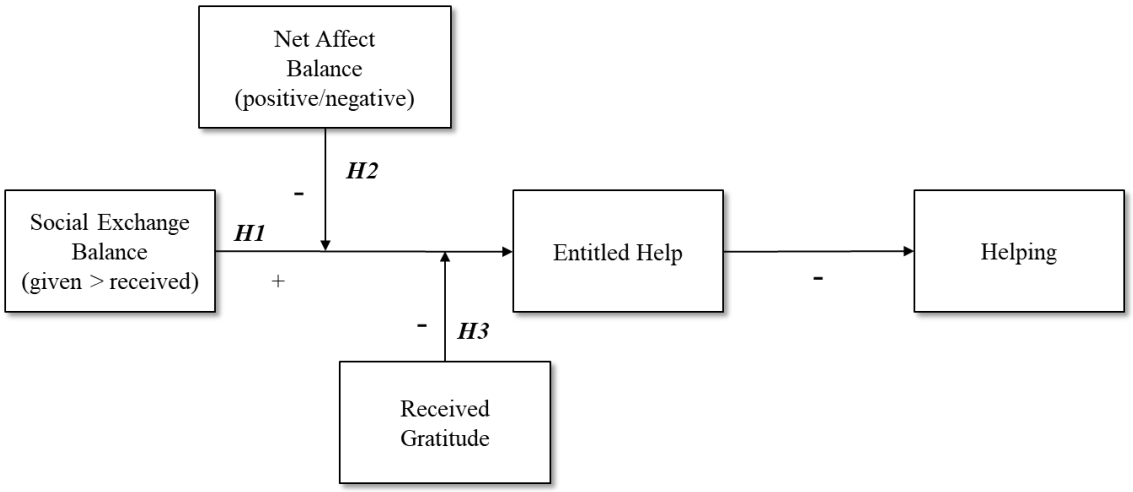


Figure 2. Moderating Effect of Net Affect Balance on Entitled Help in Study 1

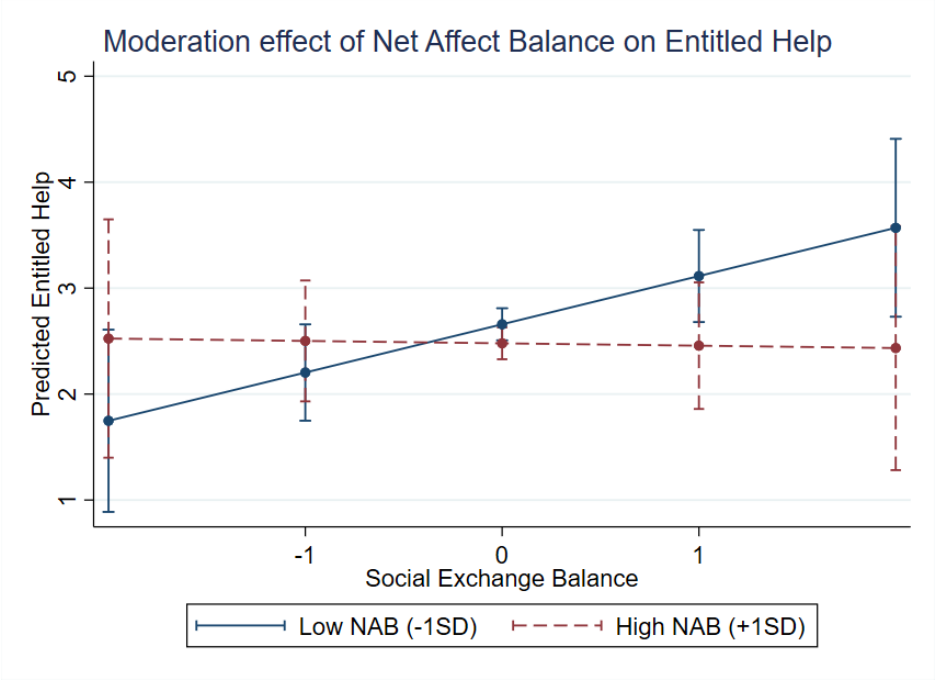


Figure 3. Moderating Effect of Received Gratitude on Entitled Help in Study 1

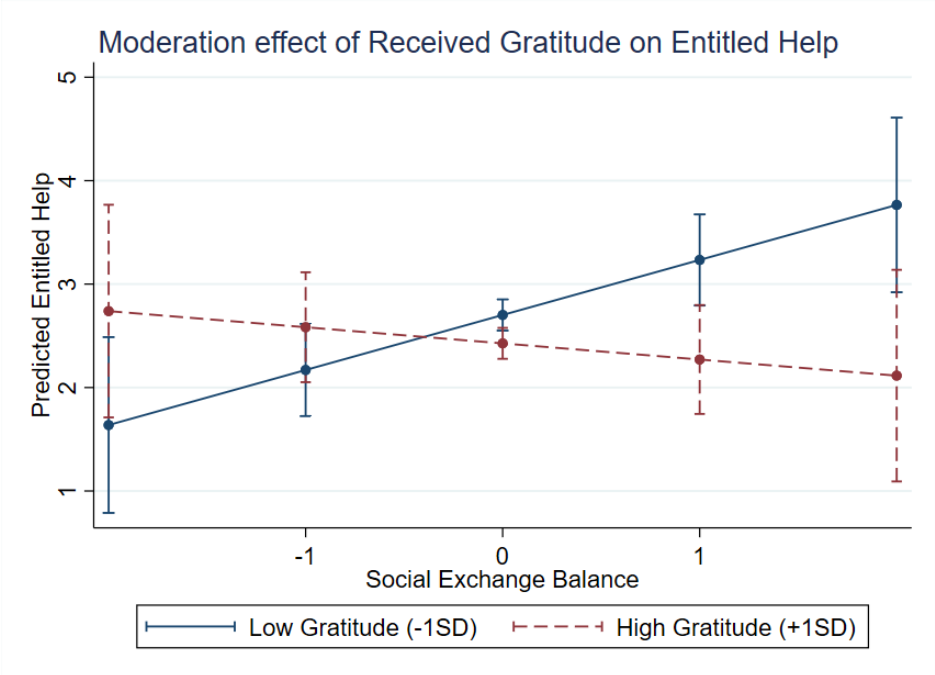


Figure 4. Moderating Effect of Net Affect Balance on Entitled Help in Study 2

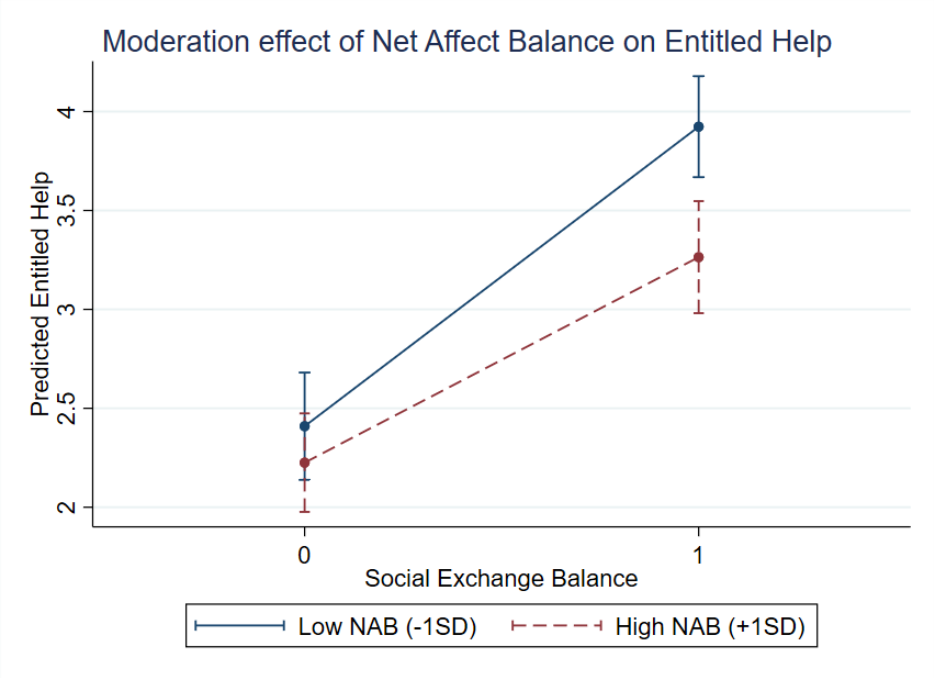


Figure 5. Moderating Effect of Net Affect Balance on Entitled Help in Study 3

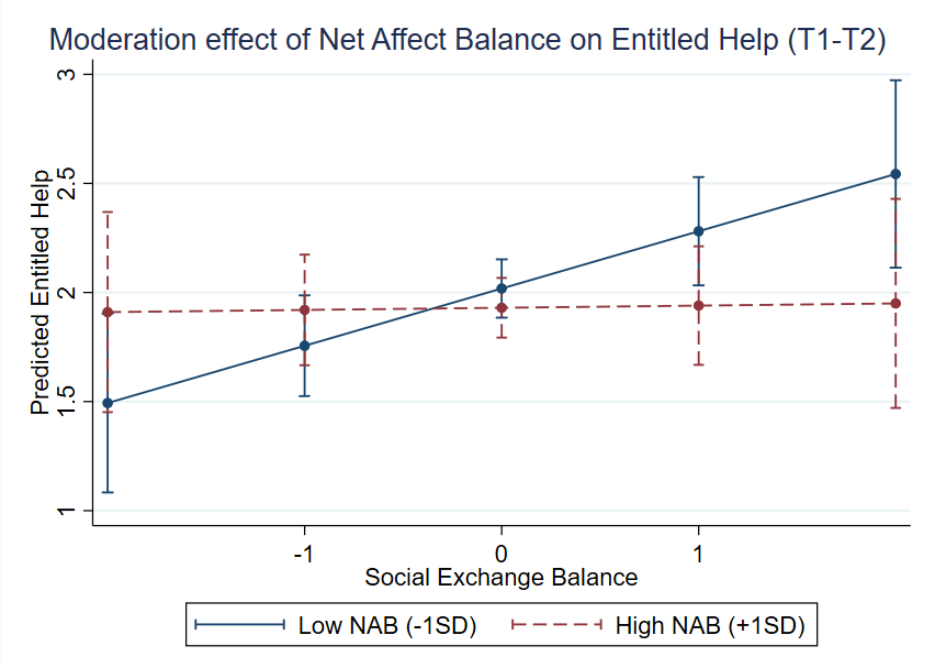


Figure 6. Moderating Effect of Received Gratitude on Entitled Help in Study 3

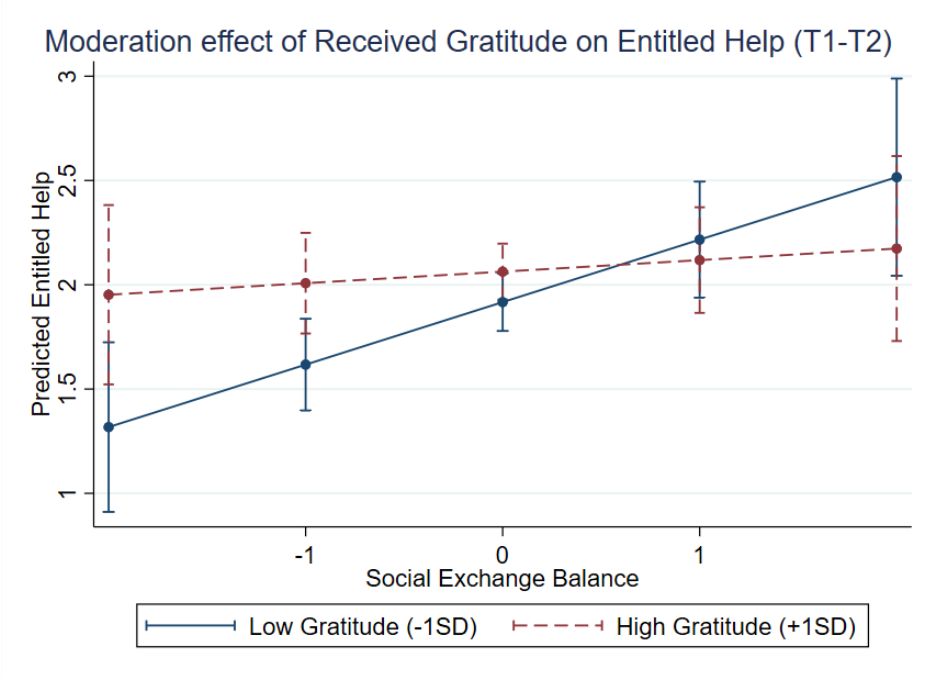
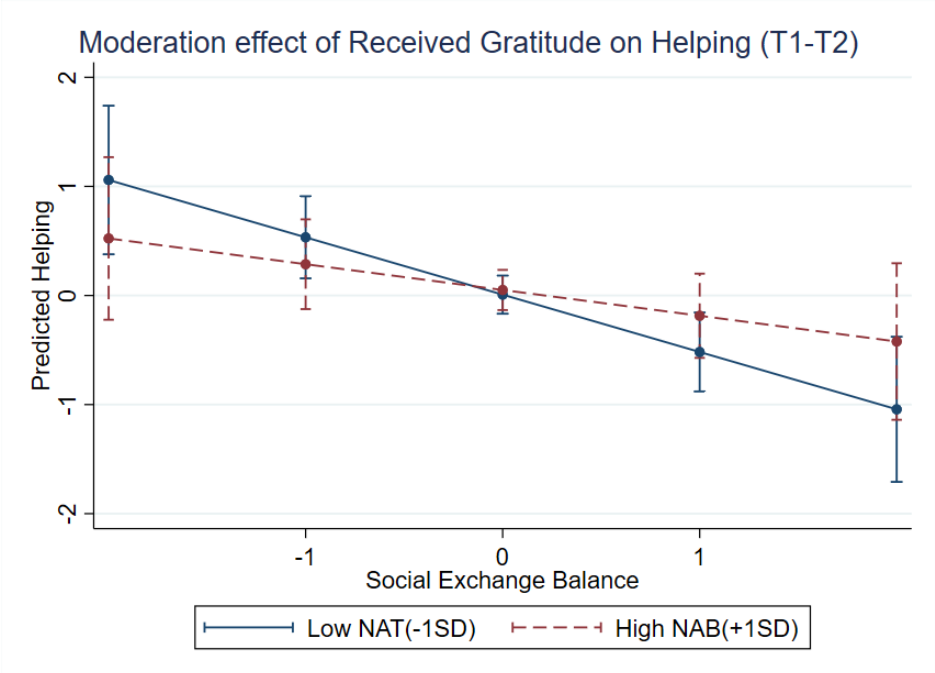


Figure 7. Moderating Effect of Net Affect Balance on Helping in Study 3



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