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Review

Moving the self and others to do good: The emotional underpinnings of prosocial behavior

Gerben A. van Kleef¹ and Gert-Jan Lelieveld²**Abstract**

The functioning of social collectives hinges on the willingness of their members to cooperate with one another and to help those who are in need. Here, we consider how such prosocial behavior is shaped by emotions. We offer an integrative review of theoretical arguments and empirical findings concerning how the experience of emotions influences people's own prosocial behavior (intrapersonal effects) and how the expression of emotions influences the prosocial behavior of others (interpersonal effects). We identified research on five broad clusters of emotions associated with opportunity and affiliation (happiness, contentment, hope), appreciation and self-transcendence (gratitude, awe, elevation, compassion), distress and supplication (sadness, disappointment, fear, anxiety), dominance and status assertion (anger, disgust, contempt, envy, pride), and appeasement and social repair (guilt, regret, shame, embarrassment). Our review reveals notable differences between emotion clusters and between intrapersonal and interpersonal effects. Although some emotions promote prosocial behavior in the self and others, most emotions promote prosocial behavior either in the self (via their intrapersonal effects) or in others (via their interpersonal effects), suggesting trade-offs between the functionality of emotional experience and emotional expression. Moreover, interpersonal effects are modulated by the cooperative versus competitive nature of the situation. We discuss the emerging patterns from a social-functional perspective and conclude that understanding the role of emotion in prosociality requires joint attention to intrapersonal and interpersonal effects.

Addresses¹ University of Amsterdam, the Netherlands² Leiden University, the NetherlandsCorresponding author: van Kleef, Gerben A. (g.a.vankleef@uva.nl)**Keywords**

Emotion, Prosocial behavior, Cooperation, Helping, Social functions of emotions.

Introduction

Prosocial behavior—engaging in actions that benefit others—is a bedrock of humane societies [1]. The thriving of communities hinges on the willingness of their members to cooperate with one another and to help those who are in need. Various theoretical perspectives suggest that prosocial behavior is shaped by emotional processes [2], which evolved to regulate social behavior [3]. Still, the role of emotions in regulating prosocial behavior remains imperfectly understood. Empirical research takes place in separate traditions informed by divergent theoretical perspectives, and a synthesis of key findings from these disparate lines of inquiry is lacking. Extant reviews are limited in that they addressed a single emotion and/or a single level of analysis (i.e., only intrapersonal or interpersonal effects). A deep understanding of the role of emotions in prosocial behavior requires an integrative review of intrapersonal and interpersonal effects across the emotional spectrum. Here, we offer such a review.

The literature on emotions and prosocial behavior is extensive; hence, our review is not intended to be comprehensive. Rather, we aim to identify recurring patterns in the available evidence across emotions and levels of analysis. In pursuing this goal, we focus on discrete emotions rather than diffuse positive or negative moods, because different emotions of the same valence can have distinct effects on prosocial behavior [4–9]. To facilitate the detection of patterns in the rich array of emotions that have been studied, we organize our review in five broad clusters of emotions [10], based on theoretical considerations and empirical regularities: emotions associated with *opportunity and affiliation* (happiness, contentment, hope), *appreciation and self-transcendence* (gratitude, awe, elevation, compassion), *distress and supplication* (sadness, disappointment, fear, anxiety), *dominance and status assertion* (anger, disgust, contempt, envy, pride), and *appeasement and social repair* (guilt, regret, shame, embarrassment). For each emotion cluster we summarize representative evidence for

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intrapersonal effects—how the *experience* of the emotion influences people's *own* prosocial behavior—and interpersonal effects—how the *expression* of the emotion influences *others'* prosocial behavior. Based on the emerging patterns, we discuss the functionality of emotions across levels of analysis, and call for a more integrative empirical approach to understanding emotion and prosociality.

Opportunity and affiliation: Happiness, contentment, and hope

A first cluster of emotions contains feelings that arise when people perceive current circumstances and/or future prospects as favorable. Examples include happiness (when events are conducive to goal attainment), contentment (when circumstances are satisfactory), and hope (when one believes something desirable can materialize). The positive outlook associated with these emotions facilitates affiliative tendencies and a broadening of momentary thought-action repertoires that is conducive to identifying and seizing opportunities to build enduring (social) resources [11].

Intrapersonal effects

At the intrapersonal level, the broadened mindset that accompanies feelings of happiness promotes a concern for others, which fuels prosocial actions [12]. Classic studies demonstrated that both natural occurrences and experimental inductions of emotions such as happiness and contentment can increase helping and cooperation in a variety of situations, such as volunteering for an unpleasant experiment [13], helping someone pick up dropped papers [14], or adopting a cooperative strategy in a negotiation [15].

Although different in its time course—directed at the future rather than the present—hope appears to have compatible effects [16]. Feelings of hope have been linked with support for humanitarian aid to civilians of the opposing side during wartime [17] and the willingness to make compromises to attain peace [18].

Interpersonal effects

At the interpersonal level, expressing emotions associated with opportunity and affiliation signals benevolent intentions to others, which has different social consequences depending on the situation [19]. Early work revealed that expressions of happiness can elicit co-worker support [20] and prosocial behavior in teams [21]. Similarly, members of laboratory groups containing a happy confederate exhibited greater cooperation than members of groups containing a non-happy confederate [22]. However, such effects are limited to authentic happiness displays. Participants playing a trust game cooperated more with fellow players who showed authentic rather than inauthentic smiles [23], and participants in a field experiment made larger donations to

fundraisers who displayed genuine rather than fake happiness [24].

Different effects are observed in more competitive situations. In negotiation studies, participants whose opponents expressed happiness became less cooperative, because they inferred that their opponent was easily satisfied [25,26]. Similarly, participants playing an economic game made more unfair offers to a partner whom they believed had just watched a happiness-inducing rather than an anger-inducing film [27]. Such exploitative behavior became more likely as the intensity of happiness expressions increased [28]. Thus, whereas expressions of happiness enhance the prosocial behavior of targets in cooperative settings, they undermine prosocial behavior in competitive settings. It remains to be examined whether other emotions in this cluster show similar patterns.

Appreciation and self-transcendence: Gratitude, compassion, awe, and elevation

A second category of emotions is associated with decreased self-importance and increased concern for others' welfare. Examples include gratitude (when benefitting from another's kindness), compassion (when witnessing another's hardship), awe (when beholding something vast or powerful), and elevation (when witnessing another's virtuous deeds). These emotions are "self-transcendent" in that they shift people's focus from their own needs and desires to those of others [29].

Intrapersonal effects

Gratitude fuels prosocial behavior by motivating people to reciprocate the kindness of others [30,31]. In early studies, participants cooperated with former benefactors in an economic game due to feelings of gratitude [4,32]. Gratitude can also engender helping by broadening the beneficiary's perspective toward others [33] while inhibiting competitive tendencies [34]. Thus, gratitude promotes communal relationships [35,36].

Compassion facilitates protective responses to those who suffer [37]. The experience of compassion involves parasympathetic activation that has been linked with commitment to the welfare of others and the reduction of harm [37–39]. Individual variation in compassion predicts supportive behavior (e.g., helping, charitable giving [40]), and situationally-induced compassion catalyzes generosity [41]. Interestingly, however, when helping a victim of a transgression is impossible, compassion can promote punishment of the perpetrator (i.e., harm) [42].

Awe triggers a metaphorical sense of smallness of the self, which reduces the significance individuals attach to their personal goals and shifts their attention toward

others [29,43]. Accordingly, individual differences in awe-proneness and situational inductions of awe predict various types of prosocial behavior, such as generosity in economic games [43] and the willingness to help others [44]. These effects can partly be explained by the sense of a diminished self [43].

Elevation also promotes prosocial behavior [45]. Participants induced to experience elevation were more likely to volunteer for a subsequent unpaid study, spent more time helping the experimenter with an onerous task [46], and made larger charitable donations [47] compared to those experiencing different emotions.

Interpersonal effects

Research at the interpersonal level is comparatively scarce. Theoretically, expressions of gratitude reinforce prosocial behavior by increasing the likelihood that benefactors behave prosocially in the future [48]. Indeed, brief expressions of gratitude by a beneficiary motivated helpers to offer renewed assistance to the same beneficiary as well as to others [49,50]. Correlational evidence suggests that expressions of gratitude make relationship partners more responsive to each other's needs by signaling appreciation [51]. Whether expressions of compassion, awe, and elevation have similar effects remains to be investigated.

Distress and supplication: Sadness, disappointment, fear, and anxiety

A third cluster consists of emotions that arise when people are confronted with events (past, current, or future) in which outcomes deviate negatively from expectations, wishes, or needs, and they experience a lack of control over the situation. Examples include sadness (when experiencing an irrevocable loss), disappointment (when confronting disconfirmed expectancies), fear (when facing a threat), and anxiety (when contemplating the possibility of undesirable outcomes). These have been referred to as "supplication" emotions because they serve as a call for help [19].

Intrapersonal effects

Early studies investigated the effects of sadness and related emotions on prosocial behavior at the intrapersonal level, producing mixed effects. Some evidence indicates that sadness increases helping [52], whereas other evidence suggests the opposite [53]. Consistent with the notion of negative state relief [52], saddened participants exhibited enhanced helping only when they believed their mood to be changeable, suggesting that they helped others to alleviate their own negative feelings [54].

Later work examined the effects of anxiety in negotiations. Participants who were induced to feel anxious made more cooperative offers and responded more

quickly to their counterpart's offers than those in a neutral state [55].

Interpersonal effects

At the interpersonal level, emotions of distress and supplication fuel perceptions of neediness and dependency [56,57], which promote prosocial behavior. In an early study, communally-oriented individuals offered more help to another person who was described as sad rather than neutral [58]. In later work, facial display of sadness increased charity donations [59], and tearful (as compared to tearless) faces elicited help and emotional support [60–62].

Compatible effects have been observed for other supplication emotions. In one study, expressions of disappointment elicited more help and financial support toward the expresser than did neutral or angry expressions [8]. Likewise, participants were more willing to help a protagonist (e.g., by donating money and time) after having been primed with fear expressions of another person than after having seen neutral expressions, and these effects were stronger for those who were better at recognizing fear [63–65]. In a more applied context, customers' displays of fear elicited helpful behaviors from airline personnel [66].

Although supplication emotions—which may be perceived as a sign of weakness [67]—are preferentially expressed in communal relationships [58], they can also be wielded in competitive settings. Indeed, in various studies involving negotiation tasks and economic games, one party's expressions of disappointment elicited cooperative behavior in the other party [6,9,68]. These effects are, however, subject to boundary conditions. For instance, expressions of disappointment only increased cooperation under conditions of high rather than low trust [9] and when expresser and perceiver belonged to the same group [67]. Under these circumstances, expressions of disappointment are more likely to elicit complementary feelings of guilt in perceivers, which in turn promote cooperation [6,67]. Similarly, expressions of sadness by negotiation partners elicited complementary feelings of compassion and concomitant cooperation only when negotiators experienced concern for the expresser (e.g., when anticipating future interaction [69]).

Dominance and status assertion: Anger, disgust, contempt, envy, and pride

A fourth cluster contains emotions that arise when people wish to defend their interests and/or (re)establish their dominance, status, or superiority vis-à-vis others. Examples are anger (when blaming another for frustrating one's goals), disgust (when being revolted by something or someone), contempt (when feeling morally superior to another), envy (when facing an

unfavorable self-other comparison), and pride (when attaining success).

Intrapersonal effects

Most of the research in this cluster has focused on anger. A classic experiment revealed that rejections of unfair offers in an ultimatum game were mediated by anger [70]. In other studies, trait anger and an experimental induction of incidental anger predicted reduced cooperation in social dilemmas [71,72]. Thus, anger typically hampers prosocial behavior, although the accompanying motivation to set things straight can be channeled in prosocial directions (e.g., counteracting harm done to a victim [73]).

Research on other emotions in this cluster is limited. There is some evidence, however, that contempt reduces cooperation in intercultural encounters [74], disgust increases rejection rates in ultimatum bargaining games [75–77], and envy reduces helping behavior (e.g., picking up dropped pencils [78]).

Interpersonal effects

At the interpersonal level, expressions of anger elicit different responses depending on the context. In early work, fellow students who were described as angry were less likely to be helped by participants than those who were described as neutral or sad [5]. In another study, participants donated less to a charity collector who expressed anger (rather than disappointment or no emotion), and they transferred less money to a co-player who expressed anger in an economic game [8]. In an organizational setting, leaders' expressions of anger undermined the "organizational citizenship behavior" (e.g., working overtime [79]) of followers. These findings indicate that expressions of anger decrease voluntary helping.

In the competitive context of negotiation, however, expressions of anger can be effective in extracting cooperation. In various studies, expressions of anger elicited more generous offers in negotiations and ultimatum bargaining games than neutral expressions, because expressions of anger signal toughness and ambition [25,26,80–82]. These effects only occur, however, when the perceiving negotiator is motivated to process the implications of the other's anger [26,83], and perceives the anger as appropriate [84,85] and authentic [24,86,87].

The interpersonal effects on prosocial behavior of other emotions in this category are understudied. There is some evidence that expressions of disgust regulate different types of prosocial behavior than expressions of anger. In one study, participants expressed anger when their self-interest was harmed but disgust to show moral concern, and these signals were also interpreted as such

by observers [88]. In another study, participants inferred autonomy violations from expressions of anger but purity violations from expressions of disgust [89]. These findings suggest that expressions of anger serve to protect autonomy and self-interest, whereas expressions of disgust serve to uphold moral behavior. Finally, research indicates that displays of "authentic" pride (reflecting accomplishment) signal greater prosociality than displays of "hubristic" pride (reflecting arrogance), suggesting differential implications for others' prosocial behavior [90].

Appeasement and social repair: Guilt, regret, embarrassment, and shame

A final category consists of emotions that arise when people realize they violated some code of conduct. Examples include guilt (when inflicting harm on another person), interpersonal regret (when wishing one had treated another person better), embarrassment (when transgressing a social convention), and shame (when failing to live up to one's own or others' expectations).

Intrapersonal effects

Initial evidence speaks to the intrapersonal effects of guilt. Participants in a prisoner's dilemma who had (vs. had not) been induced to feel guilty about their previous (uncooperative) behavior displayed higher levels of cooperation in the subsequent round of the game [91]. Compatible effects of guilt were observed in studies on charitable giving [92,93]. Furthermore, in competitive settings, guilt inhibited the motivation to defeat others [94].

Similar tendencies have been documented for shame, although such effects only occurred when people thought their shame could be remedied [95,96]. Finally, research found that more "embarrassable" individuals behaved more generously than their less embarrassable counterparts [97].

Interpersonal effects

Theoretical perspectives suggest that the expression of appeasement emotions serves to rebuild trust, promote social reconciliation, and deflect retaliation [98,99]. Accordingly, early work found that apologizing for a transgression, which can be seen as an acknowledgment of guilt and/or an expression of regret, reduces aggression [100]. In more direct evidence, participants entrusted more resources to another person who displayed embarrassment due to perceptions of that person's prosociality [97].

However, the very signs of prosociality that are an asset in cooperative relationships constitute a liability in competitive encounters. Participants who received verbal expressions of guilt or regret from a counterpart in a negotiation rated the counterpart as more interper-

sonally sensitive than those who received no such statements, but they also reduced their cooperation toward the counterpart because they inferred that the counterpart had claimed too much and would likely make up for it with future concessions [9].

Emerging patterns, implications, and future directions

We distinguished five clusters of emotions and reviewed their effects on the prosocial behavior of self (intrapersonal effects) and others (interpersonal effects). Our review revealed that effects of emotions on prosocial behavior are largely similar within emotion clusters, but appreciably different between clusters. Moreover, there are notable differences between the intrapersonal and interpersonal effects of emotions on prosocial behavior. The emerging patterns and conclusions are graphically depicted in Figure 1, and can be summarized as follows:

First, some emotions generally promote people's own prosocial behavior, but not necessarily that of others. This goes for emotions associated with opportunity and affiliation and emotions associated with appeasement and social repair. The prosocial tendencies fueled by these emotions render individuals vulnerable to exploitation by others, especially in competitive situations.

Second, some emotions evoke prosocial behavior in others, but not necessarily in the self. This is true for emotions of distress and supplication, whose primary

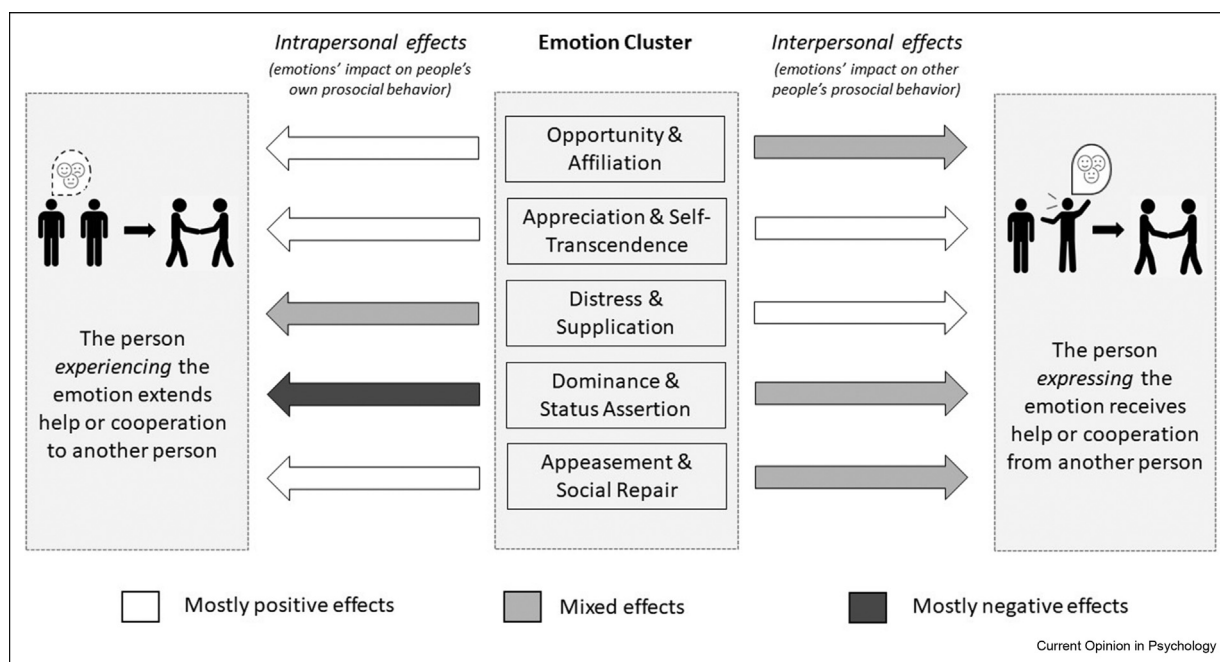
function appears to reside at the interpersonal level—soliciting help from others.

Third, some emotions are generally uncondusive to prosocial behavior, except under specific circumstances. Specifically, emotions associated with dominance and status assertion tend to undermine prosocial behavior in the self and others, but they can extract prosocial responses from others in competitive settings.

Finally, some emotions may promote prosocial behavior both in the self and in others. This appears to be the case for emotions associated with appreciation and self-transcendence, although evidence regarding interpersonal effects thus far is limited to gratitude.

An overarching conclusion emerging from these patterns is that some emotions contribute to prosocial behavior primarily through intrapersonal processes, whereas others do so via interpersonal processes (see Table 1). This insight provides a new angle on the fundamental question of whether emotions have evolved because of their intrapersonal and/or interpersonal functions. The current review suggests it depends on the emotion. To the degree that the regulation of prosocial behavior contributed to the evolution of emotions, supplication emotions may have been selected for because of their interpersonal effects, as it appears more adaptive to express these emotions than to experience them (although fear and anxiety can

Figure 1



Graphical summary of the intrapersonal and interpersonal effects of five clusters of emotions on prosocial behavior. Mixed interpersonal effects can be understood by considering the cooperative or competitive nature of the social context.

Table 1

Primary functions of five clusters of emotions in regulating prosocial behavior at the intrapersonal and interpersonal level of analysis, including “side effects” suggesting functionality trade-offs.

Emotion Cluster	Proposed primary functions and “side effects”
<i>Opportunity and affiliation</i> (happiness, contentment, hope)	<p><i>Primary functions</i></p> <ul style="list-style-type: none"> - Promoting prosocial behavior by broadening momentary thought-action repertoires (intrapersonal) - Signaling prosocial intentions to others (interpersonal) <p><i>Side effect</i></p> <ul style="list-style-type: none"> - Increased vulnerability to exploitation in competitive encounters (interpersonal)
<i>Appreciation and self-transcendence</i> (gratitude, awe, elevation, compassion)	<p><i>Primary function</i></p> <ul style="list-style-type: none"> - Promoting prosocial behavior by deprioritizing self-interest (intrapersonal) <p><i>Side effect</i></p> <ul style="list-style-type: none"> - Signaling appreciation, humility, and concern to others (interpersonal)
<i>Distress and supplication</i> (sadness, disappointment, fear, anxiety)	<p><i>Primary function</i></p> <ul style="list-style-type: none"> - Soliciting help by signaling neediness (interpersonal) <p><i>Side effect</i></p> <ul style="list-style-type: none"> - Signaling weakness (interpersonal)
<i>Dominance and status assertion</i> (anger, disgust, contempt, envy, pride)	<p><i>Primary functions</i></p> <ul style="list-style-type: none"> - Protecting self-interest by reducing own prosocial behavior (intrapersonal) - Protecting self-interest by extracting prosocial behavior from others in competitive settings (interpersonal) <p><i>Side effect</i></p> <ul style="list-style-type: none"> - Undermining the prosocial behavior of others in cooperative settings (interpersonal)
<i>Appeasement and social repair</i> (guilt, regret, shame, embarrassment)	<p><i>Primary functions</i></p> <ul style="list-style-type: none"> - Restoring cooperative relationships by motivating repair work after a misstep (intrapersonal) - Signaling concern about relationship to cooperation partners (interpersonal) <p><i>Side effect</i></p> <ul style="list-style-type: none"> - Increased vulnerability to exploitation in competitive settings (interpersonal)

have functional intrapersonal effects in non-social situations, for instance via reduced risk-taking) [55]. In contrast, emotions associated with opportunity and affiliation and emotions associated with appeasement and social repair have rather apparent intrapersonal effects on prosocial behavior that may have contributed to their evolution.

Our review reveals “functionality trade-offs” in the intrapersonal and interpersonal effects of emotions, in that the beneficial consequences of emotions for prosociality at one level of analysis are counteracted by harmful side effects at the other level (see Table 1). It is conceivable that these trade-offs arose as a result of differential evolutionary pressures in cooperative versus competitive contexts [10,101,102]. For instance, the intrapersonal and interpersonal functions of emotions associated with appeasement and social repair may have co-evolved as humans developed adaptive responses to counter threats to cooperative relationships. This would have come at the expense of the value of these emotions

in competitive contexts, where increased vulnerability to exploitation is an unhelpful byproduct. Conversely, the intrapersonal and interpersonal functions of emotions associated with dominance and status assertion may have co-evolved as humans developed adaptive responses to prevail in the face of competition. This may have come at the expense of the utility of these emotions in cooperative contexts, where the deterrence of prosocial behavior would be a dysfunctional side effect.

Interestingly, the interpersonal effects of some emotional expressions can be explained by the intrapersonal effects of complementary emotional responses they trigger in others. For instance, expressions of sadness or disappointment can trigger complementary compassion [39] or guilt [6,68,103], which in turn fuel prosocial responses. Thus, intrapersonal and interpersonal functions of emotions belonging to different emotion clusters may have co-evolved to create emotional dynamics that sustain prosocial behavior.

These intricacies highlight that a deep understanding of the interface of emotions and prosociality requires considering the effects of emotions on the self and on others. Important empirical contributions can be made in future research by incorporating intrapersonal and interpersonal effects in the same study (see Ref. [104]). By tracking effects in ongoing social interactions, more insight can be gained in how intrapersonal and interpersonal effects of emotions conspire to shape prosocial behavior over time. This work could be complemented with simulation studies to model the temporal unfolding of prosocial behavior. Such efforts may bring us closer to understanding the pivotal yet complex role of emotions in shaping prosocial behavior.

Conflict of interest statement

Nothing declared.

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