



UvA-DARE (Digital Academic Repository)

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

van Kleef, G.A.; Lelieveld, G.-J.

DOI

[10.1016/j.copsyc.2021.08.029](https://doi.org/10.1016/j.copsyc.2021.08.029)

Publication date

2022

Document Version

Final published version

Published in

Current Opinion in Psychology

License

CC BY-NC-ND

[Link to publication](#)

Citation for published version (APA):

van Kleef, G. A., & Lelieveld, G.-J. (2022). Moving the self and others to do good: The emotional underpinnings of prosocial behavior. *Current Opinion in Psychology*, 44, 80-88. <https://doi.org/10.1016/j.copsyc.2021.08.029>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

UvA-DARE is a service provided by the library of the University of Amsterdam (<https://dare.uva.nl>)

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

Current Opinion in Psychology 2022, **44**:80–88This review comes from a themed issue on **Prosociality (2022)**Edited by **Stefan Pfattheicher** and **Isabel Thielmann**For complete overview about the section, refer [Prosociality \(2022\)](#)

Available online 31 August 2021

<https://doi.org/10.1016/j.copsyc.2021.08.029>2352-250X/© 2021 The Author(s). Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

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

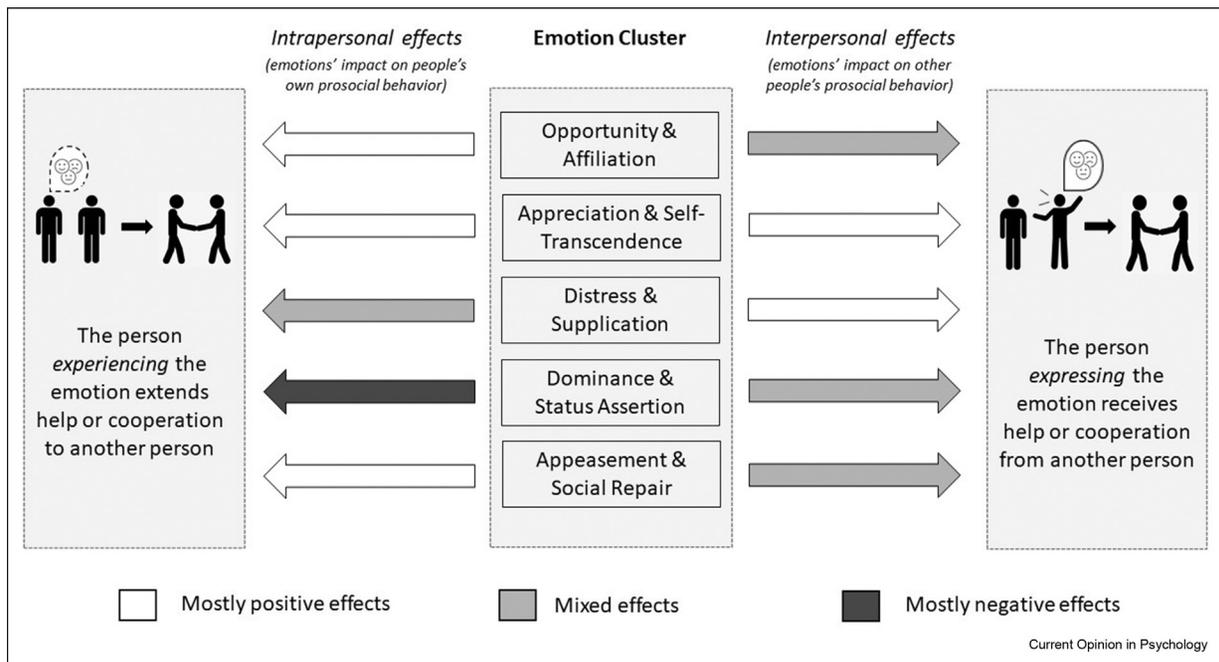
function appears to reside at the interpersonal level—soliciting help from others.

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> <p>Signaling appreciation, humility, and concern to others (interpersonal)</p>
<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.

References

Papers of particular interest, published within the period of review, have been highlighted as:

* of special interest

1. Penner LA, Dovidio JF, Piliavin JA, Schroeder DA: **Prosocial behavior: multilevel perspectives**. *Annu Rev Psychol* 2005, **56**:365–392.
2. Keltner D, Kogan A, Piff PK, Saturn SR: **The sociocultural appraisals, values, and emotions (SAVE) framework of prosociality: core processes from gene to meme**. *Annu Rev Psychol* 2014, **65**:425–460.
In this systematic review, the authors provide a framework of the psychological factors that shape individuals' inclination toward prosociality, including sociocultural appraisals, values, and emotions (SAVE). The authors discuss the biological underpinnings of prosociality and apply their framework to understanding the role of social class in prosociality.
3. Van Kleef GA: **How emotions regulate social life: the emotions as social information (EASI) model**. *Curr Dir Psychol Sci* 2009, **18**:184–188.
This paper describes Emotions as Social Information (EASI) theory, a framework that explains the interpersonal effects of emotional expressions. It posits that emotional expressions influence observers' behavior by triggering affective reactions and/or inferential processes in them, and that the relative predictive strength of these processes depends on the observer's information processing and on social-contextual factors. This model helps explain the interpersonal effects of emotional expressions on prosocial behavior.
4. Bartlett MY, DeSteno D: **Gratitude and prosocial behavior: helping when it costs you**. *Psychol Sci* 2006, **17**:319–325.
5. Clark MS, Pataki SP, Carver VH: **Some thoughts and findings on self-presentation of emotions in relationships**. In *Knowledge structures in close relationships: a social psychological approach*. Edited by Fletcher GJO, Fitness J, Erlbaum; 1996: 247–274.
6. Lelieveld G-J, Van Dijk E, Van Beest I, Van Kleef GA: **Why anger and disappointment affect bargaining behavior differently: the moderating role of power and the mediating role of reciprocal and complementary emotions**. *Pers Soc Psychol Bull* 2012, **38**:1209–1221.
7. Prade C, Saroglou V: **Awe's effects on generosity and helping**. *J Posit Psychol* 2016, **11**:522–530.
8. Van Doorn EA, Van Kleef GA, Van der Pligt J: **How emotional expressions shape prosocial behavior: interpersonal effects of anger and disappointment on compliance with requests**. *Motiv Emot* 2015, **39**:128–141.
9. Van Kleef GA, De Dreu CKW, Manstead ASR: **Supplication and appeasement in conflict and negotiation: the interpersonal effects of disappointment, worry, guilt, and regret**. *J Pers Soc Psychol* 2006, **91**:124–142.
10. Van Kleef GA, De Dreu CKW, Manstead ASR: **An interpersonal approach to emotion in social decision making: the emotions as social information model**. *Adv Exp Soc Psychol* 2010, **42**:45–96.
11. Fredrickson BL: **The role of positive emotions in positive psychology: the broaden-and-build theory of positive emotions**. *Am Psychol* 2001, **56**:218–226.
12. Aknin LB, Van de Vondervoort JW, Hamlin JK: **Positive feelings reward and promote prosocial behavior**. *Curr Opin Psychol* 2018, **20**:55–59.
In this theoretical paper, the authors highlight classic and recent evidence showing a bidirectional relationship between positive feelings and prosocial behavior. The authors propose that various positive states prompt prosocial behavior, and that prosocial action leads to positive states.
13. Aderman D: **Elation, depression, and helping behavior**. *J Pers Soc Psychol* 1972, **24**:91–101.
14. Isen AM, Levin PF: **Effect of feeling good on helping: cookies and kindness**. *J Pers Soc Psychol* 1972, **21**:384–388.
15. Forgas JP: **On feeling good and getting your way: mood effects on negotiator cognition and behavior**. *J Pers Soc Psychol* 1998, **74**:565–577.
16. Cohen-Chen S, Crisp RJ, Halperin E: **A new appraisal-based framework underlying hope in conflict resolution**. *Emot Rev* 2017, **9**:208–214.
17. Halperin E, Gross JJ: **Emotion regulation in violent conflict: reappraisal, hope, and support for humanitarian aid to the opponent in wartime**. *Cognit Emot* 2011, **25**:1228–1236.
18. Cohen-Chen S, Halperin E, Crisp RJ, Gross JJ: **Hope in the Middle East: malleability beliefs, hope, and the willingness to compromise for peace**. *Soc Psychol Person Sci* 2014, **5**:67–75.
19. Van Kleef GA: *The interpersonal dynamics of emotion: toward an integrative theory of emotions as social information*. Cambridge University Press; 2016.
20. Staw BM, Sutton RI, Pelled LH: **Employee positive emotion and favorable outcomes at the workplace**. *Organ Sci* 1994, **5**:51–71.
21. George JM, Bettenhausen K: **Understanding prosocial behavior, sales performance, and turnover: a group-level analysis in a service context**. *J Appl Psychol* 1990, **75**:698–709.
22. Barsade SG: **The ripple effect: emotional contagion and its influence on group behavior**. *Adm Sci Q* 2002, **47**:644–675.
23. Krumhuber E, Manstead ASR, Cosker D, Marshall D, Rosin PL, Kappas A: **Facial dynamics as indicators of trustworthiness and cooperative behavior**. *Emotion* 2007, **7**:730–735.
24. Hideg I, Van Kleef GA: **When expressions of fake emotions elicit negative reactions: the role of observers' dialectical thinking**. *J Organ Behav* 2017, **38**:1196–1212.
25. Van Kleef GA, De Dreu CKW, Manstead ASR: **The interpersonal effects of anger and happiness in negotiations**. *J Pers Soc Psychol* 2004, **86**:57–76.
26. Van Kleef GA, De Dreu CKW, Manstead ASR: **The interpersonal effects of emotions in negotiations: a motivated information processing approach**. *J Pers Soc Psychol* 2004, **87**:510–528.
27. Andrade EB, Ho T-H: **How is the boss's mood today? I want a raise**. *Psychol Sci* 2007, **18**:668–671.
28. Barasch A, Levine EE, Schweitzer ME: **Bliss is ignorance: how the magnitude of expressed happiness influences perceived naiveté and interpersonal exploitation**. *Organ Behav Hum Decis Process* 2016, **137**:184–206.
29. Stellar JE, Gordon AM, Piff PK, Cordaro D, Anderson CL, Bai Y, ... Keltner D: **Self-transcendent emotions and their social functions: compassion, gratitude, and awe bind us to others through prosociality**. *Emot Rev* 2017, **9**:200–207.

The authors provide a theoretical analysis of three self-transcendent emotions: compassion, gratitude, and awe. They propose that these emotions evolved to help humans solve unique problems related to caretaking, cooperation, and group coordination in social interactions.

30. Ma LK, Tunney RJ, Ferguson E: **Does gratitude enhance prosociality? A meta-analytic review.** *Psychol Bull* 2017, **143**: 601–635.

In this meta-analytic review, the authors examined the overall strength of the association between gratitude and prosociality, including 252 effect sizes from 65 papers. Results show a moderate positive correlation between gratitude and prosociality. The authors also identify several variables that moderate this relation.

31. McCullough ME, Kimeldorf MB, Cohen AD: **An adaptation for altruism: the social causes, social effects, and social evolution of gratitude.** *Curr Dir Psychol Sci* 2008, **17**:281–285.
32. DeSteno D, Bartlett MY, Baumann J, Williams LA, Dickens L: **Gratitude as moral sentiment: emotion-guided cooperation in economic exchange.** *Emotion* 2010, **10**:289–293.
33. Chang YP, Lin YC, Chen LH: **Pay it forward: gratitude in social networks.** *J Happiness Stud* 2012, **13**:761–781.
34. Sasaki E, Jia L, Lwa HY, Goh MT: **Gratitude inhibits competitive behaviour in threatening interactions.** *Cognit Emot* 2020, **34**:1097–1111.
35. Algoe SB, Haidt J, Gable SL: **Beyond reciprocity: gratitude and relationships in everyday life.** *Emotion* 2008, **8**:425–429.
36. Peng C, Nelissen RM, Zeelenberg M: **Reconsidering the roles of gratitude and indebtedness in social exchange.** *Cognit Emot* 2018, **32**:760–772.
37. Goetz JL, Keltner D, Simon-Thomas E: **Compassion: an evolutionary analysis and empirical review.** *Psychol Bull* 2010, **136**:351–374.
38. Stellar JE, Cohen A, Oveis C, Keltner D: **Affective and physiological responses to the suffering of others: compassion and vagal activity.** *J Pers Soc Psychol* 2015, **108**:572–585.
39. Van Kleef GA, Oveis C, Van der Löwe I, LuoKogan A, Goetz J, Keltner D: **Power, distress, and compassion: turning a blind eye to the suffering of others.** *Psychol Sci* 2008, **19**: 1315–1322.
40. Lim D, DeSteno D: **Suffering and compassion: the links among adverse life experiences, empathy, compassion, and prosocial behavior.** *Emotion* 2016, **16**:175–182.
41. Saslow LR, Willer R, Feinberg M, Piff PK, Clark K, Keltner D, et al.: **My brother's keeper? Compassion predicts generosity more among less religious individuals.** *Soc Psychol Person Sci* 2013, **4**:31–38.
42. Pfattheicher S, Sassenrath C, Keller J: **Compassion magnifies third-party punishment.** *J Pers Soc Psychol* 2019, **117**: 124–141.
43. Piff PK, Dietze P, Feinberg M, Stancato DM, Keltner D: **Awe, the small self, and prosocial behavior.** *J Pers Soc Psychol* 2015, **108**:883–899.

Across five studies, the authors show that the experience of awe increases prosocial behavior, using a representative national sample as well as follow-up experiments in the lab. Mediation data demonstrate that the effects of awe on prosociality can be explained by feelings of a small self.

44. Rudd M, Vohs KD, Aaker J: **Awe expands people's perception of time, alters decision making, and enhances well-being.** *Psychol Sci* 2012, **23**:1130–1136.
45. Algoe SB, Haidt J: **Witnessing excellence in action: the 'other-praising' emotions of elevation, gratitude, and admiration.** *J Posit Psychol* 2009, **4**:105–127.
46. Schnall S, Roper J, Fessler DM: **Elevation leads to altruistic behavior.** *Psychol Sci* 2010, **21**:315–320.
47. Van de Vyver J, Abrams D: **Testing the prosocial effectiveness of the prototypical moral emotions: elevation increases benevolent behaviors and outrage increases justice behaviors.** *J Exp Soc Psychol* 2015, **58**:23–33.

48. McCullough ME, Kilpatrick SD, Emmons RA, Larson DB: **Is gratitude a moral affect?** *Psychol Bull* 2001, **127**:249–266.
49. Algoe SB, Dwyer PC, Young A, Oveis C: **A new perspective on the social functions of emotions: gratitude and the witnessing effect.** *J Pers Soc Psychol* 2020, **119**:40–74.
- This paper is concerned with the social consequences of gratitude in groups. The authors present eight studies documenting how expressions of gratitude reverberate in groups to shape cooperation. Using different operationalizations, involving verbal as well as nonverbal emotional expressions, the authors demonstrate that third parties who witnessed a first party's expressions of gratitude directed at a second party were subsequently more helpful and affiliative toward both other parties. These results indicate that gratitude facilitates prosocial behavior in groups.
50. Grant AM, Gino F: **A little thanks goes a long way: explaining why gratitude expressions motivate prosocial behavior.** *J Pers Soc Psychol* 2010, **98**:946–955.
51. Gordon AM, Impett EA, Kogan A, Oveis C, Keltner D: **To have and to hold: gratitude promotes relationship maintenance in intimate bonds.** *J Pers Soc Psychol* 2012, **103**: 257–274.
52. Cialdini RB, Darby BL, Vincent JE: **Transgression and altruism: a case for hedonism.** *J Exp Soc Psychol* 1973, **9**:502–516.
53. George JM: **Personality, affect, and behavior in groups.** *J Appl Psychol* 1990, **75**:107–116.
54. Manucia GK, Baumann DJ, Cialdini RB: **Mood influences on helping: direct effects or side effects?** *J Pers Soc Psychol* 1984, **46**:357–364.
55. Brooks AW, Schweitzer ME: **Can Nervous Nelly negotiate? How anxiety causes negotiators to make low first offers, exit early, and earn less profit.** *Organ Behav Hum Decis Process* 2011, **115**:43–54.
56. Clark MS, Taraban CB: **Reactions to and willingness to express emotion in two types of relationships.** *J Exp Soc Psychol* 1991, **27**:324–336.
57. Vingerhoets AJ, Van de Ven N, Van der Velden Y: **The social impact of emotional tears.** *Motiv Emot* 2016, **40**:455–463.
58. Clark MS, Ouellette R, Powell MC, Milberg S: **Recipient's mood, relationship type, and helping.** *J Pers Soc Psychol* 1987, **53**: 94–103.
59. Small DA, Verrochi NM: **The face of need: facial emotion expression on charity advertisements.** *J Mark Res* 2009, **46**: 777–787.
60. Hendriks MC, Vingerhoets AJ: **Social messages of crying faces: their influence on anticipated person perception, emotions and behavioural responses.** *Cognit Emot* 2006, **20**: 878–886.
61. Küster D: **Social effects of tears and small pupils are mediated by felt sadness: an evolutionary view.** *Evol Psychol* 2018, **16**:1–9.
62. Zickfeld JH, Van de Ven N, Pich O, Schubert TW, Berkessel JB, Pizarro JJ, et al.: **Tears evoke the intention to offer social support: a systematic investigation of the interpersonal effects of emotional crying across 41 countries.** *J Exp Soc Psychol* 2021, **95**:104137.
63. Marsh AA, Ambady N: **The influence of the fear facial expression on prosocial responding.** *Cognit Emot* 2007, **21**: 225–247.
64. Marsh AA, Kozak MN, Ambady N: **Accurate identification of fear facial expressions predicts prosocial behavior.** *Emotion* 2007, **7**:239–251.
65. Kaltwasser L, Hildebrandt A, Wilhelm O, Sommer W: **On the relationship of emotional abilities and prosocial behavior.** *Evol Hum Behav* 2017, **38**:298–308.
66. DeCelles KA, DeVoe SE, Rafaeli A, Agasi S: **Helping to reduce fights before flights: how environmental stressors in organizations shape customer emotions and customer–employee interactions.** *Person Psychol* 2019, **72**:49–80.

67. Lelieveld G-J, Van Dijk E, Van Beest I, Van Kleef GA: **Does communicating disappointment in negotiations help or hurt? Solving an apparent inconsistency in the social-functional approach to emotions.** *J Pers Soc Psychol* 2013, **105**:605–620.
In four experiments using both verbal and nonverbal emotion manipulations, the authors compared the interpersonal effects of anger and disappointment on the generosity of offers in ultimatum bargaining. Results show that the interpersonal effects of disappointment, but not of anger, depend on the opponent's group membership and on whether the focal negotiator negotiated as an individual or on behalf of a constituency.
68. Wubben MJ, De Cremer D, Van Dijk E: **How emotion communication guides reciprocity: establishing cooperation through disappointment and anger.** *J Exp Soc Psychol* 2009, **45**:987–990.
69. Sinaceur M, Kopelman S, Vasiljevic D, Haag C: **Weep and get more: when and why sadness expression is effective in negotiations.** *J Appl Psychol* 2015, **100**:1847–1871.
70. Pillutla MM, Murnighan JK: **Unfairness, anger, and spite: emotional rejections of ultimatum offers.** *Organ Behav Hum Decis Process* 1996, **68**:208–224.
71. Kassinove H, Roth D, Owens SG, Fuller JR: **Effects of trait anger and anger expression style on competitive attack responses in a wartime prisoner's dilemma game.** *Aggress Behav* 2002, **28**:117–125.
72. Knapp A, Clark M: **Some detrimental effects of negative mood on individuals' ability to solve resource dilemmas.** *Pers Soc Psychol Bull* 1991, **17**:678–688.
73. Van Doorn J, Zeelenberg M, Breugelmans SM: **The impact of anger on donations to victims.** *Int Rev Vict* 2017, **23**:303–312.
74. Matsumoto D, Hwang HC: **The role of contempt in intercultural cooperation.** *Cross Cult Res* 2015, **49**:439–460.
75. Bonini N, Hadjichristidis C, Mazzocco K, Demattè ML, Zampini M, Sbarbati A, et al.: **Pecunia olet: the role of incidental disgust in the ultimatum game.** *Emotion* 2011, **11**:965–969.
76. Harlé KM, Sanfey AG: **Effects of approach and withdrawal motivation on interactive economic decisions.** *Cognit Emot* 2010, **24**:1456–1465.
77. Moretti L, di Pellegrino G: **Disgust selectively modulates reciprocal fairness in economic interactions.** *Emotion* 2010, **10**:169–180.
78. Behler AMC, Wall CS, Bos A, Green JD: **To help or to harm? Assessing the impact of envy on prosocial and antisocial behaviors.** *Pers Soc Psychol Bull* 2020, **46**:1156–1168.
In two studies the authors examined how envy influences prosocial and antisocial behavior. Participants who were put in an envious state (relative to a neutral state) picked up fewer dropped pencils in their immediate vicinity, and assigned more difficult puzzle tasks to another student.
79. Koning LF, Van Kleef GA: **How leaders' emotional displays shape followers' organizational citizenship behavior.** *Leader Q* 2015, **26**:489–501.
80. Sinaceur M, Tiedens LZ: **Get mad and get more than even: when and why anger expression is effective in negotiations.** *J Exp Soc Psychol* 2006, **42**:314–322.
81. Van Dijk E, Van Kleef GA, Steinel W, Van Beest I: **A social functional approach to emotions in bargaining: when communicating anger pays and when it backfires.** *J Pers Soc Psychol* 2008, **94**:600–614.
82. Van Kleef GA, De Dreu CKW: **Longer-term consequences of anger expression in negotiation: retaliation or spill-over?** *J Exp Soc Psychol* 2010, **46**:753–760.
83. Van Kleef GA, De Dreu CKW, Pietroni D, Manstead ASR: **Power and emotion in negotiations: power moderates the interpersonal effects of anger and happiness on concession making.** *Eur J Soc Psychol* 2006, **36**:557–581.
84. Adam H, Shirako A, Maddux WW: **Cultural variance in the interpersonal effects of anger in negotiations.** *Psychol Sci* 2010, **21**:882–889.
85. Van Kleef GA, Côté S: **Expressing anger in conflict: when it helps and when it hurts.** *J Appl Psychol* 2007, **92**:1557–1569.
86. Campagna RL, Mislin AA, Kong DT, Bottom WP: **Strategic consequences of emotional misrepresentation in negotiation: the blowback effect.** *J Appl Psychol* 2016, **101**:605–624.
87. Côté S, Hideg I, Van Kleef GA: **The consequences of faking anger in negotiations.** *J Exp Soc Psychol* 2013, **49**:453–463.
88. Kupfer TR, Giner-Sorolla R: **Communicating moral motives: the social signaling function of disgust.** *Soc Psychol Person Sci* 2017, **8**:632–640.
89. Heerdink MW, Koning LF, Van Doorn EA, Van Kleef GA: **Emotions as guardians of group norms: expressions of anger and disgust drive inferences about autonomy and purity violations.** *Cognit Emot* 2019, **33**:563–578.
90. Wubben MJ, De Cremer D, Van Dijk E: **Is pride a prosocial emotion? Interpersonal effects of authentic and hubristic pride.** *Cognit Emot* 2012, **26**:1084–1097.
91. Ketelaar T, Au WT: **The effects of feelings of guilt on the behaviour of uncooperative individuals in repeated social bargaining games: an affect-as-information interpretation of the role of emotion in social interaction.** *Cognit Emot* 2003, **17**:429–453.
92. Basil DZ, Ridgway NM, Basil MD: **Guilt appeals: the mediating effect of responsibility.** *Psychol Market* 2006, **23**:1035–1054.
93. Xu H, Bègue L, Bushman BJ: **Too fatigued to care: ego depletion, guilt, and prosocial behavior.** *J Exp Soc Psychol* 2012, **48**:1183–1186.
94. Haran U: **May the best man lose: guilt inhibits competitive motivation.** *Organ Behav Hum Decis Process* 2019, **154**:15–33.
95. De Hooge IE, Zeelenberg M, Breugelmans SM: **Restore and protect motivations following shame.** *Cognit Emot* 2010, **24**:111–127.
96. De Hooge IE, Zeelenberg M, Breugelmans SM: **A functionalist account of shame-induced behaviour.** *Cognit Emot* 2011, **25**:939–946.
97. Feinberg M, Willer R, Keltner D: **Flustered and faithful: embarrassment as a signal of prosociality.** *J Pers Soc Psychol* 2012, **102**:81–97.
Across five studies, the authors demonstrate that observers recognize the expression of embarrassment as a signal of prosociality and commitment to social relationships. Moreover, results show that observers respond with affiliative behaviors toward the signaler, including greater trust and desire to affiliate with the embarrassed individual.
98. Baumeister RF, Stillwell AM, Heatherton TF: **Guilt: an interpersonal approach.** *Psychol Bull* 1994, **115**:243–267.
99. Keltner D, Young RC, Buswell BN: **Appeasement in human emotion, social practice, and personality.** *Aggress Behav* 1997, **23**:359–374.
100. Ohbuchi K, Kameda M, Agarie N: **Apology as aggression control: its role in mediating appraisal of and response to harm.** *J Pers Soc Psychol* 1989, **56**:219–227.
101. Boone RT, Buck R: **Emotional expressivity and trustworthiness: the role of nonverbal behavior in the evolution of cooperation.** *J Nonverbal Behav* 2003, **27**:163–182.
102. Keltner D, Haidt J, Shiota MN: **Social functionalism and the evolution of emotions.** In *Evolution and social psychology*. Edited by Schaller M, Simpson JA, Kenrick DT, Psychology Press; 2006:115–142.
103. Lelieveld G-J, Van Dijk E, Van Beest I, Steinel W, Van Kleef GA: **Disappointed in you, angry about your offer: distinct negative emotions induce concessions via different mechanisms.** *J Exp Soc Psychol* 2011, **47**:635–641.
104. Overbeck JR, Neale MA, Govan CL: **I feel, therefore you act: intrapersonal and interpersonal effects of emotion on negotiation as a function of social power.** *Organ Behav Hum Decis Process* 2010, **112**:126–139. 2010.