

Fear leads to suffering: Fears of compassion predict restriction of the moral boundary

Short title: Fear leads to suffering

Charlie R. Crimston¹

Sarah Blessing¹

Paul Gilbert²

James N. Kirby¹

¹The University of Queensland, Brisbane, Australia

²University of Derby, Derby, United Kingdom

Corresponding Author

Charlie R. Crimston

School of Psychology

University of Queensland

Sir Fred Schonell Drive, St Lucia, QLD 4072

Australia

E-mail: c.crimston@uq.edu.au

Abstract

Empirical investigations into the psychological drivers of more or less expansive moral thinking are lacking from the psychological literature. One potential driver that warrants deeper investigation is compassion – a prosocial motivation to both identify and alleviate suffering. The current research examined the extent to which compassion, and fears of compassion, act as a driver and inhibitor, respectively, of a morally expansive mindset. We tested these associations across three studies ($N = 749$) and found robust support for our predictions. Specifically, stronger compassion to others, and greater fears of extending compassion to others, were linked to enhanced and reduced moral expansiveness, respectively. Moreover, over and above empathy and mindfulness, fears of compassion and compassion uniquely predicted moral expansiveness. Finally, compassion was found to consistently mediate the relationship between fears of compassion to others and moral expansiveness. Our findings further our understanding of the psychological factors that may drive and restrict morally expansive mindsets and hold implications for the broader domains of moral decision-making and prosocial motivation, as well as the application of practices that are designed to facilitate a compassionate mindset (e.g., Compassionate Mind Training).

Keywords: moral expansiveness; moral circle; compassion; fears of compassion; prosociality

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Fear leads to suffering: Fears of compassion predict restriction of the moral boundary

"Fear is the path to the dark side. Fear leads to anger. Anger leads to hate. Hate leads to suffering."

Yoda, *Star Wars: Episode I* (Lucas, 1999)

Moral behaviour evolved in the context of cooperation within and between groups. The degree to which we share and cooperate with others is linked to the degree to which we perceive them to be potential reciprocators, and those who are obeying the moral principles of the group. Essentially, what is regarded as moral for an in-group is not necessarily applied to out-groups (Broom, 2006; Crimston et al., 2018b). What this means is that moral obligations, moral rights, and moral principles, are not equally applied or extended universally. Moreover, human morality varies according to how individuals are classified in relationship to group norms, reciprocal obligations, and behaviour.

This is often referred to as our moral boundary, a demarcation that distinguishes those individuals and groups we deem worthy of moral concern and treatment from those that we do not (P. Singer, 1981). Where this boundary sits varies from group to group, relationship to relationship, and person to person. The domains of such judgements can be multi-dimensional within specific borders, religions, genders, sexualities, and species, and as a consequence, have major consequences for issues of intergroup conflict, racism, sexism, LGBTQI+ rights, and animal welfare.

Compassion is a dimension of morality that involves our ability to extend caring and concern to others. The function of compassion has normally been to address suffering (Gilbert, 2020) rather than tied directly to issues of morality. However, the two constructs are very clearly linked because compassion may invite us to extend our moral thinking beyond

the boundaries of our group to individuals who may have different values, or where there is unlikely to be reciprocation. In addition, compassion can also be used to empathise and understand why some individuals behave harmfully. For example, recognising that some individuals who come from traumatic or harmful backgrounds are more likely to be those that are harmful to society (Lawrence & Lee, 2013; Ribeiro da Silva et al., 2020). In so far as compassion includes the capacity to empathise and mentalise, then compassion may well expand our moral circle.

Beyond the obvious practical constraints that limit our ability to care for others (i.e., time, physical location, finances), why is our morality so often confined? This question of what drives moral expansion, and just as important, what limits it, has been the focus of considerable theoretical and empirical work across the domains of social and moral psychology (for reviews see Crimston et al., 2018b; Goodwin, 2015). Building on this work, here we examine the extent to which moral expansion might be driven by compassion and constrained by fear.

Moral Expansiveness

Moral expansiveness is a psychological construct that refers to individual differences in the scope of entities – human, non-human animal, and environmental – that are deemed worth of moral concern and treatment (Crimston et al., 2016). It incorporates both the perceived moral status of other entities, as well as one’s personal responsibility to uphold and defend that status. Crucially, possessing a morally expansive mindset is strongly tied to moral thought and action, and uniquely predicts prosocial behaviour both in adults (Crimston et al., 2016) and children (Neldner et al., 2018). The scope of moral expansiveness varies from person to person and is susceptible to and determined by a range of cognitive, motivational and contextual factors (see Crimston et al., 2018b). For example, factors such as empathy, increased connection and identification with nature and humanity, and endorsement of

universalism values (e.g., broadmindedness, equality) predict increased moral expansiveness (Crimston et al., 2016; Crimston et al., 2018a).

Our perceptions of other entities also influence the scope of our morality. For example, the extent to which we observe sentience or fundamental human traits (e.g., warmth, reason, and emotion) in other entities is associated with perceived moral worth (Bastian et al., 2011; Gray et al., 2007; Waytz et al., 2010). Contextual factors can also be influential. We tend to deny the mental capacities (and associated moral standing) of animals when their needs and desires conflict with our, such as when we are about to consume meat or when or when in pursuit of a shared resource (Bastian et al., 2012; Loughnan et al., 2010; Opatow, 1993). Collectively, this evidence highlights that moral boundaries are dynamic and flexible. However, our understanding of the psychological factors that drive more or less expansive moral boundaries is still in its infancy. One potential driver with strong ties to morality is compassion.

Compassion and Fears of Compassion

Compassion is conceptualised as a prosocial motivation that seeks to address and prevent suffering, and thereby can foster social connectedness, relationships and prosocial behaviour (Gilbert, 2009, 2014; Kirby, 2017; Weng et al., 2013). Highlighting its importance and efficacy within the clinical domain, compassion has increasingly become the focus of therapeutic interventions which aim to cultivate care and concern towards a range of targets (e.g., loved ones, difficult people, and humanity; Gilbert, 2009; Kirby et al., 2017). At the heart of compassion is suffering, and given all sentient beings can suffer (Singer, 1981), a core component of compassion training is to extend compassion to all sentient beings (Gilbert, 2021; Kirby, 2016). Indeed, compassion programs dedicate training specifically towards enlarging one's compassionate motivation to those targets who are disliked, to strangers, and to entities typically at the fringes of our consideration (Ekman, 2014). Thus, it

is not surprising that compassion has been linked directly to prosocial behaviour. For example, short-term compassion training has been shown to increase prosocial behaviour towards strangers (Leiberg et al., 2011). Similarly, guided compassion-based meditation over a period of two weeks resulted in increased willingness to engage in altruistic helping during an economic game (Weng et al., 2015).

The basic algorithm of the compassionate motivation is first to detect and be sensitive to *signals* indicating suffering, and second to engage an appropriate *response* to address that suffering. In this way, compassion is different from both empathy and mindfulness, two conceptually related but distinct constructs. Empathy is an elusive construct, with longstanding debates in the literature regarding how it should be defined, operationalised and measured (for reviews see Cuff et al., 2016; Hall & Schwartz, 2019). This makes the task of investigating empathy a somewhat difficult prospect for researchers. For the purposes of the current research, we do not claim our approach is all encompassing, but rather provide a definition that closely matches our methodological approach, i.e., one that incorporates both affective and cognitive components (see Cuff et al., 2016). Specifically, we define empathy as to our capacity (or attempt) to understand the perspective of others (also known as cognitive empathy), and to experience feelings of concern for others (also known as affective empathy; Davis, 1983; Singer & Klimecki, 2014).

Empathy can be used as an informer for different motivations, with compassion being one, and empathic concern attempts to capture this (Zaki, 2019). However, empathy can also be used to drive other motivations, such as competitive self-interest or in-group biases (Bloom, 2016; Gilbert, 2019; Loewenstein & Small, 2007). Moreover, there is some evidence that empathy can actually motivate anti-social reactions to those who are not the direct targets of empathy (Buffone & Poulin, 2014), and thinking about the suffering of outgroups can engender schadenfreude rather than compassion (Cikara & Fiske, 2012). For these reasons,

leading scholars have argued that empathy may not be an ideal foundation to promote prosociality and moral concern (Batson et al., 1997; Bloom, 2016).

Mindfulness on the other hand is a process of becoming aware of what is in the present moment (Kabat-Zinn, 2013). Mindfulness has been found to be helpful at reducing levels of subjective distress (Khoury et al., 2015), but less so at being able to reduce immoral attitudes and behaviours such as prejudice and aggression (Kreplin et al., 2018). Indeed, mindfulness helps people become aware of what is in the present moment, but, and in contrast to compassion, it does not inform what actions one should take next (Ricard, 2015). While these concepts contain critical conceptual distinctions, no research has examined how these different constructs of mindfulness, empathy and compassion individually predict more expansive moral thinking. This is crucially important, as many in the prosocial and contemplative literatures incorrectly use these terms interchangeably, as they refer to distinct processes and outcomes (Gilbert et al., 2019).

According to Gilbert (2019) mindfulness and empathy can help support compassionate motivation by noticing and engaging with suffering, but they do not necessarily assist with action. Ministero et al. (2018) notes that people can be very sensitive to suffering (i.e., have an empathic response), but not necessarily be motivated to act or know how to act to alleviate that suffering. In this way, the compassionate motivation holds intriguing parallels with the concept of moral expansiveness, which incorporates not just the acknowledgment that another entity is worthy of moral rights, but that one might have a commitment to defending those rights (Crimston et al., 2016). In line with this, just as morality can be bounded, applied selectively, and not extended to all individuals universally, so too can compassion. Therefore, though compassion has been linked to increased social connectedness, positive relationships, and prosocial behaviour (Gilbert, 2009, 2014; Kirby, 2017; Leiberg et al., 2011; Weng et al., 2013; Weng et al., 2015), conversely, research has

also found that one's fears of compassion can reduce prosocial behaviour towards others (Kirby et al., 2019).

Just like any motivation, fears associated with the expression of compassion may lead to reduced compassion (Gilbert et al., 2011; Gilbert & Mascaró, 2017). As opposed to the lack or absence of a compassionate mindset, fears of compassion are an individual difference that specifically relate to the avoidance or fear response that individuals can have to compassion. These might include fears that compassion is a weakness or self-indulgent, or that compassionate efforts will be seen as incompetent, unhelpful, rejected, or in some way aversive (Gilbert & Mascaró, 2017). A reluctance to engage in compassion can also stem from the fear that one might suffer too much personal distress and be overwhelmed by those in need of compassion (Vitaliano et al., 2003), or the fear that compassion will be perceived by others as a form of manipulative self-interest (Gilbert & Mascaró, 2017). An additional fear of being compassionate may derive from the cost of effort involved and the possibility of resource loss (Cameron et al., 2019; Gilbert et al., 2011).

To understand how fears of compassion can manifest, Gilbert (2020) draws upon evolutionary models, attachment theory and classical conditioning. Specifically, Gilbert postulated that a fear of compassion can develop in those who have learned associations between prosocial actions and aversive outcomes. For example, children can be punished by parents or other 'authoritative' figures (e.g., teachers) for being too generous, kind and compassionate, as it might be seen as naïve or inappropriate (Matos et al., 2017). As a result, the punishment (e.g., being yelled at, anger, criticism) is paired with compassion, and thus individuals can become fearful or avoidant of compassion in the future. In addition, if one is raised in an environment where there is little modelling of compassionate behaviour and high levels of shame, this too can lead to fears of expressing compassion (Matos et al., 2017). Meta-analytic research has since found that importance fears of compassion has as a unique

contributor to general mental health and well-being (Kirby et al., 2019), and fears of compassion have also been tied to reduced prosocial behaviour (Kirby, Seppälä, et al., 2019). We propose that understanding fears tied to compassion is not only crucial for the extension of compassion and prosociality, but the boundaries we put around the entities we ultimately deem worthy of moral concern and treatment.

Tying these ideas together, past research has found that fears related to compassion are associated with reduced extension of compassion to others (Gilbert et al., 2011; Gilbert & Mascaró, 2017). If individuals fear the extension of compassion, whether due to perceptions that it will leave them in distress, rejected, or vulnerable (Cameron et al., 2019; Gilbert & Mascaró, 2017; Gilbert & Mascaró, 2017; Vitaliano et al., 2003), they may look to avoid signals indicating suffering, or experience reduced motivation to respond to address that suffering in others. In turn, this may lead to a reduced motivation to acknowledge the moral rights of others, and/or a reduced commitment to defend those rights (i.e., reduced moral expansiveness; Crimston et al., 2016). These relationships and processes will be examined in the current research.

The Current Research

The evolutionary origins of compassion and morality are slightly different and yet they address similar themes. Specifically, the motivation to both identify and alleviate suffering that is inherent in compassion is conceptually linked to the process of recognising the moral status of other entities, as well as acknowledging that one has a personal responsibility to uphold that status. However, if fears of compassion reduce one's motivation to extend compassion, perhaps due to concerns about being overwhelmed or for fear of losing out on valuable resources, in turn we may be less likely to adopt a morally expansive mindset. This is the primary process being examined in the current research, and is in line with past research demonstrating that the perceived moral worth of other entities can quickly

dissolve when we are faced with competing interests or motivations (e.g., consuming animal products or fighting over shared resources; Bastian et al., 2012; Bastian & Crimston, 2016; Opatow, 1993).

Similar links between compassion and morality have been identified by others. For example, Goetz et al. (2010) argued that compassion is involved in the perception of harm and suffering in others, and that it can subsequently motivate moral judgments and actions in response to unjustified harm (i.e., human rights violations). Similarly, Haidt, (2003) argued that moral emotions like compassion can provide fast, automatic assessments of right and wrong, which can then motivate moral behaviour (Haidt, 2003). However, no past work has examined the extent to which compassion, and fears of compassion, might be antecedents of a morally expansive mindset. Across three studies, we examined links between fears of compassion, compassion and moral expansiveness using established measures of each construct. We predicted that compassion would be positively related to moral expansiveness, while fears of compassion would be negatively associated with moral expansiveness (H1). Secondly, we predicted that fears of compassion and compassion would be unique predictors of moral expansiveness over and above related constructs (i.e., empathy and mindfulness; H2). Finally, in line with past research (Gilbert et al., 2011; Gilbert & Mascaro, 2017), we predicted that fears of compassion would be associated with reduced compassionate thinking. In turn, this reduced drive to extend compassion would be associated with lower moral expansiveness, i.e., compassion would mediate the relationship between fears of compassion and moral expansiveness (H3). Data for all three studies is available on the OSF (link to be provided).

Study 1

A power analysis revealed a sample of at least 138 was required to ensure a 95% change of detecting a medium size effect. Two-hundred U.S. participants (58.00% identifying

male; 42.00% female; $M_{age} = 36.17$, $SD = 11.34$) were then sourced through Prolific Academic. Eighteen participants (9%) were excluded due to failing an attention check, leaving 182 for analysis. Participants completed measures assessing fears of compassion, compassion, empathy, and moral expansiveness.

Measures

Fears of compassion. The fears of compassion (for others) subscale was used to capture attitudes and anxieties relating to the expression of compassion towards others (e.g., “people will take advantage of me if they see me as too compassionate”; 0 = *don't agree at all*, 4 = *completely agree*; 10 items; $\alpha = .89$; Gilbert et al., 2011).

Compassion. The compassion to others dimension of the compassion engagement and action scale (CEAS; Gilbert et al., 2017) captures the motivation and/or ability to extend compassion to distressed others. This measure is comprised of two subscales, the engagement subscale comprises six items assessing compassion attributes (e.g., “I notice and am sensitive to distress in others when it arises”; 1 = *never*, to 10 = *always*; $\alpha = .89$); whereas the action subscale comprises four items that reflect the likelihood of responding with specific compassionate actions to deal with distress (e.g., “I direct attention to what is likely to be helpful to others”; 1 = *never*, to 10 = *always*; $\alpha = .91$).

Empathy. Empathy was measured using the empathic concern (seven items, $\alpha = .92$) and perspective taking (seven items, $\alpha = .85$) sub-scales of the Interpersonal Reactivity Index (Davis, 1983). These two sub-scales assess how well a set of empathic traits describes the individual (e.g., “I often have tender, concerned feelings for people less fortunate than me”; 1 = *does not describe me well*, to 5 = *describes me very well*).

Moral expansiveness. The moral expansiveness scale (MES; Crimston et al., 2016) assesses individual differences in the scope of moral boundaries. Participants indicate the moral worth of 30 human and non-human entities by placing them within one of four graded

moral boundaries (3 = *inner circle*, 2 = *outer circle*, 1 = *fringes of concern*, and 0 = *outside the moral boundary*). Aggregate MES scores are then calculated to determine overall levels of moral expansiveness, with higher scores indicating a more morally expansive mindset ($\alpha = .93$).

Results

Results revealed that the constructs examined were highly interrelated (see Table 1). In line with H1, both the engagement ($r = .30, p < .001$) and action ($r = .29, p < .001$) compassion subscales were associated with increased moral expansiveness, whereas fears of compassion predicted reduced moral expansiveness ($r = -.29, p < .001$). In addition, fears of compassion (for others) was significantly associated with reduced compassion (engagement, $r = -.36, p < .001$; action, $r = -.33, p < .001$), empathic concern ($r = -.45, p < .001$) and perspective taking ($r = -.34, p < .001$). In line with past research (Crimston et al., 2016), moral expansiveness was also positively correlated with empathic concern ($r = .30, p < .001$) and perspective taking ($r = .22, p = .003$).

** insert Table 1 **

Hierarchical linear regression analysis was then used to test the hypothesis that fears of compassion would be a unique predictor of moral expansiveness (H2). Given the high correlations between compassion (action and engagement) and empathy subscales (empathic concern and perspective taking), these subscales were combined to form overall measures of compassion and empathy. This approach also ensured reduced competition between related measures, thus providing a clearer picture of the predictive power of each construct¹. As

¹ To further reduce competition between related constructs in our regression model, we also ran an additional analysis in which a combined empathy and compassion measure was entered into a regression predicting moral expansiveness alongside fears of compassion. In this revised model, both fears of compassion and the combined

presented in Table 2, empathy was entered at Step 1 and significantly predicted increased moral expansiveness ($b = .30$, $SE = .07$, $p < .007$). Compassion was entered at Step 2 and was marginally predictive and empathy was no longer significant. Finally, fears of compassion was entered at Step 3 and significantly predicted reduced moral expansiveness ($b = -.19$, $SE = .08$, $p = .017$), whereas compassion remained a marginal predictor. Given the high correlations between predictor variables we also examined levels of multicollinearity. However, collinearity diagnostics indicated levels of multicollinearity were not problematic (all variance inflation factors [VIFs] > 2.56).

** insert Table 2 **

Finally, mediation analysis via PROCESS in SPSS (model 4; 5,000 bootstrapped samples using bias-corrected 95% confidence intervals; Hayes, 2017; see Figure 1) was used to test H3 that compassion would mediate the relationship between fears of compassion and moral expansiveness. As predicted, this model produced a significant indirect effect of fears of compassion predicting moral expansiveness via compassion, $IE_{boot} = -.09$, $SE_{boot} = .03$, 95% CI [-.16, -.03]. In addition, both the total, $b = -.29$, $SE = .07$, $p < .001$, 95% CI [-.43, -.15], and direct effects of fears of compassion on moral expansiveness were significant, $b = -.20$, $SE = .07$, $p = .009$, 95% CI [-.35, -.05].

** insert Figure 1 **

Discussion

compassion and empathy measures significantly predicted moral expansiveness. The results of this regression are presented in the Supplementary Materials (Table S1).

The results of Study 1 provided support for all three hypotheses. Compassion and fears of compassion for others were associated with increased and reduced levels of moral expansiveness, respectively (H1). Moreover, over and above empathy, fears of compassion still significantly predicted reduced moral expansiveness, whereas compassion emerged as a marginal predictor (H2). Finally, compassion mediated the relationship between fears of compassion and moral expansiveness (H3). Suggesting our fears of compassion may reduce the extension of compassion, and in turn, restrict the moral boundary. We looked to replicate these findings in Study 2. Specifically, we introduced mindfulness as a further prosocial construct to control for when examining the links between compassion and moral expansiveness. Mindfulness is commonly referred to as the process of paying attention, non-judgementally in the present moment (Kabat-Zinn, 1990). Mindfulness has been examined in relation to moral behaviour, with meta-analytic evidence indicating it has various degrees of success (Kreplin et al., 2018). Like empathy, mindfulness is an important competency that can be used differently depending on motivation (Gilbert, 2021). Given compassion is a motivation, we predict it would be better at predicting moral expansiveness compared to both empathy and mindfulness, which was the focus of Study 2.

Study 2

A power analysis revealed a sample of at least 146 was required to ensure a 95% change of detecting a medium size effect. Two-hundred and five U.S. participants (54.60% identifying female; 42.90% male; 2.40% other/unspecified; $M_{age} = 31.61$, $SD = 12.42$) were sourced through Prolific Academic to take part in Study 2. Fourteen participants (6.83%) were excluded due to failing an attention check, leaving 191 for analysis.

Measures

Participants completed the measures of fears of compassion, compassion, empathy, and moral expansiveness reported in Study 1. In addition, participants also completed the

Mindfulness Attention Awareness Scale (MAAS), a 15-item scale designed to assess core characteristics of mindfulness (e.g., “I could be experiencing some emotion and not be conscious of it until sometime later”); 1 = *almost always*, to 6 = *almost never*; $\alpha = .88$; (Brown & Ryan, 2003; Carlson & Brown, 2005).

Results

Correlations between key variables are presented in Table 3. In line with H1 and Study 1, overall compassion positively correlated with moral expansiveness ($r = .37, p < .001$), whereas fears of compassion predicted significantly reduced moral expansiveness ($r = -.31, p < .001$). However, no association emerged between moral expansiveness and mindfulness ($r = .01, p = .939$).

** insert Table 3 **

In line with Study 1, hierarchical linear regression analysis was again used to test H2 that fears of compassion would be a unique predictor of moral expansiveness. As presented in Table 4, empathy and mindfulness were entered at Step 1 with empathy emerging as a significant predictor of moral expansiveness ($b = .36, SE = .07, p < .001$). Compassion was entered at Step 2 and significantly predicted enhanced moral expansiveness ($b = .25, SE = .10, p = .009$) at which point empathy became a marginal predictor. Finally, fears of compassion was entered at Step 3 and significantly predicted reduced moral expansiveness ($b = -.20, SE = .07, p = .007$), whereas compassion remained a significant predictor ($b = .21, SE = .09, p = .025$). Collinearity diagnostics indicated levels of multicollinearity were again not problematic (all variance inflation factors [VIFs] > 2.08)².

² In line with Study 1, we ran an additional regression in which a combined empathy and compassion measure was entered into a regression predicting moral expansiveness alongside fears of compassion and mindfulness. Once again, both fears of compassion and the combined compassion and empathy measures (though not

** insert Table 4 **

Mediation using PROCESS in SPSS (model 4; 5,000 bootstrapped samples using bias-corrected 95% confidence intervals; Hayes, 2017; see Figure 2) was again used to test H3 that compassion would mediate the relationship between fears of compassion and moral expansiveness. As predicted and in line with Study 1, this model produced a significant indirect effect of fears of compassion predicting moral expansiveness via compassion, $IE_{boot} = -.11$, $SE_{boot} = .03$, 95% CI [-.18, -.05]. Both the total, $b = -.31$, $SE = .07$, $p < .001$, 95% CI [-.45, -.17], and direct effects of fears of compassion on moral expansiveness were also significant, $b = -.20$, $SE = .07$, $p = .005$, 95% CI [-.34, -.06].

** insert Figure 2 **

Discussion

The results of Study 2 replicated those of Study 1 and provided further support for all three hypotheses. Compassion and fears of compassion for others were associated with increased and reduced levels of moral expansiveness, respectively (H1). Fears of compassion and compassion significantly predicted MES scores after empathy and mindfulness were taken into account (H2). In addition, compassion again significantly mediated the relationship between fears of compassion and moral expansiveness (H3). In our third and final study we looked to test the causal links between these constructs via an experimental manipulation.

Study 3

mindfulness) significantly predicted moral expansiveness. The results of this regression are presented in the Supplementary Materials (Table S2).

A power analysis revealed a sample of 328 was required to ensure a 95% chance of detecting a small to medium size effect. Three-hundred and forty-four U.S. participants (53.20% identifying female; 44.20% male; 2.60% other/unspecified; $M_{age} = 32.34$, $SD = 11.94$) were sourced through Prolific Academic to take part in Study 3. Twenty-six participants (7.56%) were excluded due to failing an attention check, leaving 318 for analysis. In Study 3, we again sought to replicate previous findings as well as test the causal links between fears of compassion and moral expansiveness using an experimental manipulation.

Measures & Manipulation

In this study, our aim was to manipulate perceived sense of safety, which we predicted would subsequently influence fears surrounding the extension of compassion towards others. We know that fears of compassion are associated with an increased sense of vulnerability, including heightened self-criticism and shame (Kirby, Day, et al., 2019). Therefore, one potential avenue to reducing fears of compassion may lie in the reduction of feelings of threat and vulnerability. Somewhat related work has already established links between perceptions of social and emotional threats and physical safety. For example, inducing a sense of physical safety has been shown to increase positive attitudes towards stigmatized groups and reduce the negative impacts of social exclusion and a decrease in prejudice and resistance to social change among the politically conservative (Huang et al., 2013; Napier et al., 2018).

To manipulate perceived safety, we used an altered version of Huang et al.'s (2013) superpower prime. Participants were randomly assigned to one of two conditions, physical safety or control. In both conditions, participants were instructed that they were to take part in a visualisation task in which they would wake the next day with a superpower. In the physical safety condition, participants visualised a scenario in which they (and their loved ones) were

“completely invulnerable to any form of harm... Nothing can hurt you... Nothing bad can happen to you”. In the control condition, participants visualised they (and their loved ones) had the ability to fly.

In each condition, participants were also assigned a brief reflection task in which they wrote about what it felt like to have their superpower, and how they might use it in their own life. This was done in order to increase the salience of the prime. Following the manipulation, participants completed the compassion engagement and action scale, fears of compassion to others, and the moral expansiveness scale. In addition, given political conservatism has been linked to increased threat sensitivity (Carraro et al., 2011; Jost et al., 2003, 2017) and Napier et al. (2018) found that the effectiveness of their physical safety manipulation was more pronounced among those high (vs. low) in political conservatism, political orientation was included as a control variable in analyses testing the experimental prime. Two items asked participants to indicate their political stance on economic issues (e.g., social welfare, government spending, tax cuts) and social justice issues (e.g., immigration, gay marriage, abortion; 1 = *left/liberal*, to 7 = *right/conservative*), with scores averaged to create an overall measure of political conservatism ($r = .76, p < .001$). Finally, checks were included in order to assess the extent to which our primes made participants feel physically safe, and the extent to which they liked the superpower (*not at all*, to 9 = *extremely*), and their mood following exposure to the prime (1 = *negative*, to 9 = *positive*).

Results

In line with predictions, fears of compassion to others was significantly associated with reduced moral expansiveness ($r = -.40, p < .001$), as well as reduced compassion ($r = -.33, p < .001$). In contrast, compassion again predicted increased moral expansiveness ($r = .35, p < .001$). Political conservatism was positively associated with fears of compassion ($r = .20, p < .001$), and negatively linked to moral expansiveness ($r = -.14, p = .015$; Table 5).

** insert Table 5 **

Turning to the impact of the manipulation, participants in the physical safety condition reported feeling more physically safe during the exercise ($M = 8.08, SD = 1.55$) than those in the control condition ($M = 6.90, SD = 2.08$), $t(316) = -5.72, p < .001$. However, no differences emerged on self-reported mood ($M = 7.59, SD = 1.61$ vs. $M = 7.85, SD = 1.56$, $t[316] = 1.42, p = .155$), or the extent to which participants enjoyed their superpower between the physical safety and control conditions ($M = 6.42, SD = 1.68$ vs. $M = 6.29, SD = 1.90$, $t[316] = -0.62, p = .536$). Contrary to predictions, while controlling for political conservatism³, participants exposed to the safety prime reported significantly higher fears of compassion ($M = 29.85, SD = 7.61$) than those in the control condition ($M = 28.03, SD = 8.44$), $F(1,315) = 4.49, p = .035$. No significant differences emerged between conditions for compassion, $F(1,315) = .13, p = .722$, or moral expansiveness scores, $F(1,315) = 0.98, p = .323$ (see Table 6).

** insert Table 6 **

Given the physical safety prime did not have the predicted effect on fears of compassion, we considered alternate models. As past work has demonstrated that political conservatism is linked to increased threat sensitivity (Carraro et al., 2011; Jost et al., 2003, 2017) and Napier et al. (2018) found that the effectiveness of the physical safety manipulation was more pronounced among those high (vs. low) in political conservatism, we decided to run an exploratory analyses including political conservatism as a moderator.

³ Note, these findings do not change whether or not political conservatism is included as a control variable.

Specifically, we ran a moderated serial mediation analysis (PROCESS model 85; 5,000 bootstrapped samples using bias-corrected 95% confidence intervals; Hayes, 2017), with the physical safety prime entered as the predictor, political conservatism as the moderator, fears of compassion and compassion entered as serial mediators, and moral expansiveness as the dependent variable. Given past research, we predicted that the physical safety prime might lead to reduced fears of compassion and subsequently increased moral expansiveness among those high (vs low) in political conservatism. However, our model indicated no significant moderated, serial mediation, $b = .01$, $SE_{boot} = .01$, 95%CI [-.01, .02].

Finally, we took a second opportunity to replicate our primary model whereby compassion mediated the relationship between fears of compassion and moral expansiveness (PROCESS model 4; 5,000 bootstrapped samples using bias-corrected 95% confidence intervals; Hayes, 2017; see Figure 3). In line with previous studies and with H3, there was a significant indirect effect of fears of compassion predicting moral expansiveness via compassion, $IE_{boot} = .08$, $SE_{boot} = .02$, 95%CI [-.13, -.04]. Both the total, $b = -.40$, $SE = .05$, $p < .001$, 95%CI [-.50, -.29], and direct effects of fears of compassion on moral expansiveness were also significant, $b = -.32$, $SE = .05$, $p < .001$, 95%CI [-.42, -.21].

** insert Figure 3 **

Discussion

The results of Study 3 were somewhat mixed. We found further evidence in support of the hypothesized relationships between fears of compassion, compassion, and moral expansiveness. Specifically, that fears of compassion were negatively associated with moral expansiveness, whereas compassion predicted increased moral expansiveness (H1). In addition, we again found that compassion mediated the relationship between fears of

compassion and moral expansiveness (H3). However, our attempts to experimentally reduce fears of compassion by priming a sense of physical safety were not successful, and actually led to an increase in self-reported fears. One potential explanation for this may be that the most relevant fears were not targeted by our prime. Specifically, our manipulation attempted to reduce perceived physical vulnerability. However, as noted elsewhere, the extension of concern to others is effortful and can be seen as coming at the expense of one's own resources (Cameron et al., 2019; Crimston et al., 2016). This consideration of exploitation and resource loss is built into the fears of compassion scale. As such, future experimental work that attempts to specifically reduce fears regarding exploitation and a loss of resources involved in extending compassion to others might prove more effective. In addition, contrary to prior literature (Napier et al., 2018), we found no evidence that the effect of the physical safety prime on fears of compassion was moderated by political conservatism.

General Discussion

Across three studies we found strong evidence linking compassion, fears of compassion and moral expansiveness. In line with predictions, both compassion and fears of compassion were significantly correlated with increased and reduced moral expansiveness, respectively. Further, fears of compassion and compassion were found to be unique predictors of moral expansiveness over and above empathy and mindfulness. In addition, across all three studies, fears of compassion were found to predict reduced moral expansiveness via reduction compassion. Suggesting our fears of extending compassion to others may serve to limit the extension of compassion beyond those close to us, and subsequently restrict expansion of the moral boundary. Though Study 3 failed to produce causal evidence of these associations given our manipulation failed to influence fears of compassion, future research should look to examine these links further using alternative priming methodologies and/or training techniques (discussed below).

Implications

The current findings further our understanding of the psychological antecedents of moral expansiveness, as well as the mechanisms which may expand and limit our boundaries of moral concern. Past work has established links between moral expansiveness and traits such as empathy, expanded connection and identification with humanity and with nature, and endorsement of universalism values (e.g., broadmindedness, equality; Crimston et al., 2016, 2018a). However, to date no research has empirically linked compassion, a prosocial motivation focused on the prevention of suffering (Gilbert, 2009, 2014; Kirby, 2017; Weng et al., 2013), to the concept of moral expansiveness, a finding that holds theoretical and applied implications for the domains of intergroup relations and humanitarian and environmental action.

Moreover, the authors are unaware of any prior work that examines potential mechanisms through which moral expansiveness might expand and contract. Here we found that via reduced compassion, self-reported fears of extending compassion to others (e.g., due to concerns about being taken advantage of, or a potential loss of resources) predicts a more restrictive boundary of moral consideration. This is in line with prior research showing that contextual concerns limit the scope of our moral boundaries (Bastian et al., 2012; Loughnan et al., 2010; Opatow, 1993). Devoid of context, individuals may have a motivation to extend moral consideration to others, however, fears associated with the reality of this (e.g., loss of valuable resources, sense of vulnerability) can limit how far we are willing and/or able to extend ourselves. Identifying and understanding these motivations is the first step in developing interventions designed to allay these fears, and in turn increasing in moral expansiveness beyond traditionally restrictive boundaries.

We also found evidence that compassion, and associated fears surrounding compassion, are a more reliable predictor of moral expansiveness than empathy and mindfulness. This is

noteworthy, particularly when modern day political leaders are ordered to undergo empathy training (Williamson, 2021), and mindfulness practices, in part linked to increased prosociality (Donald et al., 2019), are an expanding billion-dollar industry (Lieberman, 2018). Our findings suggest that if the goal is to increase prosocial and morally expansive mindsets, interventions designed to reduce fears tied to compassion and subsequently expand compassionate thinking, although not perfect, may be more fit for purpose.

In line with this, our findings contribute to a rapidly growing field of research demonstrating the wide-ranging applications and benefits of compassion. Past research has highlighted a range of positive benefits of compassion, such as increased social connectedness, relationships, mental health, and prosocial behaviour (Crocker & Canevello, 2012; Gilbert, 2014; Kirby, 2017; Miller et al., 2015; Weng et al., 2013). For these reasons, compassion has increasingly become the focus of therapeutic interventions, particularly those which aim to cultivate care and concern towards others (Gilbert, 2009; Kirby et al., 2017). In line with this, here we provide the first evidence that compassion may also foster more expansive moral boundaries and how reducing fears of compassion may be a powerful avenue to reduce prejudice and intergroup conflict.

Limitations & Future Research

The primary limitation of the current research is that we were unable to establish causal links between compassion, fears of compassion and moral expansiveness. In Study 3, our attempt to manipulate fears of compassion using an online physical safety prime was unsuccessful. In fact, participants in the physical safety prime reported significantly higher fears of compassion than those in the control condition. One possibility for the increase in fears of compassion is that we included ‘*loved ones*’ in the prime, which could have inadvertently primed attachment insecurity. It is important to note, however, that the difference was less than two points on the scale, which although statistically significant,

whether this difference is meaningful is another matter. Another possibility, as outlined in the Study 3 Discussion, is that our manipulation only attempted to reduce perceived physical vulnerability, and not fears related to exploitation or resource loss. Primes and inductions to a compassionate state have had mixed results, with some finding it improves motivation to study for future tests (e.g., Breines & Chen, 2012), with others finding it made no difference to emotional reactions to difficult parenting situations (e.g., Kirby et al., 2019). Moving forward, future research should look to identify alternate avenues to reduce fears of compassion (e.g., by targeting exploitation and resource loss concerns), and by extension, increase moral expansiveness.

One promising avenue to achieve this might be through brief Compassionate Mind Training (CMT). CMT aims to shift one's orientation from competitive to compassionate, and incorporates a number of elements which are known to facilitate a compassionate mindset, including brief meditation practices (Galante et al., 2014), letter-writing (Mosewich et al., 2019), and imagery (Kelly et al., 2009). It may be that reducing fears of compassion may require a higher dose of intervention beyond a prime. Recent research found that two-weeks of practising a brief 15-minute CMT exercise called, "Cultivating the Compassionate Self" led to reduced fears of compassion, as well as improved physiological functioning, as measured through heart rate variability (Kim et al., 2020). Finally, a future research possibility is rather than target fear as the inhibitor of compassion, potentially targeting blocks or resistances. For example, some resist compassion because they see it as too costly (e.g., expending one's own resources to help others in need). If we primed abundance of resources (to reduce resistances to compassion) rather than invulnerability this may have a different impact on moral expansiveness.

If approaches like CMT prove useful, future research should also look to examine the long-term effectiveness of fear reduction and subsequent increases in moral expansiveness.

Similarly, to what extent are the benefits of fear reduction resistant to contextual pressures directly relevant to the extension of the moral boundary, such as competition over scarce resources? Future research should also attempt to establish links between compassion, fears of compassion and moral expansiveness in broader social contexts and cultures. Given fears of compassion have been found to vary across cultures (Steindl et al., 2020), subsequent work should look to replicate these relationships cross-culturally, and specifically in non-WEIRD (Henrich et al., 2010) samples.

Finally, with regard to empathy, we acknowledge the ongoing debates in the literature about the best way to conceptually define and measure the construct (see Cuff et al., 2016; Hall & Schwartz, 2019), and that some may have contrasting views regarding our chosen methodological approach. In addition, we note that the bivariate correlations between our measures of compassion and empathy were quite strong, indicating substantial overlap between these two constructs. We stress that the findings and conclusions in the current research that draw on empathy should be considered with these limitations in mind, and that future research might consider exploring these relationships using alternate methodological approaches.

Conclusion

Our fears have the power to determine how compassionate we are, and how far we extend our moral consideration. So often these fears appear to limit our compassion and our morality within abstract boundaries. We fear what we do not know, and the consequences for those marginalized and disenfranchised that sit on the wrong side of the moral boundary can be severe. Uncovering effective ways to break down these barriers, reduce fears, and facilitate compassion is such a way that broadens our moral circles is certainly something to strive for.

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Table 1.*Means, standard deviations and bivariate correlations, Study 1.*

Variables	<i>M</i> (<i>SD</i>)	1	2	3	4	5	6
1. Fear of compassion	27.34 (10.11)	-	-	-	-	-	-
2. CEAS – Engagement	40.16 (10.78)	-.36***	-	-	-	-	-
3. CEAS – Action	28.10 (7.54)	-.33***	.80***	-	-	-	-
4. Empathic concern	3.67 (.90)	-.45***	.71***	.70***	-	-	-
5. Perspective taking	3.60 (.74)	-.34***	.53***	.58***	.57***	-	-
6. MES	44.83 (13.38)	-.29***	.30***	.29***	.30***	.22**	-

** $p < .01$, *** $p < .001$ **Table 2.***Hierarchical linear regression with fears of compassion, compassion and empathy predicting moral expansiveness, Study 1.*

	MES								
	Step 1			Step 2			Step 3		
	ΔR^2	β	95%	ΔR^2	β	95% CI	ΔR^2	β	95%
	CI						CI		
	.30***			.33*			.37*		
Empathy		.30***	[.16, .44]		.14	[-.08, .35]		.06	[-.16, .28]
Compassion		-			.21 [†]	[-.01, .44]		.20 [†]	[-0.1, .43]
Fears of compassion		-			-			-.19*	[-.34, -.03]

*** $p < .001$, * $p < .05$, [†] $p < .10$

Table 3.*Means, standard deviations and bivariate correlations, Study 2.*

Variables	<i>M</i> (<i>SD</i>)	1	2	3	4	5
1. Fear of compassion	29.83 (8.71)	-	-	-	-	-
2. Compassion (combined)	35.20 (7.49)	-.36***	-	-	-	-
3. Empathy (combined)	3.73 (0.59)	-.37***	.70***	-	-	-
4. Mindfulness	3.08 (.81)	.18*	-.15*	-.19**	-	-
5. MES	47.49 (12.13)	-.31***	.37***	.35***	.01	-

* $p < .05$, ** $p < .01$, *** $p < .001$ **Table 4.***Hierarchical linear regression with fears of compassion, compassion, empathy and mindfulness predicting moral expansiveness, Study 2.*

	MES								
	Step 1			Step 2			Step 3		
	ΔR^2 CI	β	95%	ΔR^2	β	95% CI	ΔR^2 CI	β	95%
	.36***			.40*			.44*		
Empathy	.36***		[.23, .50]	.19 [†]		[-.00, .37]	.14		[-.04, .33]
Mindfulness	.08		[-.06, .21]	.08		[-.06, .21]	.10		[-.03, .24]
Compassion	-			.25**		[.06, .44]	.21*		[.03, .40]
Fears of compassion	-			-			-.20**		[-.34, -.06]

*** $p < .001$, ** $p < .10$, * $p < .05$, [†] $p < .10$

Table 5.*Means, standard deviations and bivariate correlations, Study 3*

Variables	1	2	3	4
1. Fear of compassion	-	-	-	-
2. Compassion	-.33***	-	-	-
3. MES	-.40***	.35***	-	-
4. Political conservatism	.20***	-.08	-.14*	-

* $p < .05$, *** $p < .001$ **Table 6.***Compassion, fears of compassion and moral expansiveness scores across the physical safety and control conditions, Study 3.*

Variables	Physical Safety	Control
Compassion	90.75 (7.63)	90.41 (8.18)
Fears of compassion	29.85 (7.61)	28.03 (8.44)
Moral expansiveness	47.56 (13.67)	45.93 (14.64)

Indirect effect of fears of compassion → compassion → moral expansiveness: $IE_{boot} = -.09, SE_{boot} = .03, 95\%CI [-.16, -.03]$

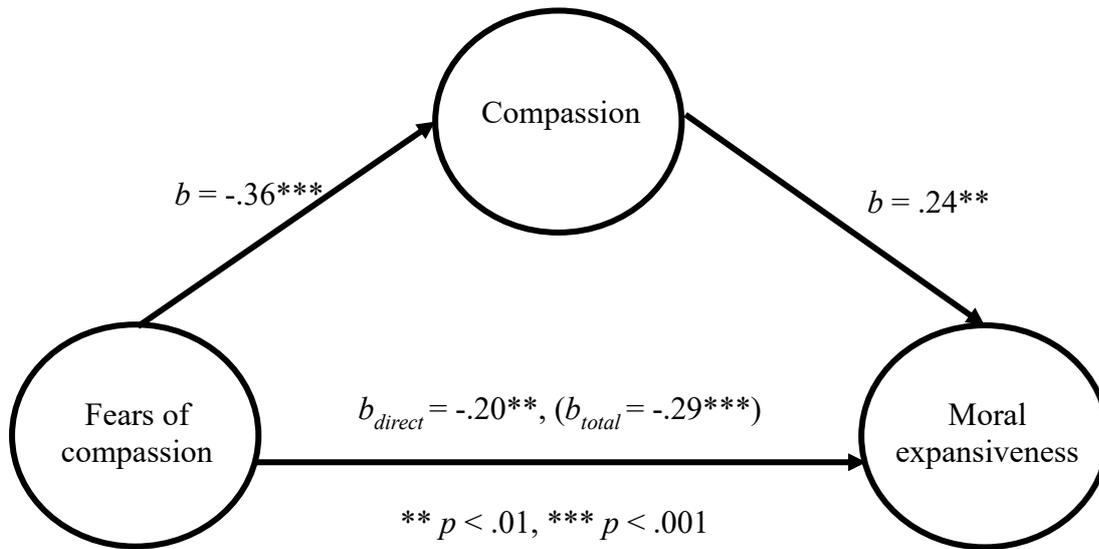


Figure 1. Mediation model whereby compassion mediates the relationship between fears of compassion and moral expansiveness, Study 1.

Indirect effect of fears of compassion → compassion → moral expansiveness: $IE_{boot} = -.11, SE_{boot} = .03, 95\%CI [-.18, -.05]$

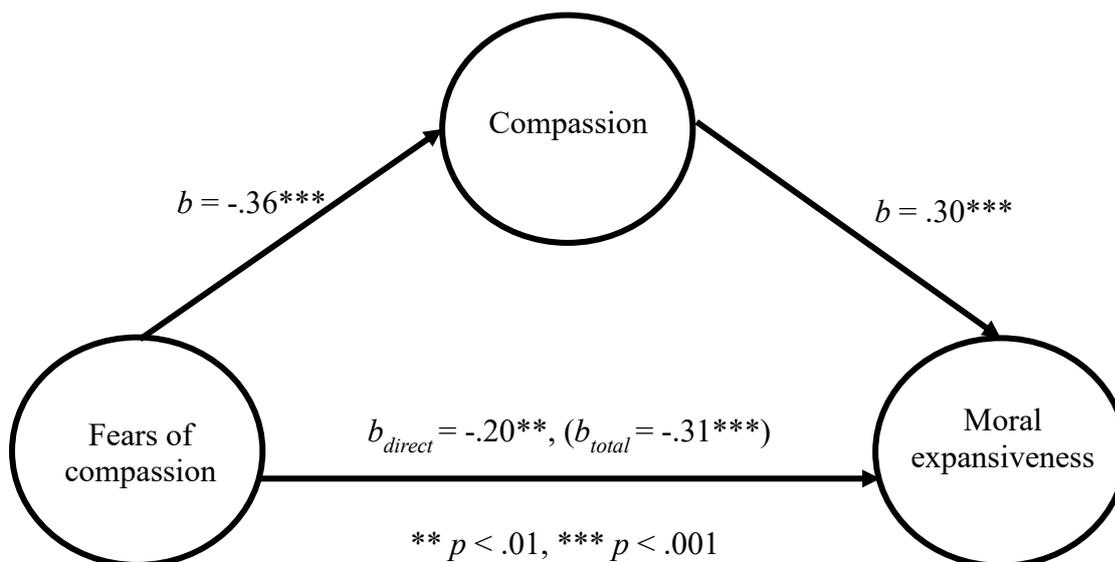


Figure 2. Mediation model whereby compassion mediates the relationship between fears of compassion and moral expansiveness, Study 2.

Indirect effect of fears of compassion → compassion → moral expansiveness:

$$IE_{boot} = -.08, SE_{boot} = .02, 95\%CI [-.13, -.04]$$

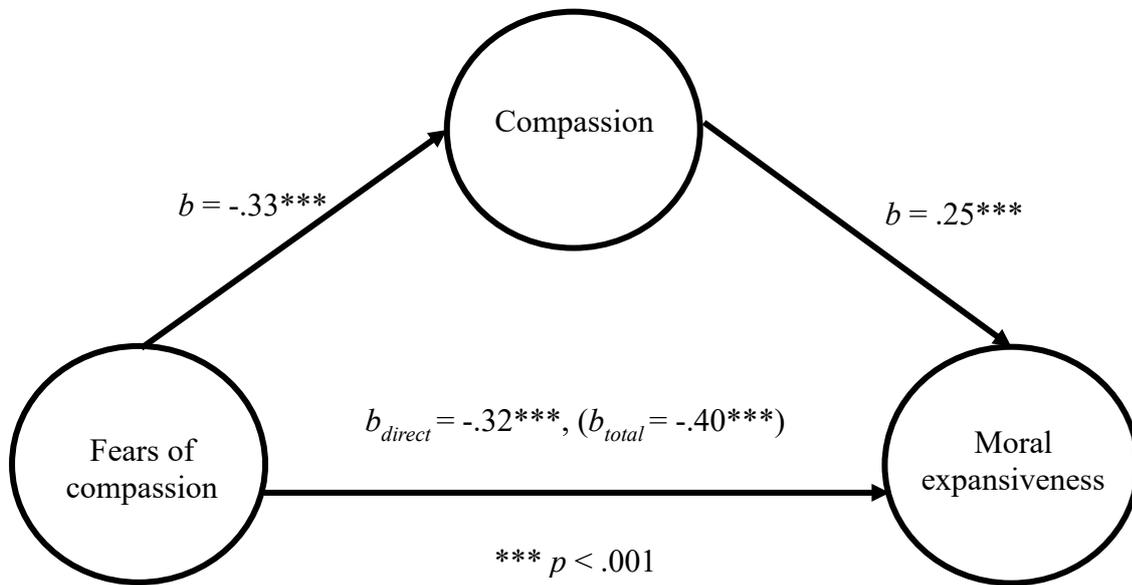


Figure 3. Mediation model whereby compassion mediates the relationship between fears of compassion and moral expansiveness, Study 3.