Are Empathy and Concern Psychologically Distinct?

Matthew R. Jordan, Dorsa Amir, and Paul Bloom

Yale University

Researchers have long been interested in the relationship between feeling what you believe others feel—often described as empathy—and caring about the welfare of others—often described as com- passion or concern. Many propose that empathy is a prerequisite for concern and is therefore the ultimate motivator of prosocial actions. To assess this hypothesis, the authors developed the Empathy Index, which consists of 2 novel scales, and explored their relationship to a measure of concern as well as to measures of cooperative and altruistic behavior. A series of factor analyses reveal that empathy and concern consistently load on different factors. Furthermore, they show that empathy and concern motivate different behaviors: concern for others is a uniquely positive predictor of prosocial action whereas empathy is either not predictive or negatively predictive of prosocial actions. Together these studies suggest that empathy and concern are psychologically distinct and empathy plays a more limited role in our moral lives than many believe.

The great scholars of the Scottish Enlightenment, Adam Smith and David Hume, argued for the psychological and moral centrality of what they called sympathy but which is now often known as empathy—the capacity to feel what you infer others are feeling (Hume, 1978; Smith, 1759). I watch you step on a piece of glass and I wince; I imagine my friend receiving a job offer, and I feel pleasure myself. This can be triggered by being in the presence of another, as in "emotional contagion," but it can also be generated through an act of the imagination.

There is an extensive body of research taken to show that such empathic reactions motivate cooperation, helping, and moral thoughts and actions more generally (Batson, 2010; Hoffman, 2008; Toi & Batson, 1982; Zaki, 2016), and there is a large body of developmental and comparative research exploring the view that empathy lies at the root of compassion and morality (Baron-Cohen, 2002; F. De Waal, 2010).

However, there has also been a backlash against empathy (see Bloom, 2014, in press, for discussion). Some philosophers have argued that empathy is neither necessary nor sufficient for prosocial behavior (e.g., Prinz, 2011a), while some psychologists have argued that empathy and compassion are cognitively and neuro- logically distinct (DeSteno, 2015; Shamay-Tsoory, Aharon-Peretz, & Perry, 2009; Singer & Klimecki, 2014), and that it's compas- sion—a more distanced concern for others—that is a primary motivator of moral behavior. These are the issues we explore here.

One issue that arises in any discussion of empathy is terminological. Batson (2010) listed eight different meanings of the term; Decety and Cowell (2014) noted that it is used to describe everything "from yawning contagion in dogs, to distress signaling in chickens, to patient-centered attitudes in human medicine."; whereas De Vignemont and Singer (2006) suggested "there are probably nearly as many definitions of

empathy as people working on this topic." For instance, some investigators, but not others, include the capacity for perspective taking and understanding the mental states of others as "empathy" and some investigators, but not others, distinguish empathy from compassion. In Batson's influential work, empathy—or empathic concern—is used to refer to "other- oriented emotion elicited by and congruent with the perceived welfare of someone in need" (Batson, 2011).

Our own usage of the term is narrow. As others have noted (Prinz, 2011b), Batson's definition brings together two concepts that may or may not be the same psychological construct; namely, (a) concern for the welfare of others and (b) emotional congruence (which could be simple valence matching, a more specific emotional contagion, or the product of a more complex inferential process). To mark this distinction, we follow other psychologists (e.g., Eisenberg & Strayer, 1987) and philosophers (e.g., Darwall, 1998) in defining empathy as described above—feeling what others feel— which is conceptually distinct from concern or compassion. But our interest here is empirical, not terminological; some- one wedded to a different definition of the term should feel comfortable recasting our project as exploring the relationship between two different aspects of empathy, as opposed to empathy and compassion.

One way to address the role of empathy in motivating prosocial behavior is to look at the consequences of individual differences in empathy, and there is considerable research along these lines (e.g., Eisenberg & Strayer, 1987; Eisenberg & Fabes, 1990; Hoffman, AQ: 5 2008). One problem here, however, is that the most common empathy scales aren't valid measures of empathy in the specific sense described here—in the sense of an individual sharing the inferred feelings of a

target. Baron-Cohen's Empathy Quotient scale (Baron-Cohen & Wheelwright, 2004), for instance, has items that some might construe as being related to some sense of empathy, such as "I find it easy to put myself in somebody else's shoes" and "Seeing people cry doesn't really upset me" (reverse-coded), but it also includes items that pertain to social adroitness, such as "I can easily tell if someone else wants to enter a conversation" and "I find it hard to know what to do in a social situation" (reverse-coded). One's score on such a scale thereby reflects multiple underlying social– cognitive and emotional processes, not just empathy.

In the studies we report here, we introduce the Empathy Index, which consists of two new scales—one focusing on empathy in the strict sense of emotional contagion, the other focusing on the tendency for behavioral contagion, often seen as related to empathy (see Table 1 below for items). The *empathy* subscale contains items that generally track the extent to which participants tend to feel what those around them are feeling. The *behavioral contagion* scale asks about the extent to which participants might do what those around them are doing. Although empathy and behavioral contagion (as we define them here) share the feature of being automatically triggered, they differ in that empathy tracks and produces affect (e.g., someone else's sadness) and behavioral contagion tracks and produces behavior (e.g., yawning at the sight of a yawn).

Here, we explore the relationship between the two novel sub- scales of the Empathy Index and the four subscales of the Interpersonal Reactivity Index (IRI; Davis, 1983), which is the most widely used measure of empathy in the broad sense that captures several aspects of social cognition. These subscales, each with seven items, include *perspective-taking*, tailored to capture people's interest in taking

the perspectives of others (sometimes called "cognitive empathy"); *fantasy*, their tendency to identify with fictional characters; *personal distress*, which measures how anxious or distressed people get during emergencies (and has occasionally been used as a measure of empathy in the sense in which we are using it [e.g., Decety & Yoder, 2016]); and *empathic concern*, which focuses on feelings for others.

Although *empathic concern* is occasionally viewed as an empathy scale in a more narrow sense (as reflected in its name), it can also be seen as a more general measure of concern for the welfare of others, as it includes items that assess how much one cares about other people, without addressing empathy in a direct sense. For instance, items include "I am often quite touched by things that I see happen," "I care for my friends a great deal,"

and "I feel sad when I see a lonely stranger in a group." In our studies below, then, we refer to *empathic concern* simply as *concern*.

In Studies 1–3, we explore the connections between these sub- scales to assess the relationship between our new measures of empathy (in the narrow sense) and behavioral contagion, and the existing subscales by Davis (1983), looking particularly at the relationship between the novel measures of the Empathy Index and his measure of *concern*. Many distinct conceptual groupings of these social–cognitive abilities and propensities have been pro- posed, and we hope to shed light on which cluster together and which do not through the use of these six subscales. In Studies 2–3, we also explore the relationship between these scales and two prosocial behaviors: cooperation (Study 2) and altruism (Study 3).

TABLE 1
Individual Items from the Four Subscales of the Interpersonal Reactivity Index (IRI) Plus the Two Scales of the Empathy Index

Interpersonal Reactivity Index (IRI)

Perspective Taking subscale

I sometimes find it difficult to see things from the "other guy's" point of view.

I try to look at everybody's side of a disagreement before I make a decision.

I sometimes try to understand my friends better by imagining how things look from their perspective.

If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

I believe that there are two sides to every question and try to look at them both.

When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Fantasy subscale

I really get involved with the feelings of the characters in a novel.

I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.

Becoming extremely involved in a good book or movie is somewhat rare for me.

After seeing a play or movie, I have felt as though I were one of the characters.

When I watch a good movie, I can very easily put myself in the place of a leading character.

When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.
I daydream and fantasize, with some regularity, about things that might happen to me.

Concern (Empathic Concern) subscale

I often have tender, concerned feelings for people less fortunate than me.

Sometimes I don't feel very sorry for other people when they are having problems.

When I see someone being taken advantage of, I feel kind of protective towards them.

Other people's misfortunes do not usually disturb me a great deal.

When I see someone being treated unfairly, I sometimes don't feel very much pity for them.

I am often quite touched by things that I see happen.

I would describe myself as a pretty soft-hearted person.

Personal Distress subscale

In emergency situations, I feel apprehensive and ill-at-ease.

I sometimes feel helpless when I am in the middle of a very emotional situation.

When I see someone get hurt, I tend to remain calm.

Being in a tense emotional situation scares me.

I am usually pretty effective in dealing with emergencies.

I tend to lose control during emergencies.

When I see someone who badly needs help in an emergency, I go to pieces.

Novel subscales

Empathy subscale

If I see someone who is excited, I will feel excited myself.

I sometimes find myself feeling the emotions of the people around me, even if I don't try to feel what they're feeling.

If I'm watching a movie and a character injures their leg, I will feel pain in my leg.

If I hear a story in which someone is scared, I will imagine how scared I would be in that situation and begin to feel scared myself.

If I hear an awkward story about someone else, I might feel a little embarrassed.

I can't watch shows in which an animal is being hunted, because I feel nervous as if I am being hunted.

If I see someone fidgeting, I'll start feeling anxious too.

Behavioral Contagion subscale

If I see someone else yawn, I am also likely to yawn.

If I see someone vomit, I will gag.

I catch myself crossing my arms or legs just like the person I'm talking to.

If I see a video of a baby smiling, I find myself smiling.

If I see someone suddenly looking away, I'll automatically look in the direction they are looking.

If I'm watching someone walking on a balance beam, I will lean when they lean.

If I'm having a conversation with someone and they scratch their nose, I will also scratch my nose.

Note. Four subscales from the original IRI are included plus the two novel subscales we developed to measure empathy and behavioral contagion.

Study 1
Methods

We recruited 95 participants (46 males, M_{age} 36.52 years) through Amazon's Mechanical Turk to complete the six subscales described above. To participate, Mechanical Turk workers had to live in the United States and have a 90% approval rating. We randomly presented the 42 items from the six subscales (see Table 1).

There is no consensus on how to determine the appropriate sample size for a factor analysis, although rules of thumb typically use the participants-to-items ratio. Using the composite data from Studies 1–3, we have a participants-to-items ratio of greater than 10 to 1, which is higher than most published factor analysis findings (Costello & Osborne, 2005). Furthermore, we separately analyzed the factor structure in our three studies to determine whether or not the structure replicated across samples.

Results

All six subscales were highly reliable (all Cronbach's alpha .71); therefore, we performed a factor analysis on the six subscales composite scores (see online supplement for item-level analysis, which is nearly identical). We factor analyzed the subscale composite scores using the principal factor method and oblique promax rotation because it is plausible that all other-regarding tendencies and social–cognitive abilities are correlated with one another and we wanted to allow for the factors to correlate if necessary (Russell, 2002). That said, the results of the factor analysis hold using different factor and rotation methods (see online supplement).

We extracted two factors: Factor 1 contained our *empathy* and *behavioral contagion* subscales as well as the *personal distress* subscale from the IRI, whereas Factor 2 contained the *perspective taking* and *concern* subscales from the IRI. The *fantasy* subscale was the only complex subscale, loading similarly and nearly significantly on both factors. Given the contents of each factor, we refer to Factor 1 as the Contagion factor and Factor 2 as the Other- regarding factor. Figure 1 below shows the factor loadings plot.

As depicted in Figure 1, there were three main findings of interest. First, the two novel scales of the Empathy Index—*empathy* and *behavioral contagion*—were highly related to one another, and, more interestingly, were also related to Davis's (1983) sub- scale of *personal distress*. Other scholars, such as (Schroeder, Dovidio, Sibicky, Matthews, & Allen, 1988) have also claimed that empathy and personal distress may be importantly related.

Second, and more interesting, *concern* was *not* related to either of our two new measures; individuals who are prone to feel the experiences of others, as measured by the Empathy Index sub- scales, were not particularly likely to feel concern for others, as assessed by Davis's (1983) *concern* scale.

Finally, to our surprise, *concern* was related to *perspective taking*, the capacity to reason about the thoughts and feelings of others, and we will elaborate on this in the general discussion. We should note that although *concern* and *perspective taking* load on the same factor, it doesn't follow that they are the same construct or process (and the same

goes for the subscales on the other factor). After all, there are many reasons two processes might be correlated other than using the same cognitive machinery. Rather than using this factor analysis to try to determine which apparently distinct constructs are actually the same (i.e., load on the same factor), our goal was to see which constructs are not the same (i.e., load on different factors).

Our main question of interest here is how empathy, in the narrow sense explored in the Empathy Index is related to concern and prosocial behavior. In Studies 2 and 3, we use these measures to explore how empathy and concern give rise (or fail to give rise) to pro-social behavior. Study 2 examines the emotional underpinnings of cooperation during a Public Goods Game in which individuals can pay a cost for the benefit of the group. Study 3 explores the role of empathy and concern in a situation in which individuals pay a cost for the benefit of another who cannot reciprocate.
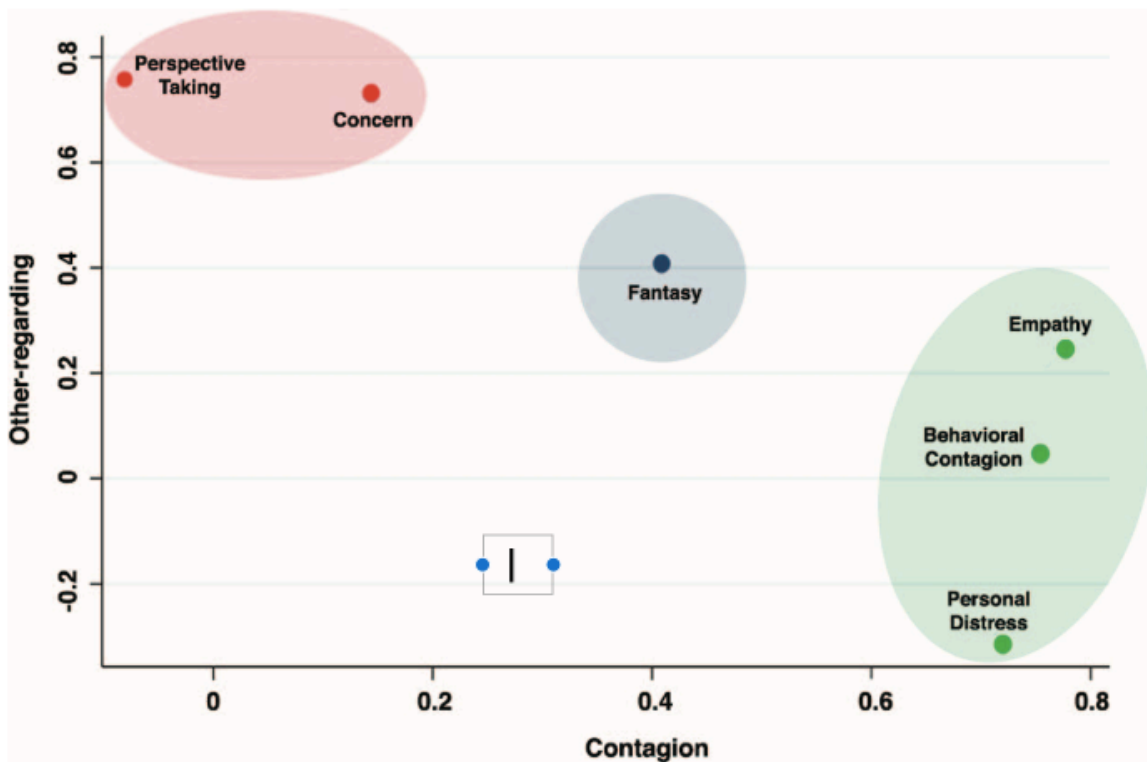

Figure 1: The graph above shows the factor loadings for each of the six subscales after performing a factor analysis using the principal factor method and oblique promax rotation. See the online article for the color version of this figure.

Study 2

It is often argued that empathy can motivate prosocial behavior, but the evidence here is somewhat mixed. There is some evidence suggesting that individuals who score high on standard empathy measures are more cooperative, but there is also considerable evidence to the contrary (see Prinz, 2011b, for a critical review). Furthermore, studies that explore individual differences typically employ scales such as those adopted by Davis (1983) and Baron- Cohen & Wheelwright (2004), and, as we've seen, such scales blur together empathy and concern/compassion. And so a positive correlation between these measures and prosocial behavior might reflect a causal role of these other sentiments, not empathy.

There is much stronger evidence that certain empathy-related inductions can lead people to be more generous and cooperative to others (see Batson, 2010, for review). But even here, it's unclear precisely what is causing the effect. It's an open question as to whether it is an Adam Smith-like effect of feeling what others are feeling that drives prosocial behavior or a more general compassion and concern for others. For instance, in Batson, Batson, et al. (1995), subjects were more likely to endorse providing a medical treatment for a young girl, even though others were ahead of her in line, when they were given the prompt:

"Try to imagine how the child who is interviewed feels about what has happened and how it has affected this child's life. Try to feel the full impact of what this child has been through and how he or she feels as a result."

The effect of this prompt might be due to a narrow influence of empathy, where subjects feel what they imagine to be the child's pain—but its effect might also result from participants thinking more about her mental states (without necessarily feeling them) or feeling an elevated concern for the girl (without, again, feeling what she is feeling).

We begin to explore these issues in Study 2 by assessing the relationship between the IRI, our Empathy Index, and cooperation in the Public Goods Game (PGG; Dawes, 1980), a social dilemma in which individuals can contribute to a group pot in such a way that it is group-beneficial, but individually costly to contribute. Prior work has suggested that the sort of inductions described above may promote cooperation in these kinds of laboratory social dilemmas (Batson, Batson, et al., 1995; Batson & Moran, 1999). If it is the case that empathy in the narrow sense is the motivation for cooperation, we should find that our *empathy* scale is particularly and uniquely predictive of contributions in the PGG. However, if a general concern for others is the primary motivation for cooperating, we should see that concern, as captured in Davis's (1983) measure of *empathic concern*—is uniquely predictive of contributions to the public good.

Methods

We recruited 193 participants (109 male, M_{age} 38.11 years) from Amazon's Mechanical Turk. To participate, Mechanical Turk workers had to live in the United States, have a 90% approval rating, and could not have participated in Study 1 (or other studies like this one that we have run in the past). Participants read instructions for the PGG and completed comprehension questions before being matched with other real Mechanical Turk workers and making their contribution decision. After making their PGG decision, participants completed the IRI and the Empathy Index subscales, after which the study concluded.

In our PGG (Rand, 2012), participants were placed into groups of four and endowed with 40 cents each, from which they could contribute whatever portion they wanted to a common pot. The experimenter then doubled the total common pot contributions and evenly dispersed the common pot to all the group members. We made it clear to participants that for each cent they contributed, they would only receive [1/2] cent back (see online supplement for instructions and comprehension questions). The interesting thing about the PGG is that if everyone donates, everyone gains, but any individual can gain more by withholding. For instance, if everyone contributes their entire endowment, each individual would receive twice what he or she started with— 80 cents— but if three members of a group contribute their entire endowment and the fourth member contributes nothing, those who contributed everything receive 60 cents each whereas the individual who contributed nothing receives 100 cents. It is always payoff maximizing, then, to contribute nothing to the group pot. Participants played the PGG with real other group members for real stakes; no deception was used.

We assumed the smallest meaningful correlation between sub- scales and cooperation was approximately 0.2. To have 90% power to detect a correlation of that size, we needed about 200 participants.

Results

Here we report results for those who completed the comprehension check, but we find similar results for all analyses reported below if we include those 29 participants who failed this check (see online supplement for details). For ease of interpretation, we use the fraction of the endowment contributed to the public good as our dependent measure.

The mean contribution to the public good was 51.7% of the initial endowment confidence interval (CI): [46.8, 59.7], with 64.8% of the subjects contributing something and 44.6% contributing their entire endowment. In separate regressions, we found that *concern* (b 0.144, CI: [0.065, 0.224], p .001, R^2 0.074) was strongly positively predictive of cooperation, as was *empathy* (b 0.114, CI [0.009, 0.219, p .033, R^2 0.028). However, when both *concern* (b 0.129, CI [0.044, 0.215], p .003) and *empathy* (b 0.054, CI [0.056, 0.164], p .337) were included in the same model (R^2 0.079), only *concern* predicted contributions to the public good. When we included all six subscales, *concern* (b 0.134, CI [0.026, 0.242], p .015) was the only subscale that remained significantly predictive (R^2 0.086, all other ps 0.315; we found no evidence of multicollinearity, see online supplement for details of multicollinearity diagnostics). We obtained similar results when we fit separate regression models predicting cooperation using the Contagion (b 0.097, CI [0.012, 0.182], p .025, R^2 0.031) and Other-regarding (b 0.135, CI [0.049, 0.220, p .002, R^2 0.056) factors we extracted in Study 1. As above, when both factors were included (R^2 0.062), the Other-regarding factor (b 0.113, CI [0.016, 0.209], p .022) remained predictive, while the Contagion factor did not (b 0.046, CI [0.049, 0.141], p .343).

As in Study 1, we performed a factor analysis on our six subscales to assess the replicability of the factor structure. Using the same principal factor method and oblique rotation, we found identical results (shown below in Figure 2). *Empathy*, *behavioral contagion*, and *personal distress* loaded on one factor, whereas *concern* and *perspective taking* loaded on the other factor, and *fantasy* loaded on both factors. Hence, we replicated the main finding of our initial factor analysis.

The unique predictive power of *concern* (it accounted for 76% of the total variance explained by all six subscales) suggests that, at least in our study, the level of concern for others is more relevant to cooperation during the PGG than feeling what others are feeling.

But there are other interpretations of our data. For one thing, the one-shot and anonymous PGG we used isn't a particularly emotionally evocative task. This implies that, although we did find a sensible relationship between concern and cooperation, such a relationship

is susceptible to explanation in terms of a third variable. Perhaps being in a cooperative environment leads both to more cooperation and greater concern for those around you. Relatedly, this study was entirely correlational, which makes interpreting the causal relationship between concern and cooperation very difficult. Consequently, in Study 3, we aim to examine the causal role between prosocial behaviors and empathy and concern, by experimentally manipulating the salience of the target in need.
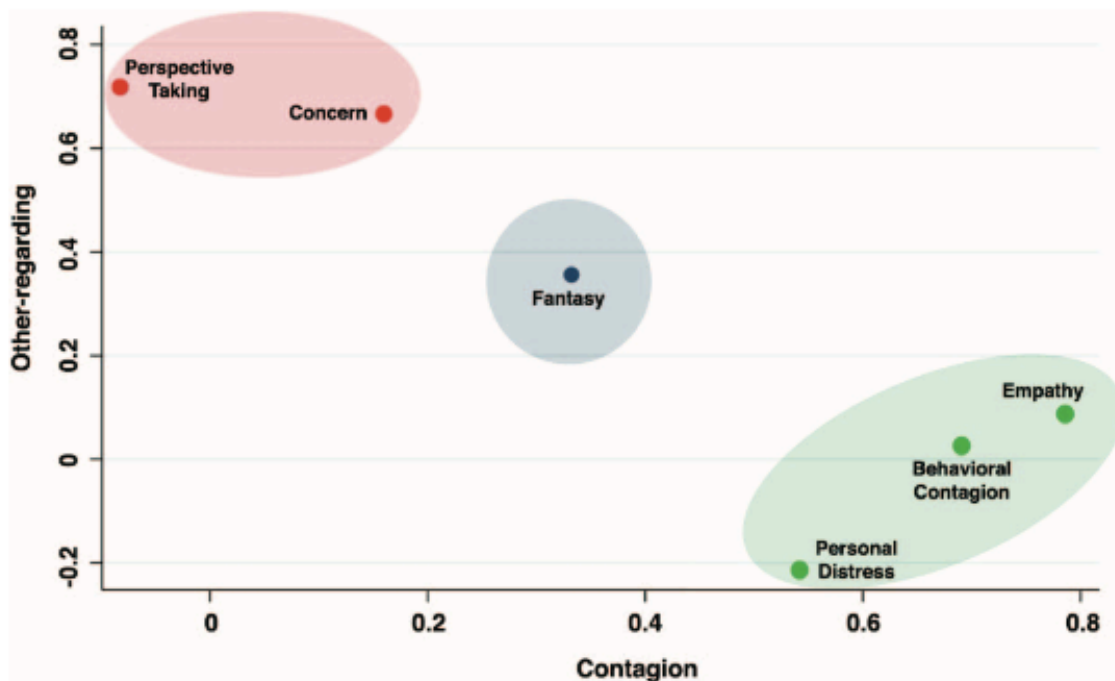

Figure 2: The factor structure from Study 1 replicated with a distinct sample in Study 2. The factor loadings above are the result of principal factor analysis and promax rotation. See the online article for the color version of this figure.

Study 3

In Study 3 we turn our attention to altruism—paying a cost for another's benefit without the possibility of reciprocation (Trivers, 1971)—which has been the behavior most focused on by empathy researchers (Batson, 2010; Batson, Klein, Highberger, & Shaw, 1995; Batson et al., 1997; F. De Waal, 2010; F. B. De Waal, 2008; Preston & De Waal, 2002; Toi & Batson, 1982). To explore this, we shift the focus to charitable donations, and experimentally manipulate how emotionally evocative the target of donations is. The individual differences we have been measuring with the six subscales reflect a kind of sensitivity to different kinds of social emotional stimuli. Here, this means that more emotionally salient targets of giving should induce stronger responses among individuals who score high on the relevant subscales—whether that is *concern*, *empathy*, or another subscale. We used the identifiable victim paradigm (Small & Loewenstein, 2003; Small, Loewenstein, & Slovic, 2007) as a means of presenting targets of giving that would induce different degrees of emotional responses.

Previous work on the identifiable victim paradigm has found increased generosity when individuals are exposed to a specific individual in need, with how emotionally evocative a salient target is being one of the primary difference between an identifiable victim and statistics. Specifically, this is often seen as reflecting an empathic response—being exposed to a specific individual motivates one to imagine what that individual feels, which prompts generous behavior. If so, when exposed to an identifiable victim, one might expect to find that those high on our measure of empathy will be more likely act altruistically because identifiable victims are empathy-inducing targets and empathy motivates prosocial behavior (see De Waal, 2008, for this argument).

In contrast, to the extent that a more general form of concern for others is relevant, identifiable victims are concern-inducing, and concern motivates pro-social behavior, we might expect those high on concern to be more generous in the presence of an identifiable victim. By taking advantage of the fact that identifiable victims are more emotionally evocative than statistics about suffering, but that both pieces of information motivate altruistic giving, we will be able to tease apart whether empathy or concern is more relevant for motivating prosocial actions.

Methods

Based on Study 2 in which the correlations were closer to r .3, we determined that we would need about 100 participants in each condition, for a total of about 200 participants, to have 90% power to detect similar correlations in Study 3.

We recruited 192 participants (110 male, M_{age} 34.73) through Amazon's Mechanical Turk. To participate, Mechanical Turk workers had to live in the United States, have a 90% approval rating, and could not have participated in Study 1 or 2 (or other studies like this one that we have run in the past). Participants were randomly assigned to either the Identifiable Victim condition—in which they read details about one suffering and emotionally evocative child in the developing world—or the Statistics condition—in which they read about a number of poverty and disease statistics in the developing world. We followed the identifiable victim protocol from Small et al. (2007) exactly, except that the statistics were updated to reflect current data and the name and photo of the identifiable victim were updated to one currently listed on the Save the Children charity website.

Participants were given an endowment of 30 cents and told that they could give however much they wanted to a charitable cause and keep the rest as bonus; what participants kept for themselves was sent as bonuses, while what they gave was sent to the charity. After they made their donation decision, participants answered five questions about the charitable cause (as in previous identifiable victim studies): (a) How upsetting is this situation to you? (b) How sympathetic did you feel while reading the description of the cause? (c) How much do you feel it is your moral responsibility to help out with this cause? (d) How touched were you by the situation described? (e) To what extent do you feel that it is appropriate to give money to aid this cause?

These five questions that participants answered about the charitable cause track a set of feelings and motivations that are not all obviously either concern or empathy—with the exception of Question 2, which directly taps sympathy. For instance, the first question "How upsetting is this situation to you?" could track how concerned participants were about the identifiable victim or how negatively participants felt because of their empathy for the individual in need.

After making their donation decision and answering the five feelings questions, participants completed the four subscales of the IRI and the two subscales of the Empathy Index mentioned above.

Results

The overall mean contribution was 35.9% CI [30.3%, 41.6%] of the $0.30 endowment, with 57.3% donating something and 21.4% giving their entire endowment. We first regressed donations on all of the subscales and found only *concern* (b 0.200, CI [0.119, 0.282], p .001) and *empathy* were predictive (b 0.106,

CI [0.219, 0.007], p .066, R^2 0.136, all other ps 0.381). Therefore, we focused further analysis on the subscales of interest.

We examined the main effect of condition, (mean-centered) *concern* scores and (mean-centered) *empathy* scores on amount donated. We found no difference in donations between the Identifiable Victim condition (M 38.2%, CI [29.7%, 46.7%]) and the Statistics condition (M 33.7%, CI [26.2%, 41.2%]) (b 0.016, CI [0.122, 0.091], p .769). However, we did find main effects of *concern* (b 0.183, CI [0.113, 0.253], p .001) and *empathy* (b 0.111, CI [0.190, 0.032], p .006) such that more concern leads to more giving and more empathy leads to less giving (R^2 0.13). (We should note that the negative relationship between empathy and donations is consistent with a suppressor effect that resulted from controlling for concern. How- ever, we found no evidence of multicollinearity [all VIFs under 2.4]—a common means of diagnosing suppressor effects—be- tween the subscales and donations, so it is unclear whether this is a true suppressor effect or something more complicated. Details regarding the multicollinearity diagnostics are available in the online supplement.)

Next, we examined how the subscales interacted with condition to predict donations. We did not find a *concern x empathy* condition interaction (b 0.693, CI [0.221, 1.607], p .137), nor did we find an *empathy x* condition interaction (b 0.111, CI [0.048, 0.271], p .169). However, we did find a significant *concern x* condition interaction (b 0.167, CI [0.308, 0.026], p .020) such that the coefficient of *concern* on donations was significantly smaller in the Statistics condition (b 0.108, CI [0.014, 0.201], p .024) than in the Identifiable Victim condition (b 0.275, CI [0.168,

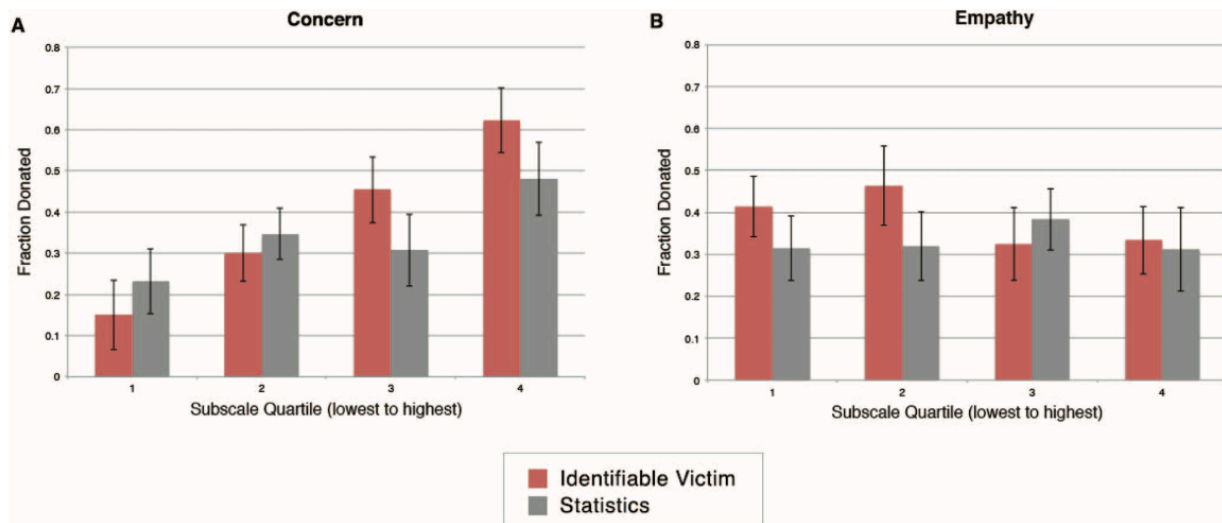0.382], p .001; R^2 0.156). See Figure 3 below.

Figure 3: The figures above show the relationships between empathy, concern and donations across conditions. For graphical purposes, we have broken our continuous measures of empathy and concern into quartiles. A: Donations are shown as a function of concern (quartiles) across the two conditions. B: Donations are shown as a function of empathy (quartiles) across the two conditions. See the online article for the color version of this figure.

These results suggest a number of conclusions. First, in both the Identifiable Victim condition and the Statistics condition, *concern* was a better predictor of donations than *empathy*. Second, although *empathy* was predictive of donations, it was negatively predictive, meaning that those who were more empathic gave less to the charitable cause. Third, the magnitude of the relationships between *concern* and donations increased in the presence of an identifiable victim relative to the Statistics condition—the positive relationship between *concern* and donations was more positive in the Identifiable Victim condition. This suggests that the presence of a salient target for our social emotions enhances the effects of our social emotions, particularly when we feel concerned, as one would expect if these emotions are evolutionarily prepared. That is, differences in concern lead to greater changes in prosocial motivations in a more ecologically relevant setting in which the target has a name and face. We find the same pattern of results for the Other-regarding and Contagion factors (see online supplement).

Furthermore, despite the fact that those high on concern donated more in both conditions, this effect was most pronounced when directed at an identifiable victim, which suggests that the *concern* measure isn't tracking an abstract utilitarian sentiment that scales with the number of people in need. Rather, *concern* appears to be tracking a less reflective other-regarding concern that scales with the salience of the individual in need, which leads to a more pronounced effect of concern on donations when the victim is identifiable.

But why do concern and empathy predict donations? To answer this question, we used the composite scores from the five feelings questions (which were highly reliable, .911). We asked participants about the charitable cause as a means of looking for a mediation between our subscales and donations. That is, we wanted to determine whether concern leads to higher donations or empathy leads to lower donations because those who feel concern or empathy are more moved by the charitable cause, which in turn leads them to give differently.

Furthermore, through mediation analysis, we can shed some light both on how participants interpret similarly ambiguous inductions used in prior research (Batson, 2010; Batson, Batson, et al., 1995; Batson et al., 1997; Toi & Batson, 1982) and how general feelings of empathy and concern translate into specific altruistic motivations and actions. In fact, a preliminary analysis revealed that feelings scores were positively predicted by both *empathy* (b 0.246, CI [0.052, 0.440], p .013) and *concern* (b 0.719, CI [0.579, 0.860], p .001), which suggests that both scales are capturing emotions relevant to the altruistic decision participants were faced with.

In the main analyses reported above, we found direct effects of both *concern* and *empathy*, so we conducted Sobel-Goodman mediation analyses, using the sgmediation package for Stata (Ender, 2006). Our goal was to examine whether feelings about the charitable cause mediated either or both of these direct effects and included *concern* as a covariate in the empathy analysis and vice versa in the concern analysis. Furthermore, as is common in other work on identifiable victims, we found no difference in feelings across conditions, $t(190)$ 0.472, p .637 (Small et al., 2007). Therefore, we collapsed across conditions for these analyses.

We began with the empathy mediation analysis (which included *concern* as a covariate throughout) and found a negative direct effect of *empathy* on donations (b 0.111, CI [0.190, 0.033], p .006). We then examined the extent to which *empathy* predicted feelings and found no relationship (b 0.091, CI [0.264, 0.082], p .302). Finally, we examined the indirect effect of *empathy* on donations (b 0.089, CI [0.156, 0.023], p .009) when controlling for the effect of feelings on donations (b 0.245, CI [0.190, 0.300], p .001). Feelings mediated only 20% of the effect of *empathy* on donations, which a Sobel test for mediation revealed was not significant (b 0.022, *SE* 0.022, z 1.027, p .304). We should note that when *concern* is not included as a covariate, we do find a significant indirect effect of *empathy* on donations through feelings (b 0.361, *SE* 0.148, z 2.432, p .015) such that more empathy leads to more feelings, which in turn lead to less giving. The details of this analysis are available in the online supplement.

Next, we conducted the same statistical procedure but focusing on whether feelings mediated the relationship between *concern* and donations (with *empathy* included as a covariate throughout). We began by examining the direct effect of *concern* on the fraction donated across both conditions, which was strongly positive (b 0.184, CI [0.115, 0.254], p .001). We then found that feelings for the charitable cause were positively predicted by *concern* (b 0.751, CI [0.598, 0.904], p .001). Finally, we examined the indirect effect of *concern* (b 0.001, CI [0.071, 0.072], p .982) when controlling for feelings (b 0.245, CI [0.190, 0.300], p .001). Feelings mediated 99.6% of the effect of *concern* on donations, which a Sobel test for mediation confirmed was signif- icant (b 0.184, *SE* 0.028, z 6.508, p .001). Through these two mediation analyses, we have some

13

evidence that although concern and empathy both lead to being more moved by the charitable cause (they are both positively correlated with the feelings measure), such feelings only translate to more giving if they stem from concern (feelings mediate the relationship between concern and donations but not empathy and donations).

We also constructed some more elaborate path models that contained multiple mediators and the best fitting models always started with a path from *perspective taking* to *concern* (rather than beginning with *empathy*). See the online supplement for details.

Finally, as in Studies 1 and 2 above, we factor analyzed the six subscales to ensure the factor structure was stable and replicable. Figure 4 below shows that, in a third distinct sample, we found the same factor structure with *empathy*, *behavioral contagion*, and *personal distress* loading on one factor, *concern* and *perspective taking* loading on another, and *fantasy* loading on both. In addition to replicating across three samples, we aggregated all of our data (N 480) and conducted several combined analyses. Most importantly, in our combined dataset this factor structure replicates across several subpopulations that vary in their mean subscale scores, like age, gender, and so forth. See the online supplement for those analyses and a matrix showing the relationship between each of subscales and the two factors.

Together, these results show that to the extent that the identifiable victim in this study evoked stronger emotional responses, being prone to feeling empathy in response to a salient and identifiable victim does not only fail to motivate altruism, but in fact inhibits altruistic behavior. Contrary to the effects of empathy, concern for others appears to be a strong motivator of altruistic behavior and is a particularly potent motivator when the target of giving is salient and identifiable. Furthermore, the fact that feelings about the charitable cause mediate the relationship between concern and donations suggests that concern leads to donations because of how much more upsetting the situation is to those high on concern. That is, when concerned individuals are more moved by a charitable cause, they donate more because they feel a greater sense of moral responsibility to help those in need.

Surprisingly, we did not replicate the typical identifiable victim effect in which an identifiable victim elicits more giving than statistics about a charitable cause. There are a number of potential explanations for this failure, among which are the experimental experience of Mechanical Turk participants that would have ex- posed them to other charitable giving studies, making them non-naïve. That said, the goal of using the identifiable victim paradigm was to manipulate how salient and emotionally evocative the target of the donation was, and thereby activate the already-present individual differences in these social emotions. In that respect, the identifiable victim paradigm accomplished this goal well.
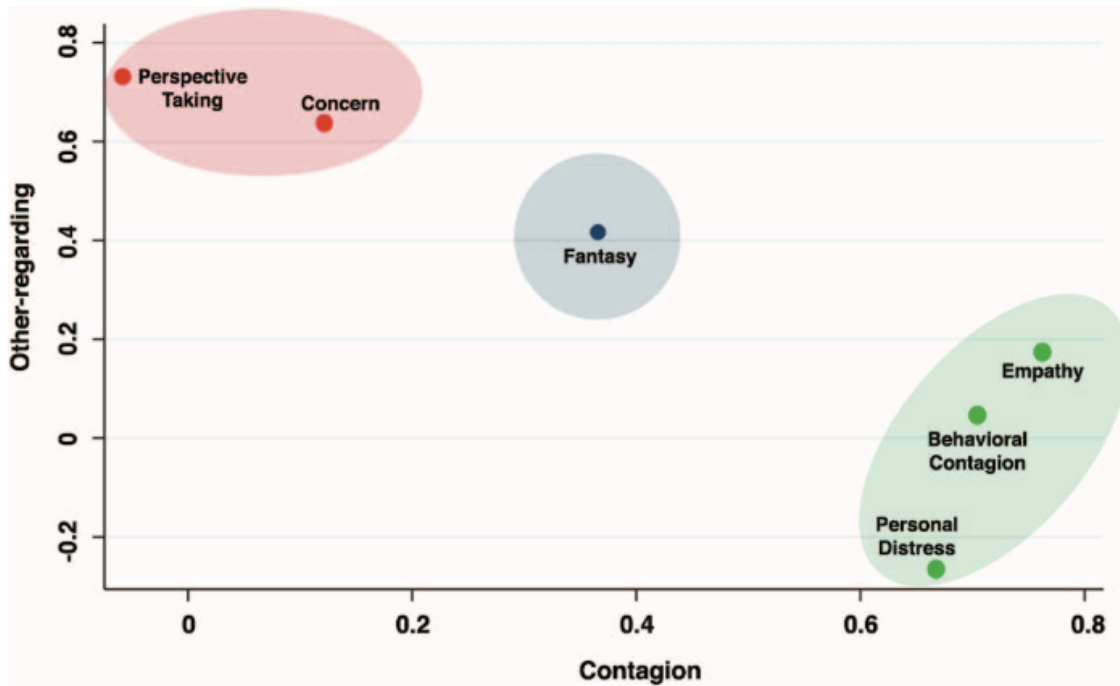
Figure 4: The factor structure from Studies 1 and 2 replicated again in Study 3. Factor loadings above are the result of principal factor analysis and promax rotation. See the online article for the color version of this figure.

General Discussion

Across three studies, our results motivate a distinction between concern for others—what Davis (1983) called "empathic concern"—and a more narrow sense of empathy defined as feeling what others feel, as measured in our new Empathy Index. They are psychologically distinct and do not underlie the same prosocial behaviors. In our studies, we find that concern, and not empathy, is the primary motivator of moral thoughts and actions. In Study 1, we examined the relationship between the four subscales—*concern, perspective taking, fantasy*, and *personal dis- tress*—from the commonly used IRI and the two novel subscales of our Empathy Index—*empathy* and *behavioral contagion*. The primary goal of Study 1 was to determine whether, among a suite of other social emotional capacities, feeling what others feel (as measured by *empathy*) was especially related to caring about what others feel (as measured by *concern*). A factor analysis revealed that the two are unrelated, with *empathy* and *concern* each having loadings near zero on the other's factor. *Empathy* was joined by *personal distress* and our other novel subscale, *behavioral contagion*, on the Contagion factor, whereas *concern* was joined by *perspective taking* on the Other-regarding factor.

Although the contents of the Contagion factor were expected given the relationship between feeling what others feel generally (*empathy*) and feeling distressed when others are in distress (*personal distress*), we were surprised by the close and reliable relationship between caring about what others feel and understanding the contents of others' minds (as measured by *perspective taking*).

In Study 2, we explored the relationship between individual differences in the six subscales and cooperation—a willingness to pay an individual cost for the benefit of the group—as measured by a PGG. We found that both *concern* and *empathy* were positively related to cooperation, but that *concern* was uniquely predictive, remaining a strong predictor even in the presence of the other five subscales. Furthermore, of the total variance the subscales accounted for, concern accounted for the considerable majority. This suggests that caring about the welfare of others translates into being willing to pay a cost for their benefit. However, in an anonymous, one-shot PGG like the one we used, the typical cues to emotional and mental states of the others in the group are not available, and are therefore unlikely to be salient motivators. Perhaps further research will provide insight into the role of these six subscales in both imputing and responding to the emotional and mental states of others.

In Study 3 we examined how the four subscales of the IRI and the two subscales of the Empathy Index were related to altruism, as measured by how much participants donated to a charitable cause. To determine how individual differences in *concern* and *empathy* (as well as the other subscales) were causally related to giving, we manipulated how salient and emotionally evocative the target of altruism was using the identifiable victim paradigm. We found that *concern* was strongly positively predictive of donations, whereas *empathy* was negatively predictive of donations.

As expected, in Study 3, the salience of the target mattered: in the presence of an identifiable victim, the relationship between *concern* and giving became more positive (and the relationship between *empathy* and giving became more negative, although not statistically significantly so). The fact that participants' feelings about the charitable cause mediated the relationship between *concern* and donations suggests that those high on *concern* gave because the identifiable victim was concern-inducing, which resulted in being moved by the charity. Along similar lines, the fact that feelings about the charity does not mediate the relationship between *empathy* and donations suggests that an empathic response does not lead people to be more moved to donate to charitable causes. Rather, empathic responses appear to be debilitating, likely because identifiable victims induce feelings of personal distress, as the results from Study 1 would have predicted. It is important to note, however, that the role of trait empathy in

motivating prosocial actions may change depending on the state induced by the target of empathy. That is, to the extent that empathic people are motivated by the emotions they catch from others, it is possible that empathic people would be more likely to act prosocially in (the uncommon) situations where the target of helping doesn't induce distress (e.g., empathic people may be more likely to help a calm person in need than a frantic or nervous person in need).

Surprisingly, we did not replicate the identifiable victim effect. That is, participants did not give more in the presence of an identifiable victim than when presented with statistics about suffering (although the null result was in the right direction). This is puzzling given how robust and reliable an effect it is.

Taken together, these three studies suggest that (a) feeling what others feel is psychologically distinct from caring about what others feel, (b) caring about what others feel is a much stronger motivator of prosocial thoughts and actions than feeling what others feel, and (c) the use of our Empathy Index

subscales in conjunction with the IRI allow for a more fine-grained analysis of social emotional and cognitive abilities. Furthermore, implicit in those findings is the fact that our Empathy Index is reliably measuring an important social emotional construct: it tracked nicely with *personal distress* throughout all three studies, positively (although not uniquely or robustly) predicted cooperation in Study 2 and was negatively related to altruism in Study 3. Hence our *empathy* subscale does appear to be measuring the extent to which participants feel what others feel, and is sensibly related to how participants responded to social situations.

There are other questions that our data raise but do not answer. For instance, the clustering between *concern* and *perspective taking* is suggestive of a potentially interesting set of interrelated psychological processes that lead to prosocial thoughts and actions. It appears that those who care about the welfare of others are also more likely to think about the contents of others' minds. Furthermore, although our experiments were not designed to test the order of processes, our path analyses suggest that perspective taking leads to concern, which in turn promotes prosociality. Future research may shed more light on whether there is a casual

cognitive or developmental link between perspective taking and concern. Perhaps the most fruitful means of addressing the relationship between having concern for others and attending to the mental states of others is to look at the emergence of these processes in development.

Our studies suffer from some other limitations. Despite the replicability of the factor structure we observed, both across studies and across subpopulations (see supplement), our sample was exclusively drawn from the United States. Therefore, it is hard to make claims about the universality of the dissociation between feeling what others feel and caring about what others feel. Future work may address this issue by examining the factor structure across diverse populations and small-scale societies.

Ever since it was acknowledged as a real phenomenon, human prosociality has been generally viewed as a puzzle. A number of theories have been put forth in an effort to describe the proximate mechanisms responsible for inducing and supporting cooperation and altruism. Although empathy has figured prominently in many of these theories, we now have some reason to doubt its efficacy as a motivation for prosocial behavior.

References

Baron-Cohen, S. (2002). The extreme male brain theory of autism. *Trends in Cognitive Sciences, 6,* 248–254. http://dx.doi.org/10.1016/ S1364-6613(02)01904-6

Baron-Cohen, S., & Wheelwright, S. (2004). The empathy quotient: An investigation of adults with Asperger syndrome or high functioning autism, and normal sex differences. *Journal of Autism and Developmen- tal Disorders, 34,* 163–175. http://dx.doi.org/10.1023/B:JADD .0000022607.19833.00

Batson, C. D. (2010). Empathy-induced altruistic motivation. In M. M. P. R. Shaver (Ed.), *Prosocial motives, emotions, and behavior: The better angels of our nature* (pp. 15–34). Washington, DC: American Psycho- logical Association. http://dx.doi.org/10.1037/12061-001

Batson, C. D. (2011). *Altruism in humans.* Oxford, United Kingdom: Oxford University Press.

Batson, C. D., Batson, J. G., Todd, R. M., Brummett, B. H., Shaw, L. L., & Aldeguer, C. M. (1995). Empathy and the collective good: Caring for one of the others in a social dilemma. *Journal of Personality and Social Psychology, 68,* 619–631. http://dx.doi.org/10.1037/0022-3514.68.4.619

Batson, C. D., Klein, T. R., Highberger, L., & Shaw, L. L. (1995). Immorality from empathy-induced altruism: When compassion and jus- tice conflict. *Journal of Personality and Social Psychology, 68,* 1042– 1054. http://dx.doi.org/10.1037/0022-3514.68.6.1042

Batson, C. D., & Moran, T. (1999). Empathy-induced altruism in a pris- oner's dilemma. *European Journal of Social Psychology, 29,* 909–924. http://dx.doi.org/10.1002/(SICI)1099-0992(199911)29:7 909::AID- EJSP965 3.0.CO;2-L

Batson, C. D., Sager, K., Garst, E., Kang, M., Rubchinsky, K., & Dawson, K. (1997). Is empathy-induced helping due to self–other merging? *Journal of Personality and Social Psychology, 73,* 495–509. http://dx .doi.org/10.1037/0022-3514.73.3.495

Bloom, P. (2014, September/October). Against empathy. *The Boston Re- view.* Retrieved from http://bostonreview.net

Bloom, P. (in press). *Against empathy: The case for rational compassion.* New York, NY: Harper Collins.

Costello, A., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, 10,* 1–7.

Darwall, S. (1998). Empathy, sympathy, care. *Philosophical Studies, 89,* 261–282. http://dx.doi.org/10.1023/A:1004289113917

Davis, M. H. (1983). Measuring individual differences in empathy: Evi- dence for a multidimensional approach. *Journal of Personality and Social Psychology, 44,* 113–126. http://dx.doi.org/10.1037/0022-3514 .44.1.113

Dawes, R. M. (1980). Social dilemmas. *Annual review of psychology, 31,* 169 –193.

Decety, J., & Cowell, J. M. (2014). The complex relation between morality and empathy. *Trends in Cognitive Sciences, 18,* 337–339. http://dx.doi .org/10.1016/j.tics.2014.04.008

Decety, J., & Yoder, K. J. (2016). Empathy and motivation for justice: Cognitive empathy and concern, but not emotional empathy, predict sensitivity to injustice for others. *Social Neuroscience, 11,* 1–14. http://dx.doi.org/10.1080/17470919.2015.1029593

DeSteno, D. (2015). Compassion and altruism: How our minds determine who is worthy of help. *Current Opinion in Behavioral Sciences, 3,* 80–83.

de Vignemont, F., & Singer, T. (2006). The empathic brain: How, when and why? *Trends in Cognitive Sciences, 10,* 435–441. http://dx.doi.org/ 10.1016/j.tics.2006.08.008

De Waal, F. B. (2008). Putting the altruism back into altruism: The evolution of empathy. *Annual Review of Psychology, 59,* 279–300. http://dx.doi.org/10.1146/annurev.psych.59.103006.093625

De Waal, F. (2010). *The age of empathy: Nature's lessons for a kinder society*. New York, NY: Random House LLC.

Eisenberg, N., & Fabes, R. (1990). Empathy: Conceptualization, measure- ment, and relation to prosocial behavior. *Motivation and Emotion, 14,* 131–149. http://dx.doi.org/10.1007/BF00991640

Eisenberg, N., & Strayer, J. (1987). Critical issues in the study of empathy. In N. E. J. Strayer (Ed.), *Empathy and its development* (pp. 3–13). New York, NY: Cambridge University Press.

Ender, P. (2006). *Sgmediation: Program to compute Sobel–Goodman mediation tests*. Los Angeles, CA: Academic Technology Services, Statistical Consulting Group

Hoffman, M. L. (2008). Empathy and prosocial behavior. *Handbook of Emotions, 3,* 440–455.

Hume, D. (1978). *1739. A treatise of human nature*. London, UK: John Noon. Preston, S. D., & de Waal, F. B. (2002). Empathy: Its ultimate and

proximate bases. *Behavioral and Brain Sciences, 25,* 1–20. Prinz, J. (2011a). Against empathy. *The Southern Journal of Philosophy, 49,*

214–233. http://dx.doi.org/10.1111/j.2041-6962.2011.00069.x Prinz, J. (2011b). Is empathy necessary for morality. *Empathy: Philosoph-*

ical and Psychological Perspectives, 1, 211–229. Rand, D. G. (2012). The promise of Mechanical Turk: How online labor

markets can help theorists run behavioral experiments. *Journal of The- oretical Biology, 299,* 172–179. http://dx.doi.org/10.1016/j.jtbi.2011.03 .004

Russell, D. W. (2002). In search of underlying dimensions: The use (and abuse) of factor analysis in *Personality and Social Psychology Bulletin*. *Personality and Social Psychology Bulletin, 28,* 1629–1646. http://dx .doi.org/10.1177/014616702237645

Schroeder, D. A., Dovidio, J. F., Sibicky, M. E., Matthews, L. L., & Allen, J. L. (1988). Empathic concern and helping behavior: Egoism or altru- ism? *Journal of Experimental Social Psychology, 24,* 333–353. http:// dx.doi.org/10.1016/0022-1031(88)90024-8

Shamay-Tsoory, S. G., Aharon-Peretz, J., & Perry, D. (2009). Two systems for empathy: A double dissociation between emotional and cognitive empathy in inferior frontal gyrus versus ventromedial pre-frontal lesions. *Brain: A Journal of Neurology, 132*, 617–627. http:// dx.doi.org/10.1093/brain/awn279

Singer, T., & Klimecki, O. M. (2014). Empathy and compassion. *Current Biology, 24,* R875–R878. http://dx.doi.org/10.1016/j.cub.2014.06.054 Small, D. A., & Loewenstein, G. (2003). Helping a victim or helping the

victim: Altruism and identifiability. *Journal of Risk and Uncertainty, 26,*

5–16. http://dx.doi.org/10.1023/A:1022299422219 Small, D. A., Loewenstein, G., & Slovic, P. (2007). Sympathy and cal-

lousness: The impact of deliberative thought on donations to identifiable and statistical victims. *Organizational Behavior and Human Decision Processes, 102,* 143–153. http://dx.doi.org/10.1016/j.obhdp.2006.01.005

Smith, A. (1759). *(1976): The theory of moral sentiments*. Indianapolis, IN: Liberty Classics.

Toi, M., & Batson, C. D. (1982). More evidence that empathy is a source of altruistic motivation. *Journal of Personality and Social Psychology, 43*, 281–292. http://dx.doi.org/10.1037/0022-3514.43.2.281

Trivers, R. L. (1971). The evolution of reciprocal altruism. *The Quarterly Review of Biology, 46*, 35–57. http://dx.doi.org/10.1086/406755

Zaki, J. (2016). Empathy is a moral force. In K. G. Gray, J. (Ed.), *The atlas of moral psychology*. New York, NY: Guilford Press.