Who brings you up when you're feeling down? Distinct implications of dispositional empathy versus situationally-prompted empathic mindsets for targets' affective experience in face-to-face interpersonal interaction

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Abstract

Spending time with other people can increase happiness and well-being, particularly if the exchanges are meaningful and involve close others. Possibly, then, interactions with other people who – even if they are strangers – are oriented toward emotional connection are especially likely to be beneficial. We test this possibility by probing the implications for individuals' feelings of happiness of interacting with a stranger who is more or less empathically oriented. We further examine whether any mood boost individuals experience depends on their level of distress or whether their interaction partner's empathy is dispositional or situationally prompted. Our data consist of a post hoc mini meta-analysis of four studies from our lab and a final pre-registered study (total $N = 701$ dyads). All studies involved face-to-face interaction in which the "actor's" empathic mindset and "target's" distress were manipulated, the actor's dispositional empathy having been previously assessed. Although effects were small, interacting with a dispositionally empathic actor generally raised targets' spirits more, regardless of whether they were distressed to begin with – unless the actor was purposefully trying to be empathic. This "disruption" pattern suggests that the interpersonal benefits of dispositional empathy can be viewed through the same lens as other types of skilled, proceduralized behaviors that are vulnerable to disruption by conscious monitoring. Evidence for interpersonal benefits of temporary empathic mindsets was much more equivocal. At least for interpersonal outcomes in non-conflictual exchanges, our results point to potential benefits of promoting skill development or indirectly enhancing empathic motivation over approaches involving directly encouraging empathy.

KEYWORDS: Dispositional Empathy; Empathic Mindsets; Psychological Well-Being; Happiness; Interpersonal Interaction

Spending time with other people can carry many rewards, including increased happiness and enhanced well-being. Consistent with research and theory on the need to belong, which emphasizes the role of frequent interactions in the context of caring relationships (Baumeister & Leary, 1995), the benefits of interacting with close others such as friends and family members are particularly clear (e.g., Diener & Seligman, 2002; Quoidbach, Taquet, Desseilles, de Montjoye, & Gross, 2019; Vittengl & Holt, 1998). Relatedly, interactions that involve sharing meaningful information are linked to well-being whereas "small talk" interactions, in which only trivial information is shared, are not (Milek et al., 2018). Further along these lines, although recent research suggests that everyday interactions with strangers can reduce happiness (Quoidbach et al., 2019), interactions with strangers involving active efforts to engage and forge social connections have been shown to have mood-enhancing effects (Epley & Schroeder, 2014; Sandstrom & Dunn, 2014).

One potential implication of a link between close and meaningful social exchanges and enhanced well-being is that interactions with other people who – even if they are strangers – are oriented toward emotional connection and identification might confer greater benefits than interactions with people who are more distant and detached. We examine this possibility in the present research by probing the implications of interacting with another person who is more or less empathically oriented for individuals' feelings of happiness. In line with the extant literature, we define empathy as an other-focused emotional response involving an orientation toward "feeling for" and affectively connecting with another person (see, e.g., Batson et al., 1997; Davis, 1980; Galinsky, Maddux, Gilin, & White, 2008). Through investigating the affective implications of being on the receiving end of empathy from someone else, we seek to both enhance our understanding of how different types of social interaction affect psychological well-

being and to move toward a more complete appreciation of the interpersonal implications of empathy.

In particular, although empathy is highly valued around the world, is widely considered to be a potential solution for a range of interpersonal and societal problems, and is the focus of many interventions and educational programs, its effects on targets in back-and-forth interaction situations are not well understood. There is a substantial research literature documenting that adopting an empathic stance toward someone else generally fosters motivation to improve the person's well-being and thus efforts to help him or her (see, e.g., Batson, Ahmad, & Lishner, 2009; Batson et al., 1997; Dovidio et al. 2004). However, these investigations have largely focused on how empathy increases individuals' offers of tangible assistance, such as babysitting or transportation, in response to a direct request for specific kinds of help from another person who is not physically present but instead is represented by a photograph or transcript (e.g., Coke, Batson, & McDavis, 1978; Dovidio, Allen, & Schroeder, 1990; Maner et al., 2002; Sassenrath, Pfattheicher, & Keller, 2017).

Although individuals sometimes feel threatened and have negative affective reactions to receiving help from someone else (e.g., Nadler, Fisher, & Itzhak, 1983), the path from feelings of empathy to behavior that meets a target's obvious and directly expressed needs and thereby enhances his or her well-being seems relatively straightforward. Improving another person's emotional state through verbal and nonverbal behaviors during back-and-forth social interaction is quite a different matter, such that the implications of empathy for target well-being in such contexts remain an open question, one that the present research is designed to address.

Is Motivation Enough?

A more specific question of particular interest in our research centers on how much individuals benefit from interacting with someone who is high in dispositional empathy versus someone who has been prompted to purposefully try to be empathic in the moment. If the affective benefits of interacting with someone who is empathically oriented depend only on whether that person is currently motivated toward affective connection, dispositional empathy and temporary empathic mindsets should have similar effects. In contrast, if social skills developed over time play a role, dispositional empathy should be more beneficial. Individuals who chronically have empathic reactions toward others have accumulated experience and practice over time being responsive and helpful toward other people, with a particular focus on managing other people's feelings. These efforts provide them with repeated opportunities to learn via social feedback the support strategies that are effective (Barone et al., 2005; Marangoni, Garcia, Ickes, & Teng, 1995), and, more generally, the behaviors that are rewarding for their interaction partners. The net result is the acquisition of social skills (Muncer & Ling, 2006; Riggio, Tucker, & Caffaro, 1989) that may lead them to be particularly affectively rewarding as interaction partners. Learning to adapt their behavior according to the specific needs of their interaction partners (i.e., *behavioral adaptability*; Mast & Hall, 2018), may be a particularly important part of this process.

<center>*Is it Sometimes Better Not to Try?*</center>

Considering dispositional empathy as giving rise to social skills that are repeatedly practiced over time gives rise to a further, intriguing possibility. As a function of continually being sensitive and responsive to others' feelings during social interaction, individuals high in dispositional empathy may come to enact empathic behaviors in an automatic fashion, without conscious reflection. Along these lines, research using photographs as stimuli indicates that

empathic reactions are more automatic for dispositionally empathic individuals (Rameson,

Morelli, & Lieberman, 2012). Such automaticity might mean that these individuals' empathic

behavior is vulnerable to disruption by conscious efforts to empathize in the moment. That is,

interaction with individuals high in dispositional empathy might be affectively rewarding so long

as they are not purposefully trying to adopt an empathic mindset. Such an outcome would be

akin to how paying close attention to their own behavior can interfere with experts' performance

of sensorimotor skills (e.g., Beilock, Carr, MacMahon, & Starkes, 2002; see also Beilock &

Carr, 2001). It would also parallel Vorauer and Turpie's (2004) finding that individuals lower

(but not higher) in prejudice behaved less positively toward an outgroup interaction partner when

they were prompted to actively monitor their behavior and impressions they conveyed.

There would seem to be a variety of plausible specific paths through which such

disruption might occur. Particularly in line with research emphasizing how caution instantiated

by conscious monitoring and concern with error in the social domain can reduce positive

interaction behavior via "indiscriminate inhibition" (Vorauer & Turpie, 2004), purposeful efforts

to empathize could detract from the overall levels of warm, closeness-enhancing, and supportive

behavior exhibited by dispositionally empathic individuals. Alternatively, the conscious

monitoring and reflection involved in purposeful efforts to empathize could lead dispositionally

empathic individuals' behavior to seem unnatural and inauthentic. Finally, and most directly in

line with research and theory on "choking under pressure" in connection with sensorimotor

skills, which emphasizes how conscious attention may prompt well-learned and "chunked"

behavior to be broken down into smaller and separate independent units, slowing performance

and instantiating more transitions and opportunity for error (e.g., Baumeister, 1984; Beilock et

al., 2002), interactions with dispositionally empathic individuals who are purposefully trying to empathize may fail to flow smoothly.

There are of course other possibilities as well. In general we note that questions regarding underlying mechanism are especially challenging to pursue here given that our knowledge regarding the specific behavioral correlates of dispositional empathy in interpersonal interaction contexts is limited. Our understanding of the particular behaviors that generally have mood-lifting effects for individuals' interaction partners in back-and-forth social exchanges is even more so. Indeed, numerous previous studies have identified how the kind of behavior that is supportive and helpful can depend on characteristics of the target (e.g., Marigold, Cavallo, Holmes, & Wood, 2014). Further along these lines, relational regulation theory (Lakey & Orehek, 2011) broadly holds that the behaviors that are supportive are not uniform but instead depend on the targets' idiosyncratic needs and preferences, as does research and theory regarding the importance of behavioral adaptability in social interaction (Mast & Hall, 2018). Nonetheless we use our current Study 5, which includes a no-instructions control condition and thus provides perhaps the most easily interpretable data in this respect, to probe the aforementioned possibilities in an exploratory fashion.

Do the Effects of Empathy Depend on Target Distress?

Because empathy is often considered to be particularly relevant and helpful in response to targets who are distressed, a final issue we consider in the present research is whether the implications of empathy for target well-being in face-to-face interaction contexts depend on the target's current affective state. On one hand, it would make sense if being on the receiving end of empathy from someone else was more beneficial for those who are currently feeling low. In such cases empathic behaviors exhibited toward them may seem – and be – more appropriate and

responsive to their needs. Moreover, when targets are feeling down they are likely to have a reduced psychological sense of power, which can heighten sensitivity to situational cues and others' actions (Keltner, Gruenfeld, & Anderson, 2003) and may thus increase their reactivity to empathy. However, in line with the general association between close and meaningful social exchanges and psychological well-being (e.g., Mitek et al., 2018; Quoidbach et al., 2019; see also Lakey & Orehek, 2011) it also seems possible that interacting with someone who is being empathic may generally be rewarding, regardless of individuals' level of distress.

In sum, we address three main questions in the present research: 1) how dispositional empathy and purposeful efforts to be empathic in the moment affect targets' feelings of happiness from before to after face-to-face interpersonal interaction; 2) whether purposeful efforts to empathize interfere with the effects of dispositional empathy; and 3) whether the effects of empathy on target well-being are more pronounced when targets are feeling higher rather than lower levels of distress.

We begin by presenting a post hoc "mini meta-analysis" (Goh, Hall, & Rosenthal, 2016) of four previous, unpublished studies from our lab that speak to these questions, both in the interest of full disclosure and to set the stage for a pre-registered study we conducted after the mini meta-analysis. Although the sample sizes of the individual studies are less than ideal, collectively they are more impressive (overall $N = 701$ dyads, 1402 individuals). As far as we are aware these studies, which follow rigorous experimental designs, provide the only data available regarding whether empathy has any implications for target well-being in the context of back-and-forth interpersonal exchanges, an issue that is highly labor-intensive to examine under controlled conditions in which individuals are randomly assigned to their interaction partner. At the same time, the issues these studies address, such as whether the source of individuals' empathic

orientation has any bearing on its benefits for targets, have important theoretical and practical

implications and are also relevant to broader questions about the circumstances in which

interactions with strangers are more or less likely to be mood-enhancing. Thus these data, whose

informational value does not depend on magnitude of any effects identified, provide a unique

opportunity to begin addressing important gaps in our knowledge.

<div align="center">Studies 1 to 4: Mini Meta-Analysis</div>

Before detailing idiosyncratic elements of the studies in the mini meta-analysis and the

results, we first explain the methodological elements that were the same across all of them, as

well as our analytic procedures.

<div align="center">*Common Methodological Elements*</div>

All of the studies included in the mini meta-analysis met the following criteria: 1)

involved face-to-face interpersonal interaction between two previously unacquainted naïve same-

sex participants (i.e., no confederates, and no intergroup dimension); 2) included an experimental

manipulation of one person's (the actor's) mindset (empathic versus not) and the other person's

(the target's) affective experience (positive vs. negative), and no other manipulations; 3)

measured individual differences in the actor's empathy prior to the manipulations; and 4)

assessed feelings of happiness experienced by the target before and after the face-to-face

interaction. Each of these methodologically similar studies was conducted to test questions

distinct from or only partially overlapping with those pursued in the present analysis.[1]

Across all studies we relied on variations on Batson et al.'s (1997) now-classic

instructions for instantiating an empathic mindset. Consistent with contemporary definitions of

empathy as "an other-focused emotional response that allows one person to affectively connect

with another" (Galinsky et al., 2008, p. 378), these instructions involve asking individuals to try

to imagine and identify with a target's feelings. Since these instructions were first introduced by Batson and colleagues as a means of manipulating empathy, they have been extensively used by a wide variety of researchers. Dispositional empathy was measured with the empathic concern subscale of the Interpersonal Reactivity Index (IRI, Davis, 1980), which is also well-validated and widely used to assess individual differences in empathy.

Our main dependent measure was change in targets' feelings of happiness from before to after the face-to-face interaction. Because the use of change scores is recommended when change over time is the key construct of interest (Kisbu-Sakarya, MacKinnon, & Aiken, 2013), we computed change scores by subtracting targets' pre-discussion feelings of happiness from their post-discussion feelings of happiness, such that higher scores reflect more positive change.[2] Each study also included a range of additional measures, all of which are listed in the supplemental document. Results are provided for those of most interest for the present purposes.

In each study participants were pairs of introductory psychology students who completed the study for partial course credit. All participants had completed the empathic concern (αs = .73 to .84) subscale of the IRI two weeks to five months prior to the experimental session, and pairs were randomly assigned to one cell in the 2 (Actor Mindset: Non-Empathic vs. Empathic) x 2 (Target Experience: Positive vs. Negative) design. In all studies targets were unaware of the mindset manipulation, and, unless otherwise noted, pair members were kept separate except for the discussion and debriefing. In all studies except Study 4 actors completed a mindset manipulation check in which they were asked to recall the instructions they received about how to approach the discussion with the other participant (e.g., selecting *I was asked to try to remain objective* or *I was asked to try to imagine how the other participant felt*); 94%, 96%, and 98% selected the correct option in Studies 1 to 3 respectively. All studies reported in this paper

received approval from the appropriate research ethics board prior to data collection, and in each study participants were fully debriefed at the end of their session. Sample size was always determined before any data analysis and all manipulations, exclusions, and measures are reported for all studies in this paper (see the supplemental document for information on additional measures not reported in the main text).

Meta-Analytic Procedures

Our analytic procedures for the mini meta-analysis of these studies, which were very similar in their manipulations, measures, and participant population, followed Rosenthal (1991) and Goh et al.'s (2016) recommendations for fixed effects analyses. First, so as to obtain directional and readily interpretable effects that could be tested via a mini meta-analysis, we used PROCESS for SPSS v2.13 to calculate the simple effects of actors' dispositional empathy on changes in targets' affective state within each of the four cells created by the actor mindset (empathic vs. not) x target experience (negative vs. positive) design (the results of the regression analyses for each individual study are reported in the supplemental document). Next we converted these to z values and combined them, weighting by sample size. After first conducting a diffuse test of heterogeneity following Rosenthal (1991), we then tested focused contrasts that assessed whether the effect of dispositional empathy differed across mindset or target experience individually (parallel to testing two-way interactions between dispositional empathy and these predictors) and whether it varied as a function of their interaction (parallel to testing a three-way interaction). Contrast weights were assigned following Wiens and Nilsson (2017). The results are reported in Table 1. Next we followed the same procedure again, this time testing the effect of actor mindset across different levels of actor dispositional empathy and target experience. The

results of these analyses and of the regression analyses for each individual study are reported in the supplemental document.

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Study 1: Success versus Failure

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Participants

There were 132 pairs (94 female) in this study. This number does not include one pair in which it was discovered that the participants were close friends, one pair in which the target cheated on the performance task, or two pairs in which the target's performance was extremely inconsistent with the success versus failure manipulation (i.e., a score within one point of the minimum possible in the success condition or within one point of the maximum possible in the failure condition).

Procedure

Participants were recruited for a study ostensibly focused on "how people move or transition between different types of tasks." Targets began by completing a relatively easy or very difficult version of the Remote Associates Test (RAT; McFarlin & Blascovich, 1984) which constituted the success vs. failure manipulation. After they had reviewed three practice items and correct answers, targets were given five minutes to complete the 10-item test. The experimenter marked the test in front of targets and told them their true score ($M = 7.91$, $SD = 1.82$, and $M = 1.14$, $SD = 1.50$, in the success and failure conditions respectively). The particular wording varied according to condition, with the italicized comments below being made only in the success condition:

[*Congratulations!]* You correctly answered _____ out of 10. [*That's great!*]

Targets then completed Brown and Dutton's (1995) four-item measure of outcome-dependent emotions (*I feel happy*, *I feel glad*, *I feel unhappy*, *I feel sad*), with instructions to

answer according to how true the statements were of them in the present moment. Unless

otherwise indicated, participants in all studies reported in this paper responded to scale items on

seven-point scales on which higher numbers reflected stronger endorsement. Responses were

combined with appropriate reverse-scoring to provide an index of pre-discussion happy affect (α

= .88). Targets in the failure condition felt less happy than those in the success condition going

into the discussion, $t(130) = 2.13$, $p = .035$, $r = .184$.

Immediately before the face-to-face discussion, actors received the mindset manipulation.

Following Batson et al. (1997), the experimenter instructed them (objective instructions in

italics):

> After the discussion you will be asked to answer a number of questions about it. We have
> found that people are better able to answer these questions if they try to [imagine how the
> other participant feels about the events and experiences that he/she describes and to
> imagine how these events and experiences have affected his/her life/*take an objective
> perspective toward the other participant during the discussion*]. Try [to feel the full impact
> of the experiences that he/she has had and how he/she feels as a result. So please do
> everything you can during the discussion to imagine how the other participant feels/*not to
> get caught up in how he/she feels. Just remain objective and detached. So please do
> everything you can during the discussion to be objective*].

The experimenter then introduced the two participants, apologizing to the actor for the wait and

explaining that it was due to the target needing time to do a cognitive reasoning test. Thus actors

were aware that the target had done a cognitive test but had no further details. Pairs were given a

discussion topic sheet that instructed them to "begin with some initial introductions and

exchange of information (e.g., what's on your mind right now, your day so far…)" and then to

turn to a series of topics that were provided (positive and negative academic and social

experiences, career goals, employment experiences, and relationships with family members). The

experimenter then left the participants alone for ten minutes to have their discussion, which was

videotaped with their consent. If they finished before the ten minutes were up they were

instructed to open the door to let the experimenter know they were done.

Pair members were then separated and targets completed the same outcome-dependent

emotion items as before the discussion ($\alpha = .88$).

Study 2: Happy versus Sad Mood (1)

Participants

There were 147 pairs (75 female) in this study. This number does not include one pair in

which it was discovered that the participants knew each other well.

Procedure

Participants were recruited for a study ostensibly focused on "social perception in first

meeting situations." The session began with an exchange of each person's written answers to

personal information questions (e.g., about their pets, favorite holiday). Targets then completed a

"personal experience writing task" in which they were asked to take ten minutes to write in vivid

detail about a personal experience that made them feel happy or sad (e.g., "Draw on a real

situation that has actually happened to you and imagine it as vividly as you can…Let yourself

react as if you were actually there right now.."). This task, which constituted the mood

manipulation, was based on procedures developed by Howren and Suls (2011) and Salovey and

Singer (1989).

Targets then completed eight items from the PANAS-X (Watson & Clark, 1994) and

Howren and Suls (2011) chosen to capture affective states directly relevant to the mood

manipulation (*cheerful, enthusiastic, excited, happy, sad, blue, downhearted, worthless*), with

instructions to answer according to how they felt in the present moment. Responses to these

items were combined with appropriate reverse-scoring to provide an index of pre-discussion

happiness ($\alpha = .87$). Targets in the sad mood condition experienced less happiness than those in the happy mood condition going into the discussion, $t(145) = 4.18$, $p < .001$, $r = .328$.

Immediately before the face-to-face discussion, actors received the same mindset manipulation as in Study 1. The experimenter then introduced the two participants. Actors were aware of the personal experience writing task that targets had done (they were shown the instructions targets received). Pairs were given the discussion topic sheet as in Study 1. The experimenter then left the participants alone for ten minutes to have their discussion, which was videotaped with their consent. Pair members were then separated and targets completed the same affect items as before the discussion ($\alpha = .78$).

Study 3: Happy versus Sad Mood (2)

Participants

There were 110 same-sex pairs (83 female) in this study. There were no exclusions.

Procedure

The procedure was the same as in Study 2 except that in the mindset manipulation the instructions to be objective were replaced with instructions to carefully attend to the other participants' behavior (e.g., "make careful observations of everything the other participant does… closely watch and listen to what the other participant does and says…"). The empathy instructions were also modified slightly, to refer directly to empathy (e.g., "please do everything you can during the discussion to empathize with the other participant"). The dependent measures were the same as in Study 2. Targets in the sad mood condition experienced less happiness than those in the happy mood condition going into the discussion, $t(108) = 4.99$, $p < .001$, $r = .433$.

Study 4: Win versus Loss

Participants

There were 148 same-sex pairs (94 female) in this study. There were no exclusions.

Procedure

Participants were recruited for a study ostensibly focused on "social perception and decision-making in first meeting situations." At the start of the study actors received the same mindset manipulation as used in Studies 1 and 2, except that the wording referred more generally to their "exchange" (rather than "discussion") with the other participant.

The experimenter then introduced the two participants. The participants were then informed that the target had been randomly selected to be the one to do a betting task. Targets were given $5.00 with which to bet. They had a 50% chance of doubling their money and a 50% chance of ending up with nothing; whether they experienced a win or a loss was randomly determined by the outcome of their spin of a wheel.

Pair members were then temporarily separated and targets completed the same mood items as in Studies 2 and 3, except that "*alone*" replaced the "*worthless*" item ($\alpha = .77$). Targets in the loss condition experienced less happiness than those in the win condition going into the discussion, $t(146) = 2.08$, $p = .039$, $r = .170$. After actors were reminded of their mindset instructions pair members were brought together for the discussion, which followed the same procedures as in the previous studies except that the time limit was eight minutes and the "relationships with family members" topic was replaced with "favourite pastimes/hobbies." Pair members were then separated and targets completed the same mood items as before the discussion ($\alpha = .78$).

Results

The results of the mini meta-analysis, reported in Table 1, reveal that overall a disruption pattern is evident: Actors' dispositional empathy had positive implications for their interaction

partner's affective state when they were adopting a non-empathic (objective or observational) mindset, but instead had negative implications when they were purposefully trying to be empathic. When we conducted these analyses the alternate way by probing the effects of actors' mindset (see the supplemental document for full details), overall there was heterogeneity across conditions, χ^2 (3) = 14.13, p = .003, and the focused contrast testing moderation by dispositional empathy was significant, z = -3.087, p = .002, r = -.137. Further contrast analyses indicated that although purposefully adopting a temporary empathic mindset led actors lower in dispositional empathy to have a more positive effect on their interaction partner's affective state, z = 3.454, $p <$ .001, r = .109, no such effect was evident for actors higher in dispositional empathy, z = -0.911, p = .362, r = -.029.

Discussion

Results of the mini meta-analysis revealed a disruption pattern whereby purposeful efforts to empathize appeared to interfere with the effects of dispositional empathy and vice versa. In connection with this disruption pattern, in these analyses neither dispositional empathy or temporary empathic mindsets emerged as generally superior in improving targets' affective state. None of the tests of moderation by target distress reached traditional levels of statistical significance. We reserve discussion of these patterns for the General Discussion, where we consider the results of these four studies together with those of Study 5.

Perusal of the values in the table reveals that although the disruption pattern was comprised of effects running in opposite directions and thus of greater magnitude, the individual simple effects were quite small. In particular, the simple effect of dispositional empathy in the non-empathic mindset conditions was below what is typically considered the threshold for a small effect, despite being statistically significant. However, the positive effect might still be

considered impressive given that it occurred under conditions in which participants were actively

instructed to remain detached and given the temporal distance between the assessment of

dispositional empathy and the experimental sessions. Our next study remedies both of these

issues.

Table 1. *Effects of Actor Dispositional Empathy on Change in Targets' Affective State from Pre-*

to Post-Discussion Across Actor Mindset and Target Experience Conditions

	Control Mindset/Negative	Control Mindset/Positive	Empathic Mindset/Negative	Empathic Mindset/Positive
Study 1	$z = -1.142$ $r = -.103$ (34)	$z = $ **1.073** $r = $ **.096** (33)	$z = -2.855^{**}$ $r = -.253$ (31)	$z = -0.501$ $r = -.045$ (34)
Study 2	$z = $ **2.394*** $r = $ **.201** (35)	$z = $ **0.200** $r = $ **.017** (36)	$z = -1.431$ $r = -.121$ (38)	$z = -0.135$ $r = -.011$ (38)
Study 3	$z = $ **1.861** $r = $ **.183** (27)	$z = $ **1.346** $r = $ **.133** (27)	$z = -0.558$ $r = -.055$ (28)	$z = $ **0.856** $r = $ **.085** (28)
Study 4	$z = -0.065$ $r = -.005$ (38)	$z = $ **1.190** $r = $ **.010** (36)	$z = -0.531$ $r = -.045$ (31)	$z = -0.391$ $r = -.033$ (43)
Across 1 to 4	$z = $ **1.374** $r = $ **.062**	$z = $ **1.834** $r = $ **.083**	$z = -2.716^{**}$ $r = -.121$	$z = -0.207$ $r = -.007$
Diffuse test of heterogeneity of Disp Emp effect across conditions:				$\chi^2 (3) = 12.65^{**}$
Focused contrasts testing whether effect of Disp Emp varies with Mindset and/or Target Exper (Moderation):				
Mindset (Control vs. Empathic)		$z = -3.066^{***}$ $r = -.136$ Disp Emp in Control $z = $ **2.269*** $r = $ **.073** Disp Emp in Empathic $z = -2.067^{*}$ $r = -.064$		
Target Exper (Positive vs. Negative)		$z = -1.485$ $r = -.068$		
Mindset x Target Exper Interaction		$z = $ 1.025 $r = .047$		

Notes. Disp Emp = Dispositional Empathy; Exper = Experience. Cell *N*s in parentheses. These *z* values were obtained following Goh et al.'s (2016) recommendations for fixed effects analyses, converting one-tailed *p*-values to *z*-scores; positive effects (involving increased target positive affect) are bolded. The computation of overall *z*s included weighting by sample size as per Rosenthal (1991); $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .005$, two-tailed. The computation of weighted mean effect sizes followed Goh et al.'s (2016) recommendations. The diffuse test of heterogeneity across conditions and focused contrasts were calculated following Rosenthal's (1991), Goh et al.'s (2016), and Wiens and Nilsson's (2017) procedures. For the Mindset contrast both control conditions were scored -1 and both empathic conditions were scored +1; for the Target Experience contrast both positive conditions were scored -1 and both negative conditions were scored +1; for the Mindset x Target Experience interaction the control/negative, control/positive, empathic/negative, and empathic/positive conditions were scored +1, -1, -1, +1 respectively.

Study 5

Study 5 was designed to achieve two main goals. First, we wanted to replicate the findings of the mini meta-analysis across the first four studies in a pre-registered study (*link removed for anonymous review, see supplemental materials for copy of anonymized pre-registration*) focused on testing for the disruption pattern as an a priori prediction. Consistent with the idea that close and meaningful social exchanges confer greater affective benefits than those that are more distant, we anticipated that interacting with another person who was higher in dispositional empathy would leave individuals feeling happier than interacting with another person lower in dispositional empathy. Further, and in line with the idea that a chronic orientation toward being empathic facilitates the development of social skills that can come to be enacted in an automatic fashion, we anticipated that positive effects of dispositional empathy would be disrupted by purposeful efforts to empathize in much the same way as consciously monitoring other routinized, skilled behaviors can hurt performance.

Second, we wanted to address a critical interpretational issue with respect to the findings of the first four studies. In each case the effects of empathic mindsets were compared to mindsets explicitly involving distance and objectivity. Although these alternative mindsets are standard in the empathy literature, it nonetheless remains unclear whether the small positive effect of dispositional empathy that was evident in the control conditions reflects its baseline or typical effects or whether the effect might be larger when individuals are not instructed to remain detached. Questions also surround how much the positive effect of empathic mindset that was evident for individuals lower in dispositional empathy might reflect a negative influence of the distance encouraged in the control conditions rather than a positive influence of an empathic mindset (see, e.g., McAuliffe, Forster, Philippe, & McCullough, 2018). It is also possible that the

benefits of empathic mindsets were underestimated, if distance and objectivity were beneficial to the target in some way in their own right, which there are some grounds to expect in interaction circumstances (Grossmann & Kross, 2014; Kross & Ayduk, 2008). To address these issues, the control condition in Study 5 involved giving actors no instructions about how to approach the interaction.

The basic paradigm was the same as that described for Study 1, in which the target had a success or failure experience on the RAT. Our choice of this paradigm was guided by the relevance of academic skill testing experiences, and the support interactions surrounding them, to our participant population (university students). In view of how this paradigm focuses on a performance situation and incorporates experiences known to affect current self-evaluations (Brown & Dutton, 1995), on an exploratory basis we also examined the implications of empathy for targets' state self-esteem. Further, to rule out the possibility that instructions to empathize reduce feelings of empathy for those higher in dispositional empathy and interfere with motivation, which we did not expect, we also examined effects on actors' current feelings of empathic concern.

In order to increase the sensitivity of our analysis, dispositional empathic concern was assessed at the start of the experimental session (mixed in with other filler scales) rather than months in advance: Although test-retest reliability of the empathic concern subscale of the IRI is satisfactory (.70 for men and .72 for women over 60 to 75 days, see Davis, 1980), variability over time (perhaps especially in the first year of university) may have contributed to measurement error and thus reduced effect sizes in our first four studies. Given the potential impact of the procedural changes that were implemented, we again examined in this study whether the disruption pattern was particularly evident in the case of a failure experience.

Finally, in an exploratory fashion, we endeavored to shed some light on the behavioral mechanisms underlying the positive implications of actors' dispositional empathy for targets' affective state under baseline conditions, as well as the behaviors disrupted by purposeful efforts to empathize. The recorded discussions were reviewed by independent coders who made ratings relevant to the overall levels of warm, closeness-enhancing, and supportive behaviors exhibited by actors, the extent to which the actors' behavior seemed natural and authentic, and the flow of the interaction.

Method

Participants

Participants were 163 same-sex pairs (103 female) of previously unacquainted introductory psychology students who completed the study in exchange for partial course credit. This number does not include one pair in which the target was unable to read or write and was accompanied by a support worker throughout the session, one pair who were discovered to have participated together in a previous interaction study in our lab, one pair in which the target knew the experimenter, one pair in which the experimenter did not follow the correct script for the condition, and one pair in which the actor overheard the target receive failure feedback. Five pairs that included a person who did not have English as a first language were also excluded (as per our pre-registration). With these exclusions taken into account, some of which we did not discover until we had ceased data collection, we achieved a sample size of 173 pairs.

In determining the target sample size, we did not have data from directly comparable studies including no-instructions control conditions to inform the power analysis. The effect sizes evident in our mini meta-analysis were overall quite small, but we anticipated that assessing dispositional empathy at the beginning of the experimental session would decrease

measurement error and increase effect sizes. Accordingly, we set our sights on detecting an

effect size of $r = .21$, based on Richard, Bond, and Stokes-Zoota's (2003) meta-analysis

providing an estimate of the typical effect size in social psychology as well as Funder et al.'s

(2014) recommendations. According to G*Power (Faul, Erdfelder, Lang, & Buchner, 2007), 174

pairs would provide at least .80 power to detect an effect of that size for R^2 increase in multiple

regression with alpha set at .05, two-tailed. Although using the smaller effect size estimate from

the mini meta-analysis – despite anticipating a larger effect due to procedural changes – would

have provided greater power, feasibility considerations surrounding the labor-intensive nature of

collecting data from dyads in hour-long experimental sessions also factored into our plans

regarding sample size.

Once we began analyses we were surprised to discover that there were ten pairs in which

the target's performance was extremely inconsistent with the success versus failure

manipulation, an issue that we did not anticipate (eight targets in the success condition received

scores within one point of the minimum possible on the RAT and two targets in the failure

condition received scores within one point of the maximum possible). We excluded these pairs

on a post hoc basis, judging the decrease in sample size less problematic than the reduced

precision involved in including pairs where the target's experience was dramatically incongruent

with his or her assigned experimental condition.[3,4] A sensitivity power analysis conducted with

G*Power indicated that our final sample size provided .80 power to detect an effect size of $r =$

.216 with $\alpha = .05$, two-tailed. Pairs were randomly assigned to one cell in the 2 (Actor Mindset:

Empathic vs. No Instructions Control) x 2 (Target Experience: Success vs. Failure) design.

Procedure

The procedure was the same as in Study 1, with a few modifications. First, during the time that the target was completing the RAT and pre-discussion measures, actors completed the empathic concern subscale of the IRI (α = .80). These items appeared between the Rosenberg (1965) self-esteem scale and the ten-item personality inventory (Gosling, Rentfrow, & Swann, 2003), which were included as fillers. Second, actors in the control/non-empathic mindset condition were not given any instructions as to how to approach the interaction. In addition, the first measure actors completed after the discussion was an open-ended thought-listing task involving writing down the main thoughts that were on their mind during the discussion.

The outcome-dependent emotion items completed by targets before (α = .85) and after (α = .83) the discussion were intermixed with the 20 items from Heatherton and Polivy's (1991) state self-esteem scale. On a more exploratory basis these items were also combined with appropriate reverse-scoring to index pre- (α = .92) and post-discussion (α = .92) state self-esteem. Actors completed a six-item measure of empathic concern (Batson et al., 1997), in which they indicated how sympathetic, compassionate, soft-hearted, warm, tender, and moved they felt toward the other participant during the discussion (α = .89). Actors and targets also completed a range of additional measures, which are described in the supplemental document.

Behavior Coding. A total of 150 pairs consented to video recording of their discussion. Three independent female coders blind to actors' dispositional empathy and experimental condition (and the hypotheses) viewed the first five minutes of these discussions and made a series of judgments relevant to the level of warmth exhibited by actors. Specifically, they judged how warm (α = .61) and friendly (α = .66) actors were, and also made judgments about how much actors smiled (α = .79), nodded (α = .68), and mimicked the target (α = .62). In a different round of coding designed to capture behavioral processes at the end as well as the beginning of

the discussions, two female coders viewed the first 2.5 minutes and the last 2.5 minutes of the

discussions and rated behaviors relevant to support and intimacy, namely the extent to which

actors positively reframed negative experiences and feelings the target shared ($\alpha = .61$) and were

happy for the target when he/she shared positive events and experiences ($\alpha = .64$), as well as

whether the conversation seemed superficial ($\alpha = .68$) or ended early ($\alpha = .88$).[5] To directly

capture disruption of flow, coders also rated whether the conversation seemed to flow easily ($\alpha =$

.70). Other judgments were made as well but are not described here due to low reliability ($\alpha <$

.60) or because they are not clearly relevant to the three key possible behavioral mechanisms we

emphasize in the current analysis. We refer the reader to the supplemental document for details

on these but note that reliabilities on dimensions that we tried to assess relevant to authenticity,

such as whether the actor was being genuine (sincere, authentic), behaving naturally, or trying

"too hard," were especially low (αs ranged from -.48 to .54).

<div align="center">

Results

</div>

Manipulation Checks. Actors overall were reasonably accurate in remembering their

mindset instructions (89% selected the correct option from the choices: *I was asked to try to*

remain objective, *I was asked to try to imagine how the other participant felt*, or *neither of the*

above). Targets in the failure condition felt less happy than those in the success condition going

into the discussion, Ms = 4.98, SD = 1.08, and 5.35, SD = 1.11 respectively, $t(161) = 2.14$, $p =$

.034, $r = .166$. Two coders blind to experimental condition, actors' dispositional empathy, and

the hypotheses reviewed actors' comments in the open-ended thought-listing and counted the

total number of references to targets' thoughts, feelings, personal qualities, and experiences.

Their ratings ($\alpha = .88$) were averaged together. Actors in the empathic mindset condition made

more such references than those in the control condition, Ms = 2.98, SD = 2.07, and 2.33, SD =

1.85, respectively, $t(161)$ = 2.13, p = .035, r = .166.

Targets' Affective State. We analyzed changes in targets' self-reported feelings of

happiness in hierarchical multiple regression, with actors' mindset condition (0 = control, 1 =

empathic), actors' dispositional empathy (empathic concern subscale of the IRI, centered), and

target experience (failure = 0, success = 1) entered on the first step; all two-way interactions

between the predictor variables were entered on the second step, and the three-way interaction

was entered on the third step.

This analysis yielded only an Actor Mindset x Actor Dispositional Empathy interaction, b

= -0.255, β = -.282, $t(156)$ = 2.51, p = .013, r = .197 (see Figure 1). Simple effects analyses

revealed that consistent with the predicted disruption pattern, actors' dispositional empathy was

associated with positive mood change in the target in the no-instructions control condition, b =

0.166, $t(156)$ = 1.98, p = .0495, r = .157, but not in the empathic mindset condition, b = -0.088,

$t(156)$ = 1.13, p = .261, r = .090. Decomposing the interaction the other way, when actors were

lower in dispositional empathy, adopting an empathic mindset had no significant effect on

targets' mood change, b = 0.204, $t(156)$ = 0.92, p = .361, r = .073, whereas when actors were

higher in dispositional empathy adopting an empathic mindset had a significant *negative* effect

on targets' mood change, b = -0.475, $t(156)$ = 2.02, p = .045, r = .160. The three-way interaction

with Target Experience was not significant, b = -0.078, β = -0.056, $t(155)$ = 0.45, p = .653, r =

.036.

Figure 1

Change in Targets' Affective State from Pre- to Post-Discussion as a function of Actors'

*Dispositional Empathy and Temporary Mindset (Study 5)*
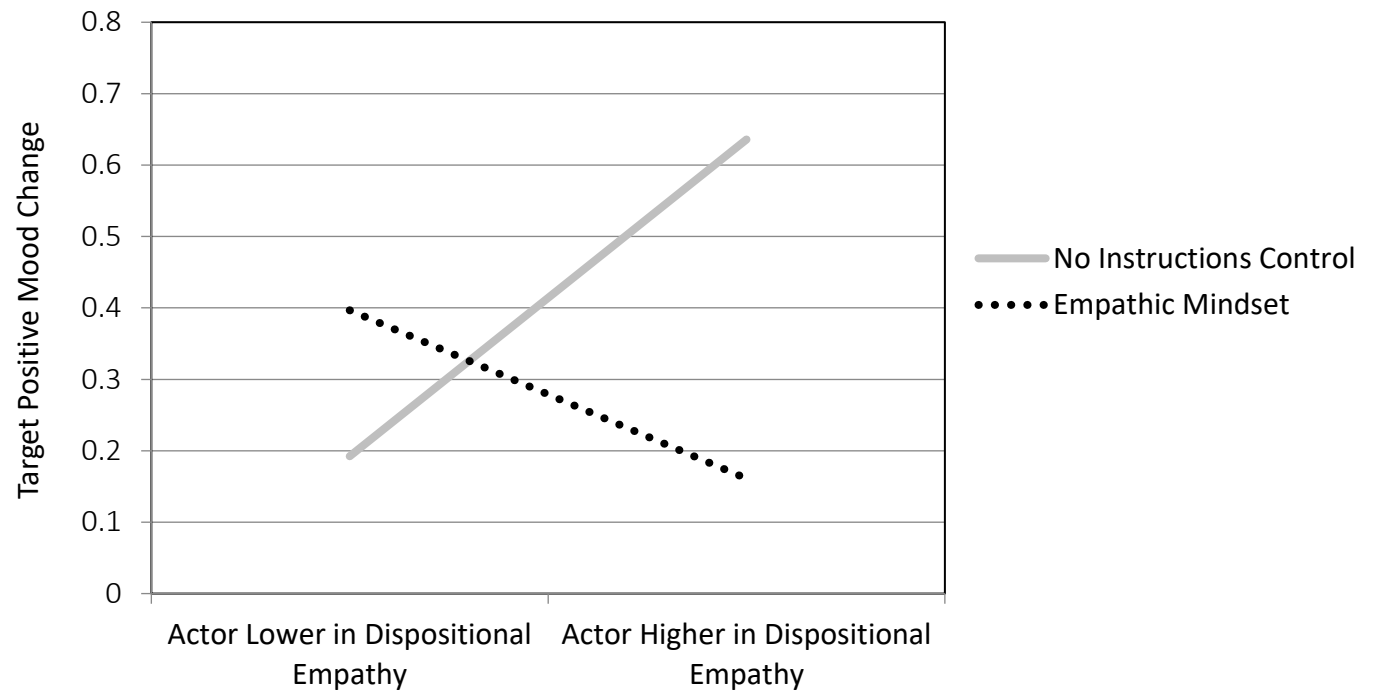
A parallel analysis of positive change in targets' state self-esteem also yielded an Actor Mindset x Actor Dispositional Empathy interaction, $b = -0.226$, $\beta = -.294$, $t(156) = 2.72$, $p = .007$, $r = .213$ (see Figure 2). Simple effects analyses revealed that consistent with the disruption pattern, actors' dispositional empathy tended to be associated with positive state self-esteem change for the target in the no instructions control condition, $b = 0.133$, $t(156) = 1.93$, $p = .0548$, $r = .153$, but not in the empathic mindset condition, $b = -0.093$, $t(156) = 1.45$, $p = .148$, $r = .115$. Decomposing the interaction the other way, when actors were lower in dispositional empathy adopting an empathic mindset had no significant effect on targets' state self-esteem change, $b = 0.031$, $t(156) = 0.17$, $p = .867$, $r = .014$, whereas when actors were higher in dispositional empathy adopting an empathic mindset had a significant *negative* effect on targets' state self-esteem change, $b = -0.572$, $t(156) = 2.98$, $p = .003$, $r = .232$. Here again the three-way interaction with Target Experience was not significant, $b = -0.078$, $\beta = -0.056$, $t(155) = 0.45$, $p = .853$, $r = .036$. This analysis also yielded a main effect of target experience, $b = -0.395$, $\beta = -.271$, $t(159) = 3.56$, $p < .001$, $r = .272$, whereby there was more improvement over time in targets' state self-esteem in the failure as compared to the success condition.[6,7]

Figure 2

Change in Targets' State Self-Esteem from Pre- to Post-Discussion as a function of Actors'

Dispositional Empathy and Temporary Mindset (Study 5)
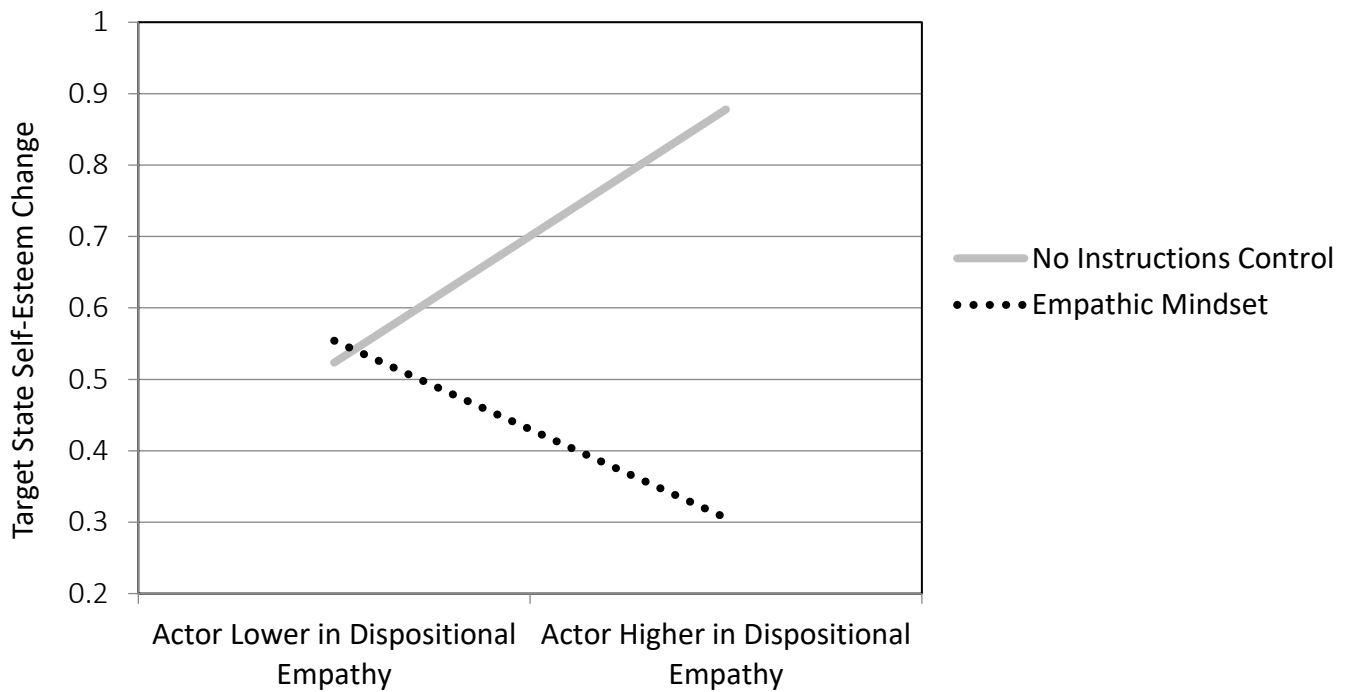
Actors' Empathic Concern. The analysis of actors' empathic concern yielded only a main effect for actor dispositional empathy, $b = 0.380$, $\beta = .422$, $t(158) = 5.86$, $p < .001$, $r = .423$; all other $ps \geq .29$.

Behavior. The analysis of coders' ratings of warmth-relevant behaviors yielded only positive main effects for actors' dispositional empathy, for warm $b = .13$, $\beta = .22$, $t(146) = 2.70$, $p = .008$, $r = .218$, friendly $b = .10$, $\beta = .17$, $t(146) = 2.08$, $p = .039$, $r = .170$, smiling $b = .20$, $\beta = .23$, $t(146) = 2.79$, $p = .006$, $r = .225$, nodding $b = .14$, $\beta = .18$, $t(146) = 2.19$, $p = .030$, $r = .178$, mimicking $b = .15$, $\beta = .20$, $t(146) = 2.43$, $p = .016$, $r = .197$, being happy for the target $b = .16$, $\beta = .16$, $t(146) = 1.93$, $p = .055$, $r = .158$, and the conversation being less superficial, $b = -.20$, $\beta = -.20$, $t(146) = 2.46$, $p = .015$, $r = -.199$. No significant or marginal effects were evident for positive reframing or the conversation ending early. However, the analysis of perceived flow yielded a marginal Actor Dispositional Empathy x Actor Empathic Mindset interaction, $b = -.28$, $\beta = -.22$, $t(143) = 1.93$, $p = .0545$, $r = .159$. Simple effects tests conducted using PROCESS v.3 (Hayes, 2017) revealed that, consistent with the idea that purposeful efforts to empathize are disruptive to dispositional empathy, actors' dispositional empathy predicted greater levels of perceived flow in the no-instructions control condition, $b = 0.33$, $t(143) = 2.76$, $p = .007$, $r = .225$, but not in the empathic mindset condition, $b = 0.05$, $t(143) = 0.422$, $p = .674$, $r = .035$.

Interestingly, perceived flow was positively, albeit weakly, related to improvements in targets' mood from before to after the interaction, $r(148) = .16$, $p = .045$. None of the other behaviors that could be reliably assessed were significantly related to improvements in targets' mood over time (for example, for actors' warm and friendly behavior rs with target mood improvement = .03 and .04 respectively). Using PROCESS v.3 Model 8 we tested the indirect effect of actors' dispositional empathy on targets' positive mood change via greater flow in the

interaction and found a marginal indirect effect in the no-instructions control condition [90% CI: .0012; .0746] and no effect in the empathic mindset condition [90% CI: -.0126; .0215].[8]

<div align="center">*Discussion*</div>

In line with predictions based on a conceptualization of dispositional empathy as facilitating the development of social skills that become routinized over time, a disruption pattern was evident with respect to the effects of dispositional empathy and purposeful efforts to empathize on targets' affective state. Specifically, although actors' dispositional empathy was associated with positive mood change for the target in the no-instructions control condition, no such effect was evident when actors were purposefully trying to be empathic. Moreover, actors higher in dispositional empathy had a significantly less positive effect on their interaction partner's mood state when they purposefully tried to be empathic as compared to when they just did what came naturally. A similar pattern was evident for changes in targets' state self-esteem. Contrary to expectations, the disruption pattern was not moderated by target distress.

Notably, the positive effect of dispositional empathy in the control condition was larger here than in the previous studies, where the control conditions involved instructions to be distant and dispositional empathy was assessed long before individuals' experimental session. At the same time, somewhat surprisingly, and counter to expectations, no benefits of interacting with someone purposefully adopting an empathic mindset were evident even for individuals lower in dispositional empathy. Indeed, the only statistically significant effects that were apparent here for the mindset manipulation were negative, which were observed when individuals higher in dispositional empathy purposefully tried to empathize. These results suggest that positive effects evident across Studies 1 to 4 for temporary empathic mindsets were driven at least in part by negative effects of the distance instantiated by the objective mindset instructions. More so than

the other studies, then, the present study illuminates the greater benefits attached to interacting

with someone who is dispositionally empathic as compared to someone who is purposefully

trying in the moment to be empathic.

The fact that instructions to purposefully try to be empathic did not reduce dispositionally

empathic individuals' explicit self-reports of empathic concern runs against an interpretation in

terms of reduced motivation and is consistent with our reasoning regarding the disruptive effects

of conscious monitoring on automatic, proceduralized behavior. Further consistent with this

account is the finding from the behavior coding that whereas dispositional empathy was

associated with having interactions that appeared to flow more easily in the control condition,

this association between dispositional empathy and flow evaporated once individuals were

prompted to purposefully try to empathize. The behavior coding further revealed that although

dispositional empathy was positively related to a host of warm interaction behaviors, this

relationship was not affected by the mindset manipulation. Moreover, warm interaction behavior

was not linked to improvements in targets' well-being. The apparent authenticity of individuals'

behavior proved challenging to gauge, rendering it difficult to assess an account of the present

findings in terms of reduced authenticity. We return to these findings in more depth in the

General Discussion.

General Discussion

Taken together, the results across all of our studies converge to reveal concrete, albeit

small, interpersonal benefits of dispositional empathy: Interacting with someone relatively high

in dispositional empathy raised individuals' spirits, leaving them happier than they were before

the exchange – regardless of how they were feeling at the outset. Thus, in line with the general

association between close and meaningful social exchanges and psychological well-being,

talking with a dispositionally empathic person seems to constitute a general "upper." Critically, however, these interpersonal benefits of dispositional empathy were only evident when individuals were not purposefully trying to be empathic.

This disruption pattern has theoretical implications for how we construe the interpersonal effects of dispositional empathy and suggests linkages to the literature on skilled and practiced performance, which indicates that conscious monitoring and effort interferes with routinely enacted, proceduralized behavior. It may be that just as experienced soccer players and golfers perform worse when attending step-by-step to their performance (Beilock et al., 2002), conscious attention to being empathic hurts the "performance" of those who routinely enact an empathic stance in their interactions with others.

What about purposeful efforts to empathize in the moment? Although the results of the mini meta-analysis across the first four studies suggested that such efforts are helpful when enacted by individuals lower in dispositional empathy, the absence of any clear positive effects of empathic mindsets in Study 5, where the control condition involved no instructions rather than instructions to remain objective, are telling: These results suggest that the apparent benefits of empathic mindsets in Studies 1 to 4 were due at least in part to negative effects of mindsets involving distance and objectivity. This finding makes sense in light of recent work suggesting that greater levels of empathic concern and helping evident under empathic as compared objective mindset conditions are largely driven by negative changes triggered by the instructions to be objective (McAuliffe et al., 2018).

Taken as a whole, then, the present findings are broadly suggestive of a more important role for empathic skill than current empathic motivation in predicting improvements to targets' mood state in back-and-forth interpersonal interaction. More directly, whereas our results point

to affective benefits attached to interacting with someone higher rather than lower in dispositional empathy, at the same time they indicate that purposeful efforts to empathize might at best be ineffective, and at worst be counter-productive, in this context. Thus the present findings raise questions about the utility of intervening to increase current empathic motivation in a direct and explicit manner, at least in the short term and with respect to target affective experience in interpersonal interactions not characterized by ingoing antipathy or conflict.

Notably, the present findings also build on and extend the growing literature on empathic failures in a number of ways. Previous research has demonstrated that obstacles to positive effects of empathy include limits to individuals' motivation to be empathic in the first place and even empathy avoidance (e.g., Cameron et al., 2019; Cikara, Bruneau, & Saxe, 2011; Zaki, 2014), as well as negative "side effects" of feelings of empathy when they do arise, such as irrational decision-making and aggression against third parties who might harm the target of empathy (Bloom, 2017). What the results of the current studies further reveal is that in some circumstances empathic efforts can have negative implications for the targets themselves in interaction contexts, reducing the affective benefits they derive from the exchange. In this regard the present findings complement those recently obtained by Vorauer, Quesnel, and St. Germain (2016), who found that individuals who were the target of an interaction partner's temporary empathic mindset showed a reduced psychological sense of power, as reflected by reduced ability to maintain goal focus and less readiness to ask for more in negotiation, relative to those who were the target of an interaction partner's objective mindset. Critically, the present findings, which center on affective outcomes, also suggest that dispositional empathy and temporary empathic mindsets may have distinct implications for targets, at least in non-conflictual interpersonal interaction.

Strengths and Implications

The present research has a number of important strengths. We address basic questions about the interpersonal implications of empathy using well-controlled experimental designs across a large number of dyads engaged in back-and-forth face-to-face interaction. Thus we are able to pinpoint with some precision how interacting with someone who is dispositionally empathic or purposefully trying to be empathic in the moment changes individuals' affective state.

On a theoretical level, our analysis of the potentially distinct implications of dispositional empathy versus temporary empathic mindsets, which uses the enhanced social skills that accompany a chronic empathic orientation as an explanatory construct, highlights that dispositional empathy and purposeful efforts to empathize in the moment are not interchangeable in interpersonal interaction contexts. Further, by revealing that dispositional empathy and temporary empathic mindsets are instead incompatible, in the sense that purposeful efforts to empathize interfere with the otherwise positive interpersonal implications of dispositional empathy, our analysis suggests that concepts and processes from research and theory on sensorimotor skill performance are applicable to social behavior in general and the enactment of empathy in particular. Thus our findings have theoretical implications in terms of suggesting that the interpersonal benefits of dispositional empathy can be viewed through the same lens as other types of skilled performance and proceduralized behaviors.

On a practical level the findings of the present research suggest that interventions to enhance empathy should be cognizant of, and tailored to, the target population. In particular, for individuals who already have an empathic orientation and readily adopt an empathic stance in their interactions with others with little, if any, conscious reflection, the inclusion of direct

prompts to try to connect with others' feelings in an educational program or training module may be counter-productive for some outcomes.

Indeed, our findings generally call into question the utility of trying to directly and explicitly encourage empathy in the moment, at least in the short term and in interpersonal exchanges not characterized by ingoing antipathy or significant conflict. Of course, at the same time the findings also highlight concrete interpersonal benefits attached to dispositional empathy. This raises the question as to how to best facilitate its development, especially in view of research documenting that dispositional empathy can change over time even in adults (e.g., Bellini & Shea, 2005; Hatcher et al., 1994). Our results would seem to highlight the potential benefits of more indirect or skill-based approaches such as those involving learning to identify own and others' emotions, as often incorporated in social-emotional learning programs (Malti, Chaparro, Zuffianò, & Colasante, 2016), over approaches that tackle motivation more directly. Interestingly, recent research indicating that increasing individuals' sense of efficacy in enacting empathy (via providing positive feedback) can enhance empathic motivation (Cameron et al., 2019) suggests that enhancing actual empathic skill may also provide an indirect or "back door" means of increasing chronic empathic motivation. Further along these lines, an additional important question for future research is whether any of a variety of other indirect methods for enhancing empathic motivation, such as by changing perceived norms or increasing the perceived malleability of empathy (see Zaki, 2014), might have more positive interpersonal implications even in the moment, if they "fly under the radar" and encourage an empathic orientation without directly prompting purposeful efforts to empathize.

A final consideration is that the present research suggests that the effect of empathy on targets' affective state, at least in the types of face-to-face interaction we examined, is small in

magnitude. Given that this effect is highly interpersonal in nature – centering on the influence of empathy on changes in an interaction partner's mood – and thus many forces were invariably at play, the effect sizes obtained may nonetheless be considered impressive (see Prentice & Miller, 1991). Regardless, given the current widespread promotion of empathy across a broad range of both formal and informal contexts in individuals' daily lives, it is useful to know the magnitude of impact that can be expected.

Limitations

One limitation of the present work is that although we documented concrete interpersonal effects in the form of changes in an interaction partner's feelings of happiness, many questions remain regarding the specific behaviors underlying the effects we obtained. Nonetheless, we believe that the results of the behavior coding in Study 5 were illuminating in a number of respects. First, it was intriguing that – notwithstanding that dispositional empathy was clearly predictive of warm interaction behavior – these behaviors were not disrupted by purposeful efforts to empathize and, further, that there was no apparent link between individuals' warm behavior and improvement in their interaction partner's well-being. It was also interesting that it was so difficult for our coders to agree in their ratings of behavior dimensions relevant to authenticity, which suggests that authenticity might be difficult for targets to judge as well, at least on an explicit level. Finally, our results indicating that purposeful efforts to empathize disrupt the perceived "flow" of interactions for individuals higher but not lower in dispositional empathy provide evidence of behavior dynamics consistent with research on choking under pressure in connection with sensorimotor skills, which emphasizes how conscious monitoring leads automated, integrated behavior to be broken down into smaller independent units. However, these data need to be interpreted very cautiously given that these analyses were not

part of our pre-registration and given that the effects were only evident on a single coding

dimension and were not very strong. We therefore view the current results as suggestive only and

hope that they can inform future research on these issues, which may uncover more by focusing

directly on behavior dynamics as a primary research question (e.g., using more close-up camera

angles on each person's face and body). In particular, it is unclear why flow was linked to

improvement in targets' mood state whereas warm behavior was not, except perhaps that the

dyadic nature of flow judgments better captured more relational elements of the exchange that

are critical to the uplifting effects of social interaction (Lakey & Orehek, 2011).

In addition, the disruption pattern that we obtained centers on the important interpersonal

outcome of interaction partners' happiness and fits well with our theorizing regarding how

conscious monitoring can interfere with proceduralized behaviors. Yet we have no direct

evidence for our theorized process involving conscious monitoring. Notably, the challenge of

tapping mental processes that may not be available to actors is considerable (see Nisbett &

Wilson, 1977), and, perhaps in connection with this, an absence of direct evidence of mediation

and underlying process also characterizes much other work on the disruption of skilled

performance (see, e.g., Beilock & Carr, 2001). Further, we have not been able to identify any

plausible mundane alternative explanations. As a corollary note, on an exploratory basis we did

use the current data to probe the possibility of a "too much empathy" account, whereby there is

an optimal, moderate level of empathy that is beneficial for targets, above which it becomes

counter-productive. However, as reported in the supplemental document, there was no evidence

of a curvilinear (or linear) relation between actors' self-reported feelings of empathy and targets'

mood change.

There is one interesting possibility that is worthy of further investigation. Some research guided by self-determination theory has demonstrated that individuals perform better when they approach a task with intrinsic rather than extrinsic motivation (e.g., Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004). As such, by shifting the motivation behind dispositionally empathic individuals' behavior from intrinsic to extrinsic, the empathic mindset instructions might have undermined its interpersonal effectiveness. Notably, such an account would still point to similar practical concerns for intervention and, being far from a mundane interpretation, would have important theoretical implications in its own right – suggesting, for example, that empathic individuals' prosocial motivation can be easily undermined by situational cues that promote empathy.

Conclusion

The present research reveals that interacting with someone who is high in dispositional empathy can be especially effective in raising individuals' spirits, and that this is true irrespective of how distressed they are feeling when they enter the interaction. At the same time, however, situational prompts to purposefully try to be empathic undo these positive effects of dispositional empathy and in fact render a chronic orientation toward being empathic detrimental rather than beneficial for those on the receiving end. Thus dispositional empathy and purposeful efforts to empathize are incompatible rather than interchangeable or additive in terms of their effects on targets. On a theoretical level, this pattern suggests that the interpersonal benefits of dispositional empathy can be viewed through the same lens as other types of skilled performance and proceduralized behaviors that are also vulnerable to disruption by conscious monitoring. On a practical level, at least in interpersonal exchanges not characterized by ingoing antipathy, our results point to the potential benefits of approaches that involve indirectly enhancing empathic

motivation or promoting skill development over those that encourage empathy in an explicit and

direct way.

Footnotes

1. Two further studies met some but not all of these criteria (e.g., did not manipulate target happiness, included additional manipulations) and thus are not included here (see *link removed for anonymous review* and *citation masked for review*, for descriptions).

2. When we instead analyze the data from all five studies with repeated-measures Analyses of Covariance including pre-post (time) as an additional, repeated, factor (with the continuous predictor of dispositional empathy entered as a covariate and all its interactions with the other predictors included in the model), the same disruption effects emerge as currently reported in the paper, in the form of interactions with the time factor (which mirror the effects on change scores) at very similar levels of statistical significance. The other effects were also very similar, with no systematic deviation from the regression results (apart from the consistent main effect of time, not tested in regression). These results are reported in the supplemental document. Further, when we tested, for each of the five studies, whether dispositional empathy, temporary empathic mindset, or their interactions with each other or with target's affective state condition had effects on targets' pre-discussion mood or state self-esteem (a total of 49 effects tested), we found only one statistically significant effect: In Study 3 there was a three-way Actor Mindset x Actor Dispositional Empathy x Target Experience interaction on targets' time 1 mood, $b = -0.615$, $\beta = -.358$, $t(102) = 2.24$, $p = .028$, $r = -.191$ (at the same time, there was no Actor Mindset x Actor Dispositional Empathy x Target Experience on targets' positive mood change here, $p = .290$).

3. When these pairs are all retained, the critical Actor Dispositional Empathy x Actor Mindset interaction on changes in targets' affective state remains statistically significant, $b = -0.206$, $\beta = -.229$, $t(166) = 2.14$, $p = .034$, $r = .164$. The same is true for changes in actors' state self-esteem, Actor Dispositional Empathy x Actor Mindset interaction $b = -0.172$, $\beta = -.220$, $t(166) = 2.13$, p

= .035, r = .163. The simple effects are weaker, however, and none reached traditional level of statistical significance except the negative effect of individuals high in dispositional empathy adopting an empathic mindset on targets' state self-esteem change, b = -0.466, $t(166)$ = 2.48, p = .014, r = .189. Detailed results are provided in the supplemental document.

4. It was at this point that for consistency we went back and implemented the same exclusions in Study 1, where such cases were much rarer (2 of 134 pairs; the frequency of these cases was approximately four times higher in the current study) and thus initially overlooked.

5. There were initially three coders. However, the ratings of one coder who did not consistently follow instructions as to how to identify the last 2.5 minutes of the discussion (e.g., her decisions as to whether the discussions ended early were significantly different from the other coders, ts > 3.26) are not included because of the frequency with which she was coding a different segment of the discussions than were the other coders.

6. Changes in targets' state self-esteem were also assessed in Study 1. When these data were analyzed in the same fashion as in the current study, results indicated an Actor Mindset x Actor Dispositional Empathy interaction, b = -0.170, β = -.301, $t(125)$ = 2.41, p = .018, r = .211. Details are in the supplemental document.

7. Although across the five studies there was a positive correlation between being female and dispositional empathy (rs ranged from .21 to .43), analyses conducted to test whether the effects we observed for dispositional empathy could be traced back to sex did not support such an interpretation. Specifically, when we replaced dispositional empathy with sex in the regression analyses in all five studies (including computing interaction terms with sex instead of dispositional empathy), there were no significant effects involving sex except for a Sex x Target Experience interaction on targets' state self-esteem in Study 5, b = 0.46, β = .21, $t(156)$ = 2.10, p

$= .046$, whereby there tended to be more state self-esteem improvement in female pairs in the success condition, sex $b = .36$, $t(156) = 1.80$, $p = .07$, but not the failure condition, $t < 1$. In addition, the Sex x Mindset interaction was consistently weak, generally $t < 1$ and never reaching even marginal levels of statistical significance (all ps $> .19$).

8. None of the behaviors that could be reliably assessed were significantly related to state self-esteem change; for perceived flow $r(148) = .13$, $p = .120$. Interestingly, however, when we controlled for perceived warmth, which was related to coders' judgments of flow ($r = .44$) but not state self-esteem change ($r = -.04$), the connection between perceived flow and state self-esteem change did reach traditional levels of statistical significance, $r(147) = .16$, $p = .049$, and there a marginal indirect effect of dispositional empathy on state self-esteem change through perceived flow in the no-instructions control condition [90% CI: .0020; .2329] but not in the empathic mindset condition [90% CI: -.1646; .0521]. Following the same procedure for targets' mood change yielded a significant partial correlation between perceived flow and mood change $r(147) = .17$, $p = .041$; there a marginal indirect effect of dispositional empathy on target mood change through perceived flow in the no-instructions control condition [90% CI: .0017; .0748] but not in the empathic mindset condition [90% CI: -.0263; .0156].

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Supplemental Material

Table of Contents

1. Copy of Anonymized Pre-Registration for Study 5: For Review Only

Note: For Review Only. This is a copy of the pre-registration for Study 5, downloaded from osf and anonymized. Upon publication the link to this pre-registration will be added to the paper.

A. Hypotheses - Essential elements

Description of essential elements
Describe the (numbered) hypotheses in terms of directional relationships between your (manipulated or measured) variables.

Note: This study involves interacting dyads; the "actor" vs. "target" designation refers to participants' assigned role in experiment. Actors enact empathy to varying degrees and the targets' reactions are examined.

1. Interacting with an actor higher as opposed to lower in dispositional empathy will leave targets in a more positive affective state (i.e., more happy and less sad), unless the actor is purposefully trying to be empathic.

2. Decomposing the interaction the alternate way, interacting with an actor who is purposefully trying to be empathic will leave targets in a more positive affective state (i.e., more happy and less sad), unless the actor is relatively high in dispositional empathy.

For comparability with previous studies in our lab and so that this study can be included in a mini meta-analysis, these effects will be examined across circumstances in which targets have had either a success or failure experience. We anticipate that the above "disruption" pattern might be particularly evident in the case of a failure experience.

For interaction effects, describe the expected shape of the interactions.

There should be a positive effect of actors' dispositional empathy on targets' affective state in the baseline (no-mindset control) condition, which should be eradicated in the empathic mindset condition.

There should be a positive effect of actors' temporary empathic mindset on targets' affective state when actors are lower but not higher in dispositional empathy.

Note that our hypothesis focuses in particular on there being a relatively more negative effect of dispositional empathy in the empathic mindset condition than in the no-instructions control condition (i.e., an interaction but not necessarily a significant negative effect in the empathic mindset condition). Similarly, we expect the mindset effect to be relatively more positive for those lower in dispositional empathy than for those higher in dispositional empathy.

We expect that a vast majority of participants receiving the mindset manipulation (actors) will correctly recall their mindset instructions (i.e., more than 90%).

Although we are also assessing empathic affect, we do not construe this measure as a manipulation check. For a variety of reasons individuals may follow the experimental instructions to try to empathize yet fail to experience empathic affect. Purposeful effort to empathize rather than empathic affect is our key independent variable.

Recommended elements

Recommended elements

A figure or table may be helpful to describe complex interactions; this facilitates correct specification of the ordering of all group means. (optional)

- No files selected

For original research, add rationales or theoretical frameworks for why a certain hypothesis is tested. (optional)
If multiple predictions can be made for the same IV-DV combination, describe what outcome would be predicted by which theory. (optional)

B. Methods - Essential elements

Description of essential elements
Design
List, based on your hypotheses from section A: Independent variables with all their levels a. whether they are within- or between-participant b. the relationship between them (e.g., orthogonal, nested).

First Independent Variable - Actor Mindset: Empathic vs. No-Instructions Control

Second Independent Variable - Actor Dispositional Empathy, assessed in terms of scores on the empathic concern subscale of the Interpersonal Reactivity Index (Davis, 1980)

Third Independent Variable – Target Experience: Success vs. Failure

Pairs are the unit of analysis and all independent variables are between-pairs and orthogonal, except that a final factor, role (actor vs. target), is within-pairs.

Change in positive affect (happy, glad, unhappy(r), and sad(r); combined with appropriate reversals) experienced by target from before to after a discussion with the actor is the main dependent variable.

Several measures will be included to probe processes potentially underlying the predicted interaction effect. In terms of measures completed by actors, actors' self-focus will be assessed in terms of their pronoun use in an open-ended thought-listing task and their responses to a situational self-awareness scale. The extent to which actors are thinking abstractly versus concretely will be assessed in terms of their responses to the Behavior Identification Form (Vallacher & Wegner, 1989). Actors' positive affect and state self-esteem will also be assessed. In terms of measures completed by targets, two items (e. g., "To what extent do you think that the other participant empathized with you during the various stages of the study?"; see Goldstein et al., 2014) will assess targets' perceived empathy from actors. Targets will also complete items regarding whether they think the actor is generally an empathic person, how engaged they thought the actor was in the discussion, and how responsive they thought that the actor was. Outside coders may review samples from the videotapes and rate behavior positivity.

In addition, actors' feelings of empathy for the target will be assessed along the same six dimensions (e.g., sympathetic, compassionate) as in Batson et al. (1997).

Other measures are included as fillers or on an exploratory basis. These include targets' state self-esteem and actors' self-esteem, scores on the ten-item personality inventory (Gosling et al., 2003), and perspective-taking. Actors' and targets' perceived positive regard from the other will be assessed with four items (e.g., "How much did the other participant like you?") from West, Magee, Gordon, and Gullet (2014); four parallel items will assess their own positive regard for the other. Actors' feeling of similarity to the target will also be assessed with five items based on McCroskey, Richmond, and Daly's (1975) perceived homophily measure.

Both actors and targets will complete measures regarding whether they are previously acquainted as well as demographic questions (e.g., age, sex, ethnic background) and a suspicion check.

N/A

Pairs will be same-sex and selected to have English as a first language (because the performance task is English-language-based) and to not have participated in other similar studies in our lab.

Our goal is that participants will be approximately 348 introductory psychology students (174 pairs) at [*deleted for anonymization*]. The study will be held in research laboratory rooms in the psychology department. A research assistant will serve as experimenter. If necessary to achieve the desired sample size two research assistants will share the work of running the sessions.

Our primary interest in this study is to test the effect of dispositional empathy on target affect under baseline conditions (involving no mindset instructions to actors). We have no previous data from no-instructions control conditions to inform the power analysis. In previous studies we have conducted, the overall effect of actors' dispositional empathy when they were instructed to be objective was quite small, but the relevance of that effect here is unclear because of the instructions to essentially be the opposite of what is traditionally considered empathic. As well, in those previous studies dispositional empathy was assessed well before the experimental sessions (sometimes many months before), whereas here it will be assessed at the beginning of the sessions (mixed in with other measures to mask our focus) in hopes of increasing the effect size by virtue of temporal proximity. Accordingly, we set our sights on detecting an effect of $r =$ .21, based on Richard et al.'s (2003) meta-analysis providing an estimate of the typical effect size in social psychology as well as Funder et al.'s (2014) recommendations. According to GPower 174 pairs would provide at least .80 power to detect an effect of that size ($r = .21$, $f = .2148$) with alpha set at .05. This also exceeds the minimum of 20 per "cell" recommended by Simmons et al. (2011): Collapsing across the positive and negative experience conditions this sample size allows us to test the effect of dispositional empathy across 87 dyads in the control condition. Running additional pairs would severely tax our resources hinder our ability to conduct other studies in our lab.

- No files selected

Once 174 usable pairs have been run (or at the end of March 2019, whichever is sooner) data collection will stop.

Data from pair members will be excluded if they report during the session that they are previously personally acquainted, if either one of them reports having an attentional or social

neurodevelopmental mental disorder (e.g., autism), or if either one of them does not follow instructions (e.g., cheats on the task).

Although we include an open-ended suspicion check to be thorough and check on participants' view of the study, our previous experience with similar paradigms leads us to expect that no one will determine the hypothesis, which is quite complex. There is otherwise no active deception. Some participants may wonder whether the cognitive task is designed to make them feel good or bad, or whether the empathy manipulation is intended to encourage them to behave positively, but these do not map onto the hypothesis or seem especially problematic in terms of affecting the quality of the data. Thus we do not anticipate excluding participants based on their responses to this measure.

Procedure
Describe all manipulations, measures, materials and procedures including the order of presentation and the method of randomization and blinding (e.g., single or double blind), as in a published Methods section.

Participants

Participants will be same-sex pairs of previously unacquainted introductory psychology students who take part in the study for partial course credit. The experimenter will alternate through the four experimental conditions (i.e., empathic/success, control/failure, empathic/failure, control/success) for male and female pairs separately according to the order in which pairs are scheduled to participate.

Procedure

When participants are recruited for this study, they will be told that the researchers are interested in looking at how people move or transition between different types of tasks. They will also be told that they will be having a discussion with another participant about their thoughts, feelings, and experiences in a number of different areas, that they will be completing a few questionnaires, and that they might be asked to do a cognitive task that assesses reasoning ability. Members of each dyad will be instructed to wait in different waiting rooms until the researcher collects them and brings them to their room. Pair members will be in separate rooms and kept apart except for the discussion and the debriefing at the end of the study.

The experimenter will first obtain informed consent from each participant. Next the actor will complete a preliminary questionnaire that includes the dispositional empathy measure, the empathic concern subscale of the Interpersonal Reactivity Index (IRI, Davis, 1980), along with the Rosenberg (1965) self-esteem scale and the ten-item personality inventory (TIPI; Gosling et al., 2004) as fillers and the perspective-taking subscale of the IRI; participants will respond to the IRI items on a 10-point scale on which 1 = does not describe me well and 10 = describes me very well. At this time the target will do the cognitive task. Depending on experimental condition, the task will consist of a very difficult or a relatively easy version of a Remote Associates Test (RAT). This test will be derived from McFarlin and Blascovich's (1984) and Bowden and Jung-Beeman's (2003) items. Each version of the test will have ten questions, and targets will be given

five minutes to complete the test, after reading three practice items in order to familiarize themselves with the types of questions being asked. The experimenter will mark the test in front of the target and give the target his or her true score out of ten, along with one of two responses, with the success condition in square brackets. [Congratulations!] You correctly answered _____(number of correct answers) out of 10. [That's great!]

The target will then complete measures of time 1 (pre-discussion) positive affect (Brown & Dutton's 1995 measure of outcome-dependent emotions) and state self-esteem (Heatherton & Polivy, 1991), using a 7-point scale on which 1 = not at all and 7 = extremely. All remaining questions involving rating scales are answered on a 7-point scale on which higher numbers reflect stronger endorsement.

The experimenter will then deliver the mindset manipulation to the actor. All actors will be told: "In this study we have different participants do different tasks. The other participant needs a few more minutes because he/she was asked to complete a cognitive reasoning test. As soon as he/she is ready I'll bring him/her in for the discussion. I will give the two of you the list of possible discussion topics once you are together." Next, actors in the empathic condition will be instructed to go into the discussion with an empathic mindset whereas those in the control condition will be given no such instructions. The empathic mindset instructions will be based on Batson et al.'s (1997) widely used manipulation. Specifically, actors will be told: "After the discussion you will be asked to answer a number of questions about it. We have found that people are better able to answer these questions if they try to imagine how the other participant feels about the events and experiences that he/she describes and to imagine how these events and experiences have affected his/her life. Try to feel the full impact of the experiences that he/she has had and how he/she feels as a result. So please do everything you can during the discussion to imagine how the other participant feels." Note that although due to the nature of the manipulations it is not feasible for the experimenter to be blind to condition, the experimenter's interactions with participants will be completely scripted and the experimenter will not be present during the discussion or when the dependent measures are completed. Targets will receive no instructions about how to approach the discussion and will be unaware that the actor received such instructions.

The target will then be brought into the actor's room, and the pair will be given ten minutes for their discussion. They will be given a discussion topic sheet that includes positive and negative academic experiences, positive and negative social experiences, career goals, employment experiences, and relationships with family members. The experimenter will leave the participants alone for ten minutes, and with their consent, they will be videotaped during the discussion. If they decline to be videotaped they will have the discussion without videotaping.

After their discussion, the actor and target will be separated to complete the dependent measures. After an open-ended thought-listing task involving writing down the main thoughts that were on their mind during the discussion, actors will complete Govern and Marsch's (2001) situational self-awareness scale, a six-item (e.g., sympathetic, compassionate) measure of empathic feelings for the target (from Batson et al., 1997), the Behavior Identification Form (Vallacher & Wegner, 1989), and the same measures of positive affect and state self-esteem that targets completed after the cognitive task. Actors' perceived positive regard from the target will

be assessed with four items (e.g., "How much did the other participant like you?") from West, Magee, Gordon, and Gullet (2014); four parallel items will assess their own positive regard for the target. Actors' feeling of similarity to the target will also be assessed with five items based on McCroskey, Richmond, and Daly's (1975) perceived homophily measure and one item will assess if they accurately recall their experimental instructions. Actors' questionnaire will conclude with items assessing whether they are previously acquainted with the target as well as demographic questions (e.g., age, sex, ethnic background) and a suspicion check. This is an open-ended question in which they can write any thoughts or ideas about what the researchers might be interested in, aside from what has already been explained to them.

Targets' questionnaire will begin with measures of time 2 (post-discussion) positive affect and state self-esteem, parallel to those completed before the discussion. Two items (e. g., "To what extent do you think that the other participant empathized with you during the discussion?"; see Goldstein et al., 2014) will assess targets' perceived empathy from actors. Targets will also complete items regarding whether they think the actor is generally an empathic person, how engaged they thought the actor was in the discussion, and how responsive they thought that the actor was. Their perceived positive regard from the actor and own positive regard for the actor will be assessed with the same items administered to actors. Targets' questionnaire will conclude with items assessing whether they are previously acquainted with the actor as well as demographic questions (e.g., age, sex, ethnic background) and the suspicion check.

At the end of the session participants will be fully debriefed and thanked for participating.

Recommended elements

Recommended elements

Procedure

Set fail-safe levels of exclusion at which the whole study needs to be stopped, altered, and restarted. You may pre-determine what proportion of excluded participants will cause the study to be stopped and restarted. (optional)

If applicable, you can upload any files related to your methods and procedure here (e.g., a paper describing a scale you are using, experimenter instructions, etc.) (optional)

- No files selected

C. Analysis plan - Essential elements

Confirmatory Analyses

Describe the analyses that will test the first main prediction from the hypotheses section. Include:
the relevant variables and how they are calculated;

The difference between targets' post-discussion and pre-discussion happiness (computed from the items happy, glad, unhappy (r), and sad (r)) will be analyzed via hierarchical multiple regression in which the predictors are actors' dispositional empathy (continuous, centered), actors' mindset (control (0) vs. empathic (1)), targets' experience (failure (0) vs. success (1)) and all of the interactions between these variables. Main effects will be entered on the first step, two-way interactions will be entered on the second step, and the three-way interaction will be entered on the third step.

the statistical technique;

multiple regression

each variable's role in the technique (e.g., IV, DV, moderator, mediator, covariate);

The manipulations and actors' dispositional empathy (and interactions between them) are the IVs, and change in targets' happiness from pre- to post-discussion is the DV.

rationale for each covariate used, if any;

N/A

if using techniques other than null hypothesis testing (for example, Bayesian statistics), describe your criteria and inputs toward making an evidential conclusion, including prior values or distributions.

N/A

Second Prediction

Describe the analyses that will test the second main prediction from the hypotheses section. Include:

the relevant variables and how they are calculated; (optional)

the statistical technique; (optional)

each variable's role in the technique (e.g., IV, DV, moderator, mediator, covariate); (optional)

rationale for each covariate used, if any; (optional)

if using techniques other than null hypothesis testing (for example, Bayesian statistics), describe your criteria and inputs toward making an evidential conclusion, including prior values or distributions. (optional)

Third Prediction

Describe the analyses that will test the third main prediction from the hypotheses section. Include:

the relevant variables and how they are calculated; (optional)

the statistical technique; (optional)

each variable's role in the technique (e.g., IV, DV, moderator, mediator, covariate); (optional)

rationale for each covariate used, if any; (optional)

if using techniques other than null hypothesis testing (for example, Bayesian statistics), describe your criteria and inputs toward making an evidential conclusion, including prior values or distributions. (optional)

Fourth Prediction

Describe the analyses that will test the fourth main prediction from the hypotheses section. Include:

the relevant variables and how they are calculated; (optional)

the statistical technique; (optional)

each variable's role in the technique (e.g., IV, DV, moderator, mediator, covariate); (optional)

rationale for each covariate used, if any; (optional)

if using techniques other than null hypothesis testing (for example, Bayesian statistics), describe your criteria and inputs toward making an evidential conclusion, including prior values or distributions. (optional)

Further Predictions

Describe the analyses that will test any further (main) predictions from the hypotheses section. Include:

the relevant variables and how they are calculated; (optional)

the statistical technique; (optional)

each variable's role in the technique (e.g., IV, DV, moderator, mediator, covariate); (optional)

rationale for each covariate used, if any; (optional)

if using techniques other than null hypothesis testing (for example, Bayesian statistics), describe your criteria and inputs toward making an evidential conclusion, including prior values or distributions. (optional)

Recommended elements

Specify contingencies and assumptions, such as:

Method of correction for multiple tests. (optional)

The method of missing data handling (e.g., pairwise or listwise deletion, imputation, interpolation). (optional)

Reliability criteria for item inclusion in scale. (optional)

Anticipated data transformations. (optional)

Assumptions of analyses, and plans for alternative/corrected analyses if each assumption is violated. (optional)

Optionally, upload any files here that are related to your analyses (e.g., syntaxes, scripts, etc.). (optional)

- No files selected

Final questions

Has data collection begun for this project?

Please choose

- Yes, data collection is underway or complete

If data collection has begun, have you looked at the data?

Please choose

- No

The (estimated) start and end dates for this project are

(optional)

Any additional comments before I pre-register this project

(optional)

This registration is an update on a previous registration that is being withdrawn. Before data collection was complete and before any analyses were conducted (or the data were entered), we learned that analyzing changes in targets' happiness over time (i.e., computing change scores) was more in line with statistical recommendations for designs like ours than entering targets' pre-discussion happiness as a covariate (which was the original plan). Further, to render change scores maximally interpretable it is preferable not to standardize the measures (as originally planned). This new registration was created to reflect these changes in the analytic procedures.

2. Results of Multiple Regression Analyses for Studies in Mini Meta-Analysis

Study 1

Targets' Affective State. The Actor Mindset x Actor Dispositional Empathy interaction was not significant but, as indicated by the negative b, descriptively followed the disruption pattern, $b = -0.133$, $\beta = -.215$, $t(125) = 1.67$, $p = .098$, $r = .148$. Further, the analysis yielded an Actor Mindset x Target Experience interaction, $b = -0.557$, $\beta = .346$, $t(125) = 2.33$, $p = .021$, $r = .204$, and an Actor Dispositional Empathy x Target Experience interaction, $b = 0.199$, $\beta = .320$, $t(125) = 2.50$, $p = .014$, $r = .218$. Simple effects analyses revealed that an empathic mindset predicted improvement in target happiness in the failure but not success condition, $b = 0.436$, $t(125) = 2.58$, $p = .011$, $r = .225$, and $b = -0.121$, $t(125) = 0.728$, $p = .468$, $r = .065$, respectively; neither of the simple effects for actor dispositional empathy was significant, $b = -0.104$, $t(125) = 1.44$, $p = .152$, $r = .128$, and $b = 0.095$, $t(125) = 1.34$, $p = .183$, $r = .119$, respectively. The Actor Mindset x Actor Dispositional Empathy x Target Experience interaction was not significant, $t < 1$.

Study 2

Targets' Affective State. The analysis of changes in targets' feelings of happiness yielded an Actor Mindset x Actor Dispositional Empathy interaction following a disruption pattern, $b = -0.238$, $\beta = -.261$, $t(140) = 2.00$, $p = .047$, $r = .167$. Simple effects analyses revealed that actor dispositional empathy tended to have positive implications for the target in the objective condition only, $b = 0.178$, $t(140) = 1.55$, $p = .125$, $r = .130$, and $b = -0.060$, $t(140) = 0.618$, $p = .538$, $r = .052$, for the objective and empathic mindset conditions respectively. A three-way Actor Mindset x Actor Dispositional Empathy x Target Experience interaction was also evident, $b = 0.463$, $\beta = .379$, $t(139) = 1.95$, $p = .053$, $r = .163$. Simple effects analyses here revealed that

actor dispositional empathy only had a significant effect in the objective mindset/sad condition, b = 0.347, $t(139) = 2.42$, $p = .017$, $r = .201$. Decomposed the other way, actor empathic mindset only had a significant effect in the low dispositional empathy/sad condition, $b = 0.922$, $t(139) =$ 2.61, $p = .010$, $r = .216$. A main effect for target experience was also evident, b = -0.610, β = -.328, $t(143) = 4.13$, $p < .001$, $r = .326$, whereby there was greater improvement over time in target happiness in the sad than the happy condition.

Study 3

Targets' Affective State. There were no significant effects for changes in targets' feelings of happiness apart from a main effect of target experience, b = -0.806, β = -.447, $t(106) = 5.21$, p < .001, r = -.446. The Actor Mindset x Actor Dispositional Empathy interaction was not significant but descriptively followed the disruption pattern, b = -0.172, β = -.176, $t(103) = 1.44$, $p = .154$, $r = .140$. The Actor Mindset x Actor Dispositional Empathy x Target Experience interaction was not significant, $p = .290$.

Study 4

Targets' Affective State. The Actor Mindset x Actor Dispositional Empathy interaction for changes in targets' feelings of happiness was not significant but descriptively followed the disruption pattern, b = -0.065, β = -.107, $t(141) = 1.00$, $p = .318$, $r = .084$. The Actor Mindset x Actor Dispositional Empathy x Target Experience interaction was not significant, $t < 1$.

3. Results of Analyses of Covariance for all Studies

Study 1

Targets' Affective State. A repeated-measures ANCOVA including pre-post (time) as an additional, repeated, factor (with the continuous predictor of dispositional empathy entered as a covariate and all its interactions with the other predictors included in the model) yielded significant effects for the Actor Mindset x Target Experience x Time interaction, $F(1, 124) = 5.41$, $p = .022$, and the Actor Dispositional Empathy x Target Experience x Time interaction, $F(1, 124) = 6.07$, $p = .015$. The Actor Mindset x Actor Dispositional Empathy x Time interaction was marginal, $F(1, 124) = 2.78$, $p = .098$. The four-way interaction with Target Experience was not significant, $F < 1$. These effects all closely mirrored the results obtained in the regression analysis. The ANCOVA also yielded a main effect for Time, $F(1, 124) = 21.15$, $p < .001$, and a main effect for Target Experience, $F(1, 124) = 5.71$, $p = .018$.

Targets' State Self-Esteem. Here the ANCOVA yielded significant effects for the Target Experience x Time interaction, $F(1, 124) = 7.23$, $p = .008$, the Actor Dispositional Empathy x Target Experience x Time interaction, $F(1, 124) = 5.77$, $p = .018$, the Actor Mindset x Target Experience x Time interaction, $F(1, 124) = 5.67$, $p = .019$, and the Actor Mindset x Actor Dispositional Empathy x Time interaction, $F(1, 124) = 6.33$, $p = .013$. The four-way interaction with Target Experience was not significant ($p = .254$). These results closely mirrored those obtained in the regression analysis. The ANCOVA also yielded a main effect for Time, $F(1, 124) = 77.94$, $p < .001$, a main effect for Target Experience, $F(1, 124) = 4.47$, $p = .036$, both of which were qualified by the Target Experience x Time interaction (mirroring the regression results), and an Actor Mindset x Time interaction, $F(1, 124) = 4.47$, $p = .037$.

Study 2

Targets' Affective State. Here the ANCOVA yielded significant effects for the Target Experience x Time interaction, $F(1, 139) = 11.08$, $p = .001$, the Actor Mindset x Actor Dispositional Empathy x Time interaction, $F(1, 139) = 5.15$, $p = .025$, and the Actor Mindset x Actor Dispositional Empathy x Target Experience x Time interaction, $F(1, 139) = 3.82$, $p = .053$. These results closely mirrored those obtained in the regression analysis. The ANCOVA also yielded a main effect for Time, $F(1, 139) = 90.42$, $p < .001$, and a main effect for Target Experience, $F(1, 139) = 7.12$, $p = .009$, both of which were qualified by the Target Experience x Time interaction (mirroring the regression results).

Study 3

Targets' Affective State. Here the ANCOVA yielded a significant effect for the Target Experience x Time interaction, $F(1, 102) = 25.48$, $p < .001$. The Actor Mindset x Actor Dispositional Empathy x Time interaction was not significant, $F(1, 102) = 2.02$, $p = .159$. The four-way interaction with Target Experience was not significant ($p = .290$). These effects closely mirrored those obtained in the regression analysis. The ANCOVA also yielded a main effect for Time, $F(1, 102) = 100.99$, $p < .001$, and a main effect for Target Experience, $F(1, 102) = 10.67$, $p = .001$, both of which were qualified by the Target Experience x Time interaction (mirroring the regression results), and an Actor Mindset x Actor Dispositional Empathy x Target Experience interaction, $F(1, 102) = 4.49$, $p = .037$ (which was not qualified by Time).

Study 4

Targets' Affective State. Here the ANCOVA yielded no significant effects. The Actor Mindset x Actor Dispositional Empathy x Time interaction was not significant, $F(1, 140) = 1.06$, $p = .306$. The four-way interaction with Target Experience was not significant, $F < 1$. These

results closely mirror those of the regression analysis. The ANCOVA also yielded a main effect for Time, $F(1, 140) = 49.29$, $p < .001$.

Study 5

Targets' Affective State. Here the ANCOVA yielded a significant Actor Mindset x Actor Dispositional Empathy x Time interaction, $F(1, 155) = 5.70$, $p = .018$. The four-way interaction with Target Experience was not significant, $F < 1$. These results closely mirror those obtained in the regression analysis. The ANCOVA also yielded a main effect for Time, $F(1, 155) = 25.94$, $p < .001$.

Targets' State Self-Esteem. Here the ANCOVA yielded significant effects for the Target Experience x Time interaction, $F(1, 155) = 11.25$, $p = .001$, and the Actor Mindset x Actor Dispositional Empathy x Time interaction, $F(1, 155) = 7.48$, $p = .007$. The four-way interaction with Target Experience was not significant, $F < 1$. These results closely mirrored those obtained in the regression analysis. The ANCOVA also yielded a main effect for Time, $F(1, 155) = 101.69$, $p < .001$, and a main effect for Target Experience, $F(1, 155) = 8.59$, $p = .004$, both of which were qualified by the Target Experience x Time interaction (mirroring the regression results).

4. Additional Measures for Studies in Mini Meta-Analysis

Study 1

Targets. Targets also completed Heatherton and Polivy's (1991) state self-esteem measure both pre- and post-discussion, as well as two items assessing how much they thought that the other participant empathized with them and understood their thoughts and feelings during the various stages of the study, which were combined to create a measure of perceived empathy ($\alpha = .77$). They further completed a measure of their current feelings of power: Following Smith, Wigboldus, and Dijksterhuis (2008), they rated themselves on seven power-relevant trait pairs (e.g., submissive-dominant, unassertive-assertive), which were mixed in with three fillers unrelated to power (e.g., young-old) and five items relevant to sociability (e.g., unfriendly-friendly, nice-mean); they also rated how competent, effective, and capable they felt during the discussion. Their perceived positive regard from the other participant was assessed with four items (e.g., "How much did the other participant like you?") from West, Magee, Gordon, and Gullet (2014); four parallel items assessed their own positive regard for the other participant. Two items assessed their perceptions of the depth and breadth of their own self-disclosures during the discussion. An additional item at the end of the questionnaire told them that one member of each pair was instructed to try to imagine their partner's feelings or to be objective and asked them to guess their partner's instructions. They also indicated whether the other participant had told them directly about this. Finally, they were asked if they had met the other participant before the session and, if yes, to explain how well they knew each other. The last item was an open-ended suspicion probe about whether they had any ideas about what the study might be about.

Actors. Actors also completed a six-item measure of empathic concern (Batson et al.,

1997), in which they indicated how sympathetic, compassionate, soft-hearted, warm, tender, and

moved they felt toward the other participant during the discussion. Actors further completed the

measure of outcome-dependent emotions and Heatherton and Polivy's (1991) state self-esteem

measure before the discussion (and before the mindset manipulation). After the discussion, they

completed parallel versions of these measures that were modified to ask them to estimate how

the other participant was feeling at the beginning of the discussion. They further indicated how

confident they were that their estimates were accurate and how many of their ratings they

thought were exactly correct. Their perceived positive regard from the other participant and own

positive regard for the other participant were assessed with the same items administered to

targets. Two items assessed their perceptions of the depth and breadth of the other participant's

self-disclosures during the discussion. They also completed a five-item measure of perceived

similarity derived from McCroskey, Richmond, and Daly (1975). Actors were further informed

that the cognitive test that their partner completed was designed to be easy or difficult and asked

to guess which version their partner had received. Finally, they completed a version of outcome-

dependent emotions and state self-esteem measures that was modified to ask them to respond

according to how they believed they would have felt if they had done the same test as their

partner. They then completed the same final two questions as given to targets about whether they

had met the other participant before and their ideas about the focus of the study.

Study 2

Targets. Targets also completed items assessing fear (*nervous, jittery, shaky*), guilt

(*guilty, ashamed, angry at self*), shyness (*shy, timid, bashful*), self-assurance (*proud, strong,*

confident), attentiveness (*alert, attentive, concentrating*) and serenity (*calm, relaxed, at ease*)

both pre- and post-discussion. All other additional items were the same as in Study 1, except that state self-esteem was not assessed.

    Actors. Actors also completed all of the same affect items as targets before the discussion. After the discussion, they completed a parallel version of the affect items that was modified to ask them to estimate how the other participant was feeling at the beginning of the discussion. They further indicated how confident they were that their estimates were accurate and how many of their ratings they thought were exactly correct. All other additional items were the same as in Study 1, except that two of them were modified to fit with the revised paradigm. Specifically, they completed a version of the affect items that asked them to respond according to how they believed they would have felt if they had done the same recall task as their partner and they were asked to recall the kind of experience the other participant had described in the personal experience writing task. As well, they were also asked to try to remember the other participant's answers on the personal information sheet.

Study 3

    All additional measures were the same as in Study 2.

Study 4

    Targets. Targets also completed a majority-congruent version of the Stroop colour-naming task as well as the Iowa Gambling Task (Bechara, Damasio, Damasio, & Anderson, 1994). In addition, their pre- and post-discussion questionnaires asked them to rate how insecure, assertive, passive, dominant, timid, and independent they currently considered themselves to be, and the affect measure also included items assessing self-assurance (*proud, strong, confident*), fear (*nervous, jittery, shaky*), negative self-directed affect (*dissatisfied with myself, ashamed,*

angry at myself), and anger (*hostile, angry at others, irritable*). Targets also completed the same measure of perceived empathy as in Studies 1 to 3.

Actors. Actors also completed the same majority-congruent version of the Stroop colour-naming task as targets. Their pre- and post-discussion questionnaires also asked them to rate how insecure, assertive, passive, dominant, timid, and independent they currently considered themselves to be, and included the same affect measures and final items as administered to targets. Actors also completed the same measure of empathic concern as in Studies 1 to 3.

5. Additional Details for Results of Mini Meta-Analysis

Details for Tests of Mindset Simple Effects for Targets' Affective State

Effects of Actor Mindset on Change in Targets' Affective State from Pre- to Post-Discussion

Across Lower and Higher Actor Dispositional Empathy and Target Experience Conditions

	Low Disp Emp /Negative	Low Disp Emp /Positive	High Disp Emp /Negative	High Disp Emp /Positive
Study 1	$z =$ **2.396*** $r =$ **.213**	$z =$ **0.317** $r =$ **.029**	$z =$ **0.961** $r =$ **.086**	$z = -1.225$ $r = -.110$
Study 2	$z =$ **2.573*** $r =$ **.216**	$z =$ **0.165** $r =$ **.014**	$z = -1.380$ $r = -.117$	$z = -0.175$ $r = -.015$
Study 3	$z =$ **1.727** $r =$ **.170**	$z =$ **0.831** $r =$ **.082**	$z = -0.781$ $r = -.077$	$z =$ **0.519** $r =$ **.052**
Study 4	$z =$ **1.128** $r =$ **.095**	$z =$ **0.688** $r =$ **.058**	$z =$ **0.584** $r =$ **.049**	$z = -0.874$ $r = -.074$
Across 1 to 4	$z =$ **3.922**** $r =$ **.174**	$z =$ **0.963** $r =$ **.044**	$z = -0.311$ $r = -.015$	$z = -0.977$ $r = -.042$
Diffuse test of heterogeneity of Mindset effect across conditions: χ^2 (3) = 14.13***				
Focused contrasts testing whether effect of Mindset varies with Disp Emp and/or Target Experience (Moderation):				
Disp Emp (Low vs. High)	$z = -3.087^{***}$ $r = -.137$ Mindset for Low Disp Emp $z =$ **3.454***** $r =$ **.109** Mindset for High Disp Emp $z = -0.911$ $r = -.029$			
Target Exp (Positive vs. Negative)	$z =$ 1.813 $r = .079$			
Disp Emp x Target Exper Interaction	$z =$ 1.147 $r = .052$			

Notes. Disp Emp = Dispositional Empathy; Exper = Experience. These *z* values were obtained following Goh et al.'s (2016) recommendations for fixed effects analyses, converting one-tailed *p*-values to *z*-scores; positive effects (involving increased target positive affect) are bolded. The computation of overall *z*s included weighting by sample size as per Rosenthal (1991); $^*p < .05$, $^{**}p < .01$, $^{***}p < .005$, two-tailed. The computation of weighted mean effect sizes followed Goh et al.'s (2016) recommendations. The diffuse test of heterogeneity across conditions and focused contrasts were calculated following Rosenthal's (1991), Goh et al.'s (2016), and Wiens and Nilsson's (2017) procedures. For the Disp Emp contrast both effects for low disp emp were scored -1 and both effects at high disp emp were scored +1; for the Target Experience contrast both positive conditions were scored -1 and both negative conditions were scored +1; for the Disp Emp x Target Experience interaction the low disp emp/negative, low disp emp/positive, high disp emp/negative, and high disp emp/positive conditions were scored +1, -1, -1, +1 respectively.

6. Additional Measures and Results for Additional Dependent Measures for Study 5

Several measures were included on an exploratory basis or to probe processes potentially underlying the predicted interaction effect (see also *link removed for anonymous review*).

Targets. Targets also completed an item regarding whether they thought the actor was generally an empathic person. Further, as in the four studies in the mini meta-analysis, targets' perceived positive regard from the actor was assessed with four items (e.g., "How much did the other participant like you?"; $\alpha = .89$) from West et al. (2014) and four parallel items assessed their own positive regard for the actor ($\alpha = .86$).

When these measures were analyzed in the same hierarchical multiple regression used to test changes in targets' affective state, there were no significant effects.

Targets also completed the same items regarding perceptions of the actor's empathy as administered in Studies 1 to 4. In this study they also indicated how engaged they thought the actor was in the discussion and how responsive they thought that the actor was; these items were combined to form an index of perceived engagement ($\alpha = .75$).

When these measures were analyzed in the same hierarchical multiple regression used to test changes in targets' affective state, for targets' perceptions of actor empathy, there were no significant effects. The analysis of targets' perceptions of actors' engagement yielded a main effect of dispositional empathy, $b = 0.104$, $\beta = .156$, $t(158) = 1.99$, $p = .049$, $r = .156$, as well as an Actor Dispositional Empathy x Target Experience interaction, $b = -0.307$, $\beta = -.280$, $t(155) = 2.84$, $p = .005$, $r = .222$, whereby actors' dispositional empathy was positively related to their perceived engagement in the failure condition, $b = 0.197$, $t(155) = 2.29$, $p = .023$, $r = .181$, but not the success condition, $b = -0.109$, $t(155) = 1.15$, $p = .252$, $r = .092$.

Actors. Actors also completed the perspective-taking subscale of the IRI at the same time as they completed the empathic concern subscale. In terms of dependent measures, actors' self-focus was assessed in terms of their pronoun use in the open-ended thought-listing task (total number of self pronouns) and responses to Govern and Marsch's (2001) situational self-awareness scale. The thought-listings were also coded for self-references ($\alpha = .68$ across coders), metaperceptions ($\alpha = .84$), references to the other participant's feelings and inner states ($\alpha = .66$), and references to thinking ($\alpha = .82$), feeling ($\alpha = .86$), and self-regulation ($\alpha = .80$). The distributions for metaperceptions and references to the other participant's feelings were both highly skewed and converted to dichotomous measures ($0 =$ absent, $1 =$ present). The extent to which actors were thinking abstractly versus concretely was assessed with the Behavior Identification Form (Vallacher & Wegner, 1989). Actors also completed the same measures of positive affect ($\alpha = .78$) and state self-esteem ($\alpha = .89$) that targets completed after the cognitive task. Actors' perceived positive regard from the target ($\alpha = .90$) and positive regard for the target ($\alpha = .88$) were assessed with the same items administered to targets. Actors' feeling of similarity to the target were also assessed with five items based on McCroskey, Richmond, and Daly's (1975) perceived homophily measure ($\alpha = .83$).

When these measures were analyzed in the same hierarchical multiple regression used to test changes in targets' affective state, a main positive effect of dispositional empathy was evident on actors' abstract thinking, $b = 0.565$, $\beta = .180$, $t(159) = 2.30$, $p = .023$, $r = .179$, actors' perceived positive regard from the target, $b = 0.117$, $\beta = .169$, $t(159) = 2.16$, $p = .032$, $r = .169$, actors' positive regard for the target, $b = 0.218$, $\beta = .296$, $t(159) = 3.90$, $p < .001$, $r = .295$, and actors' felt similarity to the target, $b = 0.271$, $\beta = .324$, $t(159) = 4.30$, $p < .001$, $r = .323$.

The analysis of self-references in the thought-listing completed by actors yielded an Actor Dispositional Empathy x Target Experience interaction, $b = 0.485$, $\beta = .254$, $t(155) = 2.57$, $p = .011$, $r = .202$, whereby actors' dispositional empathy was related to self-references in the target success condition, $b = 0.453$, $t(156) = 2.72$, $p = .007$, $r = .213$, but not the target failure condition, $b = -0.32$, $t(156) = 0.21$, $p = .832$, $r = .017$. A similar Actor Dispositional Empathy x Target Experience interaction was evident on self pronouns, $b = 0.840$, $\beta = .234$, $t(155) = 2.34$, $p = .020$, $r = .185$. The analysis of references to the other participant's feelings yielded a main effect for mindset, $b = 0.158$, $\beta = .158$, $t(159) = 2.02$, $p = .045$, $r = .158$. The analysis of references to thinking in the thought-listing yielded a main negative effect of mindset, $b = -0.520$, $\beta = -.205$, $t(159) = 2.64$, $p = .009$, $r = .205$. The analysis of references to feeling yielded an Actor Dispositional Empathy x Empathic Mindset interaction, $b = 0.272$, $\beta = .228$, $t(156) = 2.08$, $p = .039$, $r = .164$, whereby the empathic mindset instructions led actors higher in dispositional empathy to refer more to feelings, $b = 0.853$, $t(156) = 2.82$, $p = .006$, $r = .220$, but had no such effect on actors lower in dispositional empathy, $b = 0.127$, $t(156) = 0.44$ $p = .660$, $r = .035$. A main positive effect of dispositional empathy was also evident here, $b = 0.181$, $\beta = .213$, $t(159) = 2.77$, $p = .006$, $r = .215$. There were no other significant effects.

7. Simple Effects for Change in Targets' Affective State and State Self-Esteem in Study 5 Including Pairs with Target Performance Extremely Inconsistent with Success/Failure Manipulation

For changes in targets' affective state the simple effects of dispositional empathy in the no-instructions and empathic mindset conditions respectively were $b = 0.131$, $t(166) = 1.62$, $p = .106$, $r = .125$, and $b = -.0757$, $t(166) = 0.997$, $p = .320$, $r = .077$. The simple effect of mindsets for those lower and higher in dispositional empathy respectively were $b = 0.186$, $t(166) = 0.836$, $p = .404$, $r = .065$, and $b = -0.379$, $t(166) = 1.69$, $p = .093$, $r = .130$. For changes in targets' state self-esteem the simple effects of dispositional empathy in the no-instructions and empathic mindset conditions respectively were $b = 0.100$, $t(166) = 1.49$, $p = .139$, $r = .115$, and $b = -.0718$, $t(166) = 1.13$, $p = .261$, $r = .087$. The simple effect of mindset for those lower and higher in dispositional empathy respectively were $b = 0.005$, $t(166) = 0.025$, $p = .980$, $r = .002$, and $b = -0.466$, $t(166) = 2.48$, $p = .014$, $r = .189$.

8. Mini Meta-Analysis of Empathic Concern and Targets' Perceptions of Empathy

Effects of Actor Dispositional Empathy on Actor Empathic Concern Across Actor Mindset and

Target Experience Conditions

	Control Mindset/Negative	Control Mindset/Positive	Empathic Mindset/Negative	Empathic Mindset/Positive
Study 1	$z =$ **2.146*** *r* = **.191**	$z =$ **2.042*** *r* = **.182**	$z =$ **1.795** *r* = **.160**	$z =$ **1.120** *r* = **.101**
Study 2	$z =$ **2.206*** *r* = **.186**	$z =$ **0.493** *r* = **.042**	$z =$ **0.847** *r* = **.072**	$z =$ **0.199** *r* = **.017**
Study 3	$z =$ **0.502** *r* = **.050**	$z = $ -0.617 *r* = -.061	$z =$ **1.975*** *r* = **.194**	$z =$ **1.342** *r* = **.133**
Study 4	$z =$ **0.668** *r* = **.057**	$z =$ **1.475** *r* = **.124**	$z = $ -0.211 *r* = -.018	$z =$ **2.129*** *r* = **.179**
Across 1 to 4	$z =$ **2.803**** *r* = **.124**	$z =$ **1.830** *r* = **.080**	$z =$ **2.120*** *r* = **.098**	$z =$ **2.416*** *r* = **.109**
Diffuse test of heterogeneity of Disp Emp effect across conditions:			χ^2 (3) = 0.52	
Overall $z =$ **4.585***** *r* = **.103**				

Notes. Disp Emp = Dispositional Empathy; Exper = Experience. These *z* values were obtained following Goh et al.'s (2016) recommendations for fixed effects analyses, converting one-tailed *p*-values to *z*-scores; positive effects (involving increased target positive affect) are bolded. The computation of overall *z*s included weighting by sample size as per Rosenthal (1991); *$^{*}p$ < .05, $^{**}p$ < .01, $^{***}p$ < .005, two-tailed. The computation of weighted mean effect sizes followed Goh et al.'s (2016) recommendations. The diffuse test of heterogeneity across conditions and focused contrasts were calculated following Rosenthal's (1991), Goh et al.'s (2016), and Wiens and Nilsson's (2017) procedures.

Simple Effects of Actor Mindset on Actor Empathic Concern Across Lower and Higher Actor

Dispositional Empathy and Target Experience Conditions

	Low Disp Emp /Negative	Low Disp Emp /Positive	High Disp Emp /Negative	High Disp Emp /Positive
Study 1	$z = $ **2.094*** $r = $ .187	$z = $ **1.215** $r = $ .109	$z = $ **2.032*** $r = $ .181	$z = $ -0.088 $r = $ -.008
Study 2	$z = $ **1.125** $r = $ .095	$z = $ **0.611** $r = $ .052	$z = $ -0.701 $r = $ -.060	$z = $ **0.182** $r = $ .015
Study 3	$z = $ **1.629** $r = $ .161	$z = $ -1.191 $r = $ -.118	$z = $ **2.836**** $r = $ .276	$z = $ **0.822** $r = $ .081
Study 4	$z = $ **2.149*** $r = $ .180	$z = $ -.361 $r = $ -.031	$z = $ **1.293** $r = $ .109	$z = $ **0.713** $r = $ .060
Across 1 to 4	$z = $ **3.464**** $r = $ .154	$z = $ **0.235** $r = $ .008	$z = $ **2.476*** $r = $ .116	$z = $ **0.786** $r = $ .035
Diffuse test of heterogeneity of Mindset effect across conditions: $\chi^2 (3) = 6.69^\dagger$				
Focused contrasts testing whether effect of Mindset varies with Disp Emp and/or Target Experience (Moderation):				
Disp Emp (Low vs. High)		$z = $ -0.219 $r = $ -.006		
Target Exp (Positive vs. Negative)		$z = $ **2.460*** $r = $ .114 Mindset for Negative $z = $ **4.200***** $r = $ **0.135** Mindset for Positive $z = $ **0.723** $r = $ **0.022**		
Disp Emp x Target Exper Interaction		$z = $ **0.770** $r = $ .033		

Notes. Disp Emp = Dispositional Empathy; Exper = Experience. These z values were obtained following Goh et al.'s (2016) recommendations for fixed effects analyses, converting one-tailed p-values to z-scores; positive effects (involving increased target positive affect) are bolded. The computation of overall zs included weighting by sample size as per Rosenthal (1991); $^\dagger p < .10$, $^* p < .05$, $^{**} p < .01$, $^{***} p < .005$, two-tailed. The computation of weighted mean effect sizes followed Goh et al.'s (2016) recommendations. The diffuse test of heterogeneity across conditions and focused contrasts were calculated following Rosenthal's (1991), Goh et al.'s (2016), and Wiens and Nilsson's (2017) procedures. For the Disp Emp contrast both effects for low disp emp were scored -1 and both effects at high disp emp were scored +1; for the Target Experience contrast both positive conditions were scored -1 and both negative conditions were scored +1; for the Disp Emp x Target Experience interaction the low disp emp/negative, low disp emp/positive, high disp emp/negative, and high disp emp/positive conditions were scored +1, -1, -1, +1 respectively.

Details for Targets' Perceptions of Actors' Empathy

Because of the potential relevance of targets' perceptions of actors' empathy to the process underlying the effects observed, we conducted a mini meta-analysis on these perceptions as well. Results revealed that there was overall no effect of dispositional empathy, $z = 1.015$, $p = .310$, $r = .022$, and no significant variability across conditions, $\chi^2 (3) = 2.918$, $p = .404$. As well, there was no overall effect of mindset, $z = 1.330$, $p = .184$, $r = .031$ and no significant variability across conditions $\chi^2 (3) = 2.611$, $p = .456$.

Correlations between Targets' Mood Change, Targets' Perceptions of Actor Empathy, and Actors'

Empathic Concern

Variable	1. Targets' Positive Mood Change	2. Targets' Perceptions of Actor Empathy	3. Actors' Self-reported Empathic Concern
	Study 1		
1.	-	.21*	.08
2.		-	.19*
3.			-
	Study 2		
1.	-	.18*	.10
2.		-	.06
3.			-
	Study 3		
1.	-	.08	.05
2.		-	.06
3.			-
	Study 4		
1.	-	.20*	-.12
2.		-	.20*
3.			-
	M r Across 1 to 4		
1.	-	.17***	.02
2.		-	.13**
3.			-
	Study 5		
1.	-	.23**	-.002
2.		-	.10
3.			-
	M r Across 1 to 5		
1.	-	.19***	.02
2.		-	.12**
3.			-

Notes. The computation of weighted mean correlations followed Goh et al.'s (2016) recommendations. * $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed

9. Mini Meta-Analysis of Positivity Outcomes

Because measures of actors' and targets' liking for each other and perceived liking from each other were included in every study except Study 4 of the mini meta-analysis, we were able to probe the overall effects of actors' empathic mindset and dispositional empathy on these outcomes across four studies. The main effects of actors' empathic mindset on targets' liking for them, targets' perceived liking from actors, actors' liking for targets, and actors' perceived liking from targets were all extremely small (rs = -.030, .012, .014, and .000 respectively). For actors' dispositional empathy the values for targets' liking for actors and targets' perceived liking from actors were also small (rs = .085 and .064 respectively); for actors' liking for targets and actors' perceived liking from targets the effects were somewhat larger (rs = .224 and .131 respectively). No significant or marginal ($p \leq .10$) Actor Dispositional Empathy x Empathic Mindset interaction effect was evident in regression analyses of any of these outcomes in any study.

10. Self-Esteem Results for Study 1 in Mini Meta-Analysis

In line with the present results reflecting an overall disruption pattern, simple effects analyses revealed that when actors were lower in dispositional empathy, adopting an empathic rather than objective mindset led to positive change in targets' state self-esteem, $b = 0.711$, $t(125) = 3.66$, $p < .001$, $r = .311$, whereas when actors were higher in dispositional empathy adopting an empathic mindset had no significant effect, $b = .194$, $t(125) = 1.12$, $p = .266$, $r = .100$. Decomposing the interaction the alternate way, actors' dispositional empathy was not associated with state self-esteem change for the target in the objective mindset condition, $b = -0.041$, $t(125) = 0.63$, $p = .528$, $r = .056$, but was negatively related in the empathic mindset condition, $b = -0.210$, $t(125) = 3.34$, $p = .001$, $r = .286$.

This analysis also revealed a main effect of target experience, $b = -0.275$, $\beta = -.215$, $t(160) = 2.49$, $p = .014$, $r = .193$, whereby there was more improvement over time in targets' state self-esteem in the failure as compared to the success condition, as well as Actor Dispositional Empathy x Target Experience and Actor Mindset x Target Experience interactions, $b = 0.178$, $\beta = .315$, $t(125) = 2.53$, $p = .013$, $r = .221$, and $b = -0.496$, $\beta = -.339$, $t(125) = 2.35$, $p = .021$, $r = .206$, respectively. The patterns of these interactions were such that the effect of actors' temporary empathic mindset was more positive in the failure ($b = 0.452$, $t(125) = 3.02$, $p = .003$, $r = .261$) than the success ($b = -0.044$, $t(125) = 0.30$, $p = .767$, $r = .027$) condition, whereas the effect of actors' dispositional empathy was more positive in the success ($b = 0.138$, $t(125) = 2.20$, $p = .030$, $r = .197$) than the failure condition ($b = -0.041$, $t(125) = 0.63$, $p = .528$, $r = .056$). The Actor Mindset x Actor Dispositional Empathy x Target Experience interaction was not significant, $p = .254$.

11. Results of Analyses for Curvilinear Effects

In each study we analyzed changes in targets' affective state as a function of actors' self-reported empathic concern (centered) and a term computed to test for curvilinear effects: Actors' centered empathic concern score was squared and entered as a second predictor. A negative effect for the squared term would reflect an inverted-U type pattern consistent with the idea that there is an optimal level of empathic concern. These analyses yielded no evidence of a consistent negative effect for the curvilinear term, $b = 0.001$, $t(129) = .020$, $p = .984$, $r = .002$ in Study 1 [$b = 0.006$, $t(129) = .236$, $p = .814$, $r = .021$ for state self-esteem], $b = 0.028$, $t(144) = .709$, $p = .479$, $r = .059$ in Study 2, $b = .097$, $t(107) = 2.32$, $p = .022$, $r = .219$ in Study 3, $b = -0.043$, $t(145) = -1.51$, $p = .134$, $r = -.124$ in Study 4, and $b = 0.010$, $t(160) = .345$, $p = .730$, $r = .027$ in Study 5 [$b = 0.019$, $t(160) = .765$, $p = .445$, $r = .060$ for state self-esteem].

12. Additional Details Regarding Behavior Coding in Study 5

The three independent coders who viewed the first five minutes of the discussions also rated actors' kindness (α = .57), expressions of agreement (α = .59), and empathy toward the target (α = .59), which were not analyzed due to low reliability. These coders also rated actors' social skills (α = .73), on which there were no significant or marginal effects.

We also considered that a prosocial orientation toward helping an interaction partner, especially in a performance-focused situation, might involve downplaying one's own confidence and achievements and being less assertive (see also Dupree & Fiske, 2019), as well as reducing self-promotion behavior (see Bergsieker, Shelton, & Richeson, 2010). Thus we had these coders judge how assertive (α = .67) and confident (α = .74) actors were, as well as how much actors talked about accomplishments (α = .65) and appeared competent (α = .64). Coders also made judgments about how loud actors were (α = .75) and how much they interrupted targets (α = 60). The behaviors selected were those that have been shown to be related to power (Smith & Galinsky, 2010). Analysis of these behaviors revealed that actors high in dispositional empathy were rated as talking less about their accomplishments, b = -.15, β = -.19, $t(146)$ = 2.37, p = .019, r = .192. There were no other significant or marginal effects apart from an Actor Mindset x Target Experience interaction on interruptions, b = .59, β = .28, $t(143)$ = 1.99, p = .049, r = .164. Dominance (α = .59) and bodily openness (α = .50) were also coded but were not analyzed due to low reliability.

Ratings of how genuine (sincere and authentic) actors were not analyzed due to low reliability (α = .44). In the second round of coding designed to capture behavioral processes at the end as well as the beginning of the discussions, the coders also rated how much actors appeared to be at ease and behaving naturally (α = .54), and how much they seemed to be "trying

too hard" ($\alpha = -.48$), neither of which were analyzed because of low reliability. These coders also rated whether the discussion had awkward moments and pauses ($\alpha = .75$), on which there were no significant or marginal effects, as well as how much actors validated negative feelings shared by the target ($\alpha = .56$) and how much actors complimented the target ($\alpha = .54$), neither of which were analyzed because of low reliability.