

Perspective taking instructions and self-other overlap: Different motives for helping

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Abstract In two studies (N 's = 57 and 115), we demonstrate that type of perspective-taking instruction (“imagine self” vs. “imagine other”) differentially affects two motives for helping: self-other overlap and empathic concern. Imagine-self instructions produce greater self-other overlap than imagine-target and objective instructions, while both types of perspective-taking instruction promote empathic concern relative to an objective condition. In Study 2, imagine-self instructions indirectly increased the likelihood of helping via empathic concern and self-other overlap, while imagine-target instructions led indirectly to greater helping only through empathic concern. We discuss how different perspective-taking instructions may implicate different emotional and motivational paths to increasing helping.

Keywords Perspective taking · Instructions · Self-other overlap · Empathy · Helping

Introduction

Normal, everyday people sometimes do “bad” things, acting in ways that are universally condemned. People fail to consider others’ feelings, discriminate against and act unkindly towards others, and sometimes refuse to help

others who are in need, even when helping would require only minimal effort. However, the simple act of perspective taking has been shown to reduce all of these “everyday” bad behaviors—and others too (Hodges et al. 2011). Past research has shown that perspective taking is associated with increased feelings of emotional empathy for targets (Batson 1987, 1991; Skorinko et al. in press), decreased stereotyping of outgroups (Galinsky and Moskowitz 2000), and decreased aggression (Richardson et al. 1994). Of particular note is the extensive research showing that perspective taking leads to an increased willingness to help the target of perspective taking (i.e., the person whose perspective has been taken), especially when that person is in need (e.g., Coke et al. 1978; Toi and Batson 1982).

However, perspective taking is a cognitively complex task. Observers draw from a variety of sources of information and use many varied strategies to infer what others are thinking or feeling (Ickes 1997; Myers and Hodges 2012), including heuristics (Karniol and Shomroni 1999), stereotyping, and projection (Ames 2004), with the balance of strategies used depending on the particular situation. In fact, Gehlbach and Brinkworth (2012) identified at least 12 separable strategies that people regularly use when trying to take the perspective of another person. In this paper, we focus on two strategies that have been researched extensively (Batson et al. 1997a). In one of these strategies, perceivers are asked to consider the other person and his or her situation, imagining how this person feels (“*I wonder how that person is feeling right now in that situation?*”). This strategy is often labeled “*imagine other.*” In the second strategy, people are asked to imagine how they would feel if they actually *were* that other person, looking out at the world through that person’s eyes and walking in that person’s shoes (“*I wonder how I would feel if I were in that person’s situation?*”). This strategy is often labeled “*imagine self.*”

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Does the type of perspective-taking strategy used matter in terms of outcomes? Research suggests that the type of strategy *does* matter, and that these two seemingly similar instruction sets—“imagine self” and “imagine other”—are associated with different cognitions, emotions, and even physiological reactions. In one of the first studies to examine differences between these two types of perspective taking instructions, Stotland (1969) found that participants who were told to imagine themselves as the target person before watching that target experience a painful medical procedure exhibited more palmar sweat. In contrast, those who received imagine-other instructions exhibited greater vasoconstriction.

Davis et al. (2004) gave similar “imagine-self” or “imagine-other” perspective-taking instructions to participants, and then asked them to list all of the thoughts that came into their head while watching a video of another person. Those instructed to imagine themselves as the target (i.e., imagine-self instructions) reported a greater percentage of self-related thoughts and memories. They also reported significantly *fewer* target-related thoughts and fewer positive responses to the target (i.e., less praise and admiration) than the imagine-other group.

Finally, Batson et al. (1997a) found that use of these two different perspective-taking strategies differentially activated two empathic emotions: empathic concern and personal distress. Empathic concern (which Batson et al. called “empathy”) is an other-oriented emotional response congruent with the plight of the person in need and is characterized by target-directed feelings such as *sympathy*, *concern*, and *compassion*. In contrast, personal distress reflects a self-oriented and aversive emotional response and is associated with feeling *distressed*, *alarmed*, and *upset* in response to the target’s situation. Batson et al. (1997a) found that relative to objective control instructions, participants given instructions to use either an imagine-self or imagine-other strategy felt increased empathic concern toward the target and the amount of empathic concern did not differ between the two perspective-taking conditions. However, participants reported greater personal distress in the imagine-self condition relative to imagine-other or objective conditions, with no significant differences in personal distress between these latter two conditions.

In sum, while “imagine self” and “imagine other” may seem like two nearly indistinguishable strategies for perspective taking, each is actually associated with a unique constellation of emotional and socio-cognitive reactions. What is less known, and what we investigate in the current paper, is whether the pathways connecting these two sets of perspective-taking instructions to more distal, pro-social changes in behavior (such as helping another person) also differ.

Self-other overlap and perspective taking instructions

One proximal consequence of perspective taking is that perceivers can feel greater *self-other overlap*—that is, psychological overlap—with the target whose perspective is taken (e.g., Cialdini et al. 1997; Davis et al. 1996; Galinsky and Moskowitz 2000; Goldstein and Cialdini 2007; Laurent and Myers 2011; Maner et al. 2002). Research on self-other overlap has shown that overlap can mediate the route between perspective taking and helping behavior (e.g., Cialdini et al. 1997; Maner et al. 2002) and other pro-social outcomes, such as decreased stereotyping (Galinsky and Moskowitz 2000) and greater sharing of the target’s attitudes and beliefs (Laurent and Myers 2011). Thus, the felt connection between the self and the target captured by self-other overlap measures may provide the fundamental motivation for many pro-social effects of perspective taking.

What is self-other overlap?

Unfortunately, research into self-other overlap and perspective taking is characterized by multiple definitions and measures of self-other overlap. Recently, Myers and Hodges (2012) conducted a factor analysis of measures of self-other overlap and demonstrated that they tap at least two distinct facets: conscious perceptions of closeness and a more implicit form of overlap in describing the self and other. In this paper, we refer to these two forms respectively as “direct” and “indirect” overlap (see also Laurent and Myers 2011), because in the former case, these measures are tapping participants’ *consciously* endorsed sense of felt closeness with the target. In the latter case, participants rate themselves and the target on a set of traits (or select traits to describe both the self and the target) and overlap is indexed by the extent to which perceivers use the same traits to describe themselves and the target (for a thorough review of the theoretical, conceptual, and methodological differences between these two forms of overlap, see Myers and Hodges 2012; see also Preston and Hofelich 2012).

Most relevant to the current studies, Myers and Hodges (2012) found that direct measures of overlap were more consistently boosted by perspective taking than were indirect measures. A review of the literature offers a similar pattern. Studies that have reported an association between self-other overlap and helping (e.g., Cialdini et al. 1997; Maner et al. 2002) have often used measures that loaded on the direct overlap factor identified by Myers and Hodges (2012). In contrast, Batson et al. (1997c) used a measure identified by Myers and Hodges (2012) as an indirect form of overlap, and found that

perspective taking did not affect this type of overlap. While Davis et al. (1996) found that perspective taking increased indirect overlap with the target person (especially on positive traits), they did *not* find that this type of overlap differed depending on the form of perspective-taking instructions.

Consequently, in the current research we focused solely on direct overlap. We hypothesized that imagine-self instructions would produce greater direct overlap relative to objective and imagine-other instructions, but that imagine-other and objective instructions would not differ in producing this type of overlap (Hypothesis 1). We made this prediction for two reasons. First, it is based on the theory that direct overlap in particular emphasizes *both* the self and the other person (Laurent and Myers 2011; Myers and Hodges 2012). For example, imagine-self perspective taking heightens both self-oriented emotions (i.e., empathic concern) and other-oriented emotions (i.e., personal distress), suggesting that observers focus both on themselves (“how would *I* feel...”) and the other person (“...if I were in *that person’s* situation?”). In contrast, the imagine-target strategy (“*I wonder how that person is feeling right now in that situation?*”) only activates half of this equation, namely other-oriented feelings of empathic concern (Batson et al. 1997a). Second, activation of self-related information *in particular* appears vital in the connection between perspective taking and self-other overlap. For example, Davis et al. (2004) concluded “...that the greater ‘merging’ of self and other that is produced by perspective taking...is due at least in part to an increased availability of self-related information” (p. 1632). However, in line with previous research by Batson et al. (1997a), we also expected that *both* imagine-self and imagine-target instructions would lead to a heightened emotional response of empathic concern toward the target person relative to an objective condition (Hypothesis 2).

In Study 2, we were also interested in how empathic concern and perceived closeness would differentially mediate the effects of perspective-taking instructions on helping. According to Hypotheses 1 and 2, the primary effect of an imagine-other strategy should be to activate empathic concern, while imagine-self instructions should promote similar levels of empathic concern but greater levels of direct overlap, relative to imagine-other and objective instructions. Given that both empathic concern and direct overlap have been viewed as motivations for helping after perspective taking, we predicted that empathic concern would mediate helping behavior for participants given imagine-self or imagine-other instructions, but that direct overlap would mediate helping *only* for participants given imagine-self instructions (Hypothesis 3).

Study 1: perspective-taking instructions and self-other overlap

The primary purpose of Study 1 was to initially test Hypotheses 1 and 2. To do this, we conducted a study patterned on Batson et al. (1997a), in which participants were randomly assigned to receive one of the two sets of perspective-taking instructions or to receive objective instructions.¹ To this basic design, we added measures of direct overlap.

Method

Participants

Participants were 57 students (18 males, $M_{age} = 21.50$, $SD = 6.62$) from a state university in the Pacific Northwestern US who completed the study in partial fulfillment of course requirements. The majority of these participants (79 %) identified themselves as Caucasian. Five participants reported that English was not their primary language, but they all had been speaking English for at least 4 years (and some as many as 13 years).

Procedure

Participants completed the study at individual computer stations separated by cubicle dividers. Participants were told that the study was pilot testing possible programming ideas for the local university radio station, and that they had been (ostensibly randomly) assigned to listen to a program called *News from the Personal Side*, a program designed to go beyond the facts of local events in order to report how these events affected the lives of those involved. The radio program was about a woman named Katie Banks [the same target used by Batson et al. (1997a)] who recently lost her parents in a car accident. During the program, she talks about her struggle to care for two younger siblings and financially support herself and them while still in college. Because she was identified as a student from the University of Kansas, participants in our study were told that the program they were going to hear had been originally developed at another university’s radio station.

Before listening to the audio broadcast, participants were randomly assigned to a specific “listening” instruction condition, and were told that these instructions were designed to ensure that everyone approached the audio

¹ Although this condition has been called “objective” in the past literature, a practice we follow, researchers (Davis et al. 2004) have rightly pointed out that these instructions actually emphasize a detached state and thus are *not* a “control” condition in the traditional sense.

broadcast in the same way. Participants were led to believe that everyone received the same instructions. The experimenter was blind to which set of instructions each participant heard. Participants in the objective condition read the following instructions:

While you are listening to this broadcast, try to be as objective as possible about what has happened to the person interviewed and how it has affected his or her life. To remain objective, do not let yourself get caught up in imagining what this person has been through and how he or she feels as a result. Just try to remain objective and detached.

Participants in the imagine-other condition read the following instructions:

While you are listening to this broadcast, try to imagine how the person being interviewed feels about what has happened and how it has affected his or her life. Try not to concern yourself with attending to all the information presented. Just concentrate on trying to imagine how the person interviewed in the broadcast feels.

Finally, participants in the imagine-self condition read the following instructions:

While you are listening to this broadcast, try to imagine how you yourself would feel if you were experiencing what has happened to the person being interviewed and how this experience would affect your life. Try not to concern yourself with attending to all the information presented. Just concentrate on trying to imagine how you yourself would feel.

Next, participants listened to the audio broadcast about Katie Banks, and then completed a questionnaire packet containing the measures of self-other overlap and emotional reaction toward Katie Banks.

Dependent measures: self-other overlap and empathic concern

Participants completed two measures of self-other overlap shown previously to tap direct overlap with another person (Myers and Hodges 2012)—the Inclusion of Other in the Self scale (IOS; Aron et al. 1992) and a scale asking them to rate their perceived similarity to the target. The IOS consists of 7 pairs of circles—one circle representing the self and the other representing the target—that vary in the extent to which they overlap. Participants were instructed to indicate which pair of circles best described their relationship with the target person (Katie Banks). Participants were also asked to evaluate how similar they thought Katie Banks was to them on a 9-point scale from 1 (“not at all”)

to 9 (“extremely”). As expected, these items were related to each other (Cronbach’s $\alpha = .58$), so we standardized and aggregated the measures to form one measure of overlap where higher numbers correspond to greater perceived closeness.

Replicating Batson et al. (1997a), participants responded to a list of 26 adjectives describing different emotional states, rating the extent to which they felt each emotion during the broadcast on a 7-point scale from 1 (“not at all”) to 7 (“extremely”). Six of these adjectives—sympathetic, softhearted, warm, compassionate, tender, and moved—have been used in prior research to assess participants’ emotional empathy (Batson 1987; Batson et al. 1991, 1997b) and we aggregated responses to these items to form our measure of empathic concern (Cronbach’s $\alpha = .88$). After providing their responses, participants were fully debriefed and thanked for their participation.²

Results and discussion

To test our two hypotheses, two separate sets of analyses were conducted. The first set focused on self-other overlap using two planned contrasts where (a) imagine-self instructions were first pitted against imagine-other and objective conditions combined, and (b) the difference between imagine-other and objective conditions was explored. In support of Hypothesis 1, imagine-self instructions ($M = 0.46$, $SD = 0.85$) led to significantly greater overlap than imagine-other and objective combined ($M(SD)_{\text{Imagine-Other}} = -0.05(0.93)$; $M(SD)_{\text{Objective}} = -0.35(0.53)$; $M_{\text{Combined}} = -0.20$, $SD_{\text{Pooled}} = 0.73$; $t(54) = 2.93$, $p = .005$, $d = .83$), but there was no significant difference between imagine-other and objective conditions, $t(54) = 1.18$, $p = .24$, $d = .40$ (see Fig. 1, left side).³

The next analyses focused on empathic concern (Hypothesis 2), and tested a set of planned contrasts to examine (a) whether perspective-taking instructions, regardless of the form, led to greater empathic concern than the objective condition, and (b) whether the two perspective-taking instruction sets differed from one another. In this case, the first contrast showed that participants in the objective condition ($M = 3.01$, $SD = 1.06$) felt significantly less empathic concern for the target relative to the

² In Study 1, the measures of self-other overlap and empathic concern were correlated at $r = .53$. In Study 2, the correlation between these measures was $r = .31$.

³ Because the IOS and similarity questions were on different scales, they were standardized prior to aggregation. However, for descriptive purposes, we scaled the similarity question to be on the same metric as the IOS (i.e., a 7-point scale), aggregated the two measures, and present the M and SD within conditions here: Objective ($M = 1.89$, $SD = 0.69$); Imagine-Target ($M = 2.29$, $SD = 1.24$); Imagine-Self ($M = 2.97$, $SD = 1.14$).

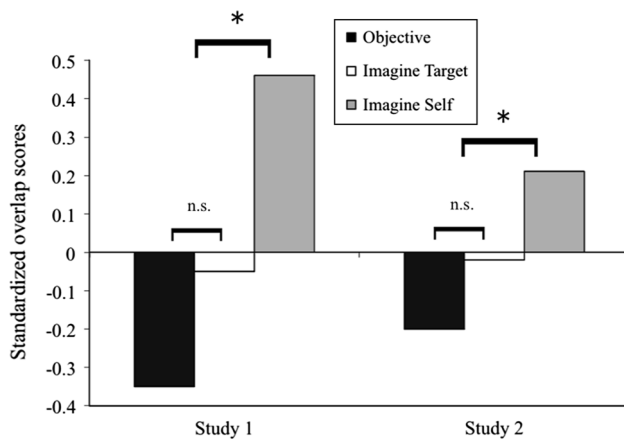


Fig. 1 Effect of listening instructions on standardized self-other overlap measure for Study 1 and Study 2 (* $p < .05$)

combined perspective-taking conditions ($M(SD)_{\text{Imagine-Other}} = 4.21(2.15)$, $M(SD)_{\text{Imagine-Self}} = 4.52(0.69)$; $M_{\text{Combined}} = 4.36$, $SD_{\text{Pooled}} = 1.17$), $t(54) = 4.26$, $p < .001$, $d = 1.21$.⁴ Also in line with Hypothesis 2, the second contrast showed no significant difference in empathic concern between the two perspective-taking instruction sets, $t(54) = 0.84$, $p = .40$, $d = .19$ (see Fig. 2, left side).

The novel goal of Study 1 was to provide initial evidence that imagining oneself in the other person's situation (i.e., imagine-self condition) would lead to greater overlap than imagining the target's situation without specifically using the self as a reference (i.e., imagine-other condition), or receiving control instructions (i.e., objective condition). As expected, self-other overlap did not significantly differ between the imagine-other condition and the objective condition, but together, these conditions were lower in overlap than the imagine-self condition. Also as expected, empathic concern was significantly higher in both perspective-taking conditions than it was in the objective condition, but did not differ as a function of the two different perspective-taking sets. This suggests that perspective taking in general enhances feelings of empathic concern, but that overlap is driven to a greater extent by imagine-self instructions.

⁴ For all reported contrast analyses throughout this paper, contrast *SEs* were constructed using the *MSE* term from the appropriate omnibus ANOVA term (see, e.g., Howell 2010). While the variances of the imagine-self and imagine-target conditions were quite different here, the pooled term is simply a descriptive estimate of the variance in empathic concern as a function of using any perspective taking instruction. For the critical (i.e., inferential) comparison in this case, the *MSE* from the omnibus test was used to construct the error term for the contrast. However, when conservatively using only the larger variance (i.e., from the imagine-other condition) to compute a standard error of this contrast, and using the Welch approximation (i.e., for unequal variances), the contrast remained significant, $t(53) = 3.18$, $p < .01$.

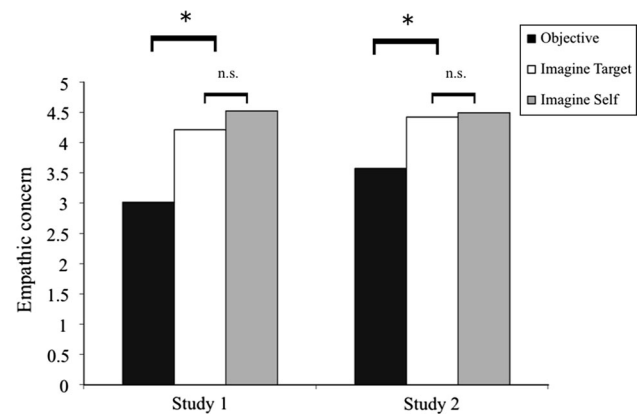


Fig. 2 Effect of listening instructions on reported empathic concern for Study 1 and Study 2 (* $p < .05$)

In contrast to the current study, Davis et al. (1996) found no difference between the two forms of perspective taking on their measure of “overlapping representations.” However, the form of overlap measured in our study (i.e., direct overlap) differs from the measure of self-other overlap used by Davis et al. (i.e., percentage of overlapping adjectives used to describe the self and other), which has since been shown to tap a more indirect form of overlap (Myers and Hodges 2012). Thus, while the results of Davis et al. suggest that indirect overlap is unaffected by different perspective-taking instructions, the current study shows that more explicit perceptions of self-other overlap can be affected by using perspective-taking strategies that focus perceivers on their own thoughts and feelings and their connection to the target.

This distinction between indirect and direct self-other overlap constructs has further implications regarding the effect of perspective-taking instructions on helping. When past studies have shown a link between self-other overlap and willingness to help others, the measures used have all been direct measures of overlap (Cialdini et al. 1997; Maner et al. 2002); no such link has been demonstrated when using indirect measures of overlap (Batson et al. 1997a; Davis et al. 1996). Additionally, research has shown that empathic concern also motivates helping (Batson et al. 1991, 1997b, c). That imagining the self as the target leads to increased empathic concern and increased perception of closeness with the target, while simply imagining what the target is feeling leads primarily to an increase in empathic concern (with no significant effect on perceived overlap with the target), suggests that there may be multiple routes to helping, depending on the type of perspective-taking instructions used. That is, while both types of perspective-taking instruction have been shown to increase helping, the *process* by which they evoke such behavior may differ as a function of instruction. Study 2 was designed to examine this idea.

Study 2

Study 2 addressed two goals. First, we wanted to replicate results from Study 1 and provide further support for Hypotheses 1 and 2. In addition, we wanted to test our third hypothesis, that both imagine-self and imagine-other instructions, relative to objective instructions, would work through empathic concern to create a greater likelihood of helping (Hypothesis 3a), while *only* imagine-self instructions, relative to imagine-other and objective instructions, would work through measures of direct overlap to create a greater likelihood of helping (Hypothesis 3b).

Method

Participants

Participants were 115 undergraduates (80 % female) from a state university in the Pacific Northwestern US who participated in exchange for course credit.⁵ Demographic makeup was similar to Study 1. Eight participants reported that English was not their primary language, but they all had been speaking English from 2 to 14 years.

Procedure

The procedure and method for Study 2 were identical to those of Study 1, except for the addition of a measure of helping. In order to collect this measure, we followed a procedure used by Batson et al. (1997c). At the end of the study, participants received a letter ostensibly written by the researcher conducting the study, which discussed how some students might, upon hearing the Katie Banks interview, be interested in helping her. The letter went on to say that the radio station that had originally aired the program was currently conducting a fund-raiser for Katie Banks by mailing letters to 200 potential donors. Participants were told that they could help Katie Banks by spending time stuffing and addressing envelopes.

Along with the letter was a brief response form that participants could use to indicate how much (if any) time they wished to donate stuffing and mailing letters. Following Batson et al. (1997c), three increments of time were available on the form: 2 to 4 h, 5 to 7 h, and 8 to 10 h. Participants who did not wish to volunteer any time were instructed to leave the form blank. To maintain anonymity, participants were told to provide their email address only if they were interested in volunteering, and were provided a

⁵ Originally, 118 participants were run in this study. Unfortunately, the helping data from three participants were lost because of experimenter error. Consequently, these three participants were removed from the study and we only used the data from the remaining 115 participants.

small envelope addressed to the researcher in which to seal their response form. After being given the opportunity to volunteer, participants were completely debriefed about the true nature of the study.

Results

As in Study 1, our first tests examined the impact of condition on self-other overlap using two planned contrasts.⁶ As was found in Study 1, and in support of Hypothesis 1, the imagine-self condition ($M = 0.21$, $SD = 0.78$) produced significantly greater direct self-other overlap than the imagine-other and objective conditions combined ($M(SD)_{\text{Imagine-Other}} = -0.02(0.88)$; $M(SD)_{\text{Objective}} = -0.20(0.75)$; $M_{\text{Combined}} = -0.11$, $SD_{\text{Pooled}} = 0.81$), $t(112) = 2.01$, $p < .05$, $d = .40$.⁷ However, the imagine-other and objective conditions did not significantly differ from one another, $t(112) = 0.98$, $p = .33$, $d = .22$ (see Fig. 1, right side).

The results for empathic concern also replicated Study 1. The planned contrast testing the objective condition ($M = 3.57$, $SD = 1.17$) against the combined perspective-taking conditions ($M(SD)_{\text{Imagine-Other}} = 4.42(1.27)$, $M(SD)_{\text{Imagine-Self}} = 4.49(1.23)$, $M_{\text{Combined}} = 4.46$, $SD_{\text{Pooled}} = 1.25$) was significant, $t(112) = 3.63$, $p < .001$, $d = .74$. No significant difference was found between the two perspective-taking conditions on the emotional response of empathic concern, $t(112) = 0.26$, $p = .80$, $d = .06$ (see Fig. 2, right side). Thus, Hypothesis 2 was again fully supported.

Next, before examining our hypotheses regarding different routes to helping as a function of perspective-taking instructions, we explored whether helping was directly affected by perspective taking, regardless of instruction set. Although the Batson et al. (1997c) helping measure also used in the current study has traditionally been analyzed as a continuous variable, in the current study no participants chose to offer help in the highest category of helping (i.e., 8–10 h), and only 3 of 115 participants opted for the next-highest category of helping (i.e., 5–7 h), so treating helping as a continuous variable did not seem warranted. We thus recoded helping as a dichotomous variable to reflect the presence or absence of helping and used this variable in subsequent analyses (we suspect the low frequencies of

⁶ In Study 1, there were not enough males in each condition to examine participant gender as a factor. In Study 2, when including gender as a factor, no main or interactive effects involving gender emerged for any dependent variable, nor did any of the other factors change in their patterns of significance; thus, participant gender is not discussed further.

⁷ Again, for descriptive purposes, we present raw M and SD for the IOS and perceived similarity variables, aggregated after scaling similarity to be on a 7-point scale: Objective ($M = 2.25$, $SD = 0.97$); Imagine Target ($M = 2.47$, $SD = 1.13$); Imagine Self ($M = 2.78$, $SD = 1.00$).

helping had to do with the fact that Katie was from a distant university). Using this new helping variable (no helping = 0, any helping = 1), we found that helping was not directly associated with either type of perspective taking (i.e., the total effect was not significant). In fact, helping was equally distributed across all three conditions—10 participants (37 %) from the objective condition offered any help, 11 (39 %) from imagine target, and 11 (39 %) from imagine self.

However, given past debates about what mediates the effects of perspective taking on helping (e.g., Batson et al. 1997c; Cialdini et al. 1997) and that we were interested in the different routes to helping that might occur as a function of perspective-taking instruction set, we proceeded to test our hypotheses regarding mediation. Mediation can still be present even when there is no significant total effect of an independent variable on a dependent variable (see, e.g., MacKinnon et al. 2000; Zhao et al. 2010, for discussions regarding this topic). Given that our earlier contrasts in support of Hypotheses 1 and 2 were significant and that the point-biserial correlations of helping with empathic concern ($r = .27$, $p = .004$) and with overlap ($r = .22$, $p = .017$) were both positive and significant, we examined Hypotheses 3a and 3b using a method developed by Preacher and Hayes (2008); (see also Hayes 2009). This method uses a bootstrapping technique to estimate the standard error of the indirect effect, and can also approximate these effects when the dependent variable is dichotomous rather than normally distributed (i.e., using the Wald statistic). In current best practices, testing mediation using bootstrapping is recommended over older approaches, such as Sobel tests (e.g., see Rucker et al. 2011). We used 5,000 bootstrap replications to estimate standard errors, and we provide coefficients, standard errors, and significance levels for all predictors, and also include 95 % confidence intervals for the indirect effects.

Two models were estimated with the dichotomously coded helping variable (no helping = 0, any helping = 1) as the outcome (see Fig. 3). Thus, change in helping was based on odds ratios and described the probability or likelihood of helping as a function of predictors in the model. The first model used the contrast testing the objective condition against the combined perspective-taking conditions as an exogenous independent variable predicting empathic concern and helping, with empathic concern also serving as an endogenous predictor of helping (Fig. 3, Top Panel). While the direct path from the condition contrast to helping was not significant ($p = .35$), the condition contrast significantly predicted empathic concern ($b = .30$, $SE = 0.08$, $p < .001$), and greater empathic concern significantly increased the likelihood of helping, $\text{Exp}(B) = 1.79$, $B = .58$, $SE = 0.20$, $p = .004$. Supporting Hypothesis 3a, the indirect effect of the condition contrast

on likelihood of helping, through empathic concern, was positive and significant, $\text{Exp}(B) = 1.19$, $B = .17$ (95 % CI 0.04, .39), $SE = 0.09$, $p < .05$.

The next model used the contrast testing the imagine-self condition against the combined imagine-other and objective conditions as a predictor of overlap and helping, with overlap also used to predict helping (Fig. 3, Bottom Panel). Again, results from this model indicated that the direct path from the condition contrast to helping was not significant ($p = .74$). However, the condition contrast significantly predicted direct overlap ($b = .11$, $SE = 0.05$, $p < .05$), and greater overlap significantly predicted a greater likelihood of helping, $\text{Exp}(B) = 1.83$, $B = .60$, $SE = 0.26$, $p = .02$. Furthermore, supporting Hypothesis 3b, the indirect effect of this condition contrast on likelihood of helping, through overlap, was significant, $\text{Exp}(B) = 1.07$, $B = .06$ (95 % CI 0.01, .19), $SE = 0.04$, $p < .05$.⁸

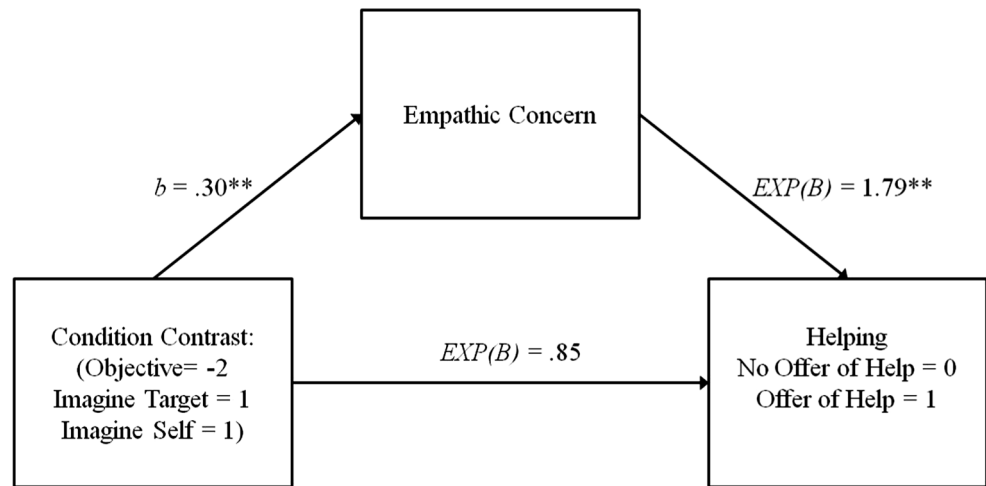
Meta-analysis

Because our Hypotheses 1 and 2 received support in Studies 1 and 2, and Hypotheses 3a and 3b also received support in Study 2, we wanted to explore pairwise differences across both studies in how our instruction sets affected empathic concern and overlap. Specifically, we wanted to examine pairwise differences across both studies to see whether imagine-self and imagine-target instructions both result in significantly greater feelings of empathic concern than objective instructions (but do not differ from one another) and whether imagine-self instructions result in greater overlap than both objective and imagine-target instructions (which should not differ from one another). In addition, combining the results from Studies 1 and 2 gave us a larger sample size, allowing us to check the robustness and stability of our findings.

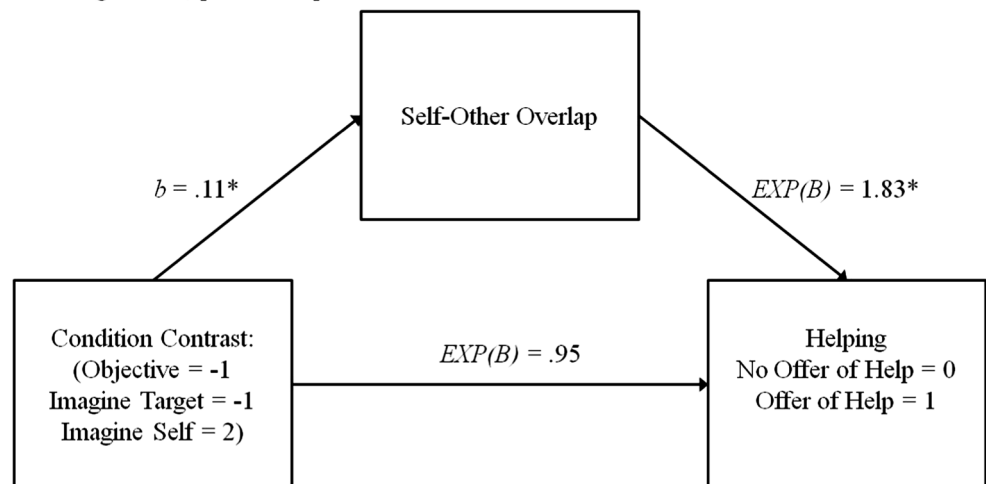
To address these questions, we meta-analytically examined the results from Studies 1 and 2. In Table 1, we provide results from the meta-analysis, including the

⁸ Because the pattern of means across condition in both studies suggested that self-other overlap was linearly increasing from objective condition (lowest) to imagine other condition (moderate) to imagine self condition (highest), an additional exploratory test examined whether the effects of condition on likelihood of helping, through overlap, took on a linear form. This was done by creating a linear condition contrast (objective = -1, imagine-target = 0, imagine-self = 1), and using this contrast as a predictor of overlap and helping, with overlap also predicting helping. As with the test reported above, while the direct effect of the contrast on helping was not significant ($p = .72$), the effect of overlap on helping likelihood was significant ($\text{Exp}[B] = 1.84$, $p = .02$), and the indirect effect of the contrast on helping likelihood was significant, $\text{Exp}(B) = 1.13$, $p < .05$.

Fig. 3 *Top panel* path model depicting the effects of condition (objective vs. combined perspective taking conditions) and empathic concern on dichotomously coded helping. *Bottom panel* path model depicting the effects of condition (imagine-self instructions vs. combined imagine-target and objective conditions) and overlap on dichotomously coded helping



Note: *b* is a regression coefficient; *EXP(B)* are odds ratios. The indirect effect of the condition contrast on likelihood of helping was significant ($B = .17$, 95%CI = (.04, .39), $EXP(B) = 1.19$, $p < .05$). The direct effect of the condition contrast on helping was not significant, $p = .35$. ** $p < .01$.



Note: *b* is a regression coefficient; *EXP(B)* are odds ratios. The indirect effect of the condition contrast on likelihood of helping was significant ($B = .06$, 95%CI = (.01, .19), $EXP(B) = 1.07$, $p < .05$). The direct effect of the condition contrast on helping was not significant, $p = .74$. * $p < .05$.

weighted mean effect sizes from all six pairwise comparisons (objective vs. imagine-target and imagine-self, and imagine-target versus imagine-self, for both empathic concern and self-other overlap), standard errors of the effects, Z scores, 2-tailed significance levels, 95 % confidence intervals of the effects, and Q statistics (i.e., tests for heterogeneity of effect sizes across the studies) along with associated *p* values.

As can be seen in Table 1, combining the results from our two studies, both types of perspective-taking instruction were associated with significantly greater feelings of empathic concern relative to the objective condition

($ps < .001$), but did not differ from one another ($p = .51$). Furthermore, combining both studies, imagine-self instructions led to significantly greater self-other overlap than either objective instructions ($p < .001$) or imagine-target instructions ($p = .04$). However, unlike the strong and significant difference between imagine-self and objective conditions on overlap, there was no significant difference between objective and imagine-target conditions on this measure ($p = .18$). Finally, the non-significant test for heterogeneity of effect sizes for the imagine-self versus imagine-target comparison on overlap suggests that the variability of these effect sizes across studies does not

Table 1 Weighted mean effect sizes (combined effects across both studies) and associated statistics

	WMES	SE_{wmes}	Z	p_z	95 % CI	Q	p_q
OBJ versus IT (EC)	0.76	0.19	3.95	.0001	0.38, 1.14	0.30	.58
OBJ versus IS (EC)	1.01	0.20	5.01	<.0001	0.61, 1.40	3.88	.05
IS versus IT (EC)	0.12	0.19	0.66	.51	-0.24, 0.49	0.26	.61
OBJ versus IT (OVLP)	0.25	0.19	1.33	.18	-0.12, 0.62	0.05	.82
OBJ versus IS (OVLP)	0.72	0.20	3.70	.0002	0.34, 1.10	2.26	.13
IT versus IS (OVLP)	0.39	0.19	2.08	.038	0.02, 0.76	0.86	.35

All computational formulas were taken from Hedges (1986) and Hedges and Olkin (1985). OBJ, objective; IT, imagine target; IS, imagine self; EC, empathic concern; OVLP, self-other overlap; WMES, weighted mean effect size; Q Homogeneity statistic (the non-significance of this statistic means that there is no evidence that the effect sizes in the 2 studies were drawn from different distributions; i.e., study does not moderate the effect)

exceed what might be expected from random sampling error (i.e., the effect is not significantly moderated by study).

Discussion

Study 2 and subsequent meta-analysis combining both studies provide further support that while both sets of perspective-taking instructions led to greater empathic concern relative to objective instructions, only imagine-self instructions led to greater direct overlap, relative to imagine-other and objective instructions. In addition, although there was no significant total effect of condition on helping in Study 2, perhaps due to the restricted variance in helping (which necessitated the dichotomization of this variable), we found that perspective taking (regardless of instruction) led to greater feelings of empathic concern, which indirectly led to a greater likelihood of helping. However, because imagine-self instructions—but not objective or imagine-target instructions—increased self-other overlap (which also mediated likelihood of helping), it appears that imagine-self instructions may provide an additional indirect path to helping that imagine-target instructions do not share.

We believe that finding significant indirect effects via overlap *and* empathic concern provides initial evidence that perspective taking may be associated with multiple routes to helping (or to the *likelihood* of helping, as was the case here), and that the routes that predict helping may differ depending on the type of instructions used to promote perspective taking. While both imagine-self and imagine-other instructions appear to indirectly increase helping via empathic concern (see also Maner et al. 2002), it may be that self-other overlap will transmit the effects of perspective taking to helping only when participants

imagine themselves *as* the target. At the least—given the present findings—it seems likely that mediation through self-other overlap will be most likely when imagine-self instructions are used.

One unexpected result in the present research was that we found indirect effects of perspective taking on helping even while no total or direct effects emerged, despite using a similar target, instruction set, and helping measure to those that had been successfully used by Batson et al. (1997a, c). Although finding indirect effects in the absence of direct effects might seem counterintuitive, Rucker et al. (2011) discuss how this pattern of results might come about, particularly if indirect effects are stronger than total effects, or when the effect of an independent variable on a dependent variable is fully transmitted by a mediator.

We can also think of two methodological reasons that may account for the observed null total effect. First, as briefly alluded to earlier, by using the same audio stimulus (i.e., the “Katie Banks” target) used by Batson et al. (1997a), we unintentionally altered the relationship of our participants to the target. Our participants—students from a university in the Pacific Northwestern US—did not attend the same university nor did they likely come from the same part of the country as Katie. In contrast, the participants reported in Batson et al.’s (1997a) study attended the same university (University of Kansas) as Katie, and many likely came from the same state as Katie (i.e., Kansas). Second, because we used Katie as our target person, we could not give our participants a “hand-written” letter from Katie asking for help, as was done by Batson et al. (1997c), because the audio clip mentioned that she came from Kansas; instead, the request for help came from a researcher *on behalf* of Katie. Both of these factors likely lessened the power of the perspective-taking manipulations on helping, although indirect effects were still found. Consistent with this explanation, Batson et al. (1997c) reported that 63 % of their sample was willing to volunteer some time (including 50 % of the participants from the objective condition). In contrast, only 28 % of our entire sample offered any help—less than half the percentage reported by Batson et al. (1997c).

General discussion

The two studies reported here extend past findings regarding distinct effects of perspective-taking instructions by showing that imagining the self as the other leads to a greater sense of consciously perceived connection to and overlap with the other person. Greater overlap of this kind is also associated with a greater likelihood of helping a target who is in distress, thus providing evidence that the type of instruction used can affect the routes by which one ultimately arrives at pro-social behavior.

The findings from these two studies also help elucidate the relationship between perspective taking and self-other overlap by indicating that some forms of perspective taking do more to enhance self-other overlap (or at least the direct form of overlap identified by Myers and Hodges 2012) than other forms, which may help reconcile previous contradictory research results. That is, while some research has demonstrated an association between perspective taking and self-other overlap (Cialdini et al. 1997; Davis et al. 1996; Galinsky and Moskowitz 2000; Laurent and Myers 2011; Maner et al. 2002), other research has failed to find a connection between the two (Batson et al. 1997c). Importantly, in research where no connection between perspective taking and self-other overlap has been found (e.g., Batson et al. 1997c), imagine-other type instructions were used with a measure of self-other overlap that was found to be part of the indirect “overlapping representations” factor identified by Myers and Hodges (2012). There is now evidence that type of perspective-taking instructions, along with type of overlap measured, appear to moderate the relationship between perspective taking and self-other overlap.

Are there multiple paths connecting perspective taking and helping?

Emotional empathy (i.e., empathic concern) has been consistently shown to predict helping of a target person (see Batson 2010, for a review) but evidence suggests that feelings of personal distress can also lead to helping. In fact, Batson et al. (1997a) suggested “... if one wishes to maximize motivation to help, then inducing an imagine-self perspective may be more effective than inducing an imagine-other perspective...” (p. 757) because the former strategy activates more sources of motivation than the latter. However, Batson et al. (1997a) did not empirically test this. In the current research, we explored the idea of multiple sources of motivation to provide help to another person by also including a measure of self-other overlap. Consistent with previous research, we found that perspective taking—whether imagining the other or imagining the self as the other—led to increased feelings of empathic concern, and consequently, to an increased likelihood of offering help to the target. For participants who imagined themselves as the target, however, an additional link to helping came into play. Specifically, imagining the self as the target led to greater self-other overlap with that person than imagining what he or she was feeling or remaining objective. Thus, whereas imagining what the other person was feeling (“imagine other”) led indirectly to increased likelihood of helping via empathic concern, imagining the self as the target (“imagine self”) led indirectly to an increased likelihood of helping via *both* empathic concern and direct self-other overlap.

Conclusion

As we mentioned at the start, people often act in “bad” ways, and one way to decrease bad behavior (and promote pro-social behavior) is through the use of perspective taking. However, there are several strategies that people use when trying to take the perspective of another person, and each strategy has its own set of emotional and cognitive consequences, some of which may be shared with other strategies and others that may be unique to a particular strategy. The current studies show that along with activating other-oriented emotional responses, imagining oneself in the other person’s situation also leads to heightened perceptions of closeness to the target. These results help resolve some disagreements in the literature regarding the relationship between perspective taking and self-other overlap, and provide promising evidence that the best way to motivate helping might be to encourage multiple motivational routes to helping, by asking people to imagine themselves *as* the other. More speculatively, because helping others can often be costly to the self, the more motivational reasons one has for helping, the more motivated one might be to actually *offer* help! Thus, because imagining the self as the other offers more than one route to helping, this strategy might potentially be superior to simply imagining the other.

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