



Empathy and expectations of others' willingness to help

Vanessa K. Bohns^{a,*}, Francis J. Flynn^b

^a Cornell University, United States of America

^b Stanford University, United States of America



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ABSTRACT

Researchers have linked trait empathy to an individual's willingness to help others. We examine whether trait empathy also predicts people's expectations that others will help *them*. We posit that highly empathic people are more attuned to the emotional drivers of others' prosocial behavior—an intrinsic desire to help and the discomfort of refusing a help request. Such insight should make empathic people more optimistic that their own requests for help will be granted. In two studies of US-based MTurk survey respondents, we found some support for the predicted association between empathy and estimates of compliance with help requests. Study 1 ($N = 207$; 40.1% Female; $M_{\text{Age}} = 30.1$; 77.8% White) provided initial evidence for this relationship, and Study 2 ($N = 404$; 44.5% Female; $M_{\text{Age}} = 38.2$; 69.3% White) replicated this association in a pre-registered, higher-powered study. Mediation analyses suggest this association may result from highly empathic individuals' awareness of others' desire to help. Limitations are discussed.

1. Introduction

People who have higher trait empathy can better appreciate the personal distress of another person in need (Batson et al., 1997). Noting this, past research has connected the personality construct of empathy to individual differences in helping behavior (Eisenberg & Miller, 1987; Graziano et al., 2007; Oswald, 1996; Paciello et al., 2013). In the present research, we examine whether this same tendency to empathize with others' distress can be connected to help-seekers' beliefs about the likelihood that others would help *them* if they were to ask. That is, empathic people may be more attuned to emotional drivers of others' prosocial behavior (i.e., others' desire to help and/or the discomfort of saying “no” to a help request), and, as a result, they may give higher estimates of others' willingness to provide help.

1.1. Empathy and helping

Researchers have linked both state and trait empathy to helping behavior. For example, participants instructed to imagine how another person (“Katie”) was feeling while listening to her describe a personal crisis (an induction of state empathy) were more likely to help her than were participants not given this instruction (Coke et al., 1978). Other studies have found a corresponding relationship between trait empathy—the tendency for individuals to spontaneously empathize with others—and helping. In one study, participants scoring higher on trait

empathy also scored higher on a “propensity to help” scale (Paciello et al., 2013). In another study, students' trait empathy scores positively predicted their prosocial behavior, as reported by classmates (Wang et al., 2019). This connection between empathy and helping is believed to be driven by empathic individuals' ability to appreciate others' distress and the resulting desire to alleviate it (Batson et al., 1981).

While the relationship between empathy and helping is well-established (Batson, 2018; Preston, 2013), no research has considered a relationship between empathy and help-seekers' expectations of helping (i.e., whether others would help *them* if they were to ask). Just as highly empathic helpers are better able to recognize the perspective of those in need, highly empathic *help-seekers* may be better able to recognize the perspective of those who can provide help. As a result, more empathic help-seekers may hold higher expectations that they would receive help if they were to ask for it relative to less empathic help-seekers.

1.2. Empathy and expectations of receiving help

Every day, people contemplate whether to ask for help. One important factor they consider is whether the person they ask is likely to say “yes” (DePaulo, 1983). This process of estimating compliance with help requests, first examined by Flynn and Lake (2008), has since been explored in several empirical studies that involve varied social situations and samples that stretch across the globe (e.g., Bohns et al., 2011; Deri et al., 2019; Newark et al., 2014; Newark et al., 2017). For

* Corresponding author at: Cornell University, ILR School, 394 Ives Faculty Bldg., Ithaca, NY 14853, United States of America.

E-mail address: vkb28@cornell.edu (V.K. Bohns).

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example, help-seekers have been shown to underestimate the number of people who would agree to loan them a cell phone to make a call, walk them over to a building they were trying to find, and sponsor them in a charity race (Flynn & Lake, 2008). Together, the evidence from these studies strongly suggests that people are inaccurate judges of others' willingness to comply with direct requests for help.

We suggest that some people may be better than others at estimating whether a potential helper will agree to a help request. Help-seekers tend to be overly pessimistic in their estimates of compliance with help requests, an effect that has been attributed to an inability to appreciate the emotional drivers of others' prosocial behavior (Flynn & Lake, 2008). We posit that highly empathic help-seekers may better recognize such emotional drivers, leading to a positive association between empathy and expectations of receiving help. Specifically, more empathic help-seekers may be better at recognizing others' intrinsic desire to help, the pressure to agree to a help request, or both.

1.2.1. Empathy and appreciating others' desire to help

More empathic individuals might expect higher levels of compliance in response to a help request because they better appreciate others' desire to be helpful. Studies have shown that people are more generous than we expect them to be, a phenomenon sometimes referred to as the "myth of self-interest" (Miller & Ratner, 1996). For example, in a classic study, participants thought a financial incentive would substantially increase their peers' willingness to donate blood, when in fact the majority of study participants said they would be willing to give blood for free (Miller & Ratner, 1998). Indeed, counter to prevailing assumptions, many people want to help others and feel a "warm glow" when doing so (Andreoni, 1990; O'Brien & Kassirer, 2019). Helping others makes people feel good—a feeling that external rewards for helping can undermine (Kunda & Schwartz, 1983). Some research suggests that when people are disinhibited, they default to behaving prosocially, rather than selfishly, counter to what many people expect (Rand et al., 2015).

Many people genuinely want to help others, but, at the same time, many of us fail to recognize others' prosocial motivation. As a result, when seeking help, we fail to appreciate how happy others would be to say "yes" to a help request. However, highly empathic people, who are more inclined to take others' perspectives (Galinsky et al., 2008), may be better able to recognize the extent to which other people genuinely want to help them, and may therefore hold higher expectations of receiving help if they were to ask for it.

1.2.2. Empathy and appreciating the difficulty of saying "no"

Helping might also be the result of social pressure (DellaVigna et al., 2012), or "giving in" as opposed to "giving" (Cain et al., 2014). Consistent with this view, some studies show that help-seekers overestimate the likelihood that their requests for help will be rejected because they fail to appreciate how difficult it is for people to turn down the request (Bohns, 2016). Saying "no" is a "face-threatening act" (Goffman, 1951). Refusing to help someone down a flight of stairs or give them a ride to the airport risks insinuating something negative about the help-seeker or the request. People are averse to insinuating negative things about another person and, in some cases, find the prospect of doing so extremely distressing (Dunning et al., 2019; Sah et al., 2019). Thus, targets of help requests will often agree to the request simply to avoid the discomfort of saying "no" (Bohns, 2016).

In general, people underestimate the power of discomfort and self-consciousness as drivers of others' behavior (Sabini et al., 2001). For example, people think others will feel more comfortable dancing in front of an audience for money than they actually report feeling (Van Boven et al., 2005), and that targets of an unethical request to vandalize a library book will feel more comfortable saying "no" than targets of such requests actually feel (Bohns, Roghanizad & Xu, 2014). Along a similar vein, help-seekers are largely unaware of the fact that feelings of discomfort often lead people to provide help in response to a direct request (Bohns, 2016). This tendency to underestimate the role that

face-concerns, politeness, and embarrassment play in driving others' behavior leads help-seekers to overestimate the likelihood that a help request will be rejected (Flynn & Lake, 2008). However, highly empathic individuals might appreciate the pressure a potential helper feels to agree to a request for help, and might therefore hold higher expectations of compliance if they were to ask for help.

2. Overview of studies

The two mechanisms described above lead to the same prediction: help-seekers higher in trait empathy will expect higher rates of compliance with their help requests. We conducted a pair of studies to test this primary prediction and explore these two possible explanations for the link between trait empathy and estimates of compliance—awareness of the discomfort of saying "no" and awareness of others' desire to help. Note that our a priori prediction was that a recognition of the discomfort of saying "no" would be the driving explanatory mechanism behind the expected positive association between empathy and expected compliance.

2.1. Study 1

All data and study materials are available at the following link: <https://osf.io/cakv7/>.

2.1.1. Participants

We recruited 210 participants through Amazon Mechanical Turk (MTurk). Three participants were excluded for ending the study early and therefore failing to complete the Interpersonal Reactivity Index (our primary independent variable), leaving us with 207 participants. Each participant confirmed that they were located in the United States. Our sample was 120 men, 85 women, and 2 participants who either indicated that they preferred not to identify or had missing gender data. Mean age was 30.1 years. 77.8% indicated they were White or Caucasian, 10.1% Hispanic or Latino, 4.3% Asian, 2.4% Black or African American, 4.3% checked "other" as their race or ethnicity, and 1% did not respond. 74.4% of our sample had at least some college education (ranging from some college but no degree to a professional or doctoral degree).

2.1.2. Procedure

Participants read a series of four scenarios in which they imagined asking people for help. After each scenario, they answered a series of questions assessing their expectations of compliance with the help request, how difficult it would be for the potential helper to say "no", the extent to which the potential helper would be motivated to be helpful, and the size of the request. An exploratory factor analysis [see Supplementary online materials (SOM)] revealed three factors, consistent with our difficulty saying "no," desire to help, and request size indices. Participants then completed a series of individual difference measures, including the critical empathy scale, as well as a series of demographic questions. A complete list of additional measures can be found in the SOM.

To minimize common method bias (Podsakoff et al., 2012), we took a number of procedural precautions. Specifically, we (1) included page breaks between the compliance, mechanism, and empathy items to maintain proximal distance between the various constructs being measured, (2) varied the formatting and anchors of the scales, (3) kept the survey brief, and (4) minimized ambiguity in our key dependent variables by asking about specific scenarios.

As a simple check on whether these precautions were effective, we calculated Harman's single-factor test. We input all 39 items used to measure our key constructs [empathy (IRI-EC, 7 items), difficulty saying "no" (12 items, 3 per scenario), desire to help (8 items, 2 per scenario), and expected compliance (12 items, 3 per scenario)] into a principal components analysis set to extract a single factor. This single

factor explained just 23.02% of the variance, suggesting that common method variance is not a large issue in this study. However, Harman's test is not conclusive (Podsakoff et al., 2012), and we did collect all of our measures in a single survey. Thus, the possibility of common method bias remains. We return to this point in the limitations section of the general discussion.

To minimize concerns with the order in which we measured our key variables, we (1) had participants respond to all items pertaining to the help-seeking scenarios before completing the individual difference and demographic measures, and (2) asked our key dependent variables (expected compliance) first, followed immediately by items measuring the mechanism we had originally predicted a priori (difficulty saying "no"), and then followed by our other items (desire to help and other items disclosed in the SOM). While we designed the study to protect our key variables of interest from order effects, the non-randomized order of the mechanism items may impact the interpretation of our mechanism results. We return to this point in the limitations section of the general discussion.

2.1.2.1. Help-seeking scenarios. We adapted four vignettes from Flynn and Lake (2008) in which participants were asked to imagine making various help requests of different people (e.g., asking someone to borrow their cell phone to make a call, and asking for help carrying a stroller down a flight of stairs. See Table 1 for complete scenarios.)

2.1.2.2. Compliance measures. After reading each scenario, participants answered two questions assessing their expectations of compliance: "How likely is it that someone would agree to this request?" (1 = Extremely unlikely to 7 = Extremely likely); "What percentage of people would agree if asked this request?" (0–100%). Participants' responses on each of these items were collapsed across the four help-seeking scenarios to create two composite scores, one for "expected likelihood of compliance" and one for "expected percent compliance."

2.1.2.3. Discomfort saying "no" measures. Participants also answered three questions on a 7-point scale (1 = Not at all to 7 = Extremely) measuring how difficult it would be and how bad and awkward someone would feel saying "no" to each request. These items were collapsed across the four help-seeking scenarios, and then combined into a "discomfort saying 'no'" index (3 items; $\alpha = 0.76$).

2.1.2.4. Beliefs about others' desire to help. The last three items participants completed after reading each scenario measured their general beliefs about others' desire to help. Specifically, they were asked how generous people are with their time, how willing to help

Table 1
Help-seeking scenarios used in Studies 1 and 2.

Imagine you're running late for a doctor's appointment. You try hailing an Uber, but you're not having much luck. You decide to call your doctor to let her know you're running late. You see someone who is just about to put their cell phone away, so you approach them, and ask, "Can I use your cell phone to make a phone call?"
Imagine that UPS has been trying to deliver a package to your home for the past few days, but you haven't been available to sign for it. Now you find a notice on your door that you can pick up the package at your local post office. You need to be at work during the hours the post office is open, but one of your neighbors has work hours that are more flexible. You knock on your neighbor's door. "The UPS office downtown is holding a package that was sent to me. Will you please go pick it up for me?" you ask.
Imagine that you're applying for a job out of college, and you need a reference letter. You did okay in the course that is most relevant to the position, but it was a big class, so you're not sure the professor knows who you are. You knock on your professor's door, and say, "I'm applying for a job. Would you please write me a reference letter?"
Imagine that you are standing at the top of a staircase with a baby stroller. You need help carrying the stroller down the stairs. You catch someone's eye as they are walking down the stairs and say, "Will you please help me with this?"

people generally are, and how much people enjoy helping others (1 = Strongly Disagree to 7 = Strongly Agree). These items were collapsed across the four scenarios and combined into a single "desire to help" index (3 items; $\alpha = 0.85$).

2.1.2.5. Empathy measures. Following previous research (e.g., Paciello et al., 2013; Prot et al., 2014; Wang et al., 2019), we measured trait empathy using the *empathic concern* subscale of the Interpersonal Reactivity Index (IRI; Davis, 1980). The empathic concern subscale (IRI-EC; 7 items; $\alpha = 0.84$) measures the extent to which people spontaneously empathize with others.

The remaining three subscales of the IRI (the *fantasy*, *personal distress*, and *perspective-taking* subscales) were also administered. The *fantasy* and *personal distress* subscales were not included in our predictions or analyses. However, the *perspective-taking* subscale (IRI-PT), which measures people's tendency to spontaneously adopt others' psychological viewpoints, could be considered a proxy for empathy. We therefore conducted the same analyses reported for the IRI-EC using the IRI-PT scale as well. These additional analyses are summarized in the SOM.

2.1.3. Results

2.1.3.1. Missing values and outliers. 12 of our 207 cases were missing expected compliance data (either likelihood of compliance, or percent compliance) for at least one of the four scenarios. When possible, we managed these missing data by calculating the mean from the remaining scenarios. In all but two cases, participants missed only one scenario, and we were therefore able to calculate means from the three completed scenarios. However, in the two remaining cases, participants skipped all four of the scenarios, meaning that one participant is missing a value for expected likelihood of compliance and another participant is missing a value for expected percent compliance. In addition, two participants did not provide any demographic information, and three more did not indicate their age, for a total of seven cases with missing data. Since this constituted less than 5% of our sample, missing data was managed by pairwise deletion. For this reason, degrees of freedom may vary slightly across analyses. There were no outliers.

2.1.3.2. Empathy and expected compliance: zero-order correlations. Our primary prediction was a positive relationship between individual differences in empathy and expectations of compliance with requests for help. In support of this prediction, we found a significant positive zero-order correlation between the IRI-EC and expected percent compliance, $r(204) = 0.153$, $p = .028$, and a positive zero-order correlation between the IRI-EC and expected likelihood of compliance, $r(204) = 0.131$, $p = .061$, which did not reach significance. Means, standard deviations, Cronbach's alphas, and Pearson correlations for key variables can be found in Table 2. A correlation table that includes all variables measured in Study 1 can be found in the SOM.

2.1.3.3. Empathy and expected compliance: controlling for demographic variables. The relationships between IRI-EC and expected percent compliance and IRI-EC and expected likelihood of compliance look the same after controlling for relevant demographic variables (see Tables 3 and 4). Specifically, we controlled for gender, in light of research suggesting that women tend to be more empathic than men (e.g., Klein & Hodges, 2001) and may be more inclined to ask for help than men (e.g., Addis & Mahalik, 2003). We also controlled for age, due to cohort effects on empathy that have previously been found (Grühn et al., 2008). We controlled for race (White vs. Non-White, due to limitations in the diversity of our sample) because White privilege may increase the expectation of receiving help if one were to ask for it (McIntosh, 2007), and because race and ethnicity have been found to impact attitudes related to help-seeking (Leong, Wagner, & Tata, 1995). Finally, we controlled for college education (some vs. none) because

Table 2
Means, standard deviations, Cronbach's alphas, and Pearson's correlations for key variables in Study 1.

	1	2	3	4	5
1. IRI-EC					
2. Expected percent compliance	0.153 ⁺				
3. Expected likelihood of compliance	0.131 ⁺	0.747 ^{***}			
4. Discomfort saying "no" index	0.209 ^{**}	0.333 ^{***}	0.418 ^{***}		
5. Desire to help index	0.131 ⁺	0.386 ^{***}	0.448 ^{***}	0.227 ^{**}	
<i>M</i>	27.03	57.83	4.63	4.23	4.80
<i>SD</i>	7.95	15.37	0.83	0.80	1.22
Cronbach's alpha	0.84	N/A	N/A	0.76	0.85

All *p*-values are unadjusted.

N = 207.

*** *p* < .001.

** *p* < .01.

* *p* < .05.

+ *p* < .10.

one of our help-seeking scenarios took place in a university context.

2.1.3.4. Discomfort saying "no" and desire to help as psychological mechanisms. To test for the mediating role of the two possible mechanisms—awareness of the discomfort of saying "no," and beliefs about others' desire to help—we conducted two parallel mediation analyses using Model 4 of PROCESS with expected percent and expected likelihood of compliance as the DVs, desire to help and discomfort saying "no" as the mediators, IRI-EC as the IV, and gender, age, race, and college experience as covariates. Using 95% bias-corrected confidence intervals based on 1000 bootstrap samples, we found a small, but non-zero, indirect effect through the desire to help mediator of empathy on both percent expected compliance [0.0011, 0.2578] and expected likelihood of compliance [0.0001, 0.0152], as well as a small non-zero indirect effect through the discomfort saying "no" mediator on both expected percent compliance [0.0127, 0.2353] and expected likelihood of compliance [0.0018, 0.0146] (unstandardized effects; see Tables 5 and 6). Thus, there was evidence for mediation through both the difficulty saying "no" mechanism and the desire to help mechanism on both DVs (Fig. 1a and b).

Notably, for both DVs, only the indirect effect for discomfort saying "no" remained significant when the demographic covariates were not included in the model. Thus, the desire to help mediator does not appear to be especially robust in this study.

2.1.4. Discussion

These results provide some preliminary evidence for the predicted relationship between trait empathy and expected compliance with help requests, although thus far this evidence is fairly modest, requiring replication. Mediation analyses provided initial support for the difficulty saying "no" mechanism, and some slightly weaker support for the desire to help mechanism. In this study, the desire to help items were phrased in general terms, rather than being specific to each helping context, which likely made them a weaker test of this mechanism.

Table 3
Predicting expected percent compliance in Study 1.

Predictor	Unstandardized coefficient (<i>b</i>)	95% confidence interval		<i>p</i>
IRI-EC	0.319	0.026	0.613	0.033
Gender (0 = Female, 1 = Male)	-3.897	-8.321	0.528	0.084
Age	-0.110	-0.323	0.102	0.307
Race/ethnicity (0 = White, 1 = NonWhite)	-5.234	-10.477	0.009	0.050
College experience (0 = none, 1 = some)	-3.335	-8.453	1.783	0.200

N = 201.

Rewording these items to be specific to the individual helping scenarios might result in stronger evidence of the desire to help mechanism, a possibility we test in Study 2.

2.2. Study 2

The aim of Study 2 was to establish confidence in our findings from Study 1 by replicating them in a higher-powered, pre-registered study. In addition, we made some modifications to the items included in the first study. Specifically, we edited our "discomfort saying 'no'" mediator items slightly in an attempt to be clearer about the obligation to say "yes" to a help request that potential helpers may feel (and more empathic help-seekers may recognize) as a result of their discomfort. Second, we edited our "desire to help" mediator items to more closely match our "discomfort saying 'no'" items by making them specific to each help-seeking scenario, rather than asking participants about others' prosocial motivation in general. Each of these changes is specified in more detail below.

2.2.1. Pre-registration and data accessibility

This study was preregistered at [AsPredicted.org](https://aspredicted.org/#25830) (#25830 "Empathy, Perspective-taking, and Expectations of Compliance": <https://aspredicted.org/vh85w.pdf>). All data and materials are available at the following link: <https://osf.io/cakv7/>.

2.2.2. Participants

We recruited 407 participants through Amazon Mechanical Turk. Participants again had to indicate they were located in the United States in order to participate. Three participants were excluded for failing to complete the IRI (our primary independent variable), leaving us with 404 participants. Our sample was 223 men, 179 women, and 2 participants who either indicated that they preferred not to identify or had missing gender data. Mean age was 38.2 years. 69.3% indicated they were White or Caucasian, 14.1% Black or African American, 8.2% Hispanic or Latino, 6.7% Asian, 0.2% Native American, and 1.5% checked "other" as their race or ethnicity. 86.6% of our sample had at least some college education (ranging from some college but no degree to a professional or doctoral degree).

2.2.3. Procedure

Participants read the same four scenarios from Study 1 in which they imagined asking people for help. After each scenario, they answered questions assessing their expectations of compliance with each request, how difficult it would be to say "no" to each request, the extent to which someone would want to help in each scenario, and the size of the request. An exploratory factor analysis again revealed three factors, consistent with our difficulty saying "no," desire to help, and request size indices. Details of this analysis can be found in the SOM. They then completed the IRI and a series of demographic questions.

2.2.3.1. Help-seeking scenarios. Participants read the same four scenarios used in the previous study (Table 1).

2.2.3.2. Compliance measures. After reading each scenario, participants answered the same two questions used in Study 1 to assess their

Table 4
Predicting Expected Likelihood Compliance in Study 1.

Predictor	Unstandardized coefficient (b)	95% confidence interval		p
IRI-EC	0.015	-0.000	0.031	0.057
Gender (0 = Female, 1 = Male)	-0.188	-0.429	0.052	0.125
Age	0.000	-0.012	0.011	0.952
Race/ethnicity (0 = White, 1 = NonWhite)	-0.268	-0.552	0.016	0.064
College experience (0 = none, 1 = some)	-0.251	-0.527	0.026	0.075

N = 201.

expectations of compliance (likelihood and percent compliance). One change in this study is that the likelihood of compliance scale was increased to a scale of 1–10, with the same anchors (1 = Extremely unlikely, 10 = Extremely likely). Participants' responses to each of these items were again collapsed across the four scenarios to form two composite scores.

2.2.3.3. Discomfort saying “no” measures. Participants answered four questions about how difficult it would be to say “no” to each request, using a 7-point scale. These questions were modified slightly from the previous study to include how bad, awkward, and uncomfortable someone would feel saying “no” to each request, and how obligated someone would feel saying “yes” to the same request. The four items were combined into a “discomfort saying ‘no’” index, which we collapsed across the four help-seeking scenarios ($\alpha = 0.93$).

2.2.3.4. Beliefs about others' desire to help. Participants completed two items about the extent to which the target in each scenario was prosocially motivated to help. While the prosocial motivation items in Study 1 measured expectations of others' prosocial motivation *in general*, the items in Study 2 were modified to be more specific to each request, which made them more comparable to the “discomfort saying ‘no’” measures. Specifically, participants were asked the extent to which someone would want to help and would enjoy helping in each situation. These responses were combined into a single “desire to help” scale ($\alpha = 0.83$).

2.2.3.5. Empathy measures. To measure trait empathy, we again used the empathic concern subscale (IRI-EC; $\alpha = 0.90$) of the Interpersonal Reactivity Index (Davis, 1980). As in Study 1, and in line with our pre-registration, we also conducted the same analyses using the perspective-taking subscale of the IRI (IRI-PT) as a proxy for empathy. We report these analyses in the SOM.

2.2.4. Results

2.2.4.1. Missing values and outliers. 9 of our 404 cases were missing expected compliance data (either likelihood of compliance, or percent compliance) for at least one of the four scenarios. When possible, we managed these missing data by calculating the mean from the remaining scenarios. In all but one case, participants missed only one scenario, and we were therefore able to calculate means from the three completed scenarios. However, in the one remaining case, the participant skipped the likelihood of compliance item in all four of

the scenarios, meaning that one participant is missing a value for likelihood of compliance. This is the only case with missing data. Since this constituted less than 5% of our sample, missing data was managed by pairwise deletion. For this reason, degrees of freedom may vary slightly across analyses. There were no outliers.

2.2.4.2. Empathy and expected compliance: zero-order correlations. Our primary prediction was a positive relationship between individual differences in empathy and expectations of compliance with requests for help. As in Study 1, we found a significant positive relationship between the IRI-EC and expected percent compliance, $r(402) = 0.145$, $p = .004$, as well as expected likelihood of compliance, $r(401) = 0.118$, $p = .018$ (Table 7). This pattern of results once again supports our primary prediction.

2.2.4.3. Empathy and expected compliance: controlling for demographic variables. The relationships between IRI-EC and expected percent compliance and IRI-EC and expected likelihood of compliance both remain significant after controlling for gender, age, race/ethnicity (White, Non-White, again due to limitations in the diversity of our sample), and college experience (some, none). See Tables 8 and 9.

2.2.4.4. Discomfort saying “no” and desire to help as psychological mechanisms. To test for the mediating role of the two possible mechanisms—awareness of the discomfort of saying “no,” and beliefs about others' desire to help—we conducted two parallel mediation analyses using Model 4 of PROCESS with expected percent compliance and expected likelihood of compliance as the DVs, discomfort saying “no” and desire to help as the mediators, IRI-EC as the IV, and including gender, age, race, and college experience as controls (see Fig. 2a and b). As in Study 1, a 95% bias-corrected confidence interval based on 1000 bootstrap samples showed a non-zero indirect effect of empathy on expected percent compliance through the desire to help mediator [0.0909, 0.2827]. However, in contrast to Study 1, the 95% bias-corrected confidence interval for the indirect effect of discomfort saying “no” on expected percent compliance included zero [-0.0104, 0.0728] (unstandardized effects; see Table 10). Consistent again with Study 1, we found a non-zero indirect effect of empathy on expected likelihood of compliance through the desire to help mediator [0.0049, 0.0142]. However, again in contrast to Study 1, the 95% bias-corrected confidence interval for the indirect effect of discomfort saying “no” on expected percent compliance included zero [-0.0005, 0.0037] (unstandardized effects; see Table 11). These mediation results

Table 5
Mediation analysis in Study 1 using PROCESS.

	Effect on expected percent compliance (unstandardized)	SE	Bias corrected 95% CI	
			Lower	Upper
Total effect	0.3194	0.1490	0.0260	0.6130
Direct effect of empathy (IRI-EC)	0.1004	0.1388	-0.1733	0.3741
Indirect effect through desire to help	0.1229	0.0635	0.0011	0.2578
Indirect effect through discomfort saying “no”	0.0961	0.0576	0.0127	0.2353

N = 201; 1000 bootstrap resamples.

Table 6
Mediation analysis in Study 1 using PROCESS.

	Effect on expected likelihood compliance (unstandardized)	SE	Bias corrected 95% CI	
			Lower	Upper
Total effect	0.0153	0.0080	- < -0.0001	0.0310
Direct effect of empathy (IRI-EC)	0.0017	0.0070	-0.0121	0.0155
Indirect effect through desire to help	0.0067	0.0037	0.0001	0.0152
Indirect effect through discomfort saying “no”	0.0069	0.0033	0.0018	0.0146

N = 201; 1000 bootstrap resamples.

remain the same when the covariates are not included in the analyses.

2.2.4.5. Preregistered analyses. Our pre-registration included several additional analyses related to our a priori prediction that difficulty saying “no” would be the driving mechanism. However, we did not find support for this prediction in Study 2. These additional analyses are summarized in the SOM.

Although we added covariates to our analyses through the peer review process, none of our pre-registered analyses included covariates. We have indicated throughout the manuscript when including covariates in a given model changes the results.

2.2.5. Discussion

These results provide additional evidence of the predicted relationship between trait empathy and expectations of compliance with one's help requests. These results also provide additional support for the role trait empathy plays in recognizing others' desire to help when one imagines being in the position of having to ask for help. However, they call into question the role trait empathy may play in recognizing the

Table 7

Means, standard deviations, Cronbach's alphas, and Pearson's correlations for key variables in Study 2.

	1	2	3	4	5
1. IRI-EC					
2. Expected percent compliance	0.145**				
3. Expected likelihood of compliance	0.118*	0.560***			
4. Discomfort saying “no” index	0.086 ⁺	0.457***	0.353***		
5. Desire to help index	0.202***	0.633***	0.486***	0.474***	
<i>M</i>	28.04	58.02	5.73	4.38	4.33
<i>SD</i>	9.21	14.88	0.96	1.03	0.98
Cronbach's alpha	0.84	N/A	N/A	0.93	0.83

All *p*-values are unadjusted.

N = 404.

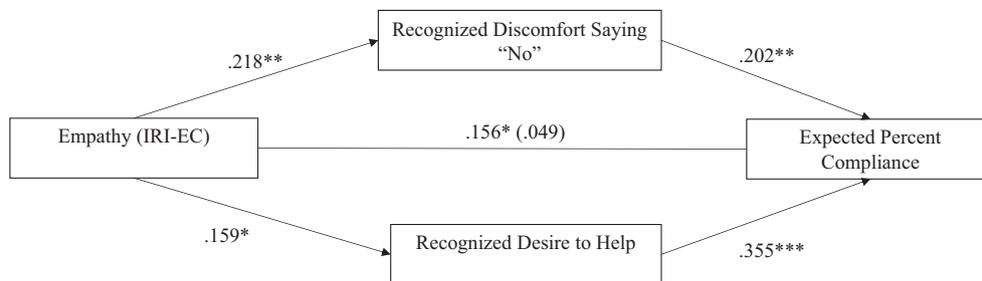
*** *p* < .001.

** *p* < .01.

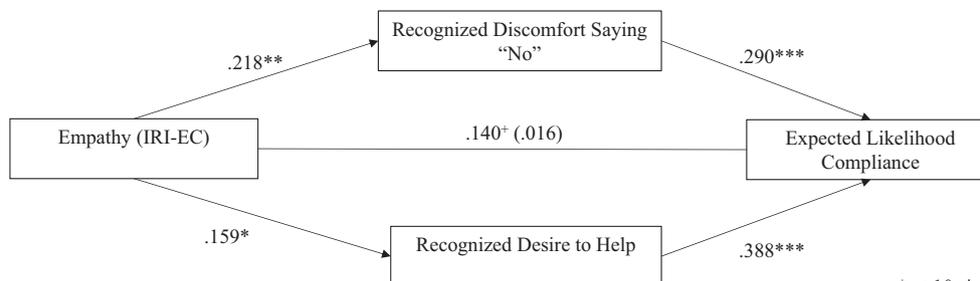
* *p* < .05.

⁺ *p* < .10.

a



b



⁺*p* < .10; **p* < .05; ***p* < .01, ****p* < .001

Fig. 1. a. Mediation path between empathy as measured by the IRI-EC subscale and expected percent compliance in Study 1 (N = 201). Standardized coefficients are reported. Gender, age, race, and education are included as covariates.

b. Mediation path between empathy as measured by the IRI-EC subscale and expected likelihood of compliance in Study 1 (N = 201). Standardized coefficients are reported. Gender, age, race, and education are included as covariates.

Table 8
Predicting expected percent compliance in Study 2.

Predictor	Unstandardized coefficient (b)	95% confidence interval		p
IRI-EC	0.222	0.058	0.385	0.008
Gender (0 = Female, 1 = Male)	3.421	0.369	6.472	0.028
Age	0.130	-0.002	0.261	0.053
Race/ethnicity (0 = White, 1 = NonWhite)	-2.134	-5.440	1.172	0.205
College experience (0 = none, 1 = some)	1.120	-3.185	5.425	0.609

N = 404.

Table 9
Predicting expected likelihood compliance in Study 2.

Predictor	Unstandardized coefficient (b)	95% confidence interval		p
IRI-EC	0.011	0.001	0.022	0.038
Gender (0 = Female, 1 = Male)	0.014	-0.186	0.214	0.892
Age	0.001	-0.008	0.010	0.826
Race/ethnicity (0 = White, 1 = NonWhite)	-0.200	-0.416	0.016	0.069
College experience (0 = none, 1 = some)	-0.020	-0.301	0.261	0.889

N = 403.

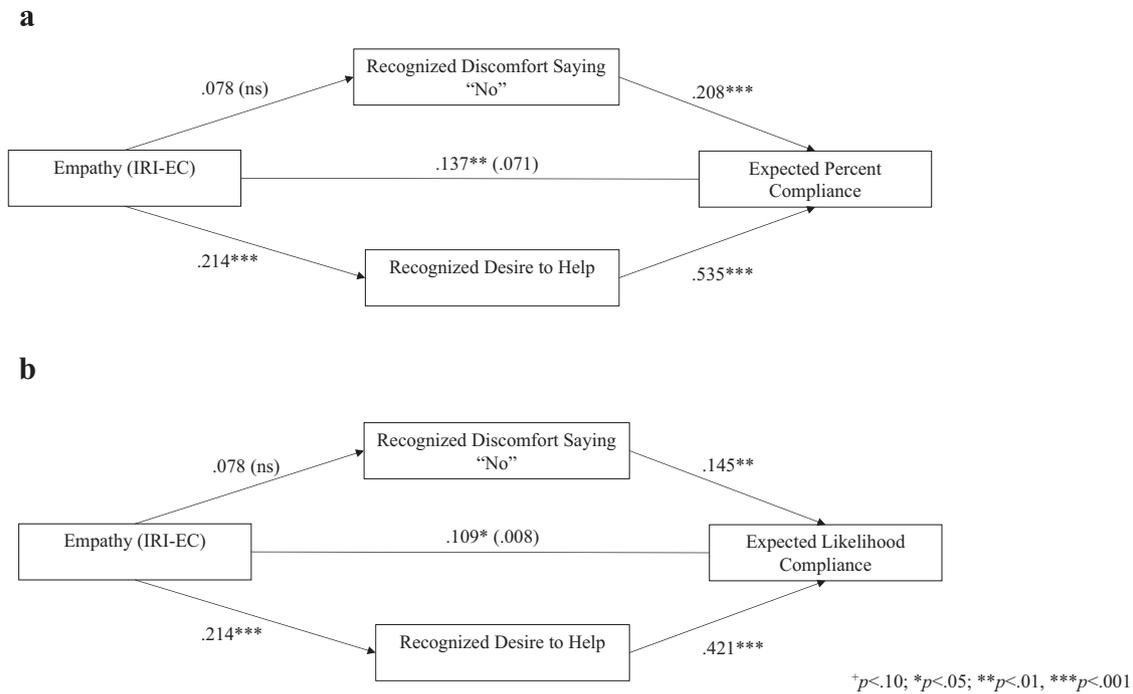


Fig. 2. a. Mediation path between empathy as measured by the IRI-EC subscale and expected percent compliance in Study 2 (N = 404). Standardized coefficients are reported. Gender, age, race, and education are included as covariates.
b. Mediation path between empathy as measured by the IRI-EC subscale and expected likelihood of compliance in Study 2 (N = 403). Standardized coefficients are reported. Gender, age, race, and education are included as covariates.

Table 10
Mediation analysis in Study 2 using PROCESS.

	Effect on expected percent compliance (unstandardized)	SE	Bias corrected 95% CI	
			Lower	Upper
Total effect	0.2216	0.0830	0.0580	0.3850
Direct effect of empathy (IRI-EC)	0.0103	0.064	-0.1156	0.1362
Indirect effect through desire to help	0.1851	0.0478	0.0909	0.2827
Indirect effect through discomfort saying "no"	0.0262	0.0212	-0.0104	0.0728

N = 402; 1000 bootstrap resamples.

Table 11
Mediation analysis in Study 2 using PROCESS.

	Effect on expected likelihood compliance (unstandardized)	SE	Bias corrected 95% CI	
			Lower	Upper
Total effect	0.0114	0.0050	0.0010	0.0220
Direct effect of empathy (IRI-EC)	0.0009	0.0048	−0.0086	0.0104
Indirect effect through desire to help	0.0093	0.0024	0.0049	0.0142
Indirect effect through discomfort saying “no”	0.0012	0.0011	−0.0005	0.0037

$N = 401$; 1000 bootstrap resamples.

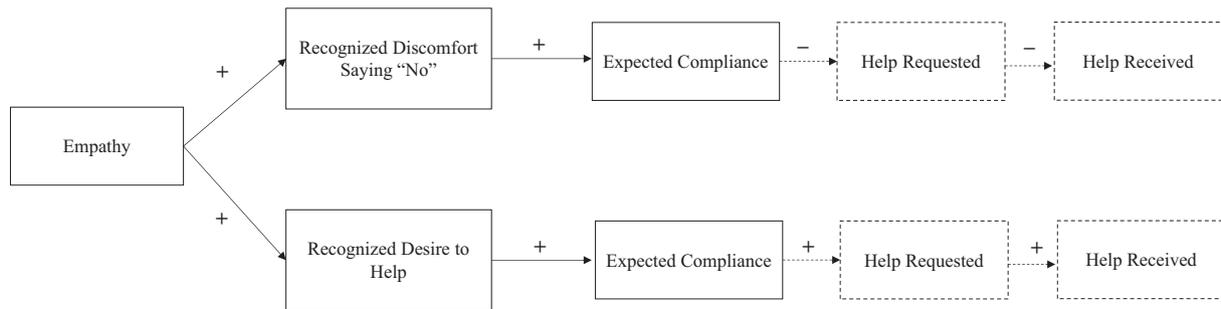


Fig. 3. Theorized model going from individual differences in empathy to more or less help requested, and thus received, depending on the mechanism. Note that only the first part of the model (solid boxes) is tested in the current studies.

discomfort others experience at the prospect of saying “no” as a driver of expected compliance. One possible reason for the failure to replicate the mediation findings from the previous study could be the modifications we made to the difficulty saying “no” items. Calling attention to the fact that people may feel obligated to agree to help requests in the revised items may have washed away any link between empathy and a tendency to recognize this fact without being specifically prompted.

3. General discussion

We found a positive relationship between empathy, as measured by the empathic concern subscale of the Interpersonal Reactivity Index (Davis, 1980), and expected compliance in help requests when participants considered asking others for help in a variety of contexts. This relationship emerged in both an initial study of this prediction, as well as a higher-powered, pre-registered replication.

We theorized that this relationship might emerge for two reasons. Help-seekers higher in trait empathy may be more aware of others' desire to help and/or they may be more aware of the discomfort their targets would experience saying “no” to the request. While both mechanisms mediated the relationship between empathy and expected compliance in Study 1, only an awareness of others' intrinsic desire to help mediated this relationship in Study 2. These mediation results suggest that the relationship between empathy and expected compliance is likely driven, in part, by empathic individuals' awareness of others' prosocial motivation. However, we caution against drawing strong conclusions about mechanism from these studies, given some of the limitations noted below.

3.1. Limitations

There are a number of limitations to these studies, highlighting the need for further research in order to gain more confidence in these results. First, both studies recruited participants from Amazon Mechanical Turk (MTurk), which has advantages and disadvantages. MTurk participants tend to be more diverse (Casler et al., 2013) and attentive (Hauser & Schwarz, 2016) than university lab participants. However, they also tend to have more experience with commonly used

measures in psychology research, which could be problematic (Hauser & Schwarz, 2016).

Second, although we tried to rule out common method bias both procedurally through our scale design, and statistically using Harman's single-factor test, neither method can entirely rule out concerns with the fact that we collected our measures in the same survey (Podsakoff et al., 2012). Relatedly, our mediation models were based on cross-sectional data, which requires making several assumptions (e.g., that our variables were measured without error, Baron & Kenny, 1986). In addition, our mechanism variables were not randomly administered due to our a priori assumptions about which mechanisms would be most important to test in these studies. Altogether, these limitations make it difficult to draw strong conclusions regarding mechanism.

We also cannot clearly identify the precise psychological process that leads empathic individuals to better appreciate others' desire to help. It is possible, as we have theorized, that they are better able to appreciate the pleasure others would experience through helping. However, it is also possible that highly empathic individuals, who tend to be more helpful themselves (Paciello et al., 2013; Wang et al., 2019) simply assume other people are more like them. Future research could untangle these two possibilities.

Finally, it is important to note that the relationship between empathy and expected compliance appears to be small. It is possible that these effects were so small because these studies used hypothetical help-seeking scenarios. Future research could explore whether larger effects are found when people engage in actual help-seeking behavior.

3.2. Future directions

The current studies identify a positive relationship between individual differences in empathy and potential help-seekers' expectations of help. More empathic people assume that others are more willing to say “yes” to a request for help than do less empathic people. This finding might imply that highly empathic help-seekers are more willing to ask for help because they are more confident about the likelihood they will receive it (DePaulo, 1983). If this is indeed the case—that people higher in trait empathy are more inclined to pose help requests, then trait empathy may account for multiple drivers of prosocial behavior—both initiating requests for help, and satisfying

those requests. That is, people higher in trait empathy may be more active participants in social exchange, overall, not just as generous benefactors, but also as beneficiaries of others' generosity.

However, we are not certain about the link between trait empathy and help-seeking behavior because the two mechanisms we have identified here—discomfort with refusing help requests and the warm glow of agreeing to help requests—may have opposite effects. If more empathic people expect that others are more willing to comply with their help requests because they recognize the pressure that others feel to comply, they may actually hold back from asking for needed help out of a concern that a potential helper would feel obligated to agree (i.e., more empathic people should be averse to making other people feel bad). The opposite might be true for more empathic people who recognize the “warm glow” that others would experience after agreeing to provide help (i.e., more empathic people should be amenable to making other people feel good). We summarize these opposing predictions in Fig. 3. Future research should investigate this dual-pathway model of empathy and help-seeking. There may be value in exploring a link between empathy and help-seeking behavior—to better understand the role of trait empathy in accounting for prosocial behavior.

CRedit authorship contribution statement

Vanessa Bohns: Conceptualization, Methodology, Data analysis, Writing-original draft preparation and editing. **Francis Flynn:** Conceptualization, Methodology, Writing-reviewing and editing.

Appendix A. Supplementary online materials

Supplementary online materials to this article can be found online at <https://doi.org/10.1016/j.paid.2020.110368>.

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