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Surprisingly Happy to Have Helped:
Underestimating Prosociality Creates a Misplaced Barrier to Asking for Help

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Abstract

Performing acts of kindness increases well-being, yet people can be reluctant to ask for help that would enable others' kindness. We suggest people may be overly reluctant due to miscalibrated expectations about others' prosocial motivation, underestimating how positively others will feel when asked for help. A pretest identified that interest in asking for help was correlated with expectations of how helpers would feel, but a series of scenarios, recalled experiences, and live interactions among people in the U.S. ($n = 2118$) indicated that those needing help consistently underestimated others' willingness to help, underestimated how positively helpers would feel, and overestimated how inconvenienced helpers would feel. These miscalibrated expectations stemmed from underestimating helpers' prosocial motivation, while overestimating compliance motivation. This research highlights a limitation of construing help-seeking through a lens of compliance by scholars and laypeople alike. Undervaluing prosociality could create a misplaced barrier to asking for help when needed.

Keywords: prosocial behavior, social cognition, prosocial motivation, egocentrism, kindness, well-being.

Statement of Relevance

At some point, even the best of us needs help from others. Yet people often struggle to ask for help, partly due to concerns that others would be unwilling and unhappy to help. Six experiments contrasting the perspective of requesters to that of potential helpers showed that people's concern can be misplaced: when imagining, recalling, or actually engaging in live interactions in the field, those in need of help consistently underestimated how willing strangers—and even friends—would be to help them, underestimated how positive helpers would feel after helping, and overestimated how much helpers would feel inconvenienced. Such miscalibration at least partly arose from underestimating how much human prosociality could be prompted by a simple, direct request, while overly attributing helpers' motivation to social compliance. Underestimating others' prosociality can thus create a barrier to asking for help from others, that would increase the wellbeing of both requesters and helpers.

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When 12-year-old Steve Jobs cold-called Bill Hewlett, co-founder of Hewlett-Packard (HP), using a number listed in the phone book to ask for spare parts to use in a school project, Hewlett not only agreed to his request but even offered him a summer job (Silicon Valley Historical Association, 2011). Reflecting on this request, Jobs commented, “most people don’t get those experiences because they never ask. I’ve never found anybody who didn’t want to help me when I’ve asked them for help.”

Although Steve Jobs has many unique attributes, finding others who want to help when asked does not seem especially unique. For instance, one observational study conducted in eight cultures around the world found that 88% of naturally occurring requests were fulfilled (Floyd et al., 2018). Indeed, helping others in need seems to be an intuitive response (Zaki & Mitchell, 2013) that tends to leave helpers feeling positive (Andreoni, 1990; Curry et al., 2018; Dunn et al., 2008; Harbaugh et al., 2007). More unique may be Jobs’ readiness to ask others for help, as people often struggle requesting help (Addis & Mahalik, 2003; Butler & Neuman, 1995; Lee 2002; Nadler, 2015). This struggle may seem puzzling. If receiving help usually benefits recipients, and if providing help leaves helpers feeling positive, then what psychological barriers might keep people from making a request that could improve both their own and a helper’s wellbeing?

Here we advance existing research on one documented barrier: people misunderstand others’ reactions to a direct request for help (Bohns, 2016). Specifically, we hypothesize that those in need of help underestimate the strength of others’ prosocial motivation to help when asked directly—in Jobs’ words, how much others “want” to help—thereby underestimating how willingly others will help and how positively others will feel about helping. Failing to fully

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appreciate how much others will genuinely want to help, and will feel positive for doing so, could then leave people overly reluctant to asking for help more often in daily life.

Our hypotheses are based on several existing findings. First, human beings are deeply social, being prosocially motivated to connect with others (Baumeister & Leary, 1995; Tomasello, 2009), to empathize with others' experience (Decety & Jackson, 2004; Singer et al., 2004; Zaki, 2014), and to help when others are in need (Batson & Shaw, 1991; Slovic et al., 2017; Zaki & Mitchell, 2013). Being asked for help creates the opportunity for a positive social connection with the requester that also affirms the helper's own competency (Brooks et al., 2015). Agreeing to a request could therefore satisfy basic psychological needs for relatedness, autonomy, and competence (Deci & Ryan, 2000; Weinstein & Ryan, 2010), creating a positive experience to the extent that a request can be fulfilled (Dunn et al., 2014).

Second, emerging research suggests that people may systematically underestimate how positively others respond to one's own sociality, which creates a barrier to engaging with others more often. For instance, people may avoid talking with strangers because they underestimate others' interest in talking to them (Epley & Schroeder, 2014; Schroeder et al., 2021), stick to shallow conversations rather than deeper conversations because they underestimate others' interest in discussing meaningful content (Kardas et al., 2021), or be reluctant to express gratitude or share compliments because they underestimate how positively recipients will feel (Boothby & Bohns, 2021; Kumar & Epley, 2018; Zhao & Epley, 2021a, 2021b). In addition, people tend to assume others' behavior is guided by self-interested motivation (Epley & Dunning, 2000; Miller & Ratner, 1999; Kruger & Gilovich, 1999), an inference that could lead people to underestimate the strength of others' prosocial motives in contexts where prosociality is prompted by a direct request for help.

Finally, experiments across a variety of contexts indicate that people reliably underestimate the likelihood that others will agree to their direct requests (Bohns, 2016). From requests for help such as borrowing a cellphone (Flynn & Lake (Bohns), 2008) to unethical requests such as vandalizing a library book (Bohns et al., 2014), those making the request consistently believe others will say “no” more often than others actually do. This “underestimation-of-compliance effect” has been interpreted as a failure among requesters to fully appreciate the strength of compliance motivation among recipients, especially how uncomfortable it would be to say “no” to a request (Bohns, 2016).

However, construing requests for help as attempts to induce compliance may not be the way that those directly asked for help interpret their experience. Indeed, empirical support for this compliance mechanism is inconclusive because existing tests rely heavily on hypothetical scenarios (Flynn & Bohns, 2008; Newark et al., 2014), utilize indirect measures that are open to alternative interpretations (such as culture or trait empathy moderating underestimation, Bohns et al., 2011; Bohns & Flynn, 2021), do not receive consistent support from mediation analyses (e.g., Bohns et al., 2016; Bohns & Flynn, 2021, Study 2), or do not always measure the helper’s perspective to compare against requesters’ expectations (Bohns et al., 2011; Bohns et al., 2016; Deri et al., 2019).

In the only live-interaction experiment that did obtain evaluations from both requesters and helpers, requesters did *not* underestimate helpers’ reported difficulty saying “no” (Roghanizad & Bohns, 2017, Study 2). In contrast, our theorizing that requests for help activate prosocial motivation also predicts that people underestimate others’ likelihood of agreeing to request, but suggests a different mechanism that makes unique predictions about how requesters might misunderstand a recipient’s experience. If helpers are more prosocially motivated than

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requesters expect, then this predicts that helpers would also have a more positive experience than requesters would expect. Instead of the presumably negative experience that would follow from being coerced into compliance, helpers would report feeling more willing and happier to help than requesters would expect. Our theorizing predicts that people do not simply misunderstand the *likelihood* that others will agree to a direct request for help, but that they misunderstand the *psychological experience* of those asked directly for help.

We believe these hypotheses are important for clarifying theoretical mechanisms underlying prosocial behavior, and also because expectations about helpers' experiences are likely to guide decisions to request help. Consistent with this presumption, a pilot test ($n = 75$; See Supplemental Materials) in which participants imagined needing immediate help across 6 scenarios used in Experiment 1a indicated that people's reported willingness to ask for help was positively correlated with the potential helper's presumed willingness to help them, $\beta = .67$, and with how positive they expected the helper would feel after fulfilling their request, $\beta = .33$, but was negatively related to how inconvenienced and annoyed they expected the helper to feel, $\beta = -.42$, $ps < .001$. These results suggest that those asking for help not only care about achieving agreement; they also care about how positive the helper feels about helping. If people underestimate the extent to which helpers are prosocially motivated, and hence would feel positive after helping, then people could be overly reluctant to request help when needed.

We tested our hypotheses about requesters' miscalibrated expectations in 6 preregistered experiments that utilize different methodological approaches: hypothetical scenarios, memory recall, and live interactions. This multimethod approach enables convergent tests of our hypotheses that are not open to any single alternative interpretation of our results. All experimental manipulations, survey measures, and data exclusions are described in this

manuscript. Study materials, data, analysis, preregistration forms, and experimental protocols are available at Open Science Framework (<https://osf.io/j67c3/>).

Experiment 1a: Can I Use Your Phone?

Method

Participants. In this and all subsequent experiments (except for Experiment 2), we targeted a sample size of 50 participants per condition. This sample size is sufficient to capture a small-to-medium effect size of $d = .40$ in a two-sampled t -test. For Experiment 1a, we targeted a total sample size at 200 participants and recruited through the end of our last scheduled shift as we approached that target. A total of 201 participants ($M_{age} = 36.73$, $SD_{age} = 15.14$; 50% female) completed the experiment in exchange for a small gift. We excluded five additional participants who reported being younger than 18 years old.

Design and Procedure. As an initial test of our hypothesis, we adapted a commonly-used scenario from prior research in which one person asks another to borrow a cell phone (e.g., Flynn & Lake (Bohns), 2008). We recruited visitors at a public park and randomly assigned them to imagine either asking to borrow a cellphone from a stranger at that location (requester perspective), or being asked the same request by a stranger (helper perspective). In addition, we also introduced an exploratory manipulation on gratitude expression to examine how explicit appreciation might affect participants' expectations. This yielded a 2 (perspective: requester vs. helper) \times 2 (gratitude: mentioned vs. not mentioned) between-participant design. To minimize the potential motivation for socially desirable responding in this and all subsequent experiments, we informed all participants during the informed consent process that their survey responses would be completely anonymous. We did not collect any identifying information at any point in

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the experiment, consistent with what was stated on the informed consent sheet (i.e., “We will not be accessing any personally identifying information about you”).

Participants received a tablet to read the study scenario and provided their responses in private. This scenario included two stages: the requester first making a request, and the helper then fulfilling the request (see OSF folder for the complete scenario). In the first stage, participants in the requester condition imagined that they were in need of cell phone to handle an emergency and approached a stranger nearby and asked to borrow their phone, whereas participants in the helper condition imagined being approached by a stranger with the same request. After reading the request, participants reported their expectations—written from the perspective of either a requester or a potential helper—about how willing, and also how likely, the potential helper was to help on scales ranging from 0 (*not at all*) to 10 (*extremely*). Participants then answered four questions adapted from Flynn & Lake (Bohns) (2008), one asking participants to predict the percentage of people who would agree to this request (0%-100%), and three measuring the discomfort of declining a request (how difficult, awkward, or embarrassed it would be for the helper to say “no”, $\alpha = .82$) on 0-10 scales.

In the second stage, participants imagined that the helper agreed to the request and offered help. Participants in the gratitude condition further imagined that the requester explicitly thanked the helper, whereas those in the no-gratitude condition did not receive this additional information. Participants then indicated how *positive/negative*, *pleased*, *inconvenienced*, and *annoyed* they expected the helper (either oneself or another person, depending on perspective) to feel after the interaction on scales of 0 (*not at all*) to 10 (*extremely*), except that the positive/negative item included a scale of -5 (*much more negative than normal*) to 5 (*much more positive than normal*) with 0 (*no different than normal*) as the midpoint, which we transformed to a 0 to 10 scale prior to data analysis. Participants also reported their beliefs about the helper’s motives—two items

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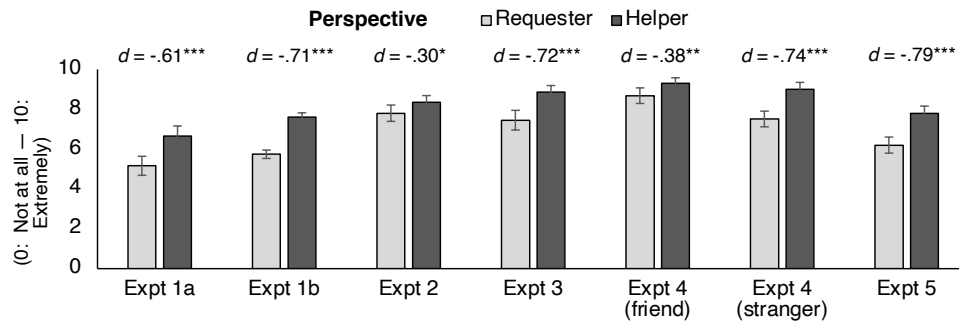
measuring the perceived strength of *prosocial motivation* (i.e., wanting to see the requester out of their trouble, believing that their small favor would mean a lot to the requester), and two items measuring the perceived strength of *compliance motivation* (i.e., wanting to avoid saying “no”, and being forced by the social pressure). All motivation attribution items were presented in a random order on scales of 3 (*strongly disagree*) to 3 (*strongly agree*).

Results

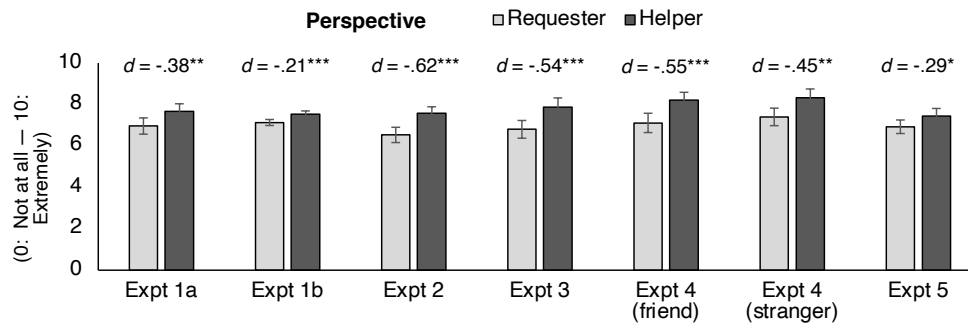
To enable comparisons across studies on the same measures, we present the results of our primary measures across all six experiments in Figures 1 and 2, and our attempts to conceptually replicate two key constructs in Flynn & Lake (Bohns) (2008) in Table 1.

Figure 1. Requesters' Expectations Versus Helpers' Reported Willingness to Help, Positive Mood After Helping, and Perceived Inconvenience of Helping in Experiments 1a-5.

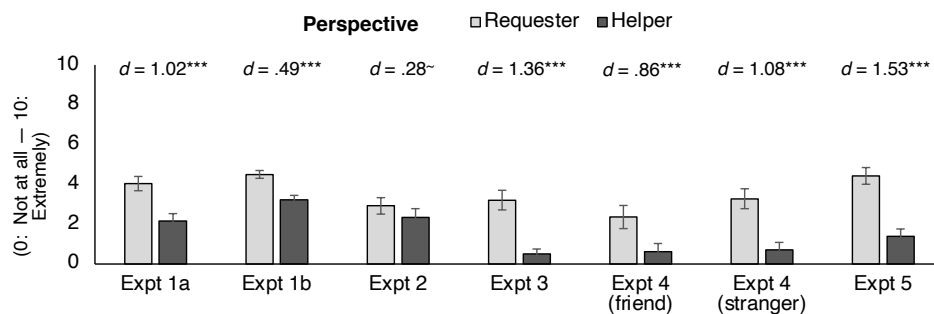
(A) Willingness to Help



(B) Positive Mood After Helping



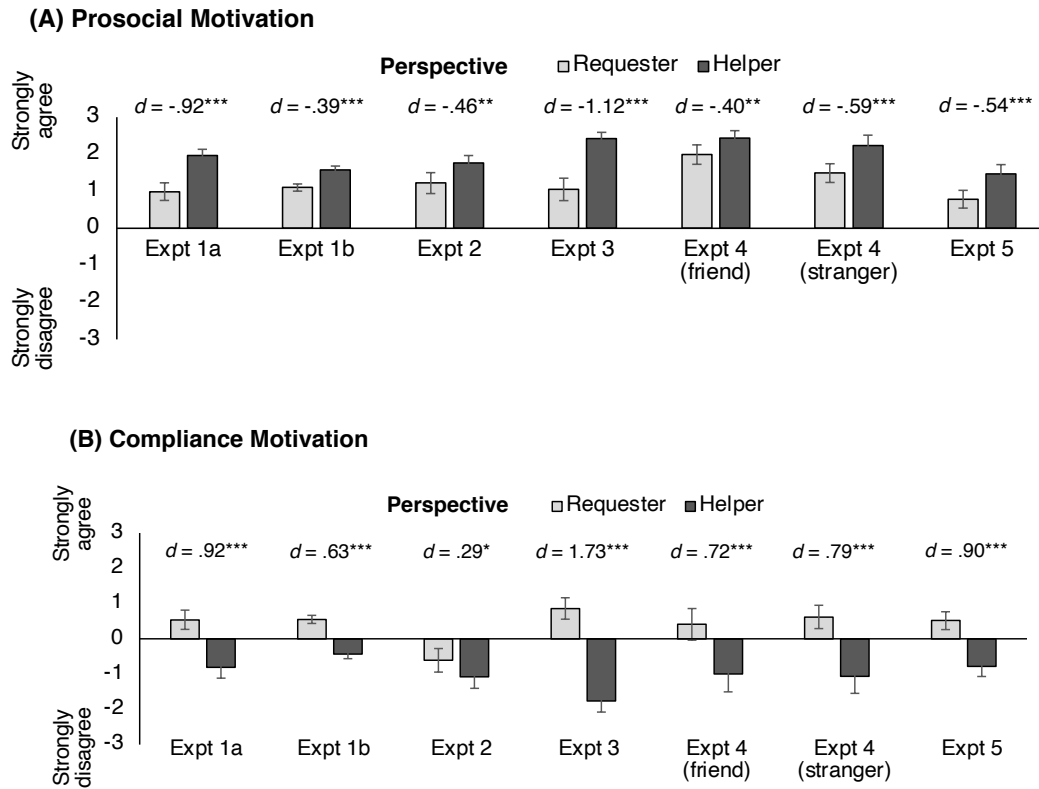
(C) Perceived Inconvenience of Help



Note. Error bars indicate \pm 95% Confidence Intervals (CIs). Effect sizes (Cohen's d) reflect the difference between requesters and helpers. * $p < .05$. ** $p < .01$. *** $p < .001$.

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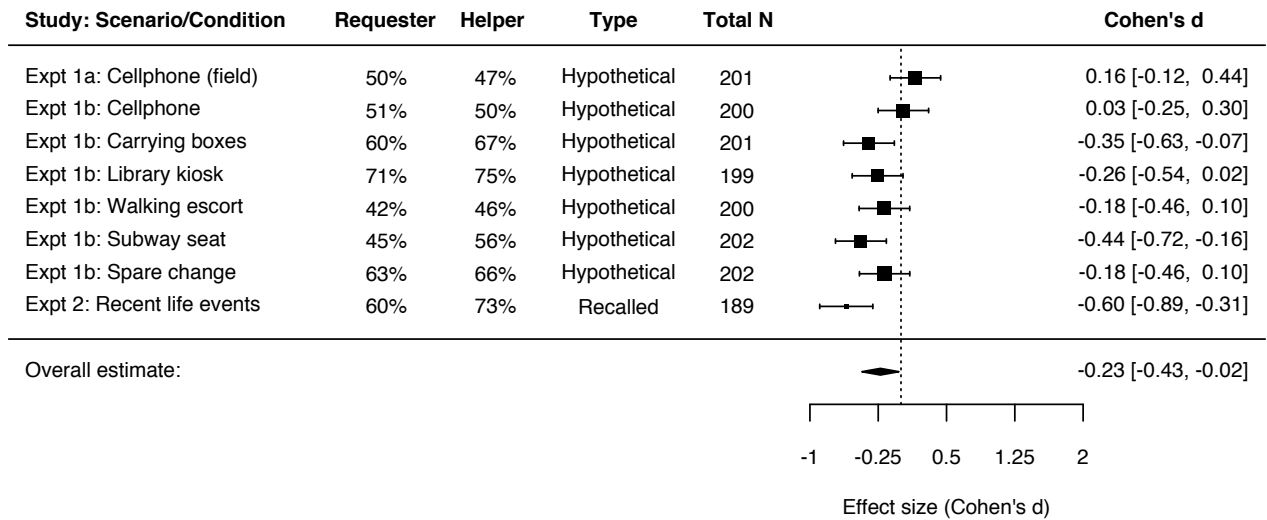
Figure 2. Attributions of Prosocial and Compliance Motivation Among Requesters Versus Helpers in Experiments 1a-5.



Note. Error bars indicate \pm 95% Confidence Intervals (CIs). Effect sizes (Cohen's *d*) reflect the difference between requesters and helpers. * $p < .05$. ** $p < .01$. *** $p < .001$.

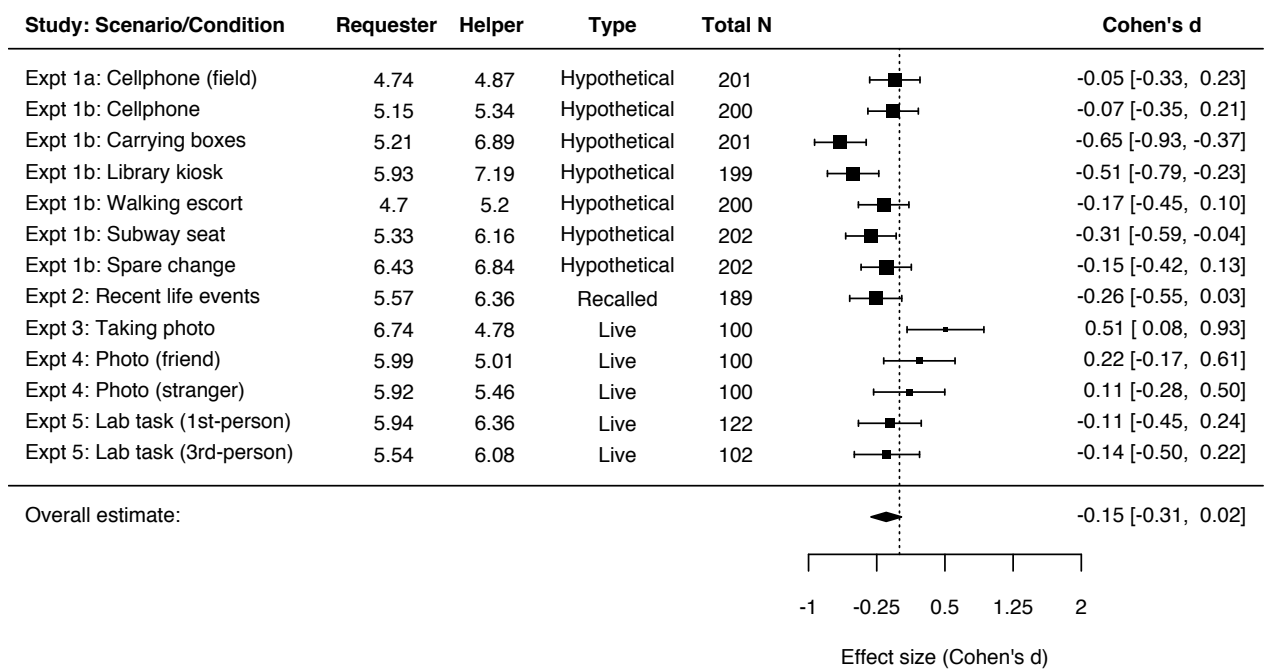
Table 1. Estimated Percentage of People Who Would Agree to a Request (A) and Potential Helpers' Discomfort Rejecting a Request (B) in Experiments 1a-5.

(A) Estimated Percentage Agreement



(B) Discomfort Rejecting Request

(B) Expected Discomfort of Rejecting Request (scales of 0 to 10)



Note. The second and third columns are mean ratings from each perspective on a scale of 0 (*not at all*) to 10 (*extremely*). Effect sizes on the difference between requesters and helpers are provided in the two rightmost columns for each study, along with 95% CIs. The overall effect sizes with 95% CIs, provided on the bottom, are calculated in R following recommendations on multilevel meta-analysis by Harrer et al. (2021).

Willingness to help. Estimates of “how willing” and “how likely” the helper would be to help were highly correlated ($r = .86, p < .001$), so we averaged them into a composite measure. As predicted, participants who imagined asking for help expected the other person to be significantly less willing and likely to offer help ($M = 5.16, SD = 2.38$) than participants who imagined being asked for help ($M = 6.66, SD = 2.56$), $t(199) = -4.30, p < .001, d = -.61$.

Estimated percentage agreement. In one experiment, Flynn & Lake (Bohns) (2008; Study 4) reported that participants who imagined seeking help expected a smaller percentage of people to agree to their request than those who imagined being asked for help across four scenarios (34.3% vs. 49.6%), including a cellphone scenario similar to the version used here. Unlike this reported result, the estimated percentage of people who would agree to help in Experiment 1a did not differ significantly between those who imagined asking for help ($M = 50.3\%, SD = 21.7\%$) and those who imagined being asked for help ($M = 46.9\%, SD = 21.6\%$), $t(199) = 1.12, p = .26, d = .16$.

Discomfort rejecting request. Prior research suggests that those seeking help may underestimate how likely others were to agree with a request because they underestimate potential helpers’ discomfort of rejecting a request for help (Flynn & Lake (Bohns), 2008). Unlike this result, the estimated discomfort of rejecting a request in Experiment 1a did not differ

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between those who imagined asking for help ($M = 4.74$, $SD = 2.34$) and those who imagined being asked for help ($M = 4.87$, $SD = 2.76$), $t(196) = -.36$, $p = .72$, $d = -.05$.

Helping experience. We observed a somewhat low Cronbach's alpha among the four items ($\alpha = .65$), indicating that they are measuring different components of helping experience. We therefore conducted a Principal Component Analysis (PCA) and found that they loaded onto two separate components, one with two items measuring how positive and pleased the helper would feel ($r = .59$, $p < .001$) and the other with two items measuring how inconvenient and annoyed the helper would feel ($r = .51$, $p < .001$). We therefore averaged ratings of each pair of items to compute two composite scores, one referring to positive mood and the other to perceived inconvenience, which were only moderately correlated with each other ($r = -.26$, $p < .001$). We conducted separate analyses on these two composites.

Positive mood. A 2 (perspective) \times 2 (gratitude) ANOVA on positive mood indicated a significant main effect of perspective, $F(1,197) = 7.36$, $p = .007$, $\eta^2_p = .036$, a significant main effect of gratitude expression, $F(1,197) = 7.97$, $p = .005$, $\eta^2_p = .039$, and a nonsignificant interaction, $F(1,197) = 2.16$, $p = .14$. Participants who imagined asking another person for help expected the helper to feel less positive after the interaction ($M = 6.96$, $SD = 1.96$) than did participants who imagined being asked for help ($M = 7.67$, $SD = 1.86$). In addition, participants in both perspectives expected the expression of gratitude to increase the helper's positive mood ($M = 7.70$, $SD = 1.71$) compared to when the gratitude was not mentioned ($M = 6.95$, $SD = 2.08$).

Inconvenience. A 2×2 ANOVA on perceived inconvenience indicated only a significant main effect of perspective, $F(1,196) = 51.29$, $p < .001$, $\eta^2_p = .21$. Those who imagined asking for help expected the helper to feel more inconvenienced ($M = 4.04$, $SD = 1.79$) than those who imagined being asked for help ($M = 2.16$, $SD = 1.90$).

Motivation. We again observed a somewhat low Cronbach's alpha among the four motivation attribution items ($\alpha = .61$). We then conducted PCA and confirmed that they loaded on two separate components, with two items primarily measuring prosocial motivation ($r = .54, p < .001$), and two items primarily measuring compliance motivation ($r = .56, p < .001$). We averaged each pair of items to calculate a composite score and confirmed that those two scores were only weakly correlated with each other ($r = -.20, p < .001$). We therefore analyzed these two composite scores separately.

A 2×2 ANOVA on prosocial motivation indicated only a significant main effect of perspective, $F(1,194) = 42.13, p < .001, \eta^2_p = .18$. As predicted, participants who imagined asking for help expected the potential helper to have weaker prosocial motivation ($M = 0.99, SD = 1.19$) than did participants who imagined being asked for help ($M = 1.96, SD = 0.88$).

A 2×2 ANOVA on compliance motivation also indicated only a significant main effect of perspective, $F(1,193) = 41.77, p < .001, \eta^2_p = .18$. Again, participants who imagined asking for help expected the potential helper to have stronger compliance motivation ($M = 0.54, SD = 1.36$) than did those who imagined being asked for help ($M = -0.81, SD = 1.56$). Those who imagined asking for help expected others to be more motivated by compliance while those who imagined being asked expected to be more motivated by prosociality.

Mediation analysis. Our theory predicts that those seeking help underestimate how positively helpers will react because they underestimate the extent to which asking for help can trigger prosocial motivation in a helper, and overestimate the extent to which requests induce compliance motivation. To examine whether our results are consistent with this prediction, we conducted mediation analyses to examine the extent to which motivation attributions mediated perspective differences in helpers' a) willingness to help, b) positive mood from helping, and c)

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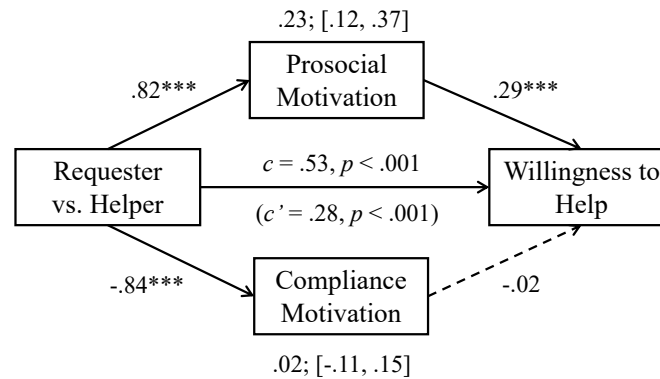
perceived inconvenience of helping. For each outcome variable, we constructed a mediation model with perspective as the independent variable and prosocial and compliance motivations as simultaneous mediators using the PROCESS v4.0 macro in SPSS (Model 4; Hayes, 2013).

As shown in Figure 3, Panel A, perspective differences in motivation attributions accounted for a statistically significant proportion of variance in the perspective difference on willingness to help. In particular, underestimating helpers' prosocial motivation—yet not overestimating helpers' compliance motivation—significantly mediated the perspective difference on willingness to help.

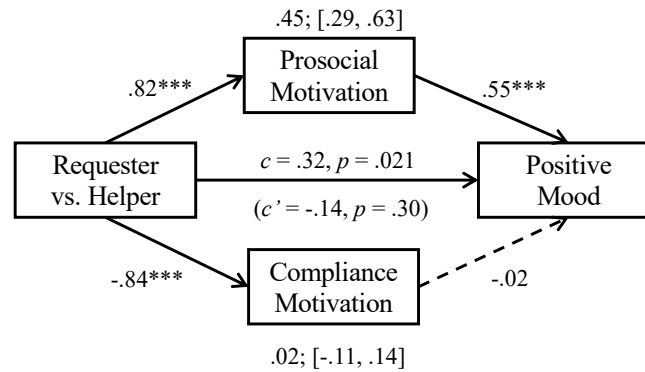
Motivation attributions also accounted for a statistically significant proportion of variance in the perspective gap on the helpers' experience. Specifically, underestimating helper's prosocial motivation significantly mediated underestimating positive mood (see Figure 3, Panel B), whereas overestimating compliance motivation significantly mediated overestimating perceived inconvenience (see Figure 3, Panel C).

Figure 3. Mediation Analysis in Experiment 1a With Helpers' (A) Willingness to Help, (B) Positive Mood After Helping, and (C) Perceived Inconvenience of Helping as Outcome Variable.

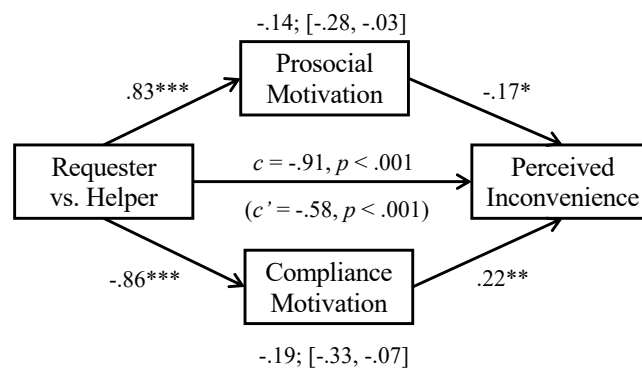
A) Willingness to Help



B) Positive Mood After Helping



C) Perceived Inconvenience of Helping



Note. Each panel reports standardized path coefficients.

Experiment 1b: Imagined Requests

Method

In order to examine whether the patterns of results obtained in Experiment 1a were robust across different helping scenarios, we conducted Experiment 1b in which participants were randomly assigned to imagine either asking for help or being asked for help in one of six everyday scenarios.

Participants. A total of 1204 participants with U.S. IP addresses, recruited via Amazon Mechanical Turk using TurkPrime (Litman et al., 2017) who correctly answered a Qualtrics captcha at the beginning of our survey, completed this experiment in exchange of \$1.00 ($M_{age} = 35.64$, $SD_{age} = 11.23$; 45% female). Another 19 participants distributed across conditions started the study but never finished. All participants were included in the following analyses.

Design and Procedure. After providing their informed consent, participants read one of 6 scenarios from either the perspective of a requester or a helper in which the requester either mentioned being grateful or not, yielding a 2 (perspective: requester vs. helper) \times 2 (gratitude: mentioned vs. not mentioned) \times 6 (scenarios) between-participants design. These scenarios depicted requests of different sizes using gender-neutral language, including borrowing a stranger's cellphone ("cellphone"; same as Experiment 1a), giving away a subway seat ("subway"), escorting someone to a specific destination ("directions"), carrying boxes down a few flights of stairs ("carrying boxes"), demonstrating how to use a library kiosk ("library kiosk"), and giving away change at a food truck ("food truck"). We adapted the first four scenarios from Flynn & Lake (Bohns) (2008), changing the fourth from a gendered scenario

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about carrying a woman's stroller to a gender-neutral scenario about carry someone's boxes. We created the "library kiosk" and "food truck" scenarios to increase the variety of requests studied.

As in Experiment 1a, each scenario again included two stages: the requester first making a request, and the helper then fulfilling the request (see OSF folder for all scenarios). All measures were the same as in Experiment 1a, except that we also asked participants at the end of the survey to indicate how *grateful* and how *indebted* they expected the requesters to feel toward the helper after this interaction on scales ranging from 0 (*not at all*) to 10 (*extremely*). Participants concluded this study by reporting four demographic variables: gender, age, race/ethnicity, and education level.

Results

Willingness to help. As in Experiment 1a, we again averaged estimates of "how willing" and "how likely" the helper would be to help ($r = .92, p < .001$) into a composite measure. A 2 (perspective) \times 6 (scenarios) factorial ANOVA indicated a significant main effect of perspective, $F(1, 1192) = 179.11, p < .001, \eta^2_p = .13$, a significant main effect of scenario, $F(5, 1192) = 38.83, p < .001, \eta^2_p = .14$, and a significant interaction between perspective and scenario, $F(5, 1192) = 5.26, p < .001, \eta^2_p = .02$. As predicted, participants who imagined seeking help expected the potential helper to be less willing to help than those who imagined being asked for help ($M_s = 5.74$ vs. 7.61 ; $SD_s = 2.63$ vs. 2.61). The significant interaction indicated that difference between perspectives varied in size across scenarios, ranging from the smallest gap in the cell phone scenario ($M_{\text{difference}} = 0.82$; $F(1, 1192) = 5.75, p = .017$), to the largest gap in the subway scenario ($M_{\text{difference}} = 3.17$; $F(1, 1192) = 86.64, p < .001$).

Estimated percentage agreement. A 2×6 factorial ANOVA on the estimated percentage of people who would agree to the request indicated a significant main effect of perspective, $F(1, 1192) = 15.52, p < .001, \eta^2_p = .013$, a significant main effect of scenario, $F(5,$

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1192) = 51.95, $p < .001$, $\eta^2_p = .18$, and a nonsignificant interaction between perspective and scenario, $F(5, 1192) = 1.56$, $p = .17$, $\eta^2_p = .006$. Overall, participants who imagined asking for help expected fewer people to agree than those who imagined being asked for help ($M_s = 55.2\%$ vs. 60.0% ; $SD_s = 24.6\%$ vs. 22.2% ; see Table 1 for results in each scenario). This overall result is consistent with the perspective gap reported by Flynn & Lake (Bohns (2008), although the cell phone scenario again yielded a nonsignificant perspective gap ($M_s = 50.7\%$ vs. 50.1% , $SD_s = 23.0\%$ and 22.3% , respectively; $t(198) = 0.19$, $p = .85$, $d = .03$), consistent with the null effect on a similar scenario observed in Experiment 1a.

Discomfort rejecting request. Somewhat consistent with the results of Flynn & Lake (Bohns) (2008), a 2×6 ANOVA on the composite score of potential helper's discomfort indicated a significant main effect of perspective, $F(1, 1192) = 27.62$, $p < .001$, $\eta^2_p = .023$, a significant main effect of scenario, $F(5, 1192) = 13.60$, $p < .001$, $\eta^2_p = .054$, qualified by a significant interaction between perspective and scenario, $F(5, 1192) = 2.31$, $p = .042$, $\eta^2_p = .010$. Overall, those who imagined seeking help expected their potential helper to feel less discomfort rejecting a request than those who imagined being asked for help ($M_s = 5.46$ vs. 6.26 ; $SD_s = 2.56$ vs. 2.87). The significant interaction indicated that this difference between perspectives was larger for some scenarios than for others. Simple effects tests indicated this gap was statistically significant in 3 of the 6 scenarios (carrying boxes: $M_{difference} = 1.67$, $F(1, 1192) = 20.07$, $p < .001$; library kiosk: $M_{difference} = 1.26$, $F(1, 1192) = 11.25$, $p < .001$; subway: $M_{difference} = 0.83$, $F(1, 1192) = 4.94$, $p = .026$), but was nonsignificant in the other three ($p_s > .21$), including the cellphone scenario ($M_{difference} = 0.19$; $F(1, 1192) = 0.26$, $p = .61$) used in multiple studies from Flynn & Lake (Bohns).

Helping experience. As preregistered (and consistent with Experiment 1a), we created a composite of the two items measuring positive mood ($r = .62, p < .001$) and another of the two items measuring perceived inconvenience ($r = .72, p < .001$).

Positive mood. A 2 (perspective) $\times 2$ (gratitude) $\times 6$ (scenario) ANOVA on positive mood indicated a significant main effect of perspective, $F(1, 1180) = 14.16, p < .001, \eta^2_p = .012$, a significant main effect of gratitude expression, $F(1, 1180) = 58.89, p < .001, \eta^2_p = .047$, and a significant main effect of scenario, $F(5, 1180) = 6.64, p < .001, \eta^2_p = .027$. All interactions were nonsignificant, $ps > .11$. As predicted, those who imagined seeking help underestimated how positive those who imagined being asked for help would feel ($M_{requester} = 7.13, SD = 1.80$; $M_{helper} = 7.53, SD = 1.99$). Participants in the gratitude condition also expected helpers to feel more positive than those in the no-gratitude condition ($M_{gratitude} = 7.74, SD = 1.70$; $M_{no-gratitude} = 6.92, SD = 2.01$). Finally, we note that 20 participants in the requester's role and 19 in the potential helper's role indicated that they believed that either the helper, or themselves, would be completely unwilling nor would agree in the first stage of this study. For this and subsequent measures, we have included their responses to provide an unbiased test of all participants. Excluding those 39 participants does not meaningfully alter the results.

Inconvenience. A $2 \times 2 \times 6$ ANOVA on inconvenience indicated a significant main effect of perspective, $F(1, 1180) = 77.12, p < .001, \eta^2_p = .062$, a nonsignificant main effect of gratitude expression, $F(1, 1180) = 3.68, p = .055, \eta^2_p = .003$, and a significant main effect of scenario, $F(5, 1180) = 17.02, p < .001, \eta^2_p = .067$. All interactions were nonsignificant, $ps > .34$. Across scenarios, participants in the requester's perspective consistently expected that helping would make helpers feel more annoyed and inconvenienced than expected from those in the helper's perspective ($M_{requester} = 4.50, SD = 2.45$; $M_{helper} = 3.23, SD = 2.73$). The main effect of

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scenario indicated that some favors seemed more inconvenient from both perspectives than other scenarios, with the least inconvenient being showing another person how to use a library kiosk ($M = 3.13$, $SD = 2.58$) and the most inconvenient being escorting another person a few blocks to their destination ($M = 4.92$, $SD = 2.39$). The absence of significant interactions indicates that the difference between requesters and helpers did not vary significantly across requests. Finally, participants expected helpers to perceive helping as slightly less of an inconvenience when requesters explicitly mentioned feeling grateful than when they did not ($M_{gratitude} = 3.72$, $SD = 2.69$; $M_{no-gratitude} = 4.00$, $SD = 2.64$).

Motivation. We again calculated composite measures of prosocial motivation and compliance motivation after confirming the strong correlation within each pair of items ($r_s = .64$ and $.60$, $ps < .001$, respectively). A $2 \times 2 \times 6$ ANOVA on the composite measure of *prosocial motivation* showed only a significant main effect of perspective, $F(1, 1180) = 45.92$, $p < .001$, $\eta^2_p = .037$. All other main effects and interactions were nonsignificant, $ps > .33$. As predicted, participants who imagined asking another person for help inferred weaker prosocial motivation among helpers than those who imagined being asked for help ($Ms = 1.10$ and 1.58 , $SDs = 1.21$ and 1.26).

A $2 \times 2 \times 6$ ANOVA on the composite measure of *compliance motivation* showed a significant main effect of perspective, $F(1, 1180) = 120.02$, $p < .001$, $\eta^2_p = .092$, a significant main effect of scenario, $F(5, 1180) = 2.79$, $p = .016$, $\eta^2_p = .012$, with the main effect of gratitude expression and all interactions being nonsignificant, $ps > .40$. As predicted, participants who imagined asking another person for help inferred stronger compliance motivation than those who imagined being asked for help ($Ms = 0.55$ and $-.43$, $SDs = 1.43$ and 1.67).

Mediation analysis. Following the procedure used in Experiment 1a, mediation models with prosocial and compliance motivations as simultaneous mediators indicated that underestimating helpers' prosocial motivation played a significantly larger role than overestimating helpers' compliance motivation in the perspective difference on willingness to help, as shown by the non-overlapping 95% CIs of the indirect effects between prosocial and compliance motivations. Similarly, underestimating helper's prosocial motivation was also a stronger mediator for underestimating positive mood. Finally, both motivations mediated the perspective difference in perceived inconvenience of helping (see Table 2).

Table 2. Mediation Analyses of Prosocial Motivation and Compliance Motivation on Willingness to Help, Positive Mood After Helping, and Perceived Inconvenience of Helping in Experiments 1a-5.

Experiment (Condition)	Willingness to Help		Positive Mood After Helping		Perceived Inconvenience of Helping	
	Prosocial Motivation	Compliance Motivation	Prosocial Motivation	Compliance Motivation	Prosocial Motivation	Compliance Motivation
Experiment 1a	.23; [.12, .37]	.02; [-.11, .15]	.45; [.29, .63]	.02; [-.11, .14]	-.14; [-.28, -.03]	-.19; [-.33, -.07]
Experiment 1b	.15; [.10, .20]	.03; [0, .07]	.20; [.14, .26]	.04; [0, .07]	-.09; [-.12, -.06]	-.25; [-.31, -.20]
Experiment 2	.14; [.05, .25]	.10; [0, .23]	.11 [.03, .21]	.06; [0, .16]	-.05; [-.14, 0]	-.10; [-.22, 0]
Experiment 3	.30; [-.03, .66]	.09; [-.31, .53]	.69; [.39, 1.00]	-.07; [-.49, .39]	-.27; [-.56, -.01]	-.35; [-.72, .04]
Experiment 4 (friend/stranger)	.87; [.51, 1.23]/ .77; [.38, 1.16]	-.08; [-.28, .13]/ -.20; [-.45, .04]	.44; [-.09, .98]/ .51; [.09, .94]	-.09; [-.39, .21]/ -.15; [-.41, .12]	-1.16; [-1.59, -.73]/ -.55; [-1.06, -.05]	.13; [-.11, .37]/ .19; [-.12, .51]
Experiment 5	.23; [.10, .41]	.14; [.01, .27]	.14; [.04, .29]	.11; [-.02, .26]	-.27; [-.40, -.14]	-.13; [-.25, .02]

Note. Each cell displays the indirect effect and 95% CIs (computed from 5,000 bootstrap resamples). Between two simultaneous mediators, the stronger indirect effect is shaded in grey.

Indebtedness and gratitude. Finally, we conducted an exploratory analysis investigating whether helpers would fully anticipate how indebted and grateful requesters would report feeling. Because we predicted that requesters would expect helpers to view the request as more of an inconvenience than helpers actually did, we also predicted that requesters would report feeling more indebted and grateful than helpers would expect them to. Results supported our hypotheses, $ps < .001$ (see Supplemental Materials for full details).

Collectively, Experiments 1a and 1b indicate that those who imagined asking for help underestimated how willing others would report being to help them because they imagined that potential helpers would feel more compliance pressure, and be less prosocially motivated, than those who imagined actually being asked for help. In contrast, we found only weak and inconsistent evidence that people underestimate the discomfort potential helpers would feel saying “no” to a request (e.g., Flynn & Lake (Bohns), 2008; Bohns, 2016) despite using scenarios similar to those reported in prior research.

Experiment 2: Remembered Requests

Method

We use a different methodology for testing our hypotheses in Experiment 2 by examining people’s memory of either asking for help, or being asked for help, in their everyday lives. This approach provides the benefit of measuring real instances of helping from everyday life, and hence is higher on ecological validity.

Participants. We recruited participants from an online pool of people across the United States managed by a university research laboratory. Participants completed this 5-minute experiment in exchange for \$1.00. Because we anticipated that people would recall a wide

variety of different events that could increase variance on our primary measures compared to a procedure that examines a single event, we decided to double our sample size to target 200 participants. A total of 199 participants completed this experiment at the end of our last scheduled session for this experiment. Consistent with our preregistration, we excluded one participant in the helper perspective who failed to recall a situation in which a request for help was actually made. This yielded a final sample of 198 participants for data analysis (99 requesters and 99 helpers, $M_{age} = 27.57$, $SD_{age} = 11.06$, $range_{age} = 18-73$; 37% Asian, 35% Caucasian, 8% Hispanic, 6% Black, 10% mixed races or other, 3% undisclosed).

Procedure. Because manipulating requesters' expression of gratitude in Experiments 1a and 1b did not yield theoretically informative results, we did not include it in this or any of the following experiments. We first randomly assigned participants to either describe a time when they asked another person for help (requester perspective) or were asked for help by another person (helper perspective). Participants then reported how close they were to this other person on a scale ranging from 0 (*not at all close*) to 10 (*very close*), the nature of their relationship with the other person, and whether the request was agreed to or rejected.

We then asked participants to complete the same measures in Experiments 1a and 1b: helper's willingness to help, estimated percentage agreement, expected discomfort rejecting the request, positive mood after helping, perceived inconvenience of helping, prosocial motivation, and compliance motivation. We phrased items in the requester perspective as their beliefs about their helper's mental states (e.g., "How willing do you think this person was to help you with your request?"), and phrased items in the helper perspective as their own actual mental states (e.g., "How willing were you to help this person with their request?"). Finally, similar to Experiment 1b, we collected exploratory measures of how grateful and how indebted requesters

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felt (requester perspective) or helpers' beliefs about how grateful and indebted their requesters felt (helper perspective).

Results

Event characteristics. People recalled requests across a variety of relationships, including friends (34.3%), family members (24.2%), colleagues (13.6%), strangers (9.6%), acquaintances (7.1%), mentor/supervisors (4.5%), and other relationships (6.0%). On average, both requesters ($M = 6.79$, $SD = 3.14$) and helpers ($M = 6.77$, $SD = 3.32$) reported feeling relatively close to the other person, and did not differ significantly from each other, $p = .96$. Nearly all requests that participants recalled were agreed to (95.4%, 189 out of 198 requests). Analyzing the data with and without rejected requests, as outlined in our preregistration, produced comparable results. Because some of the items would make little sense with a rejected request, below we report results excluding the 4.6% rejected requests unless otherwise noted.

Finally, to ensure that requests recalled from two perspectives were of comparable sizes, we asked two independent coders unaware of our hypotheses to rate all favors in terms of their importance and the effort involved on scales ranging from 0 (*not at all*) to 10 (*extremely*). The coders' ratings were highly correlated for both importance ($r = .71$, $p < .001$) and effort ($r = .61$, $p < .001$). Averaged ratings from the two coders confirmed that events recalled from both perspectives were somewhat important ($M = 5.73$, $SD = 1.72$), required a moderate amount of effort ($M = 4.56$, $SD = 1.76$), and did not differ systematically across perspectives ($ps = .35$ and $.99$).

Willingness to help. Participants who recalled asking for help believed their helper was less willing to help than those who recalled how willing they actually were to help when asked ($Ms = 7.80$ vs. 8.35 , respectively, $SDs = 2.00$ & 1.64), $t(187) = -2.06$, $p = .041$, $d = -0.30$.

Estimated percent agreement. Consistent with prior research (e.g., Flynn & Lake (Bohns), 2008), those who recalled asking for help expected a smaller percentage of others to agree to their request ($M = 60.2\%$, $SD = 22.1\%$) than those who recalled being asked for help ($M = 73.4\%$, $SD = 21.7\%$), $t(187) = -4.13$, $p < .001$, $d = -.60$.

Discomfort rejecting request. Those who recalled asking for help believed it would be somewhat less uncomfortable to reject their request than did those who recalled being asking for help, although this difference was statistically nonsignificant regardless of whether we excluded the 9 rejected requests ($M_s = 5.57$ vs. 6.36 , $SD_s = 2.92$ & 3.13), $t(187) = -1.80$, $p = .074$, $d = -0.26$, or included them in the analysis ($M_s = 5.49$ vs. 6.20 , $SD_s = 2.90$ & 3.22), $t(196) = -1.64$, $p = .10$, $d = -0.23$.

Helping experience. As in Experiments 1a and 1b, those who recalled asking for help believed their helpers felt less positive than those who recalled actually being asked for help ($M_s = 6.53$ vs. 7.57 , $SD_s = 1.80$ & 1.56), $t(187) = -4.27$, $p < .001$, $d = -0.62$. Those who recalled asking for help also believed their helpers felt somewhat more inconvenienced than did those who recalled being asked for help ($M_s = 2.92$ vs. 2.33 , respectively, $SD_s = 2.02$ & 2.22), $t(187) = 1.93$, $p = .055$, $d = 0.28$.

Motivation attribution. As in Experiments 1a and 1b, those who recalled seeking help thought their helpers were less prosocially motivated than did those who recalled being asked for help ($M_s = 1.22$ vs. 1.77 , respectively, $SD_s = 1.38$ and 0.96), $t(187) = -3.16$, $p = .002$, $d = -0.46$, and showed the opposite pattern on compliance motivation ($M_s = -0.61$ vs. -1.08 , respectively, $SD_s = 1.63$ and 1.59), $t(187) = 2.01$, $p = .045$, $d = 0.29$.

Mediational analyses following the same procedures as in Experiments 1a and 1b confirmed that perspective differences between requesters and helpers on both willingness to

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help and perceived inconvenience were again mediated by perspective differences in the perceived strength of prosocial and compliance motivations (see Table 2). Compared to those who recalled being asked for help, those who recalled asking for help expected their potential helper would be less motivated by a desire to actually help and more motivated by compliance pressure to agree, and also expected their helper to be less willing to help and to be less happy to have helped, compared to those recalling actual experiences of offering helping. Although measuring people's memory for events provides a valuable test of our hypotheses because it measures perceptions of actual requests from daily life, this method is also limited by its reliance on memory for events and the inability to directly compare requesters against helpers within the same context. Experiments 3 and 4 therefore test our hypotheses in live interactions where one person asks another person directly for help.

Gratitude and indebtedness. As in Experiment 1b, those who recalled asking for help reported feeling more grateful than those who recalled being asked for help expected their requesters to feel ($M_s = 8.50$ vs. 7.90 ; $SD_s = 1.79$ and 1.76), $t(187) = 2.30$, $p = .023$, $d = 0.33$. We observed the same pattern on requesters' feeling of indebtedness toward helpers ($M_s = 5.41$ vs. 3.36 ; $SD_s = 3.30$ and 2.97), $t(187) = 4.50$, $p < .001$, $d = 0.66$.

Experiment 3: Take My Picture?

Method

Although the procedure used in Experiment 2 is high in ecological validity because participants recalled actual experiences requesting or providing help, relying on memory also contains potential empirical weaknesses because memory for past events could be mistaken, or people could selectively sample past behaviors from memory in a biased fashion. We therefore test our hypotheses in live interactions in Experiments 3-5.

Participants. We targeted at a total sample of 100 participants—50 unacquainted pairs of requesters and helpers after exclusions, and finished our final scheduled session with 110 participants who completed the experiment. Of these, we excluded four requesters whose helpers declined to fill out our survey after taking their requester’s picture. We excluded three additional pairs who violated our experimental protocol, two for completing the surveys at the wrong time and one in which the requester was spontaneously helped by a passerby before being able to ask for help. Our final data set therefore included 100 participants ($M_{age} = 32.38$, $SD_{age} = 10.85$; $range_{age} = 19\text{--}74$; 62% females among requesters, 76% females among helpers). All participants completed all survey items except for one requester who could not take their post-request survey because of a pre-scheduled departure, leaving only their pre-request survey in the following analyses.

Design. We conducted this field experiment in a free and public botanical garden located in an ethnically diverse neighborhood in a major U.S. city. With support from the park administration, we set up a table and chairs next to the entrance with two experimenters who recruited participants and conducted the experiment. To create a genuine need for help, we set out an Instant Camera (i.e., a “Polaroid camera”) on the table next to a sign encouraging participants to receive a “free instant photo.” Critically, receiving this photo would require asking another visitor to take their photograph with the camera in front of a nearby attraction.

Procedure. After a visitor approached our table expressing interest in receiving a free photo, we automatically assigned them to the requester condition, obtained their consent (including reassuring them that all responses would remain confidential and anonymous), and informed them that they would need to ask another visitor whom they did not know to take a picture for them. We also recommended using a popular spot for taking pictures nearby. An

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experimenter then demonstrated how to operate the automatic mode of the camera before seating them at a bench and providing them with a tablet to fill out the pre-request survey in private.

At the beginning of the survey, requesters were asked to consider what would happen if they were to ask a stranger to take their picture. We provided a script that they could use when making the request to make sure they were actually imagining a situation similar to the one they would actually be experiencing (i.e., “Would you please help me/us take a picture in front of this pond with this instant camera?”). Requesters then answered questions similar to those in previous experiments, first reporting how willing and how interested they expected the person they approached would be in helping to take their picture ($r = .64, p < .001$), and then reporting how difficult, awkward, and embarrassed they expected this person would feel saying “no” to their request ($\alpha = .88$). As in the preceding experiments, we then asked requesters to imagine that the person agreed to their request and then responded to pairs of items measuring their expectations of the helpers’ prosocial motivation ($r = .64, p < .001$), compliance motivation ($r = .55, p < .001$), positive mood (positive-negative/pleasant; $r = .60, p < .001$), and perceived inconvenience (inconvenient/annoyed; $r = .63, p < .001$). Finally, requesters answered two items measuring their own positive mood at that moment (“How positive/negative do you feel right now?” and “How pleased do you feel right now?”; $r = .72, p < .001$), and two items measuring their anxiety about asking for help (“How uncomfortable do you feel about asking a stranger to help you take a picture?” and “How anxious do you feel about asking a stranger to help you take a picture?”; $r = .71, p < .001$).

At this point, the survey indicated that it was time to ask another person for help and repeated the suggested script shown earlier in the survey. The requester then received the instant camera, headed to their preferred photo spot, and asked a stranger to take a picture of them or

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their group. An experimenter covertly followed the requester to observe from a distance and documented that the first stranger approached agreed to their request in all but 4 cases (the second person approached agreed in these 4 cases).

After taking the photo, the experimenter observing at a distance immediately approached the helper and asked if they would be willing to fill out a “2-minute survey study about social experience in the park.” The experimenter explained to the helpers that that they were being asked to complete a survey because they had just helped another person in our study take a photo, and we were interested in their experience in this interaction. All but 4 helpers agreed to complete the survey. The experimenter led the helper to our table, gave the helper a tablet, and asked them to complete the survey on a bench in private to minimize any motivation for socially desirable responding. The helper’s survey mirrored the requester’s survey, including the informed consent sheet that assured participants that all responses were anonymous and confidential. The only changes from the requester’s survey were to the three items measuring their discomfort of rejecting—the request was placed toward the end, because these questions deviated from what actually happened and required counterfactual thinking. Helpers then indicated how much they thought their help meant to the requester, how grateful and indebted they thought the requesters would feel, whether the requester thanked them (yes/no/other), whether they knew the other person was participating in a research study (yes/no), and their age.

The experimenter also brought the requesters back to our study table to complete a survey (in private) on a tablet asking them to report their mood, how much the other person’s help meant to them, and how grateful and how indebted they felt toward the helper. Finally, requesters reported the number of people they approached for help, and their own age.

Results

Willingness to help. Consistent with Experiments 1a-2, requesters significantly underestimated helpers' reported willingness to help ($M_s = 7.45$ vs. 8.87 , $SD_s = 1.74$ and 1.13), $t(49) = -5.08$, $p < .001$, $d = -0.72$.

Discomfort rejecting request. In contrast to previous research typically involving hypothetical scenarios (e.g., Flynn & Lake (Bohns), 2008), requesters *overestimated* how much discomfort helpers would report feeling rejecting their request ($M_s = 6.74$ vs. 4.78 , $SD_s = 2.27$ and 2.92), $t(49) = 3.58$, $p < .001$, $d = 0.51$. Requester's tendency to underestimate how willing and positive others would feel when asked for help could not stem, at least in this experiment, from underestimating helper's discomfort saying "no" to a request.

Helping experience. Consistent with Experiments 1a-2, requesters significantly underestimated how positive their helpers would feel after helping ($M_s = 6.80$ vs. 7.87 , $SD_s = 1.50$ and 1.57), $t(49) = -3.83$, $p < .001$, $d = -0.54$, and overestimated how inconvenienced helpers would feel ($M_s = 3.21$ vs. 0.51 , $SD_s = 1.73$ and 0.86), $t(49) = 9.61$, $p < .001$, $d = 1.36$, indicating that helpers had a more positive experience than requesters expected. This effect was large enough that our experimenters' field notes indicated observing it in plain sight. The experimenters frequently reported that requesters were slow to ask for help and often sounded apologetic when asking, while the strangers they approached usually responded "yes" immediately with a visible smile on their faces indicating that they were happy to help.

Motivation attribution. Consistent with Experiments 1a-2, requesters significantly underestimated helpers' reported prosocial motivation ($M_s = 1.05$ vs. 2.42 , respectively, $SD_s = 1.06$ & 0.60), $t(49) = -7.94$, $p < .001$, $d = -1.12$, while overestimating the compliance-oriented motive to avoid saying "no" to the request ($M_s = 0.86$ vs. -1.76 , respectively, $SD_s = 1.07$ & 1.12), $t(49) = 12.21$, $p < .001$, $d = 1.73$. In fact, 74% of the requesters attributed helping to

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compliance motivation to some extent (i.e., with a composite score greater than 0), while only 2% of the helpers did so. Comparing the motivations directly against each other, requesters expected that prosocial and compliance motivations would not differ in strength among helpers, $M_{\text{difference}} = 0.19$, 95% CI = [-0.27, 0.65], $F(1,49) = 0.68$, $p = .41$, while helpers overwhelmingly indicated that prosocial motivation—*wanting* to help—was significantly stronger than concerns about saying “no” to a request from a stranger, $M_{\text{difference}} = 4.18$, 95% CI = [3.78, 4.58], $F(1,49) = 451.17$, $p < .001$.

We next entered prosocial and compliance motivations as simultaneous mediators using the MEMORE v2.1 macro in SPSS (Montoya & Hayes, 2017), which accounted for correlations between responses from requesters and helpers within pairs. As shown in Table 2, these results indicated that the perspective difference in the presumed strength of prosocial motivation significantly mediated requesters’ tendency to underestimate helpers’ willingness to help, and that differences in the perceived strength of prosocial motivation and compliance motivation both significantly mediated requesters’ tendency to overestimate the extent to which helpers would feel inconvenienced.

Indebtedness and gratitude. Consistent with Experiments 1a and 2, requesters reported feeling significantly more indebted than helpers expected them to feel ($M_s = 4.63$ vs 2.27 ; $SD_s = 2.98$ and 2.29), $t(48) = 5.13$, $p < .001$, $d = 0.73$. Requesters also reported feeling somewhat more grateful than helpers expected ($M_s = 7.78$ vs 7.06 ; $SD_s = 2.10$ and 1.97), $t(48) = 1.85$, $p = .07$, $d = 0.26$. In contrast, requesters did not report that the act meant significantly more to them than the helpers expected ($M_s = 7.43$ vs 7.20 ; $SD_s = 2.43$ and 2.18), $t(48) = -0.45$, $p = .65$.

Expectations as barriers. We believe that people’s miscalibrated expectations of others’ willingness to help when asked creates a psychological barrier to asking others for help more

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often in daily life. Consistent with this possibility, an exploratory analysis indicated that requesters' reported anxiety before asking for help was negatively correlated with their expectations about a helper's willingness to help ($r = -.41, p = .003$), and was positively correlated with how inconvenienced they expected a helper to feel ($r = .42, p = .002$). However, requester's reported anxiety was nonsignificantly correlated with their expectation of how uncomfortable the helper would feel rejecting their request ($r = .12, p = .41$) or with the helpers' presumed positive mood after helping ($r = -.01, p = .94$). Finally, requesters reported being in a significantly more positive mood after receiving help than before receiving help ($M_s = 7.01$ vs. 7.85 , $SD_s = 1.73$ and 1.83), $t(48) = -3.20, p = .002, d = -0.46$.

These results collectively suggest that failing to recognize how much others “want” to help when asked, rather than how much discomfort others would feel rejecting a request, could create a misplaced psychological barrier to asking for help that otherwise would leave both parties feeling more positive. Experiment 4 examined the extent to which asking for help affects the mood of both requesters and helpers. Experiment 4 also measures whether people's expectations are more calibrated when they anticipate asking a known friend for help compared to stranger, as we presumed that people would expect their friends to be more willing to offer help and feel less inconvenienced by their request, because people expect others to be more prosocially motivated to help a friend than a stranger. Finally, Experiment 4 addresses a potential alternative interpretation of Experiment 3 by first identifying a potential helper and then asking requesters to report how they expect this specific person will react to their request, thereby eliminating the possibility that misunderstanding a helper's reaction comes from uncertainty about who they would ask for help.

Experiment 4: Requests to Friends vs. Strangers

Method

Participants. We conducted this experiment in the same location as Experiment 3, targeting 200 participants after exclusion (50 acquainted pairs and 50 unacquainted pairs) and ending our last scheduled session with 211 participants who completed our surveys. Of these, we excluded 2 pairs from analyses because the requesters completed the post-request survey before requesting help, one pair because the helper did not take a photo due to confusion about the request, one pair because the helper struggled with English, one pair because the helper paid no visible attention to the survey and was presumed to not be reading it, and one pair because one of the people in an acquainted pair declined to participate. This left 200 participants in the following analyses ($M_{age} = 34.87$; $SD_{age} = 13.72$; 74% female among requesters and 58% female among helpers). According to the requesters, pairs in the friend condition were in a variety of relationship types including spouse or dating partner ($n = 27$), friend ($n = 17$), family ($n = 5$), and “other” ($n = 1$), who generally reported being very close to their study partner in the experiment ($M = 8.78$, $SD = 1.50$, on a scale from 0 [*not at all close*] to 10 [*extremely close*]).

Procedure. We randomly assigned participants to one condition in a 2 (relationship: stranger vs. friend) \times 2 (perspective: requester vs. helper) mixed-model design with perspective treated as repeated measures within each pair. We used a procedure similar to Experiment 3 with three exceptions: the requesters could see who they would ask for help before reporting their expectations, the potential helpers were either strangers visiting the garden or companions visiting the garden with the requesters, and potential helpers completed a short pre-request survey that measured their mood before requesters approached them for help.

To implement these changes, we again used two experimenters to coordinate the experimental procedure. As soon as a visitor expressed interest in obtaining an instant photo by participating in our study (and was therefore assigned to the requester role), one experimenter would immediately start to recruit the potential helper—either another visitor nearby (stranger condition) or the requester’s companion (friend condition)—by following a recruitment script that vaguely described our research as a very short study “about social experiences in the park”. Once this person agreed to participate (and was therefore assigned to the helper role), they were seated at a bench approximately 30 feet away from the requester and received a tablet to begin their survey. This survey asked potential helpers three filler questions about the study location (e.g., “How did you hear about the conservatory?”), and also asked for their age, gender, and mood (“How positive/negative do you feel right now?” on a 11-point scale).

During this time, a second experimenter discretely identified the potential helper to the requester and explained that they would later be asking this person to take a picture of them with the instant camera. Requesters then began the survey asking them to imagine making their request and reporting their expectations of the helper’s reactions on items identical to Experiment 3 with only minor adjustments (e.g., referring to the potential helper who was already present in this study as “this person” as opposed to “the person”, rephrasing the “pleased” item to use “pleasant” because we felt this was more natural in this context).

After completing their pre-request survey, the requester received the instant camera and approached the potential helper to ask for help taking a picture at their preferred photo spot. All potential helpers agreed. After taking the photo, both participants returned to their previous locations to complete post-request surveys identical to those in Experiments 3 (with the same minor adjustments made to the pre-request survey).

Results

Willingness to help. A 2 (relationship) \times 2 (perspective) mixed-model ANOVA with perspective as repeated measures indicated a significant main effect of relationship, $F(1,98) = 17.65, p < .001, \eta^2_p = .15$, and a significant main effect of perspective, $F(1,98) = 33.10, p < .001, \eta^2_p = .25$, qualified by a significant interaction between relationship and perspective, $F(1,98) = 5.81, p = .018, \eta^2_p = .056$. As in Experiment 3, requesters again significantly underestimated how willing strangers would be to help them ($M_s = 7.51$ vs. $9.00, SD_s = 1.39$ and 1.22), $F(1,98) = 33.33, p < .001, \eta^2_p = .25$. Requesters also significantly underestimated how willing their friends would report being to help them ($M_s = 8.68$ vs. $9.29, SD_s = 1.38$ and 1.01), $F(1,98) = 5.59, p = .020, \eta^2_p = .054$, albeit to a significantly smaller extent. This difference in calibration comes from differences in requesters' expectations rather than from differences in helpers' reported willingness to help. While requesters expected their friends to be significantly more willing to help than strangers, $F(1,98) = 17.92, p < .001, \eta^2_p = .16$, helpers did not differ significantly in their reported willingness to help a friend versus a stranger take a picture, $F(1,98) = 1.66, p = .20$.

Discomfort rejecting request. A 2×2 ANOVA on the expected discomfort of rejecting the request indicated nonsignificant main effects of relationship, $F(1,98) = 0.19, p = .66$, and perspective, $F(1,98) = 2.70, p = .10, \eta^2_p = .027$, along with a nonsignificant interaction, $F(1,98) = 0.35, p = .56$. Contrary to prior research (e.g., Flynn & Lake (Bohns), 2008), requesters again did not underestimate helpers' discomfort in rejecting their request. In fact, the nonsignificant main effect of perspective was in the opposite direction, as observed in Experiment 3, such that requesters expected that rejecting their request would make the helpers feel nonsignificantly

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more uncomfortable ($M = 5.95$, $SD = 2.50$) than the helpers reported themselves ($M = 5.23$, $SD = 3.61$).

Helping experience. A 2×2 ANOVA on the composite measure of positive mood indicated only a significant main effect of perspective, $F(1,98) = 24.81$, $p < .001$, $\eta_p^2 = .20$, suggesting that helpers felt more positive ($M_s = 8.26$, $SD = 1.43$) than their requesters expected ($M = 7.25$, $SD = 1.64$ and 1.56). The same 2×2 ANOVA on the composite measure of perceived inconvenience indicated a significant main effect of relationship, $F(1,98) = 4.07$, $p = .046$, $\eta_p^2 = .040$, and a significant main effect of perspective, $F(1,98) = 94.65$, $p < .001$, $\eta_p^2 = .49$, qualified by a nonsignificant interaction, $F(1,98) = 3.61$, $p = .060$, $\eta_p^2 = .036$. While requesters rather dramatically overestimated how inconvenienced the helpers would feel, this gap was somewhat larger in the stranger condition than in the friend condition. As with willingness to help, increased calibration stemmed not from differences in the experience of helping between friends and strangers but rather from difference in expectations; requesters expected strangers to feel significantly more inconvenienced than friends ($M_s = 3.28$ vs. 2.36 , $SD_s = 1.76$ and 2.04), $F(1,98) = 5.82$, $p = .018$, $\eta_p^2 = .056$, but neither strangers nor friends reported feeling consistently inconvenienced by the request ($M_s = 0.71$ vs. 0.63 , $SD_s = 1.41$ and 1.32), $F(1,98) = 0.085$, $p = .77$.

Motivation attribution. A 2×2 ANOVA on prosocial motivation yielded only significant main effects of relationship, $F(1,98) = 7.62$, $p = .007$, $\eta_p^2 = .07$, and perspective, $F(1,98) = 24.98$, $p < .001$, $\eta_p^2 = .20$. The interaction was statistically nonsignificant, $F(1,98) = 1.56$, $p = .21$. Simple effects tests showed that requesters expected their friends to be more prosocially motivated than strangers ($M_s = 1.99$ vs. 1.49 , $SD_s = 0.92$ & 0.89), $F(1,98) = 7.61$, $p = .007$, $\eta_p^2 = .072$, and helpers also reported being nonsignificantly more motivated when

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helping a friend than when helping a stranger ($M_s = 2.44$ vs. 2.24 , $SD_s = 0.69$ & 0.96), $F(1,98) = 1.42$, $p = .24$, $\eta_p^2 = .014$. Consistent with Experiment 3, the significant main effect of perspective indicated that requesters significantly underestimated how prosocially motivated both friends and strangers would be after being asked for help.

A 2×2 ANOVA on compliance motivation yielded only a significant main effect of perspective, $F(1,98) = 57.18$, $p < .001$, $\eta_p^2 = .37$, indicating that requesters overestimated the reported strength of compliance motivation among helpers regardless of whether they were friends or strangers ($M_s = 0.51$ vs. -1.03 , $SD_s = 1.38$ & 1.72).

Mediational analyses indicated that the perspective gaps in helpers' willingness to help, positive mood after helping, and perceived inconvenience were all significantly mediated by perspective gaps in the perceived strength of helpers' prosocial motivation (see Table 2). The less prosocially motivated helpers were presumed to be, the more requesters believed they were imposing an unwanted and somewhat inconvenient request on strangers, and even friends, who would not be as willing or happy to help as the helpers actually were.

Indebtedness and gratitude. Similar to previous experiments, 2×2 ANOVAs on indebtedness and gratitude yielded only significant main effects of perspective (indebted: $F(1,98) = 6.78$, $p = .011$, $\eta_p^2 = .065$; gratefulness: $F(1,98) = 11.89$, $p < .001$, $\eta_p^2 = .108$), indicating that requesters felt significantly more indebted ($M_s = 3.94$ vs. 2.70 , $SD_s = 3.22$ & 3.04) and grateful ($M_s = 8.11$ vs. 7.13 , $SD_s = 2.07$ & 2.19) than helpers expected. Unlike Experiment 3, requesters also indicated that the help meant significantly more to them than the helpers expected ($M_s = 7.82$ vs. 6.74 , $SD_s = 2.29$ and 2.58), $F(1,98) = 11.73$, $p < .001$, $\eta_p^2 = .11$.

Finally, to obtain some sense of the value participants placed on the help provided, and hence better understand requesters' experience after receiving help, we asked participants in

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Experiment 4 to report “how big of a deal” the request seemed from their perspective. A 2×2 ANOVA on this item yielded a significant main effect of perspective, $F(1,98) = 29.83, p < .001$, $\eta_p^2 = .23$, a significant main effect of relationship, $F(1,98) = 5.53, p = .021$, $\eta_p^2 = .053$, and a statistically nonsignificant interaction, $F(1,98) = 2.33, p = .13$, $\eta_p^2 = .023$. Requesters perceived the help to a bigger deal ($M = 2.49, SD = 2.50$) than the helpers did ($M = 0.88, SD = 1.64$).

Expectations as barriers. As predicted, requesters’ anxiety about requesting help was negatively correlated with how willing they expected the helper would be to help ($r = -.38, p < .001$), and positively correlated with how inconvenienced they expected the helper to feel ($r = .60, p < .001$). Not surprisingly, given these correlations and the difference in perceived willingness of friends versus strangers to help reported earlier, requesters also felt more anxious asking a stranger for help than asking a friend ($M_s = 3.27$ vs. $2.01, SD_s = 2.17$ and 2.28), $F(1,98) = 7.98, p = .006$, $\eta_p^2 = .075$. Even when asking a friend, people felt more anxious asking someone they felt less close to, $r = -.33, p = .018$. These exploratory analyses again suggest that misunderstanding others’ willingness to help when asked could create a psychological barrier to asking for help more often.

Positive mood from giving and receiving help. We tested the impact of giving and receiving help on participants’ mood immediately before and after helping in a 2 (relationship: stranger vs. friend) $\times 2$ (role: requester vs. helper) $\times 2$ (time: before vs. after) mixed-model ANOVA with role and time as repeated measures. This analysis yielded a significant main effects of relationship, $F(1,98) = 9.98, p = .002$, $\eta_p^2 = .092$, role, $F(1,98) = 38.38, p < .001$, $\eta_p^2 = .28$, and time, $F(1,98) = 36.37, p < .001$, $\eta_p^2 = .27$. These main effects were qualified by significant interactions between role and time, $F(1,98) = 23.78, p < .001$, $\eta_p^2 = .20$ —suggesting that the mood increase was even greater for requesters than for helpers—and between role and

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relationship, $F(1,98) = 7.21, p = .009, \eta_p^2 = .069$. We decompose these interactions by analyzing each role separately below.

As in Experiment 3, requesters again reported being significantly happier after receiving help than before, $F(1,98) = 42.47, p < .001, \eta_p^2 = .30$. Interestingly, they also reported feeling happier in the stranger condition ($M_{before} = 7.18, SD = 1.84; M_{after} = 8.40, SD = 1.64$) than in the friend condition ($M_{before} = 5.92, SD = 1.88; M_{after} = 7.04, SD = 2.14$), $F(1,98) = 15.66, p < .001, \eta_p^2 = .14$, and we found no significant interaction between time and relationship, $p = .78$.

However, this main effect of relationship should be interpreted with caution due to the existence of multiple explanations. One possibility is that those in the stranger condition were often able to get a picture taken with their friend(s), whereas those in the friend condition at least had one person missing from a group picture. Another possibility is that people expect their friends and close others to be more likely to help them (see also Tomasello, 2020; McManus, et al., 2020), whereas help from a total stranger may feel more like receiving an act of altruism which can lead requesters to rejoice more. Future research is needed to test whether receiving help from a stranger feels greater than from a friend.

Perhaps of more interest, and consistent with existing research on the positive experience of prosociality (e.g., Dunn et al., 2008; Aknin et al., 2020), helpers were also significantly happier after helping both strangers ($M_{before} = 8.32, SD = 1.87; M_{after} = 8.58, SD = 1.63$) and friends ($M_{before} = 8.04, SD = 1.41; M_{after} = 8.26, SD = 1.51$), $F(1,98) = 4.34, p = .040, \eta_p^2 = .042$, and neither the main effect of relationship nor the interaction effect was significant, $ps > .32$. Helpers' positive mood again did not seem consistent with being coerced into helping due to discomfort of saying "no" to a request, but instead was consistent with a request eliciting one's prosocial motivation to happily help someone in need.

Although we believe the results of our experiments so far provide compelling tests of our hypotheses, we report one final experiment that addresses two potential limitations. First, Experiment 2-4 all entail the possibility of selective sampling, either of the memories participants recalled (Experiment 2) or of the helpers approached by either participants or experimenters (Experiments 3 and 4). Second, in all experiments involving actual helping rather than imagined helping (Experiments 2-4), helpers' reported motivations were collected *after* helping rather than *before* helping, and hence their reported motivation could be affected by their actual experience of helping. To test our hypotheses in a context without these limitations, we conducted a laboratory experiment in which participants were randomly assigned to their role, and evaluations from helpers were taken before they actually helped the requester. Experiment 5 also manipulated whether the request for help came from either the person needing help or a third party to examine whether the source of a request would alter helpers' motivations, and hence their willingness to help and their positive experience after helping.

Experiment 5: Helping, by Random Assignment

Method

Participants. We targeted 200 participants after exclusion to achieve 50 pairs in each experimental condition. A total of 224 participants completed our experiment in exchange of \$4 for participating in this study and an opportunity to win a \$1 bonus. We excluded 1 pair due to experimenter error implementing the procedure (mixing the two roles up and accidentally assigning more work to the helper than intended), 2 pairs due to confusion by the requester on whom to ask for help, and 2 pairs for starting on the task before they were allowed to. This left 107 pairs in the data analysis (214 participants; $M_{age} = 34.87$; $SD_{age} = 13.72$; 74% female among requester and 58% female among helpers).

Procedure. We recruited unacquainted pairs in a university-based laboratory for a “counting study.” The experimenter led each pair into a private room with two computer desks facing each other but separated by a narrow aisle, such that participants could see each other but not each other’s computer screens. Once seated, the experimenter introduced the “counting task”, which involved underlining every letter “e” in a printed academic article and writing down the number of e’s counted in each line as quickly and accurately as possible. The experimenter gave each participant one practice sheet (all sheets were formatted to have approximately 11 lines and 100 words), allowed one minute for practice, checked each participant’s performance, and then announced how many lines each participant completed. The experimenter then left the study room to retrieve materials from another room, where they adjusted the number of sheets given to each participant based on their practice performance so that the participant randomly assigned to be the potential helper received considerably less work than they could finish and would likely have extra time to complete their task, while the other participant (hereafter, the “requester”) received slightly more work than they could possibly finish and would likely run short of time. The experimenter then returned to the study room, handed out each participant’s counting sheets in a folder, and announced that participants needed to make sure at least 90% of the materials assigned to them were completed within a five-minute window to receive their bonus. Participants could therefore provide help by completing some of the other participant’s materials, but the bonus payment was based only on their own respective assignment.

Before the request. The experimenter then mentioned that one of the participants might have received more pages than they could possibly finish within 5 minutes. Pairs randomly assigned to the first-person request condition were then told, “if you think this situation applies to you, *it is okay for you to reach out to the other person* in this room and see if they can help

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you on some of your materials.” In contrast, pairs randomly assigned to the third-person request condition were told, “if this situation applies to one of you in the room, *I will tell the other person to reach out to you* and work on some of your materials.” This meant that the request for help would come from the participant directly in the first-person request condition but would come from the experimenter in the third-person request condition. After confirming that participants understood the instruction, the experimenter left the room (the experimenter was always absent from the room throughout this experiment to give participants privacy when completing surveys, completing the counting task, or interacting with each other).

Requesters then started completing their pre-request survey on their computer, first reporting how many lines they completed in the practice session and then how many sheets they received for the five-minute task. Requesters then read that they received more sheets than they could complete themselves within five minutes, but that the other participant had less work and would likely have extra time. Requesters were then asked through their survey to imagine what would happen if they (first-person request condition) or the experimenter (third-person request condition) asked the other participant to help complete one sheet for them. The prediction items were identical to those used in Experiments 3 and 4, including expectations about the potential helper’s willingness to help, discomfort rejecting request, strength of prosocial and compliance motivations, and the potential helper’s mood after helping and perceived inconvenience. Finally, requesters reported their own mood at that moment.

During this time, participants assigned to the helper role completed a 2-minute filler task and reported their mood.

The request. Towards the end of the pre-request survey, requesters in the first-person request condition received an instruction in their survey encouraging them to ask the other

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participant for help, and it provided the following script as a suggestion: “Excuse me. I wonder if I could ask you for a favor. I have too many pages to finish. So I wonder if I could give you one of my pages, and you can work on it if you happen to finish early.” Requesters were also told to avoid framing the request as coming from the experimenter. In contrast, requesters in the third-person request condition were directed to find the experimenter outside their room, who would then ask the other participant to help the requester.

Among the 107 pairs, 6 requesters did not actually ask for help, and 1 helper declined to help the requester when asked directly. We included data from those 7 pairs (all in the first-person request condition) in our analyses unless otherwise noted.

After the request (before helping). If helpers agreed to the request, they then received an overflow sheet from the requester. Both requesters and requesters then immediately completed a *post-request survey* on their computer about the previous interaction. Specifically, requesters indicated if the other participant agreed to their request as well as their current beliefs about the other person’s willingness to help and their discomfort rejecting request, whereas helpers reported their own willingness to help, expected discomfort of rejecting the request, and the strength of their prosocial and compliance motivations. The experimenter then started a five-minute timer for the actual counting task and left the room.

After helping. After five minutes, the experimenter returned and checked both participants’ assigned sheets, and then announced the results. Among the 100 pairs in which the helper was asked for help and actually provided help, both participants in 91 pairs completed at least 90% of their task and received their bonuses. Of the remaining nine pairs, seven helpers completed their own sheets but failed to complete the requester’s sheet. The remaining two

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helpers completed their requester's sheet but did not complete their own. We included data from all pairs in the following analyses.

Finally, each participant completed a short *post-helping survey*. Requesters reported their mood, how grateful and indebted they felt towards the helper, and then indicated their current belief on recipients' mood and how inconvenienced the helper would report feeling. Requesters also reported how many sheets the helper received and completed for them. In contrast, helpers reported their actual mood, how inconvenienced they actually felt, and then predicted how grateful and indebted their requester would report feeling. Helpers also indicated in an open-ended text box whether, and how, the requester thanked them. All participants finished the survey by providing their demographic information.

Results

Because this experiment measured helpers' experience before providing their help, we first tested whether requesters' expectations were calibrated by comparing their expectations reported in the pre-request survey with their helper's actual responses in the post-request survey.

Note that we initially preregistered running separate *t*-tests for each request condition, but recognized in hindsight that this was not the appropriate analytical approach for this experiment. We therefore deviated from our preregistration plan and conducted mixed-model ANOVAs instead that allow us to test for both main effects and interactions. We also preregistered hypotheses that the request type (first-person vs. third-person) would moderate some results, but these hypotheses were not supported as all interactions with request type were nonsignificant.

Willingness to help. A 2 (request type: first-person vs. third-person) \times 2 (perspective: requester vs. helper) mixed-model ANOVA with perspective as repeated measures revealed only a significant main effect of perspective, $F(1,105) = 39.20, p < .001, \eta^2_p = .15$, indicating that

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requesters significantly underestimated how willing and interested the helper would report being to help ($M_s = 6.20$ vs. 7.79 , $SD_s = 2.10$ and 1.92).

Discomfort rejecting request. A 2×2 mixed-model ANOVA yielded nonsignificant effects of request type, $F(1,105) = 1.11$, $p = .29$, perspective, $F(1,105) = 2.14$, $p = .15$, and the interaction, $F(1,105) = 0.12$, $p = .72$. As in Experiments 3 and 4, requesters did not significantly underestimate helpers' reported discomfort rejecting the request ($M_s = 5.84$ vs. 6.21 , respectively, $SD_s = 2.74$ and 2.87).

Motivation attribution. A 2×2 mixed-model ANOVA on prosocial motivation yielded only a significant main effect of perspective, $F(1, 105) = 16.59$, $p < .001$, $\eta^2_p = .14$, indicating that requesters significantly underestimated potential helper's reported prosocial motivation ($M_s = 0.78$ vs. 1.47 , $SD_s = 1.25$ and 1.29). Similarly, a 2×2 mixed-model ANOVA on compliance motivation yielded only a significant main effect of perspective, $F(1, 105) = 45.15$, $p < .001$, $\eta^2_p = .30$, indicating that requesters overestimated helpers' reported compliance motivation ($M_s = 0.51$ vs. -0.78 , $SD_s = 1.32$ and 1.53).

Helping experience. For this and subsequent analyses, we only included the 100 pairs where a request was made and accepted, because the questions presumed an agreement.

Consistent with Experiments 1a-4, a 2×2 mixed-model ANOVA on the helpers' mood after helping yielded only a significant main effect of perspective, $F(1,98) = 5.00$, $p = .028$, $\eta^2_p = .048$, indicating that helpers underestimated how positive helpers felt after helping ($M_s = 6.92$ vs. 7.43 , $SD_s = 1.64$ and 1.88). Likewise, a 2×2 mixed-model ANOVA on helpers' perceived inconvenience yielded only a significant main effect of perspective, $F(1,98) = 132.08$, $p < .001$, $\eta^2_p = .57$, indicating that requesters significantly overestimated how inconvenienced the helpers would find helping them to be ($M_s = 4.42$ vs. 1.40 , $SD_s = 2.11$ and 1.84).

Mediation analyses. As in the preceding experiments, mediational analyses were again consistent with our hypothesis that requesters underestimate helpers' willingness to help, underestimate their positive mood, and overestimate their perceived inconvenience because they underestimate helpers' prosocial motivation to help when asked (see Table 1).

Positive mood from giving and receiving help. As in Experiment 4, a 2 (request type) $\times 2$ (role: requester vs. helper) $\times 2$ (time: before vs. after) mixed-model ANOVA with role and time as repeated measures yielded only a significant main effect of time, $F(1,98) = 184.78, p < .001, \eta_p^2 = .65$, qualified by a significant interaction between role and time, $F(1,98) = 4.18, p = .044, \eta_p^2 = .041$. As in Experiment 4, although both giving and receiving help increased positive mood, requesters' moods increased significantly more (before: $M = 5.64, SD = 2.13$; after: $M = 7.80, SD = 1.76$) than did helpers' moods (before: $M = 5.84, SD = 1.94$; after: $M = 7.44, SD = 1.88$).

Indebtedness and gratitude. As in the preceding experiments, 2×2 mixed-model ANOVAs again indicated that requesters felt more grateful, $F(1,98) = 29.24, p < .001, \eta_p^2 = .23$, and also more indebted, $F(1,98) = 30.21, p < .001, \eta_p^2 = .24$, than helpers expected.

Exploratory analyses. We also examined whether requesters' beliefs about their helper's experience became more calibrated after their helper had agreed to help. Paired t -tests indicated that requesters updated their beliefs about helpers' willingness to help after their request compared to before (before: $M = 6.20, SD = 2.10$; after: $M = 6.67, SD = 2.20$), $t(106) = -2.26, p = .026$, but still underestimated how willing helpers actually reported being ($M = 7.86, SD = 1.78$), $t(106) = -4.38, p < .001$.

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Requesters' beliefs about their helper's discomfort rejecting request did not change significantly before versus after the request, $p = .72$, and again did not differ significantly from the helpers' response, $p = .20$.

Finally, we examined whether requesters' beliefs about their helper's experience were more calibrated after receiving help. Requesters' beliefs about helper's mood did not change significantly before versus after receiving help (before: $M = 6.92$, $SD = 1.64$; after: $M = 7.00$, $SD = 1.93$), $p = .66$, and they still somewhat underestimated how positive their helper felt after helping ($M = 7.44$, $SD = 1.88$), $t(99) = -1.85$, $p = .067$. Finally, requesters' beliefs about how inconvenienced their helper would feel significantly decreased after receiving help (before: $M = 4.42$, $SD = 2.11$; after: $M = 2.96$, $SD = 2.30$), $t(99) = 5.88$, $p < .001$, but requesters still significantly overestimated how inconvenienced helpers reported feeling after providing help ($M = 1.40$, $SD = 1.84$), $t(99) = 5.67$, $p < .001$. These results again confirm that those in need of help tend to underestimate how positively others will respond to requests for help, even in a context where participants were random assigned to seek versus provide help and regardless of whether the request was made by participants themselves or by a third-party.

General Discussion

Arguably the easiest way to get help when needed is to ask for it, but people can be reluctant to ask partly because they presume others do not “want” to help, and hence fear inconveniencing another person, or coercing uninterested help. And yet, helping others can often leave helpers feeling relatively positive (Curry et al., 2018). A series of 6 experiments investigating imagined, recalled, and in-person requests for help demonstrated that those asking for help underestimated how willing helpers would report being to provide assistance, underestimated how positive helpers would feel about helping, and overestimated how

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inconvenienced and annoyed helpers would feel. These results suggest that people not only misunderstand the likelihood of others agreeing to a request (Bohns, 2016), but that they more fundamentally misunderstand the experience of helping after a request, which can create a miscalibrated barrier to asking for help more often in daily life.

Underestimating how positive others would feel when asked to help seems to stem from failing to appreciate how much others would “want” to help, as requesters underestimated helpers’ endorsement of prosocial motivation and overestimated their compliance motivation. Although skepticism is warranted when people are asked to explain their own mental processes (Nisbett & Wilson, 1977), we note that people’s tendency to discount others’ prosocial motivation is consistent with the deeply held belief in Western cultures that people are motivated by self-interest (Miller, 1999). Yet helpers’ self-reported motivations were consistent with their reported willingness to help and positive experience of helping, which has also been reported in a multitude of studies using a variety of research methods among children (Aknin et al., 2012; Tomasello, 2009), in neuroimaging (Harbaugh et al., 2007; Moll et al., 2007), in physiology (Dunn et al., 2010), and also in measures of cardiovascular functioning (Whillans et al., 2016).

We believe these results are consistent with a broader tendency for people to underestimate how positive others will feel following prosocial interactions, thereby leaving people more reluctant to reach out and connect with others than might be optimal for both their own and others’ wellbeing. Human beings are deeply social, with a strong motivation to connect with others (Baumeister & Leary, 1995), and a neural reward system that leaves people feeling happier and being healthier after positive interactions (Diener & Seligman, 2004). People’s expectations about social interaction, however, do not seem to fully appreciate the positive impact of connecting with others (Epley et al., 2022). The present research suggests that people

not only misunderstand how positive their own prosocial acts will make others feel, they also misunderstand how positive enabling prosociality by asking for help can make others feel.

We also believe our current experiments meaningfully enrich psychologists' understanding of the "underestimation-of-compliance effect" (Bohns, 2016), whereby requesters underestimate others' likelihood of agreeing to direct requests. As the name implies, requests in this literature are typically construed in terms of compliance, such that underestimating helping stems from failing to recognize the discomfort of saying "no" to a request. However, using similar scenarios, procedures, and self-report measures from this existing literature, our experiments generally replicated the tendency to underestimate agreement with a request (Table 1, Panel A) but found little evidence that it stemmed from underestimating potential helpers' discomfort of saying "no" to a request (Table 1, Panel B), or underestimating the strength of compliance motivation more generally (Figure 2, Panel B). Helpers' positive experiences are also inconsistent with what would presumably be the negative experience of being coerced into helping. By construing requests for help as inducing compliance instead of prompting prosociality, researchers may have overlooked a more reliable and powerful source of cooperation.

Of course, not all requests prompt prosociality. Our experiments tested relatively simple requests that could be easily fulfilled. Although these may be the most common requests in daily life (Floyd et al., 2018), they are not the only type. More difficult, undesirable, or morally questionable requests (e.g., Bohns, 2014), that come from a person higher in power or status (e.g., Milgram, 1974), or that risk disturbing social harmony (Taylor et al., 2004) may feel more coercive and costly (Crocker, et al., 2017), and hence prompt more compliance motivation than the contexts we investigated. There may also be meaningful variability across cultures in the

way requests for help are evaluated, which can create additional barriers to seeking help.

Whether this contextual variability serves to calibrate requesters' expectations, or magnify the misunderstandings we have documented here, is a critical topic for future research. However, beliefs that encourage social avoidance, such a reluctance to ask for help, may be surprisingly persistent across contexts because they can keep people from having the very experience that would actually calibrate their expectations about other people. A person who believed that others do not want to help when asked might never learn the lessons that Steve Jobs did when he was young, which only came from actually asking for help and learning that pessimistic expectations can sometimes be misplaced.

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