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Exploring Self-Reported Helping, Punishment, and Moral Courage Within and Across Group Boundaries: Implications for the Inclusion of Others in Self Scale

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Supplementary Materials: Code, Data [see [Index of Supplementary Materials](#)]



Abstract

Altruism may not be a unitary concept but may include behaviorally dissociable subfactors. Here, we examined the effects of social distance within and across group boundaries on three facets of altruism: help giving, peer punishment, and moral courage. Using real-life scenarios presented as vignettes, participants were asked to indicate the likelihood that they would engage in the described behaviors across three different social settings: a familiar low-distance in-group, an unfamiliar high-distance in-group, and a hostile out-group. We used the Inclusion of Others in Self (IOS) scale to measure perceived closeness to members of the described social group. We hypothesized that help giving would be most and moral courage least sensitive to variations in social distance. In both studies, results revealed no significant differences in help giving across variations in social distance but a higher self-reported likeliness to show morally courageous acts in the familiar and close in-group compared to the other groups. The results for peer punishment were only partially consistent, following a similar pattern to moral courage. IOS scores discriminated between high and low-distance in-groups, as expected, but did not discriminate well between a high-distance in-group and hostile out-group. On the other hand, facet-specific trait scores correlated significantly with vignette responses. When the three facets were considered together across all vignettes, in-group favoritism became apparent. The studies contribute to our understanding of the social context conditions of altruistic behaviors and call for the refinement of experimental and self-report measures in the study of altruistic behavior.



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Keywords

altruism, social distance, inclusion of others in self, in-group favoritism, help giving, peer punishment, moral courage

Highlights

- This study examines how help giving, peer punishment, and moral courageous behavior vary with social distance within and across group boundaries.
- We observed a tendency for a higher likelihood of altruistic actions within one's community (low-distance in-group).
- There was no clear differentiation between high-distance in-group and out-group on the IOS score, which limited the interpretation of framing effects on vignette responses.
- Limitation of IOS: The scale may not be sensitive enough to capture social distance variations across groups.

Behaving altruistically means to act for the benefit of others while bearing the costs, which can take the form of economic, social, and other welfare risks, and may thus be associated with reduced evolutionary fitness (Fehr & Fischbacher, 2003; Kerr et al., 2004; Wilson, 1992). Altruistic acts, such as helping strangers in need, are crucial for communities and societies to survive and thrive. In the context of the July 2021 flood disaster in Germany, where at least 180 people died because of the flooding, we have seen how strong the motivation to help can be, and how it benefits the community. According to the report of the Federal Ministry of the Interior and Community and the Federal Ministry of Finance (Bundesministerium des Innern und der Heimat & Bundesministerium der Finanzen, 2022), the worst affected area was the Ahr valley, with about 42,000 inhabitants, of whom about 40% lost all their belongings or suffered significant damage to them. In addition to millions of Euros in donations, up to 100,000 volunteers helped with cleanup and recovery efforts in the Ahr valley alone. The urge to help was enormous, and not just from locals: Special shuttle services were set up to bring in volunteers from more distant parts of Germany and even outside of Germany to the affected region.

Help giving (HG) behavior as described here encompasses sharing and donating all forms of wanted resources with needy or deserving others, including money, time, goods, energy, information, blood, and even organs (Rhoads et al., 2023; Rushton et al., 1981). In help giving, the focus of action is on the recipient (Fischer et al., 2013), from whom gratitude or recognition can often be expected under real-life conditions (Osswald et al., 2010). However, studies show that people share their resources even when the giver and receiver remain anonymous (e.g., Edele et al., 2013) so that they cannot expect any appreciation in return.

Given limited resources, how do people prioritize who to help? One psychological variable that has been found to influence help giving is perceived social distance. Social distance is defined as the closeness or distance someone feels toward another person (Jones, 2022). Studies in behavioral economics have found that the willingness to share resources such as money with another person decreases as a function of the social distance between the proposer and the responder (e.g., Bechler et al., 2015; Jones & Rachlin, 2006; Strombach et al., 2014). Some studies, in referring to social *proximity* (opposite to distance), have shown the equivalent pattern for hypothetical sharing scenarios (Hayley & Zinkiewicz, 2013; Long & Krause, 2017).

In addition to graded forms of social distance, previous research has found that in-group or out-group member status of the recipient influences helping behavior, albeit with inconsistent findings. Some studies reported greater cooperation with in-group members compared to out-group members, while others failed to observe such discrimination. Balliet et al. (2014) conducted a review and found a moderately large effect that people are indeed more cooperative with in-group than with out-group members ($d = 0.32$, corrected for sample size bias). They conclude that intergroup discrimination in cooperation is the result of in-group favoritism rather than out-group derogation, both of which are thought to play a crucial role in intergroup bias. This pattern might depend on the presence of out-group threat, according to Klein and Bastian (2023). In their Fusion-Secure Base Hypothesis, these authors suggest that people who are fused with their in-group cooperate well with the out-group in the absence of any out-group threat, and intergroup bias in cooperation only results from the combined effects of in-group fusion and out-group threat.

Social distance and intergroup discrimination biases have implications not only for the motivation to help, but also for confrontational forms of altruistic behaviors, of which peer punishment (PP) is the most well-researched. This refers to punishing free riders who violate social norms and exploit the community. While the punisher bears the cost, the group benefits because the punishment works to deter unfair behavior in the future (Fehr & Fischbacher, 2004; Fehr & Gächter, 2002; Suleiman & Samid, 2021).

Some studies have found that norm violators who belong to the in-group are punished less than those who belong to the out-group (Baumgartner et al., 2012; Bernhard et al., 2006; Rabellino et al., 2016; Schiller et al., 2014; Yudkin et al., 2016). By contrast, other studies have found that participants punish uncooperative in-group members more severely than uncooperative out-group members (McLeish & Oxoby, 2007; Mendoza et al., 2014; Shinada et al., 2004). Mendoza et al. (2014) propose that when negotiating, in-group members are held to a higher standard of fairness than out-group members, leading to more severe punishments for violating this standard. As for social distance, we find two key studies that have examined how social distance modulates punishment behavior (Qu et al., 2018; Tang et al., 2023). Both studies found that the more distant participants felt from those making unfair offers, the harder they punished them. Due to

the lack of evidence on social distance and the inconsistent findings on intergroup bias, the question of how these two variables affect peer punishment cannot be answered at this time.

From a behaviorist perspective, helping and punishing are social means that shape the distribution of resources: While helping involves reinforcing and rewarding others or reducing costs and risks for others, peer punishment involves depriving others of valuable resources or denying them rewards that would otherwise have been given. A third form of social adjustment of resource allocation occurs when the contingency plan underlying reward and punishment is changed. This happens in real life when existing resource allocation schemes are challenged or overturned by individuals or groups of individuals. This type of behavior can be considered altruistic when the people promoting the change do so not for their own benefit, but for the benefit of *other* people, or for what they *believe* will benefit others and society as a whole. Of course, attempting to reallocate resource distribution plans is likely to lead to conflict with those in power; i.e., groups or individuals that wish to maintain the status quo because of the privileges they enjoy. Facing this risk is what makes the behavior costly and self-sacrificial.

Windmann et al. (2021) have identified behaviors that attempt to change social resource distribution schemes out of moral concern as acts of moral courage (MC). This refers to standing up for one's ethical beliefs and acting on them in spite of social pressures. A prototypical example would be the actions of Edward Snowden when he leaked confidential documents from the NSA to expose the agency's surveillance activities. He did so out of a belief that he was doing the morally right thing for society, even though others viewed his actions as fundamentally unlawful. In the literature, the term moral courage is used in slightly varying ways, but is similar to this understanding (Osswald et al., 2010; Sasse et al., 2022; Schalk et al., 2023; Skitka, 2012).

As noted by Bronstein et al. (2007), moral courage may be an essential quality of individuals who aspire to become agents of change and leaders in social reform movements. However, to our knowledge, whether and how intergroup bias or social distance affect the likelihood to show moral courage has not been examined. To the degree that moral values are universal and transcend group boundaries (Beauchamp, 2003), we would assume that it should be unaffected by social distance variation and in-group/out-group reference. This is different from peer punishment where group-specific norms (Ellemers, 2018) are being defended.

Many previous studies have used economic games to assess intergroup cooperation or punishment, albeit no game exists for moral courage. The present study took a different approach by using real-life, everyday scenarios in the form of vignettes to experimentally examine the effect of social distance and intergroup bias on the three altruism facets: help giving, peer punishment, and moral courage. Our main question was whether these three facets of altruism respond differently to variations of social distance within and across group boundaries.

To this end, participants were presented with nine vignettes, three of which described typical acts of help giving, peer punishment, or moral courage of varying intensity, and were asked to indicate the likelihood that they would act as described. Participants did so while imagining that the scenarios in the vignettes occurred in one of three contexts varying in social distance, to which they were assigned in a quasi-random manner: an in-group context with low distance, an in-group context with high distance, or a hostile out-group context. Hence, the vignettes were identical in all three conditions, while the contextual framing varied in accord with the social distance condition. As a manipulation check, we assessed differences in perceived social distance with the Inclusion of Others in Self measure (Aron et al., 1992) by asking about the distance between the self and the described community (Jiménez et al., 2016; Schubert & Otten, 2002; Swann et al., 2012). All three altruism facets were assessed by three vignettes each in the three experimental framing conditions.

Given the vast amount of literature demonstrating higher helping in close social relationships and among in-group members, we expected that participants in the two in-group conditions would show higher self-reported willingness to engage in the help giving behaviors described in the vignettes than participants in the out-group condition. Because of the conflicting evidence regarding peer punishment, we did not have a directional hypothesis for the peer punishment vignettes. Finally, we expected participants' responses to the moral courage vignettes to be independent of group context, in pursuing the idea that the values that drive moral courage hold universally. Since this was the first time that we used the vignettes in a fully powered study, we consider the approach exploratory.

To account for personality differences in altruism, and as a preliminary validation of the vignettes, we additionally assessed the three altruism facets as traits using the self-report Facets of Altruistic Behaviors (FAB) scale (Windmann et al., 2021). We hypothesized that the self-reported likelihood to show the behaviors as assessed by the vignettes can be predicted by the FAB trait measure in a facet-specific manner. If so, the vignette responses would show significantly positive correlations with FAB subscale scores within facets, but not between facets.

All data, analysis scripts, preregistrations, and supplemental files are available (see Binder et al., 2025).

Study 1

Method

Participants

The sample consisted of 522 participants (age, $M = 41.7$ years, $SD = 16.1$, range: 18–69), of whom 258 were female (49%) and 2 were non-binary. A total of 600 individuals were

recruited via a commercial panel provider. To achieve a representative sample of German participants, we used quotas for gender, age, and highest level of education. As preregistered, we excluded participants stepwise for the following reasons: 23 participants completed the survey in less than 50% of the median duration, 44 participants indicated that they were not able to vividly imagine the situations in the context of the described setting (scoring lower than 4 on a scale ranging from *not good* (1) to *very good* (6), with a score above 3 indicating an affirmative response), 7 participants indicated that they would not recommend the use of their data, and 4 participants whose response patterns were deemed invalid (identified using the careless-package (Yentes & Wilhelm, 2023) in R).

Material

A set of three vignettes per facet (HG, PP, and MC) was used to assess altruistic behaviors in the different social contexts (see supplementary file 1: ‘Study_Material.pdf’). Each vignette provided a verbal description of a situation in which the main character, referred to as “you” in the text, is prompted to behave altruistically in accordance with one of the three facets. The vignettes were specifically designed by our research team to capture different aspects of the facets. For the HG vignettes, it was crucial that both the actor and the recipient have no prior relationship to eliminate positive reciprocity as a motivating factor. We designed the vignettes to cover a range of costs, from simple acts of courtesy and moderate assistance to (rather rare) acts of extreme self-sacrifice. Specifically, the HG vignettes included helping a person out with money, helping a lost child to find their parents, and rescuing a woman who had fallen on railroad tracks. For the PP vignettes, we created scenarios involving group dynamics, where the actor coordinates action against unfair behavior by a group member, albeit in a less personally exposed manner than in the MC vignettes. The vignettes involved exposing a person who has not paid into the common good on time, pointing out individuals to peers who leave tedious work to others, and revealing that someone is crediting team success as their own. The MC vignettes were designed to include a direct confrontation with either the majority or an authority figure, thereby involving potentially substantial risks for social status and welfare. They involved expressing displeasure with unfairly aggressive statements by an authority figure, expressing concerns about an immoral proposal by the company leadership, and confronting a high-ranking person who brags about knowing sources of child pornography material. For each vignette, participants rated the likelihood that they themselves would engage in the described behavior on a percentage scale from *very unlikely* (0%) to *very likely* (100%), with only the endpoints labeled. Notably, the vignettes were not piloted prior to the study.

The Facets of Altruistic Behaviors (FAB) scale (Windmann et al., 2021) consists of the three trait subscales Help Giving (HG), Peer Punishment (PP), and Moral Courage (MC), containing five items each. Example items include, for HG: “I would definitely risk my

own wellbeing to help starving or sick people”; for PP: “If someone deliberately exploits collective goods, I will work hard to make them pay their fair share”, and for MC: “I try to make important changes for everyone, even against the expressed opposition of the community”. Items are answered on a 6-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (6). The subscales showed an internal consistency of McDonald’s total $\omega = .75-.82$ (Windmann et al. (2021) reported McDonald’s $\omega = .75-.76$). Subscale means were used.

An adapted version of the one-item Inclusion of Other in the Self (IOS; Aron et al., 1992) assessed how close the participant felt to the community in the described social context condition to check how well the framing manipulation worked. To this end, participants selected a diagram that best indicated their relationship to the community described in the instruction before and after the presentation of the vignettes. Each diagram corresponded to a value ranging from 1 to 7, with higher scores indicating greater closeness.

For another research question, measures to assess individualism-collectivism and well-being were used, but are not presented here.

Recruitment

The survey was conducted using the online platform SoSci Survey (Leiner, 2023). In the first collection wave in February 2022, participants were randomly assigned to one of the two in-group conditions (low-distance with $n = 174$ vs. high-distance with $n = 178$). These data were initially collected for a separate study examining social distance and cultural effects between India and Germany. However, the Indian data were extremely unreliable and showed an enormous number of speedy responses, leading to the decision to discard them entirely (in fact, the panel provider was not paid for them), and to instead extend the German data by adding an out-group condition ($n = 170$) in February 2023. To further increase the social distance in that new condition and to make it as salient as possible, we featured the out-group as hostile, as this would contrast with the familiarity expressed for the low-distance in-group condition.

Procedure

Before being asked for informed consent, participants provided their gender, age, highest level of education, number of years of education, and the country of residence for the purpose of sample quotation. Next, participants answered two questions about their financial situation and the well-being measure. They then responded to the individualism-collectivism scale, the FAB scale (including two attention control questions), and the nine vignettes, with the order of presentation randomized across participants. The items and vignettes themselves were also presented in a randomized order.

Before responding to the vignettes, participants were randomly assigned to one of three framing conditions. In a written introduction (see supplementary file 1: ‘Study_Ma-

terial.pdf”), they were all asked to imagine that they were successfully working for a company that had assigned them a special project for a few weeks. All of the vignettes presented in the study would take place within the context of this time-limited project. In the first condition, the project takes place in a familiar social environment, as it will be in a region of Germany where they live and have family, friends, and acquaintances. They are acquainted with the local lifestyle and feel safe. Hence, this condition is referred to as *low-distance in-group*. The project in the second condition takes place in an unfamiliar social environment, because the participants have to change their place of residence temporarily. The project takes place in a region of Germany where they don’t live and don’t know anyone. However, the local lifestyle is known to them and they feel safe. This condition is called *high-distance in-group*. The project in the third condition takes place in a foreign country where they do not know anyone. It is a country with an openly hostile attitude towards people from Germany (in considering the moderating role of out-group threat, Klein & Bastian, 2023). They do not know the local lifestyle and feel insecure. This condition with a hostile social environment is called *out-group*. All participants were instructed to be very aware of the contextual environment in which the scenes would take place. For each vignette, they were asked to exactly imagine the context, the people, and their relationship with them. After reading the introduction according to their assigned framing condition, participants completed the IOS item (IOS pre assessment, or *IOS pre*, in short), the nine vignettes with a brief reminder about their social context every three vignettes, and then the IOS item again (post assessment, or *IOS post*). IOS pre was taken to determine differences in IOS due to framing, and the pre-post difference in IOS was used to check whether the effects on IOS would persist over the time during which participants worked on the vignettes.

The study ended with a brief follow-up survey about how well participants felt they could vividly imagine the situations in the context of the described setting and how strongly they recommended we use their data in our analysis.

Analyses

As a manipulation check, we conducted a mixed ANOVA on the IOS item response with the between-factor framing at three levels (low-distance in-group vs. high-distance in-group vs. out-group) and within-factor pre-post assessment at two levels (pre vs. post the vignettes). We expected higher IOS levels in the low-distance in-group compared to the high-distance in-group compared to the out-group. In our multilevel approach (see below), we include the IOS as a predictor, providing a more fine-grained (continuous) measure of social distance compared to the framing condition alone. Additionally, if the interaction of framing with pre-post assessment was revealed to be significant, we would include the pre-post difference in IOS as another predictor to control for differences between framing conditions in the persistence of the manipulation, as preregistered. We

used *t*-tests with Bonferroni-Holm corrected *p*-values for all pairwise comparisons. For all analyses, we used the statistical software R, Version 4.4.2 (R Core Team, 2024).

Deviating from our preregistration, we analyzed the responses to the vignettes using mixed tobit models for censored data with the *censReg*-package (Henningesen, 2022), because responses on the percentage scales showed pronounced masses at the extremes¹. This indicates that the measurement approach is not able to adequately assess the entire width of the underlying construct, which would lead to estimates derived from linear models being biased towards zero. Tobit models are specifically designed to deal with censored data, circumventing this bias without altering the interpretation of the parameters.

For full transparency, the results of regular linear mixed models (as per our preregistration) are provided in supplementary file 2: 'Results_of_Regular_LMMs.pdf'. To accommodate the multilevel structure (observations nested in participants) appropriately, we adapted the package to utilize an estimation procedure proposed by Wallace and Hussain (1969). We performed these analyses separately for each altruism facet in multiple steps. We first computed the intercept-only model to determine the intraclass correlation coefficients (ICC) for all facets (Model 0). We then included dummy-coded predictors to differentiate between the three vignettes (on Level 1) and subsequently the dummy-coded predictors for the framing condition on the person level (Model 1). Next, we checked for interaction effects between these to test for specific framing effects for different vignettes. We then included the facet-specific FAB subscale trait score and its interaction with the framing predictors (Model 2). Finally, we included all other person-related predictors, namely the other two FAB subscale trait scores, the IOS pre item, and the pre-post IOS difference (on person level in Model 3). These predictors were all centered. The low-distance in-group framing condition and Vignette 1 were set as references in each model.

To investigate the relationship between the contextualized state (vignette responses) and stable trait measures (FAB subscales) of altruism, we calculated Spearman's rank correlation coefficients, because of the non-normality of all variables.

Results and Discussion

Manipulation Check

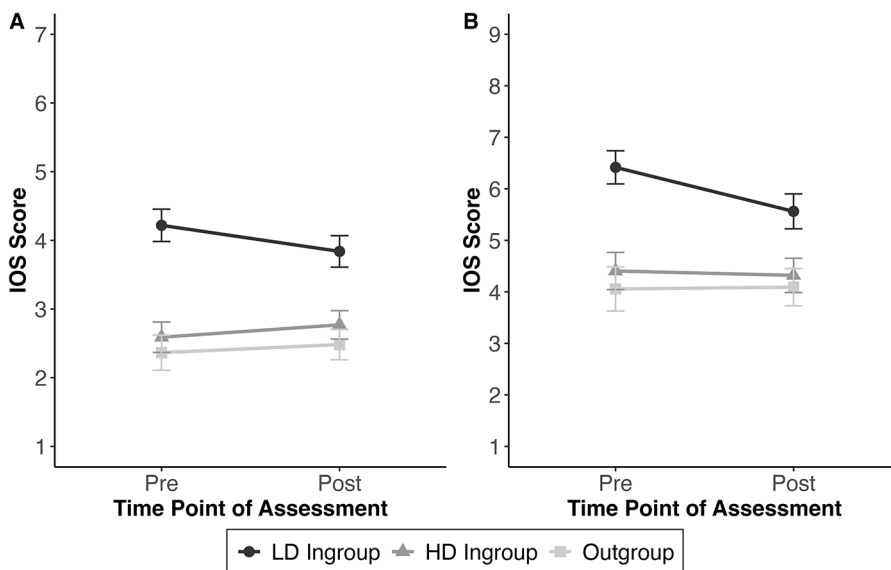
To confirm that the framing manipulation was successful, we tested whether there were differences in how close participants felt to the community in the three framing conditions. Mean IOS scores were $M = 4.03$ ($SD = 1.45$) in the low-distance in-group, $M = 2.68$ ($SD = 1.34$) in the high-distance in-group, and $M = 2.42$ ($SD = 1.49$) in the out-group

1) We recorded 1566 responses per facet. For HG, 67 (4%) were at the lower, 358 (23%) were at the upper bound of the percentage scale. For PP, 91 (6%) were at the lower, 212 (14%) were at the upper bound. For MC, 117 (7%) were at the lower, 209 (13%) were at the upper bound.

condition. The main effect of framing on IOS was indeed significant; $F(2,519) = 63.25$, $p < .001$, $\eta_p^2 = .20$. Pairwise comparisons indicated that mean IOS scores were higher in the low-distance in-group relative to the high-distance in-group, $t(696) = 11.80$, $p < .001$, Cohen's $d = 0.89$, and the out-group, $t(685) = 13.30$, $p < .001$, Cohen's $d = 1.02$. Scores in the high-distance in-group were significantly higher than in the out-group, but with a much smaller effect size, $t(682) = 2.21$, $p = .027$, Cohen's $d = 0.17$ (see Figure 1). This suggests that the distant social context with no friends or family in the high-distance in-group reduced feelings of social closeness and relatedness compared to the low-distance in-group. A hostile out-group context further reduced the perceived closeness, but only slightly. It should be noted, however, that the IOS scores in the high-distance in-group and out-group conditions appear subject to floor effects (see supplementary file 3: 'Additional_Figures_and_Tables.pdf'), which may have limited the differences between these two framing conditions.

Figure 1

Mean Inclusion of Others in Self (IOS) Scores Used as Check of the Effects of the Framing Manipulation in Study 1 (A) and Study 2 (B)



Note. Mean IOS scores for each framing condition before (pre) and after (post) responding to the vignettes. A 7-pictorial scale was used in Study 1 and an extended 9-pictorial scale in Study 2. LD stands for low-distance, HD for high-distance. Error bars represent 95% CI.

The interaction between framing condition and pre-post assessment of IOS was significant, $F(2,519) = 12.49$, $p < .001$, $\eta_p^2 = .05$; see Figure 1. Pairwise paired t -tests showed

that in the low-distance in-group condition, participants reported significantly higher IOS pre compared to post, $t(173) = -4.33$, $p < .001$, Cohen's $d = -0.66$, whereas in the high-distance in-group condition the effect was reversed, $t(177) = 2.06$, $p = .041$, Cohen's $d = 0.31$. In the out-group condition, there was no significant difference between the pre IOS and post IOS scores, $t(169) = 1.38$, $p = .170$, Cohen's $d = 0.21$. The pattern suggests that participants in the low-distance in-group condition felt less connection or identity overlap with members of the community after responding to the vignettes compared to before, while participants in the high-distance in-group condition felt more connected to the community after responding to the vignettes compared to before. In the out-group condition, responding to the vignettes had no significant effect on IOS. Again, floor effects may have influenced these differences.

Help Giving

Model 0 of the multilevel analyses showed the ICC of HG to be .16. The results of the remaining models are shown in Table 1. Responses differed significantly across vignettes, however, vignette effects were not significantly different across framing conditions ($\chi^2 = 5.23$, $df = 4$, $p = .264$). Predictor framing had no significant effect on vignette response, meaning that participants did not respond significantly differently to the vignettes across the framing conditions. Bonferroni-Holm-corrected condition comparisons showed that high-distance in-group and out-group did not differ significantly in their responses either ($b = 1.00$, $SE = 2.87$, $t = 0.35$, $df = 1559$, $p = .727$). The results of Model 2 showed a significant positive effect of HG trait score on response. Thus, a one-unit increase of HG trait score was associated with a 16.42-point increase in the self-reported likelihood that participants in the low-distance in-group condition would show the same behavior as described in the vignettes. The interaction effect indicates, though, that the effect of HG trait scores on vignette response was greater in the high-distance in-group condition compared to the low-distance in-group (by 7.30) and compared to the out-group (by 9.18).

Model 3 showed significant effects of IOS pre and of the pre-post IOS difference on response, indicating that participants responded to the vignettes to a higher degree if they felt more connected to the community before the vignette assessment and if their connection increased after responding to the vignettes compared to before.

Table 1*Model Parameters for Help Giving Vignette Response in Study 1*

	Model 1	Model 2	Model 3
Fixed effects			
(Intercept)	97.49*** (2.53)	96.24*** (2.17)	89.25*** (6.10)
Vignettes			
Vignette 1	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Vignette 2	-33.96*** (2.08)	-33.85*** (2.08)	-33.88*** (2.09)
Vignette 3	-23.53*** (2.36)	-23.46*** (2.34)	-23.47*** (2.35)
Framing			
LD in-group	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
HD in-group	-5.03 (2.91)	-3.01 (2.49)	-1.10 (2.61)
Out-group	-4.02 (2.97)	-2.50 (2.38)	0.07 (2.54)
Trait scores			
Help giving		16.42*** (1.92)	15.76*** (1.96)
HD in-group: Help giving		7.30* (2.96)	7.63** (2.88)
Out-group: Help giving		-1.88 (2.69)	-1.63 (2.65)
Peer punishment			-1.05 (1.09)
Moral courage			-0.24 (1.29)
Manipulation			
IOS pre			2.12** (0.70)
Pre-post IOS difference			2.67** (0.88)
Random effects			
Intercept	2.94*** (0.06)	2.43*** (0.13)	2.38*** (0.14)
Level 1 residuals	3.46*** (0.02)	3.46*** (0.02)	3.46*** (0.02)
Log likelihood	-6103.66	-6006.64	-6000.63
AIC	12221.32	12033.28	12029.27
BIC	12258.81	12086.85	12104.26
Model comparison (χ^2)		194.03	12.02
<i>df</i>		3	4
<i>p</i>		< .001	.017

Note. Standard errors are shown in parentheses. Random effects are reported as logarithms of the standard deviations. LD stands for low-distance, HD for high-distance.

Peer Punishment

Table 2 reports the results of the multilevel analyses. Model 0 revealed an ICC of .17. Again, responses differed significantly between vignettes, but the vignette effects were not significantly different across framing conditions ($\chi^2 = 5.99$, $df = 4$, $p = .200$). Framing had a significant effect on vignette response in Model 1 when comparing low-distance in-group and out-group, but the effect was no longer significant when using Bonferroni-

Holm correction for all three condition comparisons ($b = -5.62$, $SE = 2.76$, $t = -2.04$, $df = 1559$, $p = .125$).

Table 2

Model Parameters for Peer Punishment Vignette Response in Study 1

	Model 1	Model 2	Model 3
Fixed effects			
(Intercept)	55.23*** (2.25)	55.32*** (2.20)	31.38*** (6.37)
Vignettes			
Vignette 1	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Vignette 2	9.31*** (1.92)	9.30*** (1.92)	9.31*** (1.92)
Vignette 3	22.96*** (2.19)	22.95*** (2.20)	22.96*** (2.20)
Framing			
LD in-group	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
HD in-group	-5.31 (2.85)	-5.52* (2.72)	-2.82 (3.00)
Out-group	-5.62* (2.76)	-5.63* (2.66)	-3.06 (3.03)
Trait scores			
Peer punishment		7.94*** (1.81)	6.61*** (1.79)
HD in-group: Peer punishment		-0.65 (2.71)	-0.86 (2.64)
Out-group: Peer punishment		3.37 (2.68)	3.98 (2.62)
Help giving			-4.36** (1.42)
Moral courage			4.36** (1.33)
Manipulation			
IOS pre			1.88* (0.74)
Pre-post IOS difference			1.36 (0.98)
Random effects			
Intercept	2.83*** (0.06)	2.70*** (0.08)	2.65*** (0.09)
Level 1 residuals	3.49*** (0.02)	3.48*** (0.02)	3.48*** (0.02)
Log likelihood	-6656.79	-6627.90	-6619.07
AIC	13327.57	13275.80	13266.14
BIC	13365.06	13329.37	13341.13
Model comparison (χ^2)		57.77	17.66
<i>df</i>		3	4
<i>p</i>		< .001	.001

Note. Standard errors are shown in parentheses. Random effects are reported as logarithms of the standard deviations. LD stands for low-distance, HD for high-distance.

Model 2 showed that a one-unit increase of PP trait score was associated with a 7.94-point increase in the self-reported likelihood that participants would engage in the same behavior as described in the vignettes. The interaction of PP trait score and framing

condition was not significant. In Model 3, HG trait score had a significantly negative effect, while MC trait score and IOS pre had significant positive effects on response. Indeed, including IOS pre (in Model 3) rendered the effects of framing found in Model 2 insignificant, owing to the (partial) correlation of the two predictors.

Moral Courage

Multilevel analysis results are reported in Table 3. Model 0 showed an ICC of 0.10. Responses differed significantly between vignettes, but these effects were not different across framing conditions ($\chi^2 = 6.29$, $df = 4$, $p = .178$). The predictor framing showed a significant effect on vignette response in Model 1, indicating that participants in the low-distance in-group were on average 7.74 points more likely to show the behavior in the vignettes than participants in the high-distance in-group, and on average 9.08 points more likely than participants in the out-group. Bonferroni-Holm-corrected condition comparisons showed that the high-distance in-group and out-group conditions did not differ significantly ($b = -1.34$, $SE = 2.75$, $t = -0.49$, $df = 1559$, $p = .625$). Model 2 revealed that a one-unit increase of MC trait score was associated with a 12.04-point increase in the likelihood that participants in the low-distance in-group condition would engage in the behavior described in the vignettes. The interaction between MC trait score and framing condition was not significant. In Model 3, HG trait score and IOS pre positively predicted vignette response, whereas PP trait score had a significant negative effect on response. As in the case of Peer Punishment, significance of framing effects in Model 2 disappeared in Model 3 because IOS pre accounted for the variance in social distance.

Summary of Findings

Contrary to our expectations, we did not find a significant effect of framing on the responses to the help giving vignettes. Similarly, there was no significant effect of framing on responses to peer punishment vignettes after Bonferroni-Holm correction. Surprisingly, there was a significant effect of framing on responses to moral courage vignettes, indicating that participants in the low-distance in-group were more likely to self-report morally courageous behavior than participants in the high-distance in-group and in the out-group. The mean responses to the vignettes are plotted in Figure 2 and show a descriptively comparable pattern for all three facets.

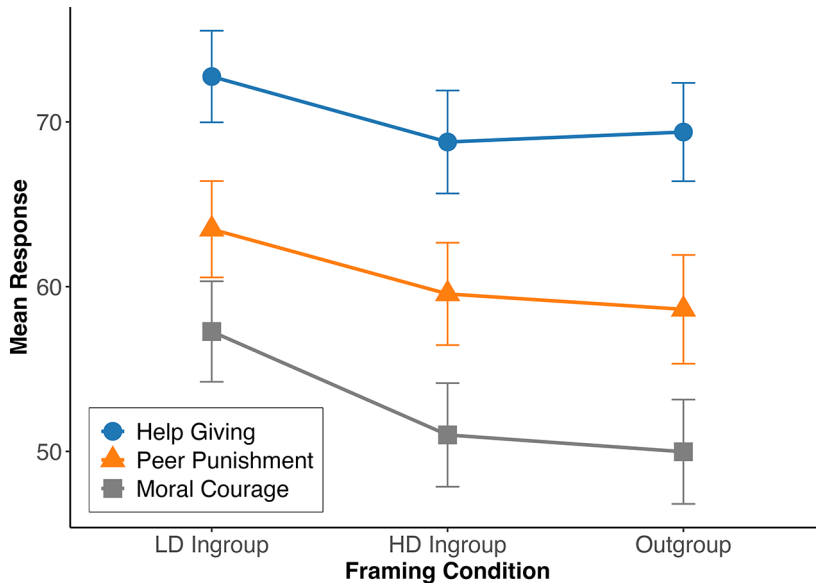
Table 3*Model Parameters for Moral Courage Vignette Response in Study 1*

	Model 1	Model 2	Model 3
Fixed effects			
(Intercept)	43.34*** (2.40)	42.53*** (2.35)	34.12*** (3.70)
Vignettes			
Vignette 1	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Vignette 2	9.71*** (2.31)	9.73*** (2.31)	9.71*** (2.33)
Vignette 3	39.62*** (2.06)	39.61*** (2.06)	39.64*** (2.08)
Framing			
LD in-group	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
HD in-group	-7.74** (2.81)	-6.13* (2.71)	-3.06 (2.87)
Out-group	-9.08** (2.81)	-8.51** (2.70)	-4.70 (2.78)
Trait scores			
Moral courage		12.04*** (2.08)	10.23*** (1.96)
HD in-group: Moral courage		-3.60 (2.78)	-2.19 (2.74)
Out-group: Moral courage		-3.95 (2.77)	-4.37 (2.63)
Help giving			6.48*** (1.36)
Peer punishment			-2.76* (1.23)
Manipulation			
IOS pre			2.04** (0.71)
Pre-post IOS difference			1.26 (0.95)
Random effects			
Intercept	2.85*** (0.07)	2.70*** (0.08)	2.60*** (0.10)
Level 1 residuals	3.49*** (0.02)	3.49*** (0.02)	3.49*** (0.02)
Log likelihood	-6558.24	-6528.04	-6510.50
AIC	13130.48	13076.08	13048.99
BIC	13167.97	13129.64	13123.98
Model comparison (χ^2)		60.40	35.09
<i>df</i>		3	4
<i>p</i>		< .001	< .001

Note. Standard errors are shown in parentheses. Random effects are reported as logarithms of the standard deviations. LD stands for low-distance, HD for high-distance.

Figure 2

Mean Vignette Response per Facet and Framing Condition in Study 1



Note. Although the pattern appears descriptively comparable, only the differences between the low-distance in-group and both the high-distance in-group and the out-group in the moral courage vignettes were statistically significant. LD stands for low-distance, HD for high-distance. Error bars represent 95% CI.

As expected, the correlations between the altruism trait measure (FAB) and the vignette responses were descriptively highest within the facets ($r = .54, p < .001$ for HG, $r = .31, p < .001$ for PP, and $r = .33, p < .001$ for MC). Details are presented in supplementary file 3: 'Additional_Figures_and_Tables.pdf'. The same pattern was found in the multilevel analyses, where vignette responses were most strongly predicted by the respective FAB subscale compared to the other subscales. However, there were significant cross-correlations between the facets, albeit at a lower level, suggesting that there is conceptual overlap between the vignettes of the three facets. However, since the FAB scores are also intercorrelated, cross-correlations are to be expected to some degree.

Study 2

In Study 1, we observed only small IOS differences between the high-distance in-group and out-group conditions, even though we introduced overt hostility to the out-group framing. In Study 2, we investigated whether this small effect was due to floor effects, which may have compromised the IOS assessment performed in Study 1. To address

this, we used an extended IOS version in Study 2 with two additional response options representing lower levels of connectedness. In addition, we inverted the response scale to counteract any potential directional bias (here: highest overlap left and lowest overlap right). We used only one vignette per facet in this study, namely the one that had the highest correlation with the other two vignettes in Study 1. We expected the IOS score to be highest in the low-distance in-group condition and lowest in the out-group condition, with low-distance in-group > high-distance in-group > out-group.

Method

Participants

The sample consisted of 440 participants (age, $M = 42.61$ years, $SD = 15.82$, range: 18–69), of whom 233 were female (53%) and 4 were non-binary. In June 2023, a total of 521 individuals were recruited through a commercial panel provider, again quoted for gender, age, and highest level of education. As preregistered, we excluded speeders, i.e., participants who completed the survey in less than 50% of the median time (81 participants, 16%)².

Material

We used a modified version of the one-item Inclusion of Other in the Self (IOS; Aron et al., 1992), which included two additional diagrams at the lower end (assessing lower closeness to the community). The item ranged from 1 to 9 with higher scores indicating greater closeness.

A set of one vignette per facet (HG, PP, and MC) was used to assess self-reported likelihood to show altruistic behaviors (see supplementary file 1: 'Study_Material.pdf'). For each facet, we selected the vignette with the highest correlation to the other two facet-related vignettes in Study 1. The chosen vignettes were: for HG, rescuing a woman who had fallen on the railroad tracks; for PP, pointing out individuals who avoid tedious work; and for MC, expressing concerns about an immoral proposal by the leadership team. Again, participants rated the likelihood of engaging in the described behavior on a scale from *very unlikely* (0) to *very likely* (100).

Procedure

The survey was administered using the online platform SoSci Survey (Leiner, 2023). Due to an error in the survey code, participants were randomly assigned to only one of the two in-group framing conditions (low-distance vs. high-distance), instead of to one of

2) We re-ran the analysis without excluding the speeders, as the preregistered, data-driven cut-off value excluded an unexpectedly high proportion of participants. While minor differences were observed in the results, they did not alter the overall interpretation of the findings. Detailed information about these differences can be found in supplementary file 4: 'Reanalysis_Study_2.pdf'.

the three framing conditions. After we noticed the error (after 332 participants had been enrolled), all participants were assigned to the third out-group framing group. Before being asked for informed consent, participants provided their gender, age, and highest level of education, for the purpose of the sample quote. Next, participants read the same vignette instructions as in Study 1 according to their assigned conditions. They then completed the IOS item (pre assessment), the 3 vignettes, and again the IOS item (post assessment).

Analyses

Consistent with Study 1, we conducted a mixed ANOVA on the IOS item response with the between-factor framing at three levels (low-distance in-group vs. high-distance in-group vs. out-group) and within-factor pre-post assessment at two levels (pre vs. post the vignettes). We expected the IOS to be higher in the low-distance in-group compared to the high-distance in-group compared to the out-group. For pairwise comparisons, we adjusted all p -values using Bonferroni-Holm correction.

Although we had preregistered multilevel analyses to predict vignette responses, we conducted regression analyses for each facet of altruism because participants responded to only one vignette per facet and therefore data were not nested in persons or vignettes. As was the case for Study 1, responses to the vignettes displayed floor and ceiling effects³ necessitating the use of tobit regression for censored data. We first included the predictor framing in the regression model (Model 1) and then added the pre-post IOS difference in a second regression model. Although preregistered, we did not include the IOS pre item in the model to avoid issues of redundancy and potential multicollinearity, due to the high degree of similarity between the IOS pre item and framing.

As a validation check, we computed three t -tests between the responses to the vignettes in this study and the responses to the same vignettes in Study 1 for each facet of altruism.

Results and Discussion

Adding two additional response options representing lower levels of connectedness shifted the mean IOS scores by approximately 2 points from Study 1 to Study 2 (see [Figure 1](#)). The mean IOS scores were $M = 5.99$ ($SD = 1.84$) in the low-distance in-group, $M = 4.36$ ($SD = 2.04$) in the high-distance in-group, and $M = 4.07$ ($SD = 2.23$) in the out-group condition. The inversion of the response options did not appear to influence the IOS scores, as the response pattern remained descriptively consistent between Study 1 and Study 2.

3) For all facets we observed 440 responses. For HG, 27 (6%) were at the lower, 56 (13%) were at the upper bound. For PP, 24 (5%) were at the lower, 54 (12%) were at the upper bound. For MC, 34 (8%) were at the lower, 37 (8%) were at the upper bound.

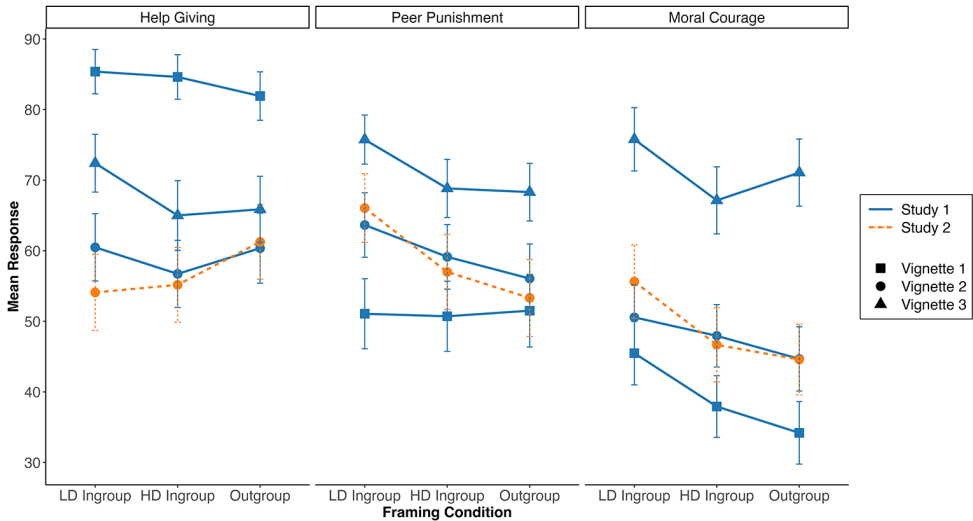
The main effect of framing on IOS was significant, $F(2,437) = 37.02, p < .001, \eta_p^2 = .15$. Pairwise comparisons showed that mean IOS scores were higher in the low-distance in-group compared to both the high-distance in-group, $t(592) = 9.32, p < .001, d = 0.77$, and out-group, $t(557) = 10.20, p < .001, d = 0.86$. By contrast, the high-distance in-group did not differ significantly from the out-group, $t(574) = 1.52, p = .129, d = 0.13$ (see [Figure 1](#)). Even though the floor effects for the high-distance in-group and out-group conditions are visibly smaller than in Study 1 (see supplementary file 3: 'Additional_Figures_and_Tables.pdf'), participants did not score significantly lower on the IOS in the out-group than in the high-distance in-group condition. These results suggest that, on the one hand, characterizing the social environment as unfamiliar and unrelated in the high-distance in-group condition successfully reduced feelings of social closeness and connection compared to the low-distance in-group condition, but characterizing the out-group condition as hostile was unsuccessful in significantly increasing the feeling of high social distance further. We will need to take this asymmetry into account when interpreting our effects. The main effect of pre-post assessment on IOS was significant, $F(1,437) = 13.21, p < .001, \eta_p^2 = .03$, as was the interaction between framing and pre-post assessment, $F(2, 437) = 11.14, p < .001, \eta_p^2 = .05$. A pairwise paired *t*-test showed that only in the low-distance in-group condition did participants report significantly higher IOS pre assessment compared to post, $t(143) = -6.10, p < .001, d = -1.02$. In the high-distance in-group condition and out-group condition, there was no significant difference between IOS pre and post scores, $t(152) = -0.66, p = .514$ and $t(142) = 0.22, p = .828$, respectively. This pattern suggests that participants in the low-distance in-group condition felt less connected to the community after responding to the vignettes than before, while connectedness did not differ for participants in the other two conditions.

[Figure 3](#) shows the mean vignette responses for each framing condition and facet in Study 2 alongside those of Study 1. When comparing the vignette responses between the two studies, there are no significant differences, with $t(928) = 1.12, p = .264$ for the HG vignette, $t(922) = 0.42, p = .675$ for the PP vignette, and $t(914) = -0.58, p = .565$ for the MC vignette, which demonstrates consistency across samples.

Regression analyses were conducted to examine the relationship between vignette responses and the predictor framing for each facet in model 1. Regression coefficients are reported in [Table 4](#). For the moral courage and peer punishment vignettes, responses were significantly lower in the high-distance in-group and out-group compared to the low-distance in-group. For the help giving vignettes, the difference between responses in the low-distance in-group and the out-group were only significant when not controlling for the pre-post IOS difference. The pre-post IOS difference did not show any significant effects on the vignette responses for any of the facets.

Figure 3

Mean Vignette Response per Facet and Framing Condition in Study 1 and Study 2



Note. Different shapes indicate the individual vignettes. Only the vignette with the circular shape (vignette 2, see supplementary file 1: ‘Study_Material.pdf’ for exact wording) was used in both studies. LD stands for low-distance, HD for high-distance. Error bars represent 95% CI.

Table 4

Regression Coefficients of Framing and Pre-Post IOS Difference on Vignette Response for the Facets Help Giving, Peer Punishment, and Moral Courage

Variable	Model 1				Model 2			
	B	SE	t	p	B	SE	t	p
Help giving								
Intercept	54.46	3.31	16.47	< .001	56.15	3.42	16.43	< .001
Framing								
LD in-group					<i>Reference</i>			
HD in-group	2.14	4.62	0.46	.642	0.64	4.67	0.14	.890
Out-group	9.54	4.70	2.03	.042	7.75	4.78	1.62	.105
Pre-post IOS difference					2.00	1.10	1.82	.068
R ²	.01				.02			

Variable	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Peer punishment								
Intercept	68.22	3.22	21.19	< .001	68.05	3.34	20.37	< .001
Framing								
LD in-group					<i>Reference</i>			
HD in-group	-9.45	4.48	-2.11	.035	-9.31	4.55	-2.04	.041
Out-group	-14.29	4.55	-3.14	.002	-14.12	4.65	-3.04	.002
Pre-post IOS difference					-0.20	1.06	-0.18	.854
<i>R</i> ²	.03				.03			
Moral courage								
Intercept	56.50	3.12	18.09	< .001	57.42	3.24	17.72	< .001
Framing								
LD in-group					<i>Reference</i>			
HD in-group	-10.06	4.36	-2.31	.021	-10.87	4.42	-2.46	.014
Out-group	-12.28	4.42	-2.78	.005	-13.25	4.51	-2.94	.003
Pre-post IOS difference					1.08	1.04	1.05	.295
<i>R</i> ²	.02				.03			

Note. All regression coefficients were estimated with the low-distance in-group condition as the baseline. LD stands for low-distance, HD for high-distance.

Consistent with Study 1 was the effect of framing on moral courage: Participants in the low-distance in-group were more likely to engage in morally courageous behavior than participants in the high-distance in-group and the out-group. The same pattern was found for the peer punishment facet: Participants of the low-distance in-group reported a higher likeliness to engage in the peer punishment behavior compared to both the high-distance in-group and the out-group. Surprisingly, the opposite effect was found for help giving, as participants in the low-distance in-group were less likely to engage in the behavior described in the vignette than participants in the out-group condition. This effect was no longer significant after controlling for the pre-post IOS difference.

General Discussion

In two studies, we investigated whether the three facets of altruistic behavior—help giving, peer punishment, and moral courage—are differentially sensitive to variations of social distance to the group in which they occur. Participants read three (Study 1) or one (Study 2) vignette(s) per facet and indicated their likelihood to act as described. Depending on the experimental framing condition, the scenarios took place in one of three social contexts: a low-distance in-group, a high-distance in-group, or a hostile

out-group context. Hence, we varied social distance within and across group boundaries. We expected help giving to be most sensitive to this framing variation and moral courage to be least sensitive. In addition, we were interested in whether facet-specific altruism trait scores would be able to predict the contextualized vignette responses.

For help giving, which we expected to be highest in the in-group conditions, we found no significant differences between the framing conditions in Study 1. In contrast, the results of Study 2 contradicted our hypothesis, as participants reported a significantly lower likelihood to engage in the described helping behavior when they were in the low-distance in-group condition compared to the out-group condition. However, this effect disappeared when controlling for the pre-post IOS difference, a measure for persistence of the framing manipulation over time. For peer punishment, a significantly higher vignette response in the low-distance in-group condition compared to the out-group condition emerged in Study 1, although the effect was no longer significant when Bonferroni-Holm corrected comparisons were applied. In Study 2, however, participants again reported a significantly greater likelihood to exhibit peer punishment in the low-distance in-group condition compared to both the high-distance in-group and out-group conditions. Thus, it appears that participants tend to be more willing to punish unfair others when the scenario occurred in a familiar social context. A similar pattern was observed for moral courage, as participants in both studies were more likely to engage in the behavior when the scenarios were situated in a low-distance in-group context, close to friends and family, compared to the two more distant in-group and out-group contexts. This finding is inconsistent with our hypothesis as we had presumed that the values behind moral courage are universal, across all levels of social distance (Swann et al., 2012; Windmann et al., 2021).

The most interesting finding, in our view, relates to the results pattern we obtained with the IOS. We initially used the IOS scores as a manipulation check. Although IOS scores were markedly higher in the low-distance in-group compared to the other two framing conditions, suggesting a higher degree of experienced closeness and in-group fusion, as expected, the differences in IOS scores between the high-distance in-group and the out-group were small, contrary to our expectations. In Study 1, the difference was significant, but in Study 2, the difference was even smaller and did not reach significance. The result resembles one by Vekaria et al. (2017) who, using a similar variant of the IOS, found that residents of the USA perceived citizens of the USA as more distant compared to citizens of other countries.

The failure of the IOS to mirror the intended variation of social context in all three conditions limits our ability to interpret the effects of the framing manipulation on the vignette responses. At the same time, the pattern raises conceptual questions about whether social distance (or rather, social *closeness* according to IOS instructions) within and across group boundaries can be measured with the same, single-item IOS scale (Jiménez et al., 2016; Schubert & Otten, 2002).

Obviously, one possible explanation could be that the framing we used was not as effective in inducing between-group distance as intended, even though a brief reminder of the social context was repeated after every three vignettes. Perhaps we needed more extreme, more detailed, or more graphic descriptions to effectively induce the idea of a larger social distance to a hostile out-group environment. [Aguinis and Bradley \(2014\)](#) recommend the use of more illustrative presentation formats such as audio, video, and 2D images to increase the ecological relevance of vignettes, to allow immersion in the described situations. On the other hand, group membership is usually quite easily manipulated in experimental research, for example, through the minimal group paradigm, without participants learning anything detailed about group members other than their membership status ([Balliet et al., 2014](#)). This would argue against the induction being too weak.

The other possibility is that the IOS, as used here, might not be sensitive enough to assess variations of perceived social distance across ingroup-outgroup boundaries ([Schubert & Otten, 2002](#); [Vekaria et al., 2017](#)). Although [Jiménez et al. \(2016\)](#) suggested that increasing the distance between the two circles is sufficient to capture out-group rejection, our own data do not align with this assumption. Adding two additional items to the lower end of the scale in Study 2 to increase the potential distance did not significantly enhance the differentiation between the high-distance in-group and out-group conditions in IOS scores.

It seems that we need to add further changes to the scale to visualize the idea of out-group hate or out-group “demarcation” within the IOS framework. For instance, one could add a sort of “barrier” between the two circles, and/or vary the thickness of the contours of the objects to indicate varying degrees of permeability. With such changes, we might also overcome another psychometric caveat of the IOS: At present, distance at the lower endpoint is potentially endless while closeness at the high endpoint is maximal at the point of full immersion. It is unclear whether subjective representations of social closeness (distance) within and across group boundaries are asymmetrical in an equivalent manner.

The question is fundamental because it concerns the functional relationship between perceived physical distance and perceived social distance. There is reason to believe that this function is indeed nonlinear and probably hyperbolic ([Jones & Rachlin, 2006](#)). The alternative would be a categorical view, in which in-group love and out-group hate are distinct psychological phenomena. This view would imply (in principle) that the two cannot be captured validly on a unidimensional scale ([Schubert & Otten, 2002](#)). We would instead have to design a new scale that retains the advantageous features of the original IOS (nonverbal, economic, intuitive) while conceptualizing perceived social distance as multifactorial.

On the positive side, the significant differences in IOS that we observed between the low-distance in-group condition and the other two conditions did indeed parallel

the pattern we observed in responses to the vignettes for peer punishment and moral courage, albeit not for help giving, where ceiling effects in one of the three vignettes may have limited the induced framing effects. The significant differences disappeared when IOS was included as a predictor, suggesting that IOS did indeed mediate the effects of framing.

While the literature provides inconclusive evidence regarding peer punishment, we consider our finding of in-group favoritism most unexpected for moral courage. Participants described themselves as more likely to show moral courage in the highly familiar low-distance in-group context than in the other, more unfamiliar environments. A recent meta-analysis by [Varmann et al. \(2024\)](#) confirms the positive relationship between identity fusion and pro-group behavior but also distinguishes three types of extreme pro-group behavior, namely fight/die/sacrifice, extreme collective action, and out-group hostility, all of which share a relatively high level of personal cost. Notably, all three of these relate to agency and courage rather than to morality. Thus, it may be specifically the courage and agency component that correlates with in-group fusion, while the more abstract values behind the behavior could still be universal in the sense that they are thought to apply equally to all human beings ([Beauchamp, 2003](#)). To tease apart their relative contributions and underlying functionalities, future studies could measure these two components separately.

We find it quite possible that poor reliability of the vignettes may have contributed to the overall small effects of the social distance variation. In fact, when we averaged across all vignettes, we observed a descriptive tendency toward a greater self-reported likelihood to act altruistically in one's own community compared to more unfamiliar social contexts, in-group or out-group, regardless of facet. A number of mechanisms have been proposed to explain such in-group favoritism, including direct reciprocity, reputation formation, and inclusive fitness ([Nowak & Highfield, 2011](#)). We suggest that successfully differentiating between the three facets might have required between-group assessment of the facets (instead of within-subject's comparisons) in addition to a higher number of items.

We have designed and used the vignettes to measure the facets of altruism as close to real life as possible. Of course, this approach has the limitation that it still relies on self-reported behavior rather than actual behavior. Statistically, the responses to the vignettes were not normally distributed, and the percentage format of the response scale with only endpoints labeled may have encouraged extreme responses ([Weijters et al., 2010](#)). An alternative to rating scales is the magnitude scale with an open format, as described by [Jasso \(2006\)](#). His three-step rating procedure allows for nuanced and fine-grained ratings and is thought to prevent ceiling effects, although it has been reported to create more measurement problems and to be more time-consuming than rating scales ([Sauer et al., 2020](#)). Regardless of the response format chosen, future studies should pilot test their vignettes to ensure their psychometric qualities.

However, the vignette responses in the present studies were indeed found to be meaningful and interpretable in that they were significantly correlated with the FAB trait measures. For each facet, the facet-specific correlations (concordant validity) were descriptively higher than the cross-correlations (discriminant validity). Nevertheless, significant cross-correlations were observed, suggesting some conceptual overlap between the contextualized facets, but also between the FAB trait subscales which were also significantly correlated. Specifically, higher trait help giving was associated with a greater self-reported likelihood to engage in morally courageous behavior in the vignettes but also with a higher trait moral courage, which may be because both facets reflect a genuine preference for potentially dangerous, benevolent action, as suggested by [Windmann et al. \(2021\)](#).

In sum, our studies have examined contextualized (state) and stable (trait) measures of three facets of altruistic behaviors—help giving, peer punishment, and moral courage—in the context of social distance within and across group boundaries. Results suggest an overall greater self-reported willingness to act altruistically within one's in-group, regardless of the specific facet of altruism. The surprising sensitivity of the self-reported moral courage behaviors to social distance opens avenues for further exploration of the complex relationships among courage, in-group fusion, and universal moral values. Despite uncertainties in the manipulation of social distance, our research encourages refinements and adaptations in the measurement of both altruistic behaviors and self-group distance/closeness within and across group boundaries. This exploration of altruistic behaviors through real-life scenarios highlights the enduring importance of altruistic acts for community well-being, as the example of the July 2021 flood disaster in Germany shows.

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Author Contributions: *Lucie Binder*—Software | Formal analysis | Data curation | Investigation | Writing – original draft | Visualization | Project administration. *Martin Schultze*—Formal analysis | Writing – review & editing | Supervision. *Sonja Langenstein*—Conceptualization | Software | Data curation | Writing – review & editing. *Sabine Windmann*—Conceptualization | Methodology | Resources | Writing – review & editing | Supervision | Project administration.

Ethics Statement: According to the local ethics committee of our faculty, ethical approval was not required for either of the two studies (“statement of irrelevance”). Informed consent has been obtained from all respondents prior to their participation in the study, and participation was anonymous.

Data Availability: Datasets, codebooks, and R scripts are available on OSF (see [Binder et al., 2025](#)).

Supplementary Materials

For this article, datasets, codebooks, and R scripts are available (see [Binder et al., 2025](#)).

Index of Supplementary Materials

Binder, L., Windmann, S., Schultze, M., & Langenstein, S. (2025). *Altruistic behaviors within and across groups* [Data, codebook, R scripts]. OSF. <https://osf.io/f7qag>

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