

Collective Action, Morality and Friendship

Javier Gomez-Lavin and Matthew Rachar

Abstract: This paper uses the tools of experimental philosophy to examine the nature of interpersonal normativity in collective action, focusing on cases of immoral collective action and collective action by friends. The results of our two studies, which build on recent experimental interventions into longstanding debates in social ontology, suggest two things. First, according to our everyday judgments, there are interpersonal obligations in cases of collective action, even when those actions are immoral. And, second, while friendship elicits judgments of togetherness, it does not affect the norms that structure collective action. We also situate these results in the philosophical literature and discuss their consequences for a pluralism about sociality.

Keywords: collective action, joint action, Michael Bratman, Margaret Gilbert, experimental philosophy, friendship, morality

1. INTRODUCTION

This paper uses the methodology of experimental philosophy to explore the normative features of collective action and its relation to other interpersonal

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phenomena, specifically morality and friendship. There is an established framework for conducting experimental research on collective intention and action.¹ We expand on and extend that empirical research in two directions. The first direction is the nature of normativity in morally charged collective action. There is empirical support in the literature for the idea that, according to our common understanding, collective action involves obligations in immoral cases, but so far there is no research that directly compares interpersonal obligations in moral and immoral cases. We develop novel vignettes that do this. Surprisingly, rather than extinguishing interpersonal obligations, our immoral collective action vignette appears to make them *more* salient. Although there are several possible explanations of this result, which we consider in section 2.4, it may be that we are primed to have normative expectations in favour of honour among thieves, whatever our descriptive expectations about its likelihood.

The second direction is the relation between collective action and friendship. Earlier experimental results indicate that collective action involves a set of characteristic interpersonal obligations, a package which includes an obligation to notify the other participants when leaving the action and a right to rebuke when this obligation is violated. But prior research leaves open how this normative package interacts with other social relations not explicitly mentioned in the experimental vignettes, such as friendship. We set out to test whether explicitly specifying the relationship between the co-actors in the vignettes makes a difference to judgments about the normative features of collective action by comparing vignettes that involve collective action between friends with those that involve collective action between strangers. Our results suggest that while the friend/stranger distinction does not alter the interpersonal obligations involved, it does change the salience of the co-actors' togetherness. Further, because earlier experiments use third-personal language, it is unclear how participants will respond when they themselves are implicated in the situation.² To clarify this, in our novel friend/stranger

1 See, for instance, Gomez-Lavin & Rachar (2019; 2022; 2023), Michael and Butterfill (2022), and Löhr (2022). The phrase 'collective action' is ambiguous. On one usage, it means, approximately, a combination or summation of actions by different individuals. This is the sense common when discussing what are sometimes called 'collective action problems' in a variety of disciplines, and is also used by some in the philosophical debate, for example Ludwig (2016). By contrast, we're using it to talk about acting together in a more robust way, the way that is often discussed in the philosophical literature in terms of 'shared agency,' 'joint action,' and so on. In that tradition, Searle (1990) and Gilbert (2013) also use 'collective action' the way we do here.

2 Thanks to Bryce Huebner for suggesting this direction of research.

vignettes we used second-personal language. Doing so does not appear to change our participants' judgments. Participants respond to cases that refer to them with the second personal "you" in much the same ways as cases involving only imagined fictional characters.

The purpose of this paper is fourfold: (i) to present these new empirical results, (ii) to situate them in the philosophical debate, (iii) to consider how they deepen and support the earlier research, and (iv) to suggest future research directions. The questions we address concerning the interaction between collective action, morality (§2), and friendship (§3), bear on several existing philosophical theories in the following way. Our results provide evidence about our everyday understanding of what it is to act together with others and what we owe each other when we do. Insofar as it is a desideratum of a philosophical theory that it be sensitive to this understanding, these results may be used to prompt theory revision where there is conflict or provide support where there is agreement.³ They may shift the debate by leading philosophers to reconsider their interpretation of thought experiments or to develop new ones. Where the results bear this relationship to a philosophical theory, we will highlight the relevant claims of that theory in the introduction to the experiment and consider the relation in the corresponding discussion.

However, we do not here aim to develop a philosophical theory of collective action, nor of morality or friendship, that explains our results. Instead, we draw more general lessons for future philosophical work on these topics by arguing for two claims in §4. Our first claim is that these results provide support for pluralism about sociality. Pluralism about sociality is a claim about how to understand our social world. It says that we need different conceptual resources to explain the various different kinds of social interactions in which agents can take part, and that we can use these differences to distinguish between kinds of sociality.⁴ Our second claim is that the results provide support for the idea that collective action is a distinct form of sociality. Whatever its psychological effects, forming a collective intention engages us in a particular kind of social relationship, one that comes with its own package of interpersonal obligations, expectations, pressures, and opportunities.

3 Given the methodology and explicit statements of the theorists we will discuss, we suspect that they are working under the assumption that this is a genuine desideratum. Consult, Alonso (2016, 292), Bratman (2014, 86), and Gilbert (2013, 102).

4 Consult Bratman (2014, 105) for what may be interpreted as a discussion, and implicit endorsement, of this thesis, and Asarnow (2020) for explicit discussion.

2. STUDY 1: THE ROBBER CASES

A common thought among philosophers is that participation in an immoral collective action nullifies whatever interpersonal obligations tend to arise when we act together, or prevents them from arising in the first place. For example, Facundo Alonso, who defends an account on which the interpersonal obligations of collective action arise from relations of reliance between co-actors, claims that, “Since robbing a bank is a morally impermissible action, our having formed such a shared intention does not create relevant obligations between us” (Alonso 2016, 292).⁵ Likewise, Michael Bratman claims that, even if in immoral cases one co-actor attempts to hold another to a purported obligation, it is nothing more than moral “bluff” (Bratman 2009, 152).⁶ For him, “morally outlandish” collective action gives us an example of the presence of a psychological structure guiding participants’ behaviour without the mutual obligations often thought to be part of the social aspect of collective action (Bratman 2009, 152). Alonso is here highlighting a consequence of his theoretical position, but he also in part relies on his own intuitions to provide support for this claim, stating that in these cases “it is intuitively clear that no obligations are created between the individuals” (Alonso 2016, 294). While less explicit, it is clear from the context that Bratman is also in part relying on intuition as a source of support.

The conflict between Alonso and Bratman’s intuitions and previous experimental research is pronounced (Gomez-Lavin & Rachar 2019, 115-6). In that research, the vignettes are based on a case with many similarities to robbing a bank: two characters are breaking into an ATM in order to steal the money inside, when the “bagman” suddenly takes off. Compared with the control condition, participants judge both that the bagman has obligations to his partner and that the collective action he is a part of is morally wrong, *contra* Alonso and Bratman. However, this research is in line with another philosophical theory, that of Margaret Gilbert, who claims that the morality of the action in question has no bearing on whether obligations exist between co-actors, although it may affect whether the co-actors should fulfil those obligations all things considered (Bratman 2009, 178).

⁵ His account is developed primarily in Alonso (2009). For a more thorough discussion of Alonso’s theory of collective action and its relation to the previous empirical research, consult Rachar (2021).

⁶ A more detailed discussion of Bratman’s commitments with respect to both morality in collective action and the empirical research may also be found in Rachar (2021).

While it appears that this research supports Gilbert's view, there are two important limitations to the previous studies that must be corrected in order to evaluate the extent and validity of that support. The first concerns the structure of the study. Because the authors did not vary moral valence independently of collective action, the design of the studies prevents one from ruling out that the negative moral valence of the action in the vignette was in fact the principal driver of participants' intuitions. It could be the case that the strength of mutual obligation increases as the moral wrongness of the action increases. In fact, on its face, this seems plausible; honour amongst thieves may have greater force that is proportional to the seriousness of the theft. Our studies correct for this limitation of the previous research by including both moral and immoral versions of the original vignette.

We further extend prior research by including a new condition that explores the role of exchanging promises, which allows us to evaluate the effect that non-essential features of collective actions—like promises—have on the normative situation when people act together. This yields six experimental conditions: control, collective action, and promising for both moral and immoral cases, detailed in the following section. In brief, the vignettes corresponding to these conditions manipulate both evidence of collective action and the presence moral transgression/obedience (consult Appendix B for full vignettes). As in earlier studies, in the control condition, two people are lined up at an ATM booth.⁷ The machine malfunctions and starts dispensing \$20 bills. One person begins collecting them, while the other person catches a few bills and walks off. In the collective action condition, two people are actively breaking into an empty ATM booth late at night. One man has a crowbar and is using it to get into the ATM; the other man is waiting beside him with a bag to collect the cash. Before they open the ATM, the bagman suddenly walks out of the booth. In the new promising condition, the action is the same as in the collective action condition, but the co-actors have promised each other they will carry out the theft. In our new "morally good" conditions an ATM malfunctions and starts dispensing bills. In the control condition, there is no evidence of interaction among the two co-actors. By contrast, in the collective action condition, we provide evidence of a joint plan among them. And, finally, in the promising condition the co-actors make explicit promises. Across all the moral vignettes, however, instead of leaving with the bills, they return them to the bank.

7 For the full description consult Gomez-Lavin & Rachar (2019, 114).

The second limitation of the previous research is theoretical in nature. It employs a distinction between ‘normativists,’ who hold that interpersonal normativity is inherent in collective action, and ‘non-normativists,’ who deny this claim. This distinction is helpful for structuring the debate in order to engage in initial research, but, because of its generality, it leaves open several questions about the nature of that normativity. These studies improve on the earlier ones by employing finer-grained hypotheses, thereby presenting a more detailed picture of judgments about the nature of interpersonal normativity in collective action. One of the ways they do so is by including new measures. For example, one measure concerns what is required to faultlessly leave a collective action, a question with direct relevance to Gilbert’s view. According to her “concurrence criterion,” one must receive permission from the other participants in order not to wrong them by leaving.⁸ After reading one of the vignettes described above, participants are asked about this, in questions corresponding to our measures described in §2.1. In addition, they are asked to rate the togetherness of the characters, the obligations they have to one another, and the morality of the action.

The aims served by this combination of new vignettes and new measures are to assess the level of support for the Gilbertian thesis of mutual obligation in immoral collective action, to explore the role of promising in generating special relations between collective actors, to investigate whether the moral wrongness of the bank robbing case served as a confound in the previous experiments, and, most speculatively, to test the thesis that the force of these obligations increases with the immorality of the action.

2.1. Methods

As prefaced, this experiment features a 2×3 between-subjects design in which 326 American, adult participants (44.2% self-identified as female) were randomly assigned to one of six conditions as specified in the Table 1 below⁹:

Participants were asked to read a condition-specific vignette, the full text of which may be found in Appendix B, and to respond to our five dependent measures listed below:

⁸ For a more extensive investigation of this issue, see Gomez-Lavin and Rachar (2022).

⁹ An additional 46 participants were removed from further analyses as either they failed to complete the study, or they failed one of our two “bot-checks.” Participants were recruited using Amazon’s Mechanical Turk platform, and were paid approximately \$1 USD for the estimated five minutes it should take to read the instructions and vignette, respond to our dependent measures and provide non-identifying demographic information.

Table 1. *Study 1 Participant Assignment*

Type of Collective Action	Moral Valence	
	Immoral	Moral
Control	n = 53	n = 53
Collective Action	n = 58	n = 56
Promising	n = 55	n = 51

1. *Togetherness Measure*: ‘To what extent were the two people acting together?’ anchored at 0 (‘Not at all’) and 6 (‘Completely’).
2. *Permission Measure*: ‘Does the person who peels off have to seek permission to leave from the person who stays?’ anchored at 0 (‘Not at all’) and 6 (‘Completely’).
3. *Notification Measure*: ‘Should the person who peels off notify the other that they’re leaving?’ anchored at 0 (‘No obligation to notify’) and 6 (‘Total obligation to notify’).
4. *Morality Measure*: ‘Were the actions taken by the two people morally wrong?’ anchored at 0 (‘Not at all wrong’) and 6 (‘Completely wrong’).
5. *Commitment Measure*: ‘How committed are the characters to the action described, if at all?’ anchored at 0 (‘Not committed’) and 6 (‘Completely committed’).

Our first three measures, which have all been adapted from prior studies in the literature were presented simultaneously and in random order. Our *Morality* and *Commitment* measures were presented on subsequent pages in that order. Finally, participants were asked to give a one to two sentence explanation of their choices and were directed to answer a short list of demographic questions.

2.2. Predictions

Our predictions were largely informed by prior research suggesting that participants tend to support the claim that there are interpersonal obligations in collective action. In particular, we expected to find the following results:

Togetherness Measure. We expect that this measure will vary independently from the moral valence of the assigned vignette. That is, we predict that participants will give lower scores in our two control conditions, and significantly higher scores in our collective action and promising conditions. That is, we expect the median score of this measure within our control conditions to be statistically significantly lower than the median score of this measure within

our collective and promising conditions.¹⁰ This measure additionally serves as a manipulation check on our vignettes as it tests whether the cues added are in fact signals of collective action.

Permission Measure. As with our *Togetherness Measure*, based on prior research, we expect that participants' judgements about the requirement to seek permission to exit an action would vary independently from the moral valence of the assigned vignette; that is, participants' permission scores for twinned vignettes across the moral/immoral divide (e.g., moral control versus immoral control) should not significantly differ. We further predict that participants would give lower scores in our control conditions and collective action conditions, and higher scores in our promising conditions. This second prediction stands in contrast to the work of Margret Gilbert, who might expect that participants would give high scores on this measure in collective action cases.¹¹

Notification Measure. Again, and in line with prior experimental evidence (Gomez-Lavin and Rachar, 2019), we expect that this measure will vary independently from the moral valence of the assigned vignette. In fact, we predict that scores on our Notification Measure will follow a similar pattern to our Togetherness Measure, with low scores in our control conditions and significantly higher scores in our other conditions.

Morality Measure. This measure serves primarily as a manipulation check on our vignettes. As such, we expect that immoral conditions, being perceived as such, will receive significantly higher scores on our scale than in our moral conditions.

Commitment Measure. We chose to introduce a novel exploratory measure assessing participants' judgments of the level of commitment depicted by the actors in the vignettes in order to begin looking at the commonly proposed analogy between individual and collective commitment.¹²

2.3. Results

Our results were generally in line with our predictions, and serve as evidence that perceptions of collective action and their concomitant normative relations are not diminished by immoral situations. In fact, it may be that immoral

¹⁰ Please consult Appendix C for formalized predictions.

¹¹ Consult Gilbert (2013, 24-26) for a defense of this requirement, which is part of her "concurrency criterion."

¹² We did not have strong predictions regarding this measure, aside from the sense that participants' scores should be significantly lower in our control conditions as opposed to other conditions, and chose to include it as an exploratory measure.

situations themselves heighten participants' judgments of collective action, as discussed below. Significant main effects were recorded across all of our measures.¹³

2.3.1. Togetherness and Notification Results

As predicted, participants were able to track increasing evidence of collective action independently of the scenario's moral valence, with collective action and promising conditions generally eliciting significantly higher scores on our *Togetherness* and *Notification Measures* than in our two control conditions.¹⁴ Scores on these two measures were significantly correlated.¹⁵ Consult Table 2 and Figures 1 and 2 for graphical depictions of medians and score spread:

Table 2. *Study 1 Descriptive Statistics for Togetherness and Notification Measures*

Type of Collective Action	Moral Valence			
	Immoral		Moral	
	<i>Togetherness</i>	<i>Notification</i>	<i>Togetherness</i>	<i>Notification</i>
Control	Mdn = 1	Mdn = 0	Mdn = 0	Mdn = 1
Collective Action	Mdn = 5	Mdn = 5	Mdn = 4	Mdn = 2
Promising	Mdn = 6	Mdn = 5	Mdn = 4	Mdn = 4

Unlike our initial predictions, it appears as though participant ratings across moral and immoral collective action conditions significantly differ with

13 Kruskal-Wallis independent samples tests: $H(5) = 137.674, p < .001, E_R^2 = .42$ for togetherness, $H(5) = 25.091, p < .001, E_R^2 = .08$ for permission, $H(5) = 81.533, p < .001, E_R^2 = .25$ for notification, $H(5) = 155.844, p < .001, E_R^2 = .48$ for morality, and $H(5) = 21.297, p = .001, E_R^2 = .07$ for commitment. Further statistics and relevant formulae can be found in Appendix A.

14 All comparisons of our control conditions against our collective action and promising conditions for our *Togetherness Measure*: $z > 3.03, p < .037, r > .28$; similar comparisons for our *Notification Measure*: $z > 3.5, p < .008, r > .33$, with the exception of control comparisons against our moral collective action condition, which were not significant ($z < 1.7$, unadjusted $p > .1$). Scores across our two control conditions were not significant ($z < 1.4$, unadjusted $p > .19$). Please consult Appendix A for full result tables. That is, we have some evidence for the alternative hypotheses for both these measures, but it is further complicated by the effect of moral and immoral conditions.

15 $R_s = .546, p < .001$.

respect to both our *Togetherness* and *Notification* measures.¹⁶ Similarly, ratings across moral and immoral promising conditions significantly differ on our *Togetherness* measure and are trending towards significance on our *Notification* measure.¹⁷ In the above cases, immoral behavior by the characters in the vignette results in higher participant ratings on these two dependent measures.

16 Pairwise comparisons: $z = 4.334$, $p < .001$, $r = .41$ for *togetherness*, $z = 4.349$, $p < .001$, $r = .41$ for *notification*. All p values adjusted for multiple comparisons unless otherwise noted. For other effects consult Table 5 and Table 6 in Part A of the Appendix.

17 All comparisons of our control conditions against our collective action and promising conditions for our *Togetherness Measure*: $z > 3.03$, $p < .037$, $r > .28$; similar comparisons for our *Notification Measure*: $z > 3.5$, $p < .008$, $r > .33$, with the exception of control comparisons against our moral collective action condition, which were not significant ($z < 1.7$, unadjusted $p > .1$). Scores across our two control conditions were not significant ($z < 1.4$, unadjusted $p > .19$).

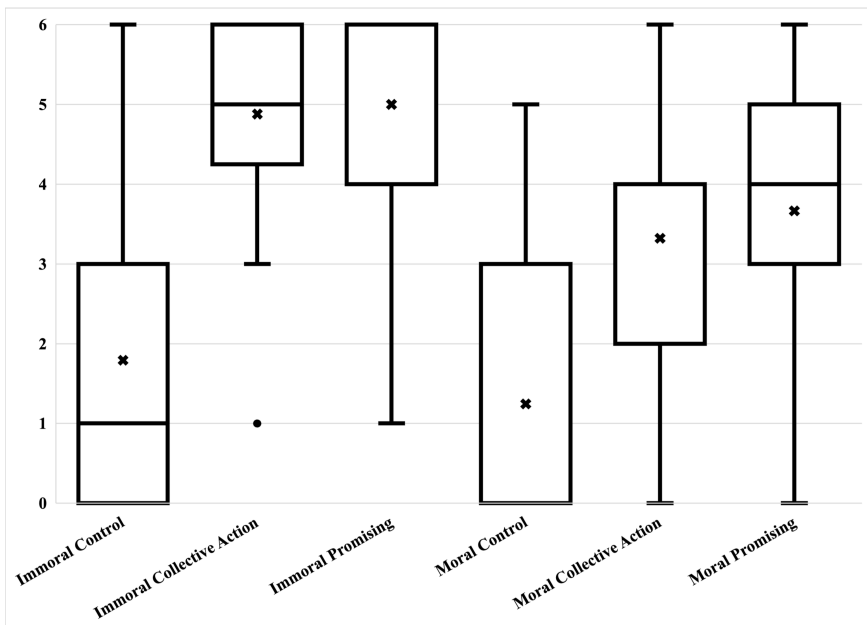


Figure 1. Participant ratings for our *Togetherness Measure*. A box and whisker plot comparing results for our *Togetherness Measure* in Study 1. These represent the distribution of participant ratings amongst our conditions and measures, with “x” representing the mean and thick, horizontal bars representing the median. “Whiskers” represent the lowest and highest quartile responses, and boxes represent the middle two quartile responses.

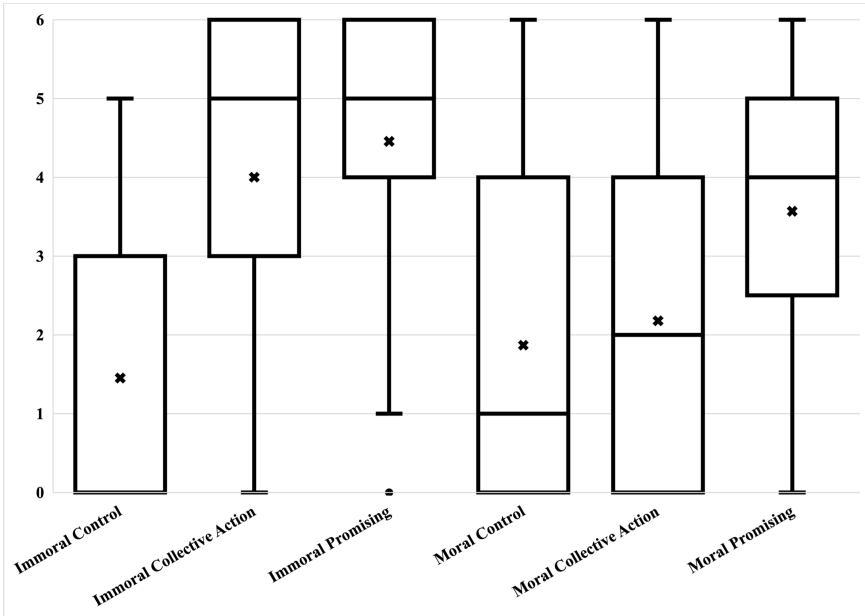


Figure 2. Participant ratings for our Notification Measure A box and whisker plot comparing results for our Notification Measure in Study 1.

2.3.2. Permissibility and Possible Order Effects

Participant ratings on our permissibility scale were partially in line with our predictions; consult Figure 3 below for a graphical representation. Regarding our first prediction, that permissibility scores would vary independently of the morality of the scenario, scores for corresponding vignettes across the moral divide (e.g., contrasting moral and immoral control conditions) do not significantly differ from one another.¹⁸ At the same time, it appears as though there is a mild effect of morality on this measure when contrasting the *pattern* of scores obtained across vignettes within a given moral domain. Permission scores significantly differ between *immoral* control and collective action conditions, while this pattern fails to manifest between *moral* control and collective action conditions.¹⁹

¹⁸ Pairwise comparisons across morality: control conditions, $z = .047$, $p = .639$; collective action conditions, $z = 1.36$, $p = .174$; promise conditions, $z = .126$, $p = .9$

¹⁹ Immoral pairwise comparison: $z = 3.183$, $p = .022$. Moral pairwise comparison: $z = 1.351$, $p = .177$.

Further, it is interesting to note that although the means for each corresponding condition across the moral divide are quite close to one another, the *medians*—especially for our collective action conditions—are far apart, with the median score for immoral collective action at 2 and the median score for moral collective action at 0.5. This is made explicit when we compare the frequency of participant responses across the seven possible scores, as we’ve done in Figure 4 below. Figure 4 highlights that nearly twice as many participants give floor-level (i.e., “0”) ratings in the immoral collective action vignette compared to the corresponding moral vignette. It’s this difference that is likely driving significant differences across immoral conditions, a pattern which failed to materialize for our moral conditions.

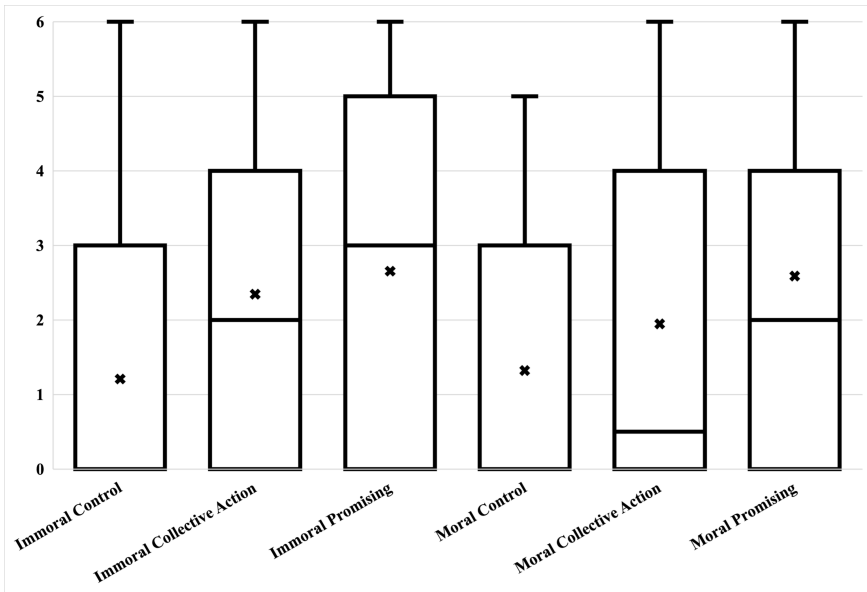


Figure 3. Participant ratings for our Permission Measure A box and whisker plot comparing results for our *Permission Measure* in Study 1.

Our results are less clear with respect to our second prediction, where we expected—*pace* Gilbert—that participants would give lower scores in control conditions and collective action conditions than in promising conditions. Permissibility scores on control conditions (moral and immoral *mdns* = 0) were significantly lower than in their respective promise conditions (moral

$mdn = 2$; immoral $mdn = 3$).²⁰ However, scores between collective action and promising conditions were not significantly different. This may be due to the spread of scores in our collective action conditions, consult Figure 4 below.²¹ While promising conditions did have higher mean and median scores than others, the difference between collective action and promising conditions is less robust, with only our *moral* promising condition approaching two-tailed, uncorrected significance against its corresponding collective action condition ($p = .068$). Again, this is likely due to the spread of scores across our collective action condition, an explanation of which may serve as a good target for future empirical intervention.

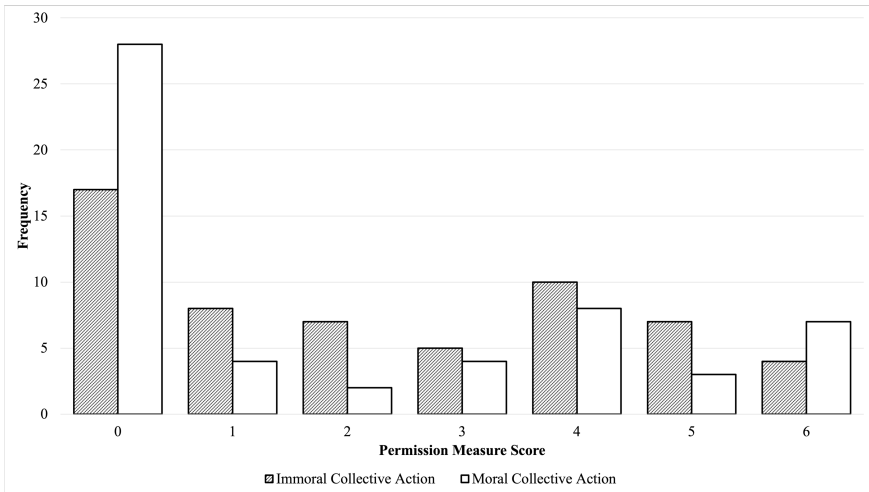


Figure 4. *Distribution of participant scores across both collective action conditions*
This figure depicts paired histograms for participant responses in our *Permission Measure* across immoral and moral collective action conditions.

We also investigated whether there might be order effects, as was found in research using a similar paradigm and vignettes (Gomez-Lavin and Rachar,

20 Pairwise comparisons: controls versus promise conditions, $z > 3.1$, $p < .028$, $r > .28$. Controls not significantly different from one another, $z = 0.47$, unadjusted $p = .177$. Please consult Table 7 in Appendix A for full result matrices.

21 All pairwise comparisons: $z < 1.83$, unadjusted $p > .067$, $r < .172$. For example, consider the spread of scores across moral ($mdn = .5$, *coefficient of variation* hereafter '*CoV*' = 8) and immoral ($mdn = 2$, *CoV* = 2) conditions when compared with their respective promising counterparts (moral $mdn = 2$, *CoV* = 2; immoral $mdn = 3$, *CoV* = 1.67). *CoV* values calculated by dividing the measures' interquartile range by its median to approximate a measure of variability.

2022). However, it looks as though scores were not significantly affected by order in which the measures were presented.²²

2.3.3. Morality

Morality scores accord with our predictions. Every immoral scenario (control $mdn = 4$, collective action $mdn = 6$, promising $mdn = 6$) was rated as significantly more morally wrong than their moral counterparts (control $mdn = 3$, collective action $mdn = 1$, promising $mdn = 2$); consult Figure 5 below.²³ Additionally, we detected greater variability between scores in our three immoral conditions than within our three moral conditions; that is, our immoral control condition was rated a significantly less morally wrong than our immoral collective action or promising conditions, whereas there were no significant differences amongst ratings for our three moral conditions.²⁴

When treating the moral valence of a vignette as a primary binary factor, immoral scenarios garnered significantly higher ratings across our *Togetherness*, *Notification*, and *Morality* measures than in our *Permission* measure.²⁵ Consult Figure 6 below for a comparison of combined participant responses to each of our five primary measures, where responses were combined across the type of collective action specified (e.g., control, collective action, or promising) but split across their moral factor. That is, all the responses from the three moral conditions are contrasted with those for the three immoral conditions, for each measure. The graphical representation makes the results clear; across the type of collective action specified, immoral conditions (coloured in grey) yielded responses with higher scores in many of our measures. These results were somewhat surprising, as we expected *Togetherness* and *Notification* ratings to vary independently of the moral valence of the vignette, and instead indicate that immoral situations may heighten the saliency of cooperative behaviors further influencing participants' ratings.

²² Kruskal-Wallis independent samples tests for order effects all $H(2) < 1.45, p > .48, E_R^2 = .005$.

²³ All pairwise comparisons between moral and immoral conditions: $z > 3.7, p < .001, r > .36$. Consult Table 8 in Appendix A for full results.

²⁴ Pairwise comparisons between immoral control and collective action: $z = 2.936, p = .003, r = .28$, immoral control versus promise: $z = 4.115, p = .001, r = .39$, immoral collective action versus promise: $z = 1.244$, unadjusted $p = .214$. All pairwise comparisons within moral conditions: $z < 1.22, p > .224$.

²⁵ Mann Whitney U Tests for the following measures factored by moral valence: *Togetherness* ($U = 8588.5, z = 5.594, p < .001, r = .31$), *Notification* ($U = 10415.5, z = 3.433, p = .001, r = .19$), *Permission* ($U = 12846, z = 0.536, p = .592$), *Morality* ($U = 3529.5, z = 11.682, p < .001, r = .65$), and *Commitment* ($U = 11690.5, z = 1.917, p = .055, r = .11$).

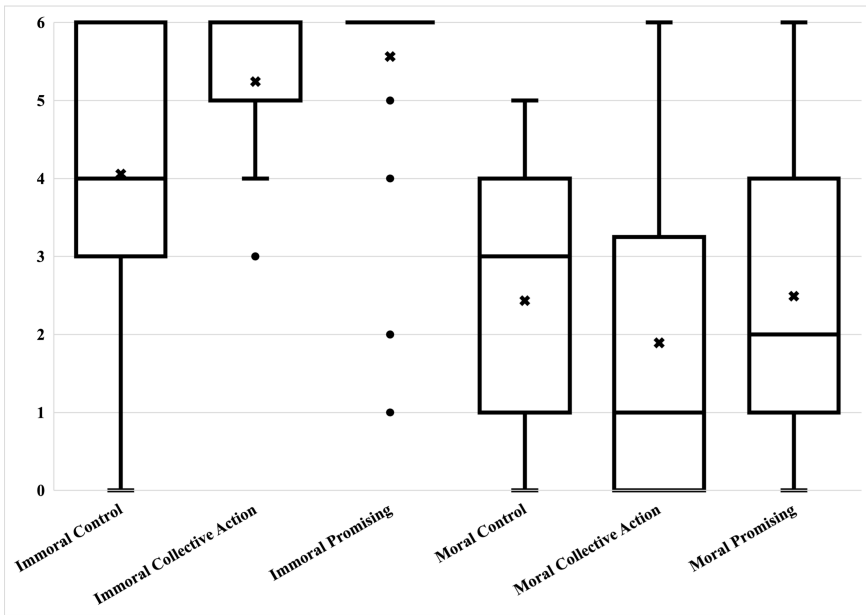


Figure 5. Participant ratings for our Morality Measure A box and whisker plot comparing results for our Morality Measure in Study 1.

2.3.4. Commitment

While we found a main effect of condition assignment on our exploratory *Commitment* measure, the results are somewhat surprising. The medians, as depicted in Figure 7 below, across our conditions were identical ($mdns = 4$). The main effect seems to have been driven primarily by two significant differences: the contrast between the two control conditions (moral and immoral) and collective action in the moral case, where 75% of respondents gave scores at or below 4.²⁶ One interpretation is that participants were judging *individual* commitment in our control cases as more impactful than joint commitment in our collective cases. However, further research on this measure will be required to test this analysis and more thoroughly explore how judgments of commitment relate to judgments of togetherness and judgments of obligation.

²⁶ Pairwise comparisons between our controls and moral collective action: $z > 3.3, p < .012, r = .32$, and comparisons between controls and our moral promising condition: $z > 2.8, p < .075$, unadjusted $p < .006, r = .28$. Please consult Table 9 in Appendix A for full results.

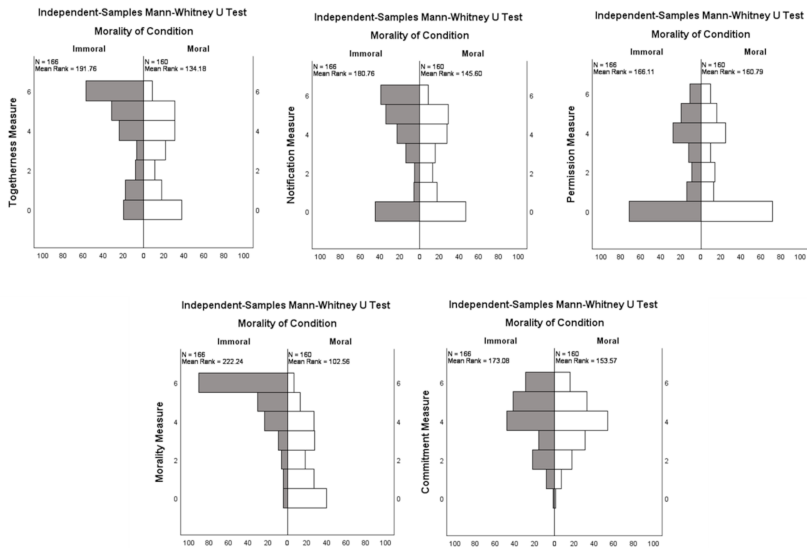


Figure 6. *Treating Moral Valence as Factor* This figure combines ten histograms displaying the frequency distribution of participant responses, as noted on the x-axis, across our five primary measures, noted on the y-axis, combining all responses for our three conditions under our “immoral” factor—in dark grey—and contrasting them to those responses for our three “moral” conditions—in white. This allows for an immediate comparison of responses along the moral valence of the vignettes, and makes the surprising result that immoral conditions tended to elicit stronger responses in many of our measures, more explicit.

2.4. Discussion

Overall, these results support two claims about the relationship between interpersonal obligation and the morality of a collective action. First, our results correct for the problematic design of earlier studies, while showing that there is strong support for the original interpretation. The claim at issue is that collective action involves interpersonal obligation, and these results suggest that this is true across moral valence for the collective action in question. In both the moral and immoral cases, judgments about the presence of an obligation are significantly higher than in the control conditions. This rules out the possibility that specifically *immoral* collective action leads to judgments of obligation, since both moral and immoral collective action do. If we had found that *only*

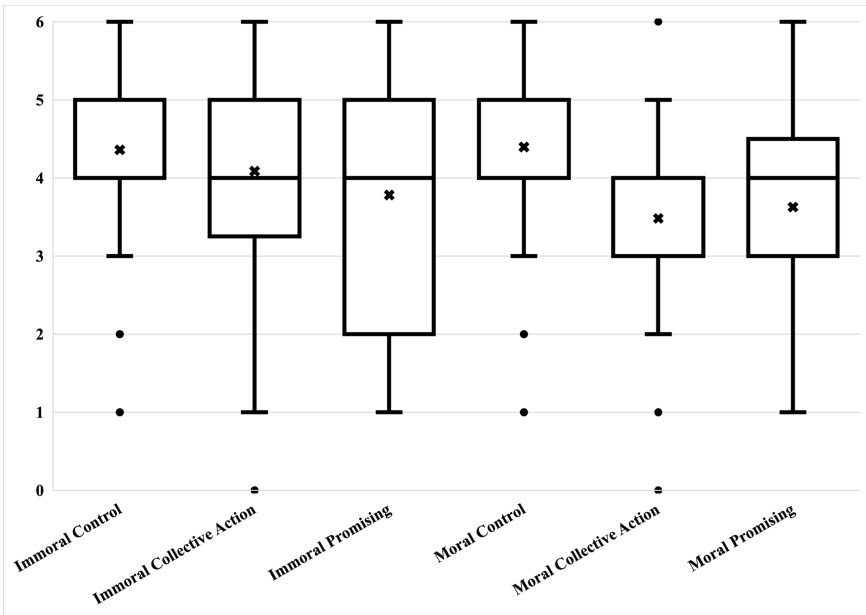


Figure 7. Participant ratings for our Commitment Measure A box and whisker plot comparing results for our Commitment Measure in Study 1.

in the immoral cases did the togetherness and obligation measures rise, that would have undermined the original interpretation. Instead, our results suggest that the original research generalizes across moral valence.

Second, there may be initial support for the “honour amongst thieves” conjecture, which says roughly that the more immoral the action, the stronger the obligations between the co-actors. People appear to not only think that there are interpersonal obligations in our immoral collective action conditions; their judgments about such obligations *are stronger*.²⁷ This speaks against the intuition that there are no such obligations in immoral cases. We suspect that the relative strength of these judgments in immoral cases is a function of the consequences of being left behind—the stakes are higher when the characters are breaking into the ATM than when they’re doing the right thing. Another possible explanation along these lines is that social norms in favour of doing one’s part tend to be more strictly enforced, and deviations more strictly

²⁷ One possibility is that people are employing a *pro tanto* understanding of obligation. That is, they think there is some obligation to perform the action but do not think the person should perform the action all things considered. Testing whether this is the case is a promising direction for further research.

punished, in criminal enterprises. Importantly though, these high stakes are not required for judgments that there are such obligations. Even in the moral case, in which the cost of one person leaving in terms of time, effort, or resources for the person left behind is arguably negligible, participants still intuit the presence of obligations.²⁸

There is an alternative explanation for this result, one that does not rely directly on the morality of the action and that the design of these studies does rule out. It may be that what is driving our participants' judgments about interpersonal obligation is a further judgment about the relation of the characters. For each pair of corresponding conditions, our participants judge that the characters are more together in the immoral cases. And this in turn may be due to a distinction between planned and emergent or spontaneous collective action.²⁹ Some collective actions come about as the result of prior planning, for example when individuals engage in shared deliberation or agree to undertake some action together in the future, while others are spontaneous. Sometimes people simply start acting together, perhaps because of some feature of the situation, for example in the case of bystanders rushing to help someone after a car crash. The structure of the vignettes may suggest to our participants that the immoral co-actors engaged in shared deliberation about how to carry out the robbery, while the moral co-actors are simply responding to the situation. That is, the immoral actors are engaged in a planned collective action, while the moral actors are engaged in a spontaneous collective action. It may then be that judgments of togetherness reflecting this distinction are driving the difference in judgments of interpersonal normativity, rather than a judgment about the morality of the action.

This thought opens up several promising areas for further research. One could design cases, one moral and one immoral, in which the moral case elicits higher ratings of togetherness. If participants' judgments about interpersonal obligations were still higher, it would provide evidence that morality is the primary driver. If, on the other hand, the moral case generated higher interpersonal obligation judgments, it would provide

28 This is the relevant metric for views that trace the interpersonal normativity in collective action back to reliance losses, for example Alonso (2009, 2016).

29 This distinction has not been dealt with at great length in the contemporary philosophical literature, although the major theorists do see their theories as capable of accounting for spontaneous collective action. Consult, for example, Bratman (2014, 24) and Gilbert (2006, 177 and 139–40). It is treated as more significant in empirical approaches to collective action in social psychology and cognitive science. Consult, for example, Knoblich, Butterfill, and Sebanz (2011), in which a survey of the literature is structured around the distinction.

evidence that togetherness is the more important consideration. Note also that judgments of togetherness may not directly map onto the planned/spontaneous distinction. There may be cases of planned collective action that do not elicit higher judgments of togetherness than spontaneous collective actions, perhaps because the planned collective actions involve elements of competition. So, another set of experiments could test the relation between judgments of togetherness and the planned/emergent distinction. Finally, the planned/emergent distinction may affect judgments of interpersonal normativity independent of the morality of the action. It could be that participants find the obligations of people doing something together more salient when that collective action is planned compared to when it is spontaneous. This would be a particularly interesting result since none of the normativists about collective action would predict it.³⁰

Whatever the explanation of the difference in salience in the moral and immoral cases, our results provide support for a view that posits interpersonal obligation in immoral cases: judgments of togetherness are strongly associated with judgments of interpersonal obligation. Further, these results are suggestive about the nature of that interpersonal obligation. The permissibility measure calls into question whether there is an obligation to seek the permission of the other participants before leaving a collective action. The presence of such an obligation is posited by Margaret Gilbert, whose theory is otherwise in line with our results. In order to provide support for Gilbert's theory, we would need to find that judgments in favour of an obligation to seek permission are present in all collective actions, which is not the pattern we found. Instead, while there is some evidence for an obligation to seek permission in the immoral case, there is not in the moral case. Following from the discussion above, there are two possibilities. The first is that the change in morality between moral and immoral collective actions is generating the difference in judgments, perhaps because of the higher stakes or stricter enforcement of social norms in criminal enterprises. The second is that the planned/spontaneous distinction is driving the difference. Perhaps something about presumed prior planning leads people to think that there are more onerous obligations. So, while the Gilbertian claim

30 This is most explicit in Gilbert (2013, 24). In that passage, she considers a contrast between a case of people going for a walk together, i.e. people who have planned a walk, and bumping into each other on the street and walking together for a short period, concluding that, "The difference between these cases...is evidently not material to their value as examples of acting together." The rest of the discussion makes clear that, with respect to the joint commitment, which encompasses both the obligation to notify and the obligation to seek permission, what holds for the planned case of taking a walk together also holds for the spontaneous case of walking together.

that interpersonal obligation in immoral cases does fit with our participants' judgments, further research is needed on the possibility that predictions derived from Gilbert's theory are wrong about the content of those obligations.³¹

3. STUDY 2: FRIENDSHIP CASES

The link between collective action and friendship in the philosophical literature runs deep. To pick an early and influential example, collective action plays a prominent role in Aristotle's theory of friendship. Alluding to a quote from Homer, Aristotle says that friendship involves "two going together," as it allows people to achieve noble deeds. With friends, we "are more capable of thinking and acting" (Aristotle 2014, 141).³² But it is not the case that we engage in collective action simply because it allows us to do more than we would otherwise be able to do. The relation is much more intimate. For Aristotle, "friendship is a kind of community," one that brings us together in a special way. It is with our friends that we are able to pursue specifically those ends for which we choose to live. It is how we pursue, "whatever being consists in for each," and so "some drink together, some dice together, others join in athletic games and hunt together, or philosophize together, each spending their days together in that which they like most in life" (Aristotle 2014, 180). We act together with our friends because it is with them in particular that we are able to create the shared experiences that most accurately capture who we are and reflect what we want from life.

We need not take such a dramatic view of the relation between friendship and collective action to recognize that they are strongly associated.³³ Our collective actions tend to involve our friends. And this creates another point of interaction between the interpersonal normativity internal to collective action and external features of our social and moral environment. Our first of study suggests that judgments about the morality of an action affect judgments about what people owe each other as co-actors. This second study suggests that judgments about other relations between co-actors, in particular friendship,

31 Consult Gomez-Lavin and Rachar (2022) for further discussion of this issue. Löhr (2022) raises a series of concerns about this particular result which are addressed in Gomez-Lavin and Rachar (2023).

32 For Homer, the noble deed in question is going to spy on the Trojans, a task Diomedes volunteers for, but only under the condition that he is able to choose a companion (1987, Il.10.224, 156). He chooses his friend Odysseus.

33 Consult Helm (2008) for an argument for distinguishing between collective action as understood in this paper and the "plural agency" characteristic of friendship, one which nonetheless affords collective action in our sense a role in that relationship.

do so too. Further, just like on certain views of collective action, on many accounts, friendship involves special obligations.³⁴ This raises the question our second study addresses: what are the consequences of the association between friendship and collective action for the internal interpersonal normativity of collective action?

We aim to test this question by adapting “The Walking Case,” a prominent thought experiment from the philosophical literature tested in earlier research. In that research, which presents vignettes featuring two people walking beside each other for a brief period with increasing behavioral cues of togetherness marking respective experimental conditions, the stories are neutral with respect to the relationship between the characters. These new studies use the same cues of togetherness, but in addition the new vignettes allow us to directly compare a neutral description of the relationship with a description of the characters as friends. These vignettes are described in detail below. By exploring whether a depiction of the two characters as friends changes people’s judgments about the togetherness of the characters and the obligations that exist between them, we gain a better understanding of the relation between collective action and friendship.

Another aspect of these vignettes that moves the debate forward is that they include a change of perspective. As it happens, in the philosophical literature, thought experiments that aim to show that there are cases of collective action that do not involve interpersonal obligation tend to be told in second-personal language,³⁵ while thought experiments that aim to show that there *are* interpersonal obligations in collective action are usually told in third-personal language.³⁶ And earlier research, which supports a “normativist” understanding, also employ vignettes told in the third-person. It is a live possibility then that we are normativists in the third person and non-normativists in the second person. Our vignettes in this study address this possibility. They are told in the second-person, allowing us to compare results across perspectives.

3.1. Methods

Initially, our experiment was structured as a 2×3 between subjects design, which was later modified to include two additional control conditions. In total, 436 American, adult participants (42% self-identified as female) were

³⁴ See, for example, Annis (1987) and Owens (2012).

³⁵ See, for example, Searle (1990, 3), Bratman (2006, 7; 2014, 107-9).

³⁶ See, for example, Gilbert (1990, 2-9; 2006, 103-124; 2009, 168; 2013, 24).

randomly assigned to the conditions as specified in Table 3 below:³⁷

Table 3. *Study 2 Participant Assignment*

Type of Collective Action	Social Factor	
	Non-Friendship	Friendship
Control	n = 52	n = 50
Low Collective Action	n = 54	n = 56
High Collective Action	n = 48	n = 54
Failure to Notice	n/a	n = 61
Distraction	n/a	n = 61

Participants were then asked to read a condition-specific vignette. Our control, low, and high collective action vignettes were adapted from an earlier paradigm that described a case of two people walking down Fifth Avenue (Gomez-Lavin and Rachar, 2019). However, they were each modified to feature second-person language; e.g. “you and another person” in our *Non-Friendship* conditions, and “you and your friend” in our *Friend* conditions, as detailed below.

Control Condition: You and another person [your friend] are independently walking down Fifth Avenue. Starting at 65th Street, you walk beside each other, until, as it happens, the other person [your friend] peels off at 59th Street.

Low Collective Action Condition: You and another person [your friend] are independently walking down Fifth Avenue. You two spot each other at 65th Street, and you briefly walk beside each other, chatting, until, as it happens, the other person [your friend] peels off at 59th Street.

High Collective Action Condition: You and another person [your friend] are independently walking down Fifth Avenue. You two spot each other at 65th Street, and you briefly walk beside each other, chatting, laughing, and maintaining your pace, until, as it happens, the other person [your friend] peels off at 59th Street.

It’s important to notice that despite the similar language between these conditions and those featured in our first study above, the *High Collective Action Condition* does not correspond to the *Promise* vignettes or conditions in Study 1. That is, the individuals in the vignette do not promise to go on or continue their walk; rather the “high” condition includes more behavioural

³⁷ Again, our participants were recruited via Amazon’s Mechanical Turk platform, and were remunerated approximately \$1 USD for five minutes of their time.

evidence that the characters are acting together than the “low” condition. In effect, these conditions mimic—with the relevant changes noted—the earlier 2019 paradigm referenced above.

As will be made clear in the results section, median responses for each measure in our *Friend* control condition were not significantly different from other *Friend* conditions. The lack of variation between our initial *Friend* conditions made it difficult to clarify the possible drivers of any effect. As such, we opted to include two additional control conditions, detailed below, in our *Friend* cases to ascertain whether participants’ judgements could vary despite the inclusion of second-personal friendship language.

Failure to Notice Condition: You and your friend are independently walking down Fifth Avenue. Starting at 65th Street, you walk beside each other without noticing each other, until, as it happens, your friend peels off at 59th Street.

Distraction Condition: You and your friend are independently walking down Fifth Avenue. Beginning at 65th Street you happen to walk beside each other, but distracted by your phones you fail to realize that your friend is next to you. Your friend then peels off at 59th Street without you noticing.

Participants were then directed to answer two questions presented in random order and corresponding to our measures. Finally, they were asked to answer a small battery of demographic questions and thanked for their participation.

1. *Second Person Togetherness Measure:* ‘To what extent were you two acting together?’ anchored at 0 (‘Not at all’) and 6 (‘Totally working together’).
2. *Second Person Notification Measure:* ‘Should your friend who peels off notify you that they’re leaving?’ anchored at 0 (‘No obligation to notify’) and 6 (‘Total obligation to notify’).

3.2. Predictions

We predict that participant ratings on our two measures will be consistent with prior research that has established a robust and replicable connection between behavioral evidence of collective action and the presence of normative relations among co-actors. That is, we expect to replicate earlier results despite reframing vignettes in second personal language and specifying a new type of social relation; i.e. friendship. Thus, we expect that participants will give increasing ratings on our two measures as the evidence of collective action increases across our conditions and we should find significantly lower scores

on our two measures for our control condition than either collective action condition.

3.3. Results

Although we found evidence for an initial main effect when we reviewed responses across our two measures for our initial six conditions, pairwise comparisons across *Friend* conditions were not significantly different.³⁸ Put in other words, we have some evidence of an effect across our conditions in both measures, but this effect was largely driven by low scores attributed to our *Control* condition in the *Non-Friendship* cases. This is made apparent by the box and whisker plots and median scores reported below (Figures 8 and 9, and Table 4). In fact, our *Control* condition within our *Friend* cases was not statistically different from the *Collective Action* conditions.

Table 4. *Study 2 Descriptive Statistics for Togetherness and Notification Measures*

Type of Collective Action	Social Factor			
	Non-Friend		Friend	
	Togetherness	Notification	Togetherness	Notification
Initial Control	Mdn = 0	Mdn = 0	Mdn = 3	Mdn = 4.5
Low Collective Action	Mdn = 4	Mdn = 5	Mdn = 3	Mdn = 5
High Collective Action	Mdn = 4.5	Mdn = 4	Mdn = 4	Mdn = 5
Failure to Notice	-	-	Mdn = 0	Mdn = 1
Distraction	-	-	Mdn = 1	Mdn = 2

The failure of our initial *Control* condition for our *Friend* cases to serve as a genuine control led us to develop new *Failure to Notice* and *Distraction* conditions. Rerunning our analyses with these additional *Failure to Notice* and *Distraction* conditions under our *Friend* cases augmented the initially described main effect.³⁹ Additionally, we found no significant differences in pairwise comparisons between these new conditions and our initial control condition

³⁸ Kruskal-Wallis independent samples tests: $H(5) = 62.131, p < .001, E_R^2 = .19$ for togetherness, $H(5) = 78.018, p < .001, E_R^2 = .25$ for notification. Here are the uncorrected pairwise comparisons among *Friend* conditions in either measure: $z < 1.47; p > .14, r < .14$. Further statistics and relevant formulae can be found in Appendix A.

³⁹ Kruskal-Wallis independent samples tests: $H(7) = 138.257, p < .001, E_R^2 = .32$ for togetherness, $H(7) = 133.365, p < .001, E_R^2 = .31$ for notification.

for our *Non-Friendship* cases.⁴⁰ Finally, we found no significant differences between our two new conditions.⁴¹ Taken together, either of our two new conditions function as a control condition for our *Friend* cases.

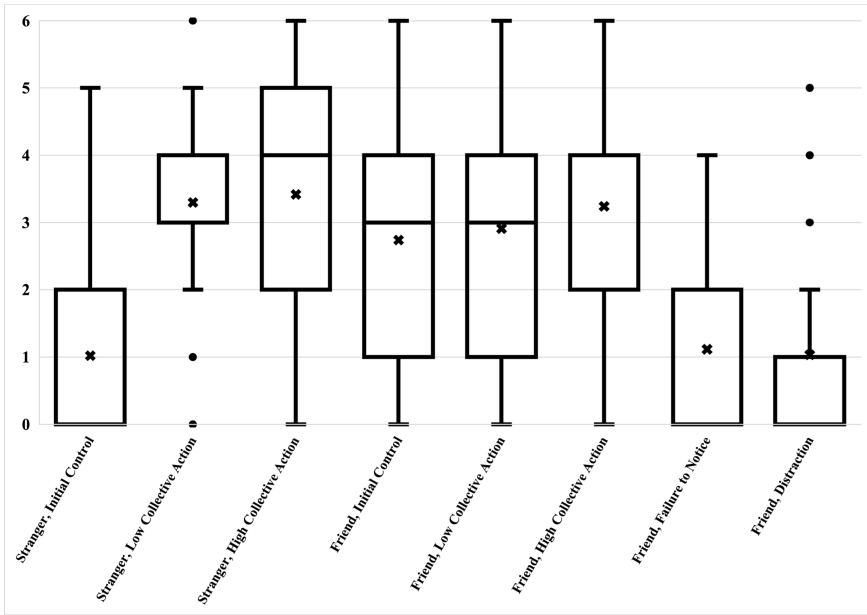


Figure 8. Participant ratings for our *Togetherness Measure* A box and whisker plot comparing results for our *Togetherness Measure* in Study 2.

In sum, for both social factors, there were no significant differences in either measure across our collective action conditions. Furthermore, participants perceived our initial control condition under our *Friend* cases as instantiating a collective action and implicating a norm to notify. We were able to dampen participants' ratings of togetherness and obligation in our *Friend* cases only by developing two new conditions. Finally, as is made clear by Figure 9, these two additional control conditions did show markedly higher variability in our notification measure than our control condition for our *Non-Friendship* social factor.

⁴⁰ All corrected pairwise tests between our initial control and our two additional conditions for our *Friend* factor: $z < 2.2, p > .78$.

⁴¹ All uncorrected pairwise tests between our *Failure to Notice* and *Distraction* conditions across our two measures: $z < .093, p > .927$.

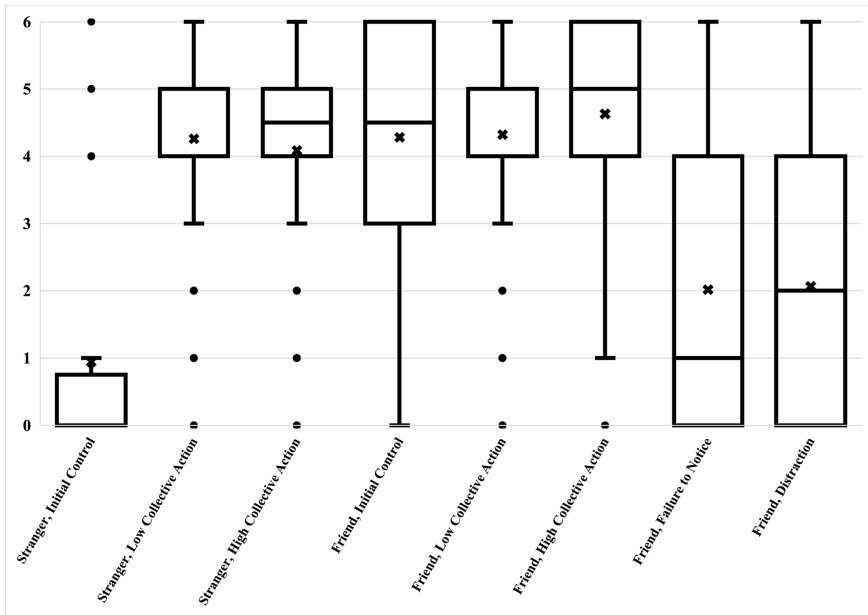


Figure 9. Participant ratings for our Notification Measure A box and whisker plot comparing results for our Notification Measure in Study 2.

3.4. Discussion

In general, our predictions that prior results would replicate despite the addition of friendship and second-person wording were confirmed. This suggests that, according to our intuitive understanding, the normative package involved in collective action is the same for friends as it is for strangers, and that a shift in perspective does not result in a change in judgment about interpersonal normativity in collective action, whatever its rhetorical benefits.

However, as with the Robber Case, the results also suggest that external considerations, in this case social rather than moral, do change the *salience* of various features of collective action. There it was the strength of interpersonal obligation in cases agreed upon as collective. Here it is the *presence* of togetherness, with its attendant interpersonal obligations. The introduction of friendship makes things appear to be collective actions that didn't appear that way before. That is, even when there is no evidence that two characters are together, when described as friends, our participants assumed they were doing something together, which is the reason we introduced two new vignettes to generate a genuine a control condition. This is no doubt a

consequence of the fact that the intimate link between friendship is not just a feature of philosophical reflection, but is deeply embedded in our everyday understanding of our social world. Nonetheless, in the *Distraction* and *Failure to Notice* conditions, which make explicit that the characters in the vignettes are not aware of one another, friendship did not generate a difference in participants' judgements about what people are required to do for one another when they act together. According to common understanding then, it appears that whatever interpersonal obligations exist between two people on the basis of the social relationships in which they are engaged, there is a distinctive role of *partner* or *co-actor* associated with collective action that has its own characteristic normativity.

We might think, as Aristotle appears to, that we can't have friends with whom we never act together. But we can act together with people who aren't our friends, and what we owe our co-actors as co-actors is the same whether they're our friends or not.

4. GENERAL DISCUSSION

We can summarize the results of these studies about our common understanding of collective intention and action as follows: (i) there are interpersonal obligations in cases of immoral collective action, (ii) there is little to no obligation to seek the permission of other participants when leaving a collective action, and (iii) we more readily see people as acting together when we know they are friends, but we don't necessarily think what they owe each other as partners changes. We also have evidence that (iv) our judgments about collective action and its associated interpersonal normativity are not affected by the perspective in which the vignettes are told. Finally, our results prompt further questions about and give us reason to test whether obligations of collective action are more salient in immoral rather than moral and in planned rather than spontaneous collective actions.

What do these results mean for the philosophical debate on collective intention and action? On the assumptions that the results presented here provide information about our everyday understanding of what it is to act together with others and what we owe each other when we do, and that philosophical theories of this topic should be sensitive to this understanding,⁴² we can use the first four results to advance the debate on specific features

⁴² Consult footnote 3 for references to passages where Alonso, Bratman, and Gilbert appear to accept this assumption. Also consult Rachar (2023). For more on this methodology, see Gomez-Lavin and Rachar (2023).

of philosophical theories. So, with respect to the philosophical theories here discussed, we have the following consequences. Result (i) directly conflicts with Alonso's intuitions on the bank robber case and is difficult to explain for all defenders of views that deny that there are interpersonal obligations in immoral collective actions, including Michael Bratman; it supports those who, like Gilbert, argue that such obligations are not dependent on the morality of the collective action. However, result (ii) suggests that Margaret Gilbert's intuitions about the obligations we have in collective action are non-standard, at least in some cases. And result (iii) reaffirms the traditional association between collective action and friendship without providing support for views that would try to reduce the obligations of partnership to those of friendship. Finally, result (iv) demonstrates that the difference between normativist and non-normativist views about collective action does not merely reflect a difference in rhetorical choices in the corresponding thought experiments.

We do not, however, think that experimental results settle any questions with respect to these views. Even if they accept the assumptions made above, people who defend these views are left with several options. They may (a) engage in some further normative theorizing to explain how such features are generated by shared intentions in combination with some further normative principles, (b) seek alternative explanations of participants' judgments, (c) revise their interpretation of the thought experiments, or (d) argue that our common understanding is in need of revision.

We do not pursue any of these possibilities here. Rather, we understand the role of our empirical investigations and their results as serving to help clarify, and perhaps prompt revisions, to these views where applicable. It's our hope that those interested in collective action, along with the normative and social domains more generally, can appeal to these results as *data*, complementary to if not on a par with intuitive and conceptual analyses, to help further the process of theoretical evaluation and refinement. Where theoretical accounts of the social and normative phenomena that scaffold much of our shared world intersect with or rely upon intuitive readings of how these phenomena appear to others, therein lies an opportunity to go out and directly canvass individuals' impressions of those phenomena. To the extent that theories do rely on this method, we see quantitative and experimental means as useful tools for scholars working on these questions.

We would, however, like to draw a general lesson from the results concerning pluralism about sociality and collective action's role in that pluralism. As mentioned in the introduction, pluralism about sociality is the claim that we can distinguish between social interactions using the concepts

required to explain them. Those concepts may come from, *inter alia*, social psychology, game theory, the philosophy of action, social theory, and moral theory. We think that the way that collective action is clearly recognizable to participants in studies across of variety of experiments and cases suggests that it is a distinct form of sociality, one that merits such recognition because of the important role it plays in our lives. The thought experiments philosophers have developed to introduce this phenomenon in their writings really do appear to latch on to something in the conceptual categories and forms of explanation we use to understand our social world. This conjecture receives further support from the way collective action interacts with both other forms of sociality like strategic interaction, friendship, and promising, while not appearing to be reducible to any of them.

There is a significant consequence for future research arise from conceiving of the results this way. It comes from the fact that, at least in our common understanding, we distinguish between a kind of social normativity and more general moral considerations. What we owe our partners in collective action may not be simply what we owe them as other people deserving of respect. In fact, it may conflict with what we owe non-partners. This suggests a new space of future research in which kinds of sociality are investigated by way of the interpersonal normative relations they include, according to our common understanding of them, and the way that these normative relations interact when the kinds of sociality are combined. We think this approach may be fruitful for investigating a variety of social relationships such as acquaintanceship, co-workship, rivalry, and family. Each of these social relationships involve obligations whose claims on us may also conflict with moral considerations. It also suggests that further work is required to understand how this way of conceiving of our social world should be reconciled with philosophical theories about the universality and peremptoriness of our moral demands, or whether they need to be reconciled at all.

5. CONCLUSION

The novel experimental research presented here reinforces the importance of empirical research for understanding collective action, clarifies, expands, and improves on the already existing empirical literature on the topic, and highlights several features of our common understanding of collective action. When we act together, we take ourselves to have certain obligations to one another, especially concerning the way in which we exit a collective action, but not obligations that rise to the level of seeking our partner's permission

before leaving. Our understanding of these obligations is that they are present even when we are doing something we take to be morally wrong, they do not change when our partners are our friends, nor do they change relative to the perspective in which the story is told, but they do change when we explicitly make promises to one another about what we are going to do. This specific understanding of the interpersonal normativity in collective action conflicts with received views in several ways, suggests that we understand distinctions in forms of sociality in part in terms of the interpersonal normative relations they involve, and recommends developing theories of collective intention and action that incorporate parts of action theory, social theory, and moral theory.

A. APPENDIX A: SUMMARY TABLES

Note, for the following tables⁴³ z -scores and p -values were derived from Dunn-Bonferroni adjusted pairwise tests between conditions. Those p -values not corrected for multiple comparisons are denoted by the symbol ‘†’ where otherwise conservative Bonferroni adjustments would yield a p -value that would not provide much information (e.g. the number of comparisons would result in a value greater than 1).

Effect sizes reported throughout the paper were estimated with the following methods: r -values were ascertained by dividing the standardized Dunn-Bonferroni test statistic (z -score) by the square root of the total sample size of the groups being compared. Lastly, epsilon-squared effect sizes for Kruskal-Wallis tests, E_R^2 were derived with the following formula:

$$E_R^2 = \frac{H}{(n^2 - 1)/(n + 1)}$$

⁴³ Summary tables were modeled after those included in Cova, Lantian, and Boudesseul’s 2016 paper.

Table 5. *Dunn-Bonferroni Pairwise Tests for Togetherness Measure*

	Immoral Control	Immoral Collective Action	Immoral Promising	Moral Control	Moral Collective Action	Moral Promising
Immoral Control (n = 53, mdn = 1)	–	–	–	–	–	–
Immoral Collective Action (n = 58, mdn = 5)	z = 7.331, p < .001	–	–	–	–	–
Immoral Promising (n = 55, mdn = 6)	z = 7.771, p < .001	z = 0.546, p† = .585	–	–	–	–
Moral Control (n = 53, mdn = 0)	z = 1.305, p† = .192	z = 8.664, p < .001	z = 9.088, p < .001	–	–	–
Moral Collective Action (n = 56, mdn = 4)	z = 3.032, p = .036	z = 4.334, p < .001	z = 4.818, p < .001	z = 4.355, p < .001	–	–
Moral Promising (n = 51, mdn = 4)	z = 3.889, p = .002	z = 3.283, p = .015	z = 3.771, p = .002	z = 5.181, p < .001	z = 0.939, p† = .348	–

Table 6. *Dunn-Bonferroni Pairwise Tests for Notification Measure*

	Immoral Control	Immoral Collective Action	Immoral Promising	Moral Control	Moral Collective Action	Moral Promising
Immoral Control (n = 53, mdn = 0)	–	–	–	–	–	–
Immoral Collective Action (n = 58, mdn = 5)	z = 5.939, p < .001	–	–	–	–	–
Immoral Promising (n = 55, mdn = 5)	z = 6.923, p < .001	z = 1.084, p† = .279	–	–	–	–
Moral Control (n = 53, mdn = 1)	z = 1.016, p† = .31	z = 4.9, p < .001	z = 5.897, p < .001	–	–	–
Moral Collective Action (n = 56, mdn = 2)	z = 1.608, p† = .108	z = 4.379, p < .001	z = 5.396, p < .001	z = 0.578, p† = .563	–	–
Moral Promising (n = 51, mdn = 4)	z = 4.515, p < .001	z = 1.266, p† = .206	z = 2.299, p = .322 (p† = .021)	z = 3.508, p = .007	z = 2.983, p† = .043	–

Table 7. *Dunn-Bonferroni Pairwise Tests for Permission Measure*

	Immoral Control	Immoral Collective Action	Immoral Promising	Moral Control	Moral Collective Action	Moral Promising
Immoral Control (n = 53, mdn = 0)	–	–	–	–	–	–
Immoral Collective Action (n = 58, mdn = 2)	z = 3.183, p = .022	–	–	–	–	–
Immoral Promising (n = 55, mdn = 3)	z = 3.53, p = .006	z = 0.396, p†= .692	–	–	–	–
Moral Control (n = 53, mdn = 0)	z = 0.47, p†= .639	z = 2.703, p†= .007	z = 3.056, p = .034	–	–	–
Moral Collective Action (n = 56, mdn = 1)	z = 1.827, p†= .068	z = 1.36, p†= .174	z = 1.735, p†= .083	z = 1.351, p†= .177	–	–
Moral Promising (n = 51, mdn = 2)	z = 3.588, p = .005	z = 0.515, p†= .606	z = 0.126, p†= .9	z = 3.123, p = .027	z = 1.827, p†= .068	–

Table 8. *Dunn-Bonferroni Pairwise Tests for Morality Measure*

	Immoral Control	Immoral Collective Action	Immoral Promising	Moral Control	Moral Collective Action	Moral Promising
Immoral Control (n = 53, mdn = 4)	–	–	–	–	–	–
Immoral Collective Action (n = 58, mdn = 6)	z = 2.936, p = .05	–	–	–	–	–
Immoral Promising (n = 55, mdn = 6)	z = 4.115, p = .001	z = 1.244, p† = .213	–	–	–	–
Moral Control (n = 53, mdn = 3)	z = 4.151, p < .001	z = 7.179, p < .001	z = 8.304, p < .001	–	–	–
Moral Collective Action (n = 56, mdn = 1)	z = 5.029, p < .001	z = 8.122, p < .001	z = 9.249, p < .001	z = 0.821, p† = .411	–	–
Moral Promising (n = 51, mdn = 2)	z = 3.717, p = .003	z = 6.705, p < .001	z = 7.825, p < .001	z = 0.394, p† = .394	z = 1.212, p† = .225	–

Table 9. *Dunn-Bonferroni Pairwise Tests for Commitment Measure*

	Immoral Control	Immoral Collective Action	Immoral Promising	Moral Control	Moral Collective Action	Moral Promising
Immoral Control (n = 53, mdn = 4)	–	–	–	–	–	–
Immoral Collective Action (n = 58, mdn = 6)	z = 0.895, p† = .371	–	–	–	–	–
Immoral Promising (n = 55, mdn = 6)	z = 1.95, p† = .051	z = 1.091, p† = .275	–	–	–	–
Moral Control (n = 53, mdn = 3)	z = 0.9, p† = .928	z = 0.987, p† = .324	z = 2.041, p† = .041	–	–	–
Moral Collective Action (n = 56, mdn = 1)	z = 3.371, p = .011	z = 2.54, p = .166 (p† = .011)	z = 1.426, p† = .154	z = 3.462, p = .008	–	–
Moral Promising (n = 51, mdn = 2)	z = 2.813, p = .074, (p† = .005)	z = 1.989, p† = .047	z = 0.908, p† = .364	z = 2.903, p = .055, (p† = .004)	z = 0.486, p† = .627	–

Table 10. *Dunn-Bonferroni Pairwise Tests for Togetherness Measure*

	Stranger, Initial Control	Stranger, Low Collective Action	Stranger, High Collective Action	Friend, Initial Control	Friend, Low Collective Action	Friend, High Collective Action	Friend, Failure to Notice	Friend, Distraction
Stranger, Initial Control (n = 52, mdn = 0)	–	–	–	–	–	–	–	–
Stranger, Low Collective Action (n = 54, mdn = 4)	z = 6.438, p < .001	–	–	–	–	–	–	–

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<i>Table 10 continued</i>								
Stranger, High Collective Action (n = 48, mdn = 4)	z = 6.544, p < .001	z = 0.297, p† = .766	–	–	–	–	–	–
Friend, Initial Control (n = 50, mdn = 3)	z = 4.668, p < .001	z = 1.662, p† = .097	z = 1.906, p† = .057	–	–	–	–	–
Friend, Low Collective Action (n = 56, mdn = 3)	z = 5.396, p < .001	z = 1.11, p† = .267	z = 1.376, p† = .169	z = 0.588, p† = .556	–	–	–	–

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Table 10 continued

Friend, High Collective Action (n = 54, mdn = 4)	z = 6.269, p < .001	z = 0.17, p† = .865	z = 0.463, p† = .644	z = 1.495, p† = .135	z = 0.938, p† = .348	–	–	–
Friend, Failure to Notice (n = 61, mdn = 0)	z = 0.192, p† = .848	z = 6.501, p < .001	z = 6.601, p < .001	z = 4.657, p < .001	z = 5.419, p < .001	z = 6.325, p < .001	–	–
Friend, Distraction (n = 61, mdn = 1)	z = 0.105, p† = .916	z = 6.588, p < .001	z = 6.685, p < .001	z = 4.742, p < .001	z = 5.507, p < .001	z = 6.412, p < .001	z = 0.09, p† = .928	–

Table 11. *Dunn-Bonferroni Pairwise Tests for Togetherness Measure*

	Stranger, Initial Control	Stranger, Low Collective Action	Stranger, High Collective Action	Friend, Initial Control	Friend, Low Collective Action	Friend, High Collective Action	Friend, Failure to Notice	Friend, Distraction
Stranger, Initial Control (n = 52, mdn = 0)	–	–	–	–	–	–	–	–
Stranger, Low Collective Action (n = 54, mdn = 4)	z = 6.438, p < .001	–	–	–	–	–	–	–

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Table 11 continued

Stranger, High Collective Action (n = 48, mdn = 4)	z = 6.544, p < .001	z = 0.297, p† = .766	–	–	–	–	–	–
Friend, Initial Control (n = 50, mdn = 3)	z = 4.668, p < .001	z = 1.662, p† = .097	z = 1.906, p† = .057	–	–	–	–	–
Friend, Low Collective Action (n = 56, mdn = 3)	z = 5.396, p < .001	z = 1.11, p† = .267	z = 1.376, p† = .169	z = 0.588, p† = .556	–	–	–	–
Friend, High Collective Action (n = 54, mdn = 4)	z = 6.269, p < .001	z = 0.17, p† = .865	z = 0.463, p† = .644	z = 1.495, p† = .135	z = 0.938, p† = .348	–	–	–

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Table 11 continued

Friend, Failure to Notice (n = 61, mdn = 0)	z = 0.192, p† = .848	z = 6.501, p < .001	z = 6.601, p < .001	z = 4.657, p < .001	z = 5.419, p < .001	z = 6.325, p < .001	–	–
Friend, Distraction (n = 61, mdn = 1)	z = 0.105, p† = .916	z = 6.588, p < .001	z = 6.685, p < .001	z = 4.742, p < .001	z = 5.507, p < .001	z = 6.412, p < .001	z = 0.09, p† = .928	–

B. APPENDIX B: VIGNETTES

Studies 1: The Robber Cases

Immoral Control. Only two people are in line for at an ATM booth. Suddenly, \$20 bills start spraying out of the ATM. One person begins furiously collecting as many bills as possible. The other person catches the few solitary bills that hit them, and then suddenly peels off and walks out of the booth.

Immoral Collective Action. Two people are breaking into an empty ATM booth late in the night. One man has a crow bar and is furiously trying to take off the cover of the ATM, the other man has a bag ready to collect the cash. In the middle of the process of breaking into the ATM, the bagman suddenly peels off and walks out of the booth.

Immoral Promising. Two people, who have promised each other that they will rob an ATM, are breaking into an empty ATM booth late in the night. One man has a crow bar and is furiously trying to take off the cover of the ATM, the other man has a bag ready to collect the cash. In the middle of the process of breaking into the ATM, the bagman suddenly peels off and walks out of the booth.

Moral Control. Only two people are in line at an ATM booth. Suddenly, \$20 bills start spraying out of the ATM. One person begins collecting the bills to return them to the bank. The other person suddenly peels off and walks out of the booth.

Moral Collective Action. Only two people are in line at an ATM booth. Suddenly, \$20 bills start spraying out of the ATM. The two people look at each other and begin collecting the bills to return them to the bank. Before all the bills have been collected, the second person suddenly drops the stack of bills, peels off and walks out of the booth.

Moral Promising. Only two people are in line at an ATM booth. Suddenly, \$20 bills start spraying out of the ATM. The two people promise each other that they will collect the bills and return them to the bank. Before all the bills have been collected, the second person suddenly drops the stack of bills, peels off and walks out of the booth.

C. APPENDIX C: FORMALIZED PREDICTIONS FOR STUDIES 1 AND 2

Study 1⁴⁴

Togetherness Measure: $H_0: \text{Control}_{(mdn)} \approx \text{Collective Action}_{(mdn)} \approx \text{Promising}_{(mdn)}$; $H_1: \text{Control}_{(mdn)} < \text{Collective Action}_{(mdn)} \approx \text{Promising}_{(mdn)}$. Notice that we formulate our predictions relationally, as the scale used to track participants' intuitions regarding this measure is not an objective scale (e.g. a temperature sale) but one anchored by subjective, relational constraints (i.e. "not at all" or "completely"). Hence, a score of "1" or "4" does not directly map onto a given feature of the world, and any generative inferences using this scale can only be made by comparing patterns of repeated observations.

Permission Measure: $H_0: \text{Control}_{(mdn)} \approx \text{Collective Action}_{(mdn)} \approx \text{Promising}_{(mdn)}$; $H_1: \text{Control}_{(mdn)} \approx \text{Collective Action}_{(mdn)} < \text{Promising}_{(mdn)}$. Contrast with a pure Gilbertian prediction: $H_G: \text{Control}_{(mdn)} < \text{Collective Action}_{(mdn)} \approx \text{Promising}_{(mdn)}$.

Notification Measure: $H_0: \text{Control}_{(mdn)} \approx \text{Collective Action}_{(mdn)} \approx \text{Promising}_{(mdn)}$; $H_1: \text{Control}_{(mdn)} < \text{Collective Action}_{(mdn)} \approx \text{Promising}_{(mdn)}$.

Morality Measure: $H_0: \text{Immoral Conditions}_{(mdn)} \approx \text{Moral Conditions}_{(mdn)}$; $H_1: \text{Immoral Conditions}_{(mdn)} > \text{Moral Conditions}_{(mdn)}$.

Study 2

More formally stated, for both our *Second Person Togetherness* and *Notification Measure*: $H_0: \text{Control}_{(mdn)} \approx \text{Low Collective Action}_{(mdn)} \approx \text{High Collective Action}_{(mdn)}$; $H_1: \text{Control}_{(mdn)} < \text{Low Collective Action}_{(mdn)} \approx \text{High Collective Action}_{(mdn)}$ regardless of the type of sociality involved.

⁴⁴ Thanks to an anonymous reviewer for prompting us to clarify our hypotheses in more formal language.

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