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Intergroup Discrimination in Cooperation Among Moral and Non-Moral Groups

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In-group favouritism is ubiquitous and previous studies have consistently found that individuals cooperate more with in-group members than out-group members in diverse contexts. Yet, there has not been much research on the role of the nature of groups in intergroup cooperation. A recent study found stronger levels of in-group favouritism amongst groups formed on the basis of shared moral values. However, it remained unclear whether the increased favouritism was caused by a greater tendency to act favourably towards the in-group or derogatorily towards the out-group. The present study thus investigated intergroup cooperation among morality-based and non-morality-based groups and examined the levels of cooperation with an in-group member and an out-group member as compared to a person whose group membership was unknown. Regardless of how groups were formed, in-group favouritism was present, while out-group derogation was absent. Furthermore, we found that the shared morality promoted in-group cooperation indirectly via low perceived out-group warmth. Our study provides further evidence that in-group favouring behaviour does not include derogating out-groups and points to the importance of further investigation into the role of the shared morality in intergroup cooperation.

Keywords

intergroup cooperation, in-group favouritism, morality

Introduction

In-group favouritism, the tendency to favour in-group members over out-group members, has been observed in diverse cultures (e.g., Fiedler et al., 2018; Romano, Balliet, Yamagishi, et al., 2017). A number of researchers have demonstrated that individuals display the tendency in various forms of prosocial behaviour, such as cooperation (e.g., Aaldering et al., 2018; Ahmed, 2007; Guala et al., 2013; Romano, Balliet, & Wu, 2017; Romano, Balliet, Yamagishi, et al., 2017; Wit & Wilke, 1992; Yamagishi et al., 1999) and prosocial giving (e.g., Fiedler et al., 2018;

Hackel et al., 2017; Rand et al., 2009; Romano, Balliet, & Wu, 2017). Thus, the experimental literature has collated robust evidence for in-group favouritism.

Previous studies that investigated in-group favouritism with economic games have focused on different groups, from minimal groups (Tajfel et al., 1971) to natural groups such as those based on religion (Romano, Balliet, & Wu, 2017), university affiliation (Hackel et al., 2017; Ockenfels & Werner, 2014), nationality (Romano, Balliet, Yamagishi, et al., 2017), and political ideologies (Rand et al., 2009). However, there has not been a systematic investigation on the potential role of the types of groups in the in-group favouring tendency—would the extent to which individuals favour in-group members differ depending on the nature of groups? In a large-scale meta-analysis on in-group favouritism, Balliet et al. (2014) found that the extent of in-group favouritism did not vary between minimal groups and actual groups. Nevertheless, they did not examine whether different types of groups (e.g., university affiliations vs. political groups) would display different levels of the tendency to favour in-group members.

Bilancini et al. (2020) recently contributed to the literature by investigating the effect of different group assorting procedures on intergroup discrimination. They manipulated the nature of groups (morality-based vs. non-morality-based groups); half the participants indicated their opinion on five moral issues and were told that they were grouped with others based on shared moral values (e.g., opinion about abortion, euthanasia, death penalty, etc.). On the other hand, the other half expressed their opinions on non-moral issues (e.g., a preference for dogs or cats) and were grouped based on the non-moral opinions. In other words, Bilancini et al. (2020) established experimental groups which were solely based on the shared moral value or non-moral, personal preferences. They compared the extent to which individuals discriminated between in-group members and out-group members in a dictator game and found that people displayed more in-group favouritism when their group was built on a shared morality. Thus, they provided initial evidence that the nature of groups would influence in-group favouritism and moral groups were more discriminatory than non-moral groups.

However, it remained unclear whether the increased intergroup discrimination among moral groups observed in Bilancini et al. (2020) was due to increased favourable treatment for in-group members or/and increased derogatory treatment for out-group members. Previous studies using the minimal group paradigm demonstrated that in-group favouritism in cooperation did not involve derogatory behaviour towards out-group members (Aaldering et al., 2018), and, thus, it might be reasonably assumed that the increased morality-based intergroup discrimination observed in Bilancini et al. (2020) would be due to the increased prosociality towards in-group members rather than increased derogatory behaviour towards out-group members.

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Supporting this, Koopmans and Rebers (2009) revealed that in-group favouritism in a public goods game did not involve out-group hostility when a majority of group members shared the same political orientation, which can be interpreted as a moral in-group (Parker & Janoff-Bulman, 2013). Yet, it should be noted that in their study, participants were informed about several traits (e.g., political orientation and religious affiliation) of in-group members, and it would be likely that multiple intergroup contexts were at stake, failing to directly investigate the influence of the nature of group on intergroup cooperation.

Alternatively, groups based around a shared morality may utilize out-group derogation, as previous studies have shown that morality-based groups are fundamentally distinct from non-morality-based groups (Parker & Janoff-Bulman, 2013); Parker and Janoff-Bulman (2013) demonstrated that out-group negativity influenced moral, but not non-moral intergroup processes, pointing to the unique nature of morality-based groups. More relatedly, previous studies have found that moral disagreements motivate a desire for social and physical distance and lower levels of cooperative intention and goodwill (Skitka et al., 2005; also see Haidt et al., 2003; Mullen & Skitka, 2006). Moreover, other research has found an increased willingness to discriminate against groups with different moral worldviews (Wetherell et al., 2013), and behavioural evidence shows increased outgroup derogation towards a morally conflicting out-group (Weisel & Böhm, 2015). More specifically, using an economic game paradigm, Weisel and Böhm (2015) demonstrated that out-group derogation was higher for an out-group that arguably held different moral values than out-groups which were not typically seen as morally conflicting with the in-group. Therefore, while some previous studies demonstrated that intergroup discrimination in cooperation does not entail derogating out-groups, it would be likely that moral groups would have a unique tendency to do so.

The present research, therefore, aimed to investigate the source of in-group favouritism among moral and non-moral groups, replicating and extending the previous

finding documenting the increased in-group favouritism in moral groups. To directly examine the source of in-group favouritism, we compared cooperation with an in-group member, out-group member, and a stranger whose group membership was unknown in a prisoners' dilemma.

Method

We collected 200 participants ($Mage = 34.58$, $SD = 11.39$, 74 females) via Amazon Mechanical Turk. The study followed a 2 (condition: moral group vs. non-moral group) \times 3 (group: in-group vs. out-group vs. unknown) mixed design with the latter being a within-subject factor. A priori power analysis revealed that 84 participants would be sufficient to detect in-group favouritism ($d = 0.32$ from Balliet et al., 2014) with 90% statistical power, and the study was sufficiently powered. In supplementary material, we have provided the results of some auxiliary analyses we do not report in this article.

Participants were invited to take part in an online survey that consisted of three parts: a minimal group induction, prisoners' dilemmas, and a post-experiment questionnaire. As a cover story, participants were informed that the study was designed to understand the relationship between personality and economic behaviour. After giving consent, participants proceeded to the minimal group induction and were presented with five questions that ostensibly measured either personality or morality. For those who were randomly assigned to the moral group condition, these questions were related to moral issues. By contrast, for those who were in a non-moral condition, these were about personal preferences (see Table 1). After answering these questions, all participants, regardless of the condition, received bogus feedback that, based on their responses to the five questions, two groups, your group and the other group, were formed. Participants were made aware that the group was formed by members similar to themselves on either morality or personality. Participants then answered six questions measuring their levels of social identification with their group (Leonardelli

Table 1. Summary of questions for minimal group inductions.

Question	Available Responses
Non-Moral Minimal Group	
Where do you prefer to go during vacation?	Sea, Mountain, No opinion
Where do you prefer to watch movies?	Movie theater, Home, No opinion
Where do you prefer to do physical activity?	Gym, Outdoor, No opinion
Which social network do you prefer?	Instagram, Facebook, No opinion
Which animal do you prefer?	Dog, Cat, No opinion
Moral Minimal Group	
Abortion	Morally acceptable, Morally wrong, No opinion
Doctor assisted suicide	Morally acceptable, Morally wrong, No opinion
Death penalty	Morally acceptable, Morally wrong, No opinion
Gay or lesbian relations	Morally acceptable, Morally wrong, No opinion
Prostitution	Morally acceptable, Morally wrong, No opinion

Note: these items are identical to those used in Bilancini et al. (2020)

& Brewer, 2001; e.g., Belonging to MY GROUP is an important part of my life, $\alpha = .75$), using a six-point scale from 1 = Strongly disagree to 6 = Strongly agree. In addition, they answered a question measuring to what extent they perceived the out-group to be threatening to their in-group with the same 6-point scale. Parker and Janoff-Bulman (2013) found that moral out-groups posed more threat than non-moral out-groups: Out-group threat would be one of the variables that distinguish between moral and non-moral groups.

After the minimal group induction, participants were told that they would complete an economic decision making scenario (i.e., the prisoners' dilemma) several times in pairs with other participants. In the prisoners' dilemma, two paired individuals were endowed with 300 cents and asked to decide how much of the money they would like to transfer to the other participant, knowing that each cent, if any, would be doubled before it was given to their partner. They simultaneously made a decision such that they did not know how much their partner transferred to themselves. We used the amount of transferred money as an index of cooperation. Before proceeding to play the game, they answered comprehension questions regarding the structure of the game. Participants then completed it electronically with a member of their group, a member of the other group, and a random stranger, in a randomized order. They indicated who their partner was (an in-group member, an out-group member, or a person whose group membership was unknown) to make sure they correctly understood their partner. However, in actuality, participants completed the game with hypothetical partners, and they were not matched with others during the experiment. As previous studies demonstrated that intergroup discrimination would not emerge when group membership was not mutually known between the two players (Balliet et al., 2014; Guala et al., 2013; Yamagishi et al., 1999; Yamagishi & Mifune, 2008), we explicitly

instructed them that their partner knew their group membership.

Finally, they completed the post-experiment questionnaire, including in-group warmth and out-group warmth, using the feeling thermometer measure. Participants were asked to rate their feeling towards the in- and out-group using a scale ranging from 0° = Very cold or unfavourable feeling to 100° = Very warm or favourable feeling. We introduced this as Parker and Janoff-Bulman (2013) found that intergroup warmth perception distinguished between moral and non-moral groups: More specifically, they revealed that while the importance of the moral in-group (i.e., how important group members thought their group was to themselves) was equally associated with in- and out-group warmth perception, the former was more strongly related to the in-group importance for non-moral groups. The order of these was randomized and counterbalanced. They then provided demographic information such as sex, age, and nationality, as well as their political position.

Results

We first carried out one sample *t*-tests as a manipulation check for the minimal group induction. The mean of social identification among those in the moral group condition was 3.91 ($SD = 0.78$) and it was significantly higher than the scale centre of 3.5, $t(101) = 3.08$, $p = .002$, $d = 0.38$. The strength of social identification among those in the non-moral condition ($M = 3.91$, $SD = 0.90$) was also significantly higher than the scale centre, $t(97) = 4.55$, $p < .001$, $d = 0.38$. Thus, social identification was sufficiently induced by the minimal group manipulation. Notably, the strength of social identification did not significantly differ between participants in the moral and non-moral group conditions, $t(198) = 1.50$, $p = .14$, $d = 0.21$.

We conducted a 2 x 3 (condition x group) mixed

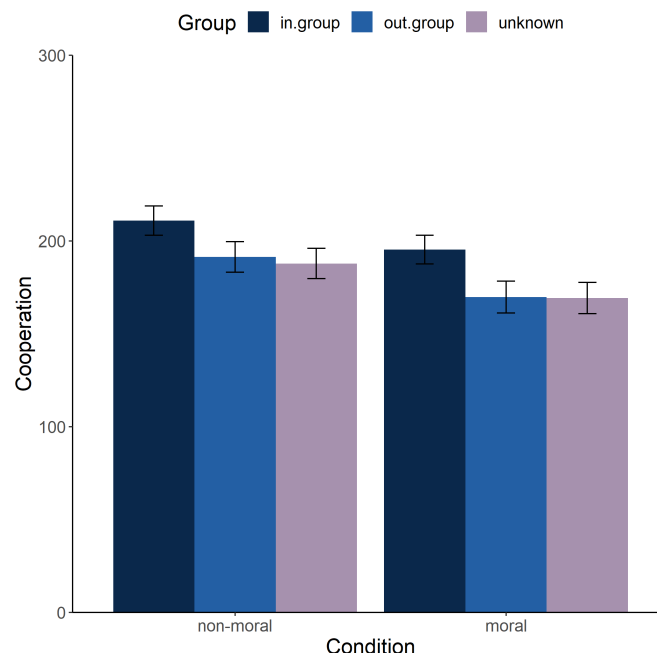


Figure 1. Cooperation by Group and Condition.

Note: Error bars indicate standard errors.

ANOVA on cooperation (see Figure 1). The assumption for the sphericity was violated for the group and we employed Greenhouse-Geisser corrected degrees of freedom for the subsequent results. The main effect of the condition was not significant, $F(1, 198) = 3.15, p = .08$, partial $\eta^2 = .02$. We found a significant effect of the group, $F(1.88, 373.09) = 21.34, p < .001$, partial $\eta^2 = .10$. The interaction term was not significant, $F(1.88, 373.09) = .26, p = .76$, partial $\eta^2 = .001$. Thus, we did not find statistical evidence for increased in-group favouritism in the moral group as compared to the non-moral group. We further conducted post-hoc comparisons using estimated marginal means (Tukey adjustment) and found that in-group cooperation ($M = 195.32, SD = 77.59$) was significantly higher than out-group ($M = 169.75, SD = 86.04$) and unknown cooperation ($M = 169.30, SD = 84.64$) in the moral group condition, $t_s > 4.38, p_s < .001$. Similarly, participants cooperated with the in-group member ($M = 210.93, SD = 77.77$) significantly more than the out-group member ($M = 191.41, SD = 81.96$) and the stranger ($M = 187.85, SD = 80.86$) in the non-moral condition, $t_s > 3.27, p_s < .01$. In both conditions, out-group cooperation and unknown cooperation were not significantly different, $t_s < 0.60, p_s > .99$. Therefore, regardless of how the minimal group was formed, individuals favoured in-group members and did not show out-group derogatory behaviour, as the levels of cooperation in the out-group and unknown conditions did not significantly differ.

Finally, we sought to exploratorily investigate the influence of warmth perceptions and out-group threat on the in-group favouring tendency. We computed correlations among in-group favouritism (cooperation in the in-group condition—that in the out-group condition), in-group love (cooperation the in-group condition—that in the stranger condition), out-group derogation (cooperation

the stranger condition—that in the out-group condition), intergroup warmth, and out-group threat (see Table 2).

Based on the correlational findings, using the condition (Moral group = 1, Non-moral group = 0) as an exogenous variable, we built a partial mediation model where the condition had three indirect effects on in-group favouritism via intergroup warmth perceptions and out-group threat. With the bias-corrected bootstrapping method, the mediation analysis revealed that the indirect path via out-group warmth was significant, suggesting that moral groups displayed more in-group favouritism via decreased out-group warmth perception, $B = 12.73, p = .004$, 95% CI [3.96, 21.51]. Yet, the indirect effects via in-group warmth and out-group threat were not significant, $|B|s < 1.85, p > .55$. We conducted the mediation analyses predicting in-group love and out-group derogation, instead of in-group favouritism. We found a similar pattern for the in-group love, but no indirect effects were significant for out-group derogation (see supplementary results).

Discussion

In the present research, we investigated intergroup cooperation among moral and non-moral groups, using the minimal group paradigm. Specifically, we sought to examine whether increased in-group favouritism among moral groups, which was observed in Bilancini et al. (2020), was due to increased in-group love or out-group derogation. We found that participants favoured in-group members but did not derogate out-group members. This was consistent with prior studies that demonstrated that in-group favouritism was a product of increased favourable treatments for in-group members (Aaldering et al., 2018). However, unlike Bilancini et al. (2020), we did not find strong evidence for increased in-group favouritism in

Table 2. Correlations by Condition.

Moral Group Condition						
	1	2	3	4	5	6
1. In-group Favouritism	-					
2. In-group Love	.64*	-				
3. Out-group Derogation	.58*	-.25*	-			
4. In-group Warmth	.12	.15	-.01	-		
5. Out-group Warmth	-.32*	-.11	-.28*	.41*	-	
6. Out-group Threat	.13	-.13	.30*	.10	-.13	-
Non-Moral Group Condition						
	1	2	3	4	5	6
1. In-group Favouritism	-					
2. In-group Love	.67*	-				
3. Out-group Derogation	.42*	-.39*	-			
4. In-group Warmth	.28*	.19	.11	-		
5. Out-group Warmth	-.17	-.27*	.12	.57*	-	
6. Out-group Threat	.06	.18	-.15	.13	.12	-

Note: * $p < .05$.

moral groups as compared to non-moral groups; the nature of the group only indirectly affected in-group favouritism and in-group love via the perception of out-group warmth. More specifically, it was revealed that individuals in the moral group displayed stronger in-group favouritism and love via reduced out-group warmth perception compared to those in the non-moral group condition. Overall, our findings suggested that out-group derogation was absent in both moral and non-moral groups and the increased discrimination in the former was rather due to the increased in-group love.

Our study extended the previous study (Bilancini et al., 2020) by revealing the source of in-group favouritism and the mediating role of out-group warmth. Our finding that out-group warmth perception mediated the relationship between the nature of groups and in-group favouritism has provided additional evidence for the pivotal role of the perception of the out-group in moral groups, consistently with Parker and Janoff-Bulman (2013).

It should be noted, however, that our evidence for the causal relationship among the nature of groups, out-group warmth, and in-group favoritism was obtained by the mediation analysis and did not provide a solid basis to establish the causality. Therefore, a further empirical investigation should be desirable to qualify our claim and address how out-group warmth perception uniquely contributes to intergroup processes involving moral conflicts.

Notably, while previous studies have shown that out-group derogation would be higher for moral out-groups (Weisel & Böhm, 2015) than non-moral out-groups, we did not find such evidence. We have two explanations for the discrepancy. First, we operationally defined out-group derogation such that more derogation indicates less cooperation with an out-group member relative to a person without group membership. By contrast, Weisel and Böhm (2015) employed different economic game paradigms (intergroup prisoners' dilemma maximizing-difference) and defined out-group derogation as the preference for the monetary investment in a pool which (1) increases payoff for in-group members but not for out-group members or (2) increases and decreases payoff for in-group and out-group members, respectively. Thus, our findings focusing on the level of cooperation might not necessarily present conflicting results against Weisel and Böhm (2015), and the mixed results might be due to different operationalizations and measurements of out-group derogation. Second, Weisel and Böhm (2015) used actual political groups, and the observed increased out-group derogation might be triggered by social psychological factors in the political conflict, such as stereotypes and partisan concern, rather than moral conflict per se.

Lastly, we would like to note that the minimal moral group induction might have room for improvement and development; we used politically conflated issues (e.g., abortion and LGBT relationships) for the moral group induction, and participants might transpose actual intergroup contexts based on the moral issues onto the minimal group contexts. In other words, participants might treat the minimal in- and out-groups as political in- and out-groups. Thus, the minimality of the intergroup context might not be warranted enough, and the influence of the moral minimal group paradigm would be sensitive

to morality-related questions used in the induction. On the other hand, the moral minimal group paradigm may allow us to create a specific moral conflict (e.g., moral conflict in care/harm principle) with carefully chosen questions and investigate whether the role of shared morality in intergroup behaviour would be conditional to the nature of the moral conflict.

Supplementary Material

Study materials including supplementary results, data, codebook, and analysis codes are available at <https://osf.io/mvut3/>.

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