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EMPIRICAL ARTICLE

Ingroup favoritism in cooperation in a dynamic intergroup context: Data from Israeli professional volleyball players

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Abstract

Past research has documented ingroup favoritism, the tendency to cooperate more with ingroup members than outgroup members, in a wide range of intergroup contexts, and extensively discussed conditions under which ingroup favoritism emerges. However, previous studies have predominantly focused on a simplistic intergroup context, for instance, where group boundaries are static, and one group membership is present. To fill the gap, we leveraged data from professional volleyball players and investigated the influence of (1) varying levels of intergroup conflict salience, (2) past and present group memberships, and (3) national team membership on intergroup cooperation. Contrary to our hypotheses and the social identity perspective, we found that conflict salience and former ingroup membership did not influence intergroup cooperation. Additionally, we found that the more national team players there are in the ingroup, the more cooperative those who play for the national team are with ingroup members, leading to increased ingroup favoritism.

1. Introduction

Ingroup favoritism, the tendency to cooperate more with ingroup members than outgroup members, is ubiquitous (Balliet et al., 2014; Lane, 2016; Romano et al., 2021), making it hard to establish intergroup cooperation to tackle global challenges. Previous work has documented ingroup favoritism in a range of intergroup contexts from artificially created experimental groups (i.e., minimal groups: Tajfel et al., 1971) to naturally occurring groups such as political (Rand et al., 2009) and national groups (Romano et al., 2021). It has been observed also in contexts that are more commonly experienced in everyday life, such as sports fandom (Nakagawa et al., 2022). Previous research has produced rich empirical literature, identifying underlying psychological mechanisms (Balliet et al., 2014; Everett et al., 2015; Imada et al., 2024b) and conditions under which ingroup favoritism emerges (Imada et al., 2023; Yamagishi et al., 1999).

However, it has predominantly focused on a static and simplistic context where individuals make decisions solely based on a single group membership that an interaction partner processes (Imada et al., 2024a; Uğurlar et al., 2023). By contrast, in reality, a wide range of intergroup contexts allow individuals to move to a different group (Tajfel and Turner, 1979) and individuals often face situations where they experience a conflict of interests with members of their former group and members who are

ingroup members in one group category but outgroup members in another group category (Imada et al., 2024a; Uğurlar et al., 2023). It is thus largely unknown how individuals cooperate in such complex and dynamic contexts and what motivates them to do so. In the present research, we, therefore, investigated intergroup cooperation and its psychological underpinnings by leveraging the professional team sports context—where intergroup mobility is high (i.e., active transfers of players between teams), there is a common superordinate group membership (i.e., national team), and individuals face high-stake intergroup conflicts with outgroup members varying in the presence of overlapping group memberships.

Professional team sports players experience a variety of intergroup competitions every week as part of their league. As a result, the team sports context offers us a unique opportunity to experimentally investigate the effect of (1) varying levels of intergroup conflict salience, (2) past and present group memberships, and (3) an overlapping superordinate group membership (i.e., participation in a national team). This allows us to go beyond the simplistic intergroup context extensively studied in the existing literature and investigate intergroup cooperation in a more applied and ecologically valid context.

Previous studies have collated mixed evidence as to whether and how salience and strength of intergroup conflict influence intergroup cooperation, focusing on symbolic conflicts such as moral and political conflicts (Bilancini et al., 2020; Grigoryan et al., 2023; Imada et al., 2021; Weisel and Böhm, 2015). Some studies demonstrated that the presence of such intergroup conflicts exacerbates ingroup favoritism (Bilancini et al., 2020; Weisel and Böhm, 2015), whereas others did not (Grigoryan et al., 2023; Imada et al., 2021). Yet, participants of the previous studies did not themselves face high-stake intergroup conflicts, unlike professional athletes; individual and team performance directly and substantially impact the market value and salaries of athletes and the results of matches (Stiroh, 2007). In some cases, team performances are weighted more than individual performances (Berri et al., 2024). As such, it is likely that professional athletes experience a realistic conflict with players of other teams, especially with players who they are going to face soon (Jackson, 1993; Sherif, 1958). In other words, regarding the impact of varying levels of intergroup conflict salience, we expected that intergroup cooperation would be lower when individuals cooperate with a member of another team that they are soon going to face compared with when they cooperate with a member of a team that they are not playing against soon (Hypothesis 1).

Sports often fuel a strong sense of belonging to groups and lead to the emergence of an enduring and long-lasting form of identification with groups (Newson, 2019; Newson et al., 2022). As such, professional sports players would have an increased level of self-other overlap with a former team and its members (Hypothesis 2). Furthermore, according to the social identity perspective (Tajfel and Turner, 1979; Turner et al., 1987), increased self-other overlap with ingroup members (i.e., depersonalization) underlies the emergence of ingroup favoritism. Depersonalization encourages individuals to display depersonalized attraction to ingroup members (Hogg, 1993; Hogg and Hains, 1996), and thus to value the welfare of ingroup members as if it were theirs (Brewer and Kramer, 1986; Everett et al., 2015), leading to increased ingroup cooperation and ingroup favoritism (Imada et al., 2024a). We, therefore, hypothesized that professional sports players would display more cooperation with outgroup members when they used to play for the outgroup than when they did not (Hypothesis 3a). On the other hand, another prominent theory on ingroup favoritism bounded generalized reciprocity, suggests that individuals display ingroup favoritism because of the expectation that ingroup members are more cooperative than outgroup members (Imada et al., 2023; Imada et al., 2024b; Yamagishi et al., 1999). According to this account, an enhanced self-other overlap with former team members (i.e., current outgroup members) should not increase cooperation, leaving us a competing hypothesis: professional sports players would not discriminate between outgroups that they used to belong to and those that they did not (Hypothesis 3b).

Past scholarship has produced a rich theoretical debate over the plausibility of the two accounts, the social identity perspective and bounded generalized reciprocity (Balliet et al., 2014; Everett et al., 2015; Imada et al., 2024a). A large-scale meta-analysis offered evidence against the former (Balliet et al., 2014), and several experimental studies have reported a weak or insignificant relationship between group identification and cooperation (Imada et al., 2023; Imada et al., 2024b; Romano et al.,

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2017, 2021). Nevertheless, several empirical studies have pointed out that, identification should play a role in shaping ingroup favoritism under some circumstances (Leonardelli and Brewer, 2001; Stroebe et al., 2005), in natural intergroup contexts (Spadaro et al., 2024). We argue that identification with a professional sports team, in particular, can be a strong driver of ingroup cooperation as well as a barrier to intergroup cooperation. Athletes, especially those who play team sports, constantly meet and practice together, and routinely face intergroup competition and rivalry. Previous work has suggested that this positively impacts ingroup cohesion and group identity (Berendt and Uhrich, 2016). As such, group identity as a member of their professional team can be chronically salient and important to athletes, making the impact of group identity on their behavior potentially stronger. As previous studies have predominantly focused on simplistic intergroup contexts, our work in a professional sports context will offer valuable theoretical contributions; we revisit the role of group identification in shaping ingroup and intergroup cooperation in a naturally occurring dynamic intergroup context where group identification is salient and important.

In professional sports contexts, athletes playing for their national team may face one another in league contexts. Does the shared national team membership influence cooperation toward outgroup members? Drawing upon the common ingroup identity model (Gaertner et al., 1993), previous work has demonstrated that the activation of a common superordinate identity successfully reduces intergroup bias (Gaertner et al., 1993), unless it does not threaten an original subgroup identity (Hornsey and Hogg, 2000). As such, we expect that individuals who play for the national team would be more cooperative with outgroup members in teams with more national players than teams with less (Hypothesis 4).

In sum, we tested the theoretically driven hypotheses by leveraging the professional sports context. Specifically, we recruited volleyball players from six teams in the Israeli female premier league and asked them to play two commonly used economic games every week[1] before they had a league match for the duration of a complete league cycle. They played the two games with four different anonymous partners over seven league weeks: an ingroup member (a player from the same team), two outgroup members of low conflict groups (players from two different teams that they do not face in the next day's match), and an outgroup member of a high conflict group (a player from the team that they face in the next day's match). Participants only knew their game partners' team affiliation. With the rich decision-making data from professional athletes, we offer both practical and theoretical contributions, helping us better understand intergroup cooperation dynamics in a context where group mobility is high and multiple group memberships can be salient.

2. Method

2.1. Participants and design

Fifty players were recruited from six of the eight teams in the Israeli female premier volleyball league during one cycle of the league. Yet, we excluded one player because they did not fully complete the survey (M_{age} = 25.65, SD = 5.03). Two teams in the league were excluded in advance; one team had a majority of players coming from foreign countries who did not speak the language we used to conduct the study. The other team was not organized as a professional team and players of the team only met for matches. This team fell apart toward the end of the season in which we collected data. Our sample included 16 and 8 current and former national team players, respectively. On average, participating players had a seniority of 2.89 years (SD = 2.81) on their current team. Nine players played for only one team in their professional career up to the time of the study, and, on average, our participants had played for 2.94 teams (SD = 1.80). The median number of teams a player played for was two. It was a census targeting Israeli female professional volleyball players and we did not conduct a priori power analyses. Data and analysis codes are available at https://osf.io/534cr/.

[1] Weeks refer to league cycle weeks rather than calendar weeks. The intervals between matches in the league varied from team to team and week to week (normally one or two matches per week). For simplicity, we use 'weeks' throughout the paper.

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2.2. Procedure

Before the league started, we first surveyed fifty Israeli participants to get their demographic and player information (e.g., age, place of birth, year of arrival to Israel, whether they are playing or have played for the Israeli national team, the city they grew up in, the current team, the team they played in the last four season). We also retrieved player information regarding past training (i.e., whether they trained in Wingate Institute[2]) In addition, we introduced the self-other overlap measure (Aron et al., 1992) to capture how much overlap they feel they have between themselves and the six participating teams in addition to the Israeli national team. Specifically, they were presented with seven pictures varying in the degree to which two circles representing themselves and a target team overlap. We used this measurement as a proxy for depersonalization. During the league cycle, participants received a link to the online survey one day before each league match and were asked to complete the public goods game (PGG) and the minimum effort game (MEG)[3] each against four different players (an unidentified ingroup member, an unidentified outgroup member from a high conflict group, and two unidentified outgroup members from two different low conflict outgroups). Overall, we had 56 decisions from each participant.

2.2.1. Two-player PGG

Each of the two players receives an endowment of 120 NIS (New Israeli Shekel) and decides how much of the endowment to invest, in steps of ten. The total investment by the two players is multiplied by 1.5 and equally divided between the two players regardless of how much each contributed. The amount of money invested was our measure of cooperation. We note that this game can be considered as a 2-player prisoner's dilemma game.

2.3. Minimum effort game (MEG)

As in the PGG, each of the two players receives an endowment of 120 NIS and decides how much of the endowment to invest, in steps of 10. Unlike the PGG, the minimal investment is 10 NIS, and the benefit that a player receives depends not on the total investment, but on the minimum of the two investments. For each 10 NIS invested in the minimal investment beyond the mandatory 10 NIS, each player receives an additional 20 NIS. To simplify the presentation of the MEG and to avoid drawing attention to the similarity between the games, we presented the MEG game in a commonly known payoff table (see Supplementary Figure S1). In this presentation, each player chooses a number between 1 and 8, representing investments over 10 NIS in steps of 10. The player's payoff appears in the table as the number in the row corresponding to the player's investment and the column corresponding to the partner's investment.

Each participant was paid for one randomly chosen game out of the 56 games played throughout the study (7 weeks × 2 games × 4 partners). In addition, to encourage full participation and minimize attrition, we rewarded participants for participation with a lottery ticket every week. Two lottery winners were further given a bonus of 500 NIS. Final payoffs ranged from 40 to 207.5 NIS excluding the lottery bonus. The average payment was 143.5 NIS.

3. Results

We had two main dependent variables: cooperation in the PGG and MEG. Since the results did not differ between those measurements in meaningful ways, we report and discuss results on the MEG

[2]Wingate is the national sports institute in Israel. Wingate holds a boarding school for gifted athletes starting at seventh grade and going up to twelfth grade.
During that period of time, the Wingate team composed most of the youth national team for the respective years.

[3]We introduced the minimum effort game for an exploratory purpose because some prior work suggests that the effect of ingroup membership on cooperation and coordination may vary (Ahmed, 2007; Chen and Chen, 2011).

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in Supplementary Materials (S2). We decided to focus on the PGG in the main text as it has been extensively used in the past empirical literature on ingroup favoritism (Balliet et al., 2014; Everett et al., 2015).

3.1. Conflict salience

Participants played the PGG four times each week, once with a player from the ingroup, once with a player from the team that they would face on the next day's match (outgroup with high conflict salience: HCS), and twice with players from two other teams (outgroup with low conflict salience: LCS). We built a linear mixed model where group type (ingroup vs. HCS vs. LCS) was regressed on cooperation in the PGG with intercepts varying among participants and week within participants[4]. The pseudo-ANOVA with Satterthwaite's method revealed the significant effect of group type (Figure 1), $F(2, 1087.2) = 281.46$, $p < .001$, $\eta_p^2 = .34$. We further found that cooperation in the ingroup condition (*Estimated marginal means (EMM)* = 100.30, $SE = 4.07$) was significantly higher than the HCS ($EMM = 59.60$, $SE = 4.17$) and the LCS ($EMM = 62.90$, $SE = 3.93$) conditions, $t_s > 18.67$, $p_s < .001$ (for pairwise *EMM* comparisons, we used holm *p*-value adjustment). Contrary to Hypothesis 1, cooperation in the HCS and LCS conditions did not differ significantly, $t(1149) = 1.74$, $p = .08$. The results did not change in any meaningful way after controlling for player demographics (age, whether they play for the national team,

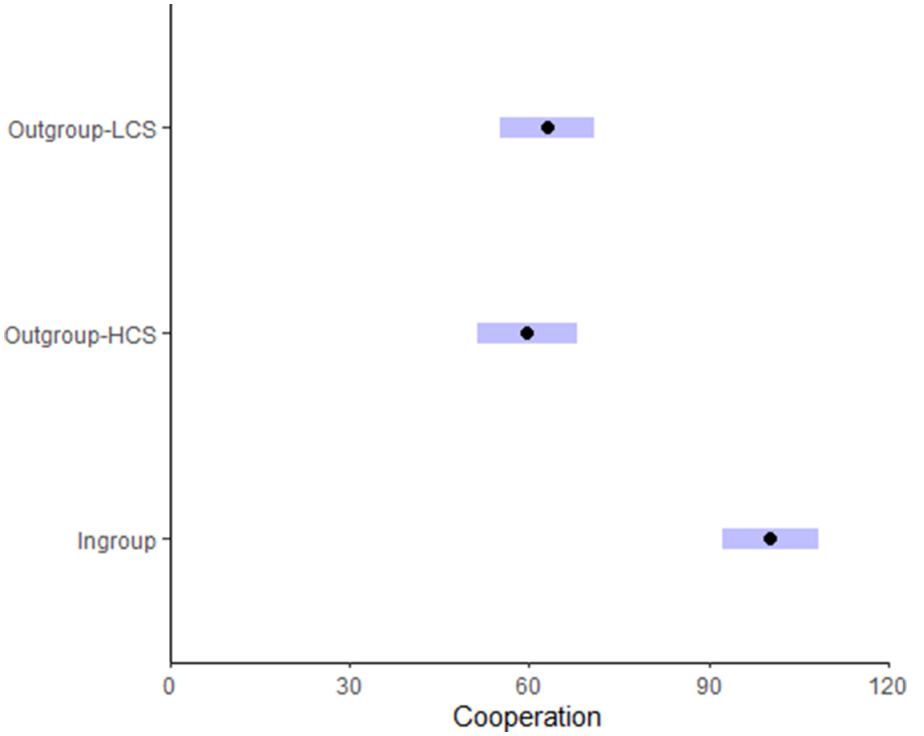

Figure 1. *Estimated marginal means of cooperation by group type.*
Note: HCS: high conflict salience; LCS: low conflict salience. Shadowed areas indicate 95% confidence intervals.

[4]Given that participants were nested within different teams, we built a model where intercepts varied teams, participants within teams, and weeks within teams and participants. Yet, model fit did not significantly differ between the models with and without the random effect of team ($\chi^2(df = 1) < .001$, $p > .999$) and, thus, we opted for the model without for parsimony.

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and player status[5], see Supplementary S3). Additionally, we examined whether cooperation in the HCS and LCS conditions varied depending on different outgroups. To this end, we recorded group type such that it has 13 levels (ingroup, LCS for six different outgroups, and HCS for six different outgroups). The main effect of group type was still significant and pairwise comparisons of EMMs revealed that cooperation in the ingroup condition was significantly higher than all the outgroup conditions and cooperation in the twelve outgroup conditions did not significantly differ (see Supplementary S4).

3.2. Former ingroup

To test Hypothesis 2, we examined whether self-other overlap differed between the ingroup (current team), former ingroups, and outgroups. The effect of group membership on self-other overlap was significant, $F(2, 255.84) = 299.47$, $p < .001$, $\eta_p^2 = .54$. Self-other overlap in the ingroup condition ($EMM = 6.29$, $SE = 0.20$) was higher than that in the former ingroup ($EMM = 3.57$, $SE = 0.22$) and outgroup ($EMM = 2.01$, $SE = 0.15$) conditions, $t_s > 11.24$, $p_s < .001$. Notably, self-other overlap in the former ingroup condition was significantly higher than that in the outgroup condition, supporting Hypothesis 2, $t(259) = 7.79$, $p < .001$. Thus, the quasi-manipulation of (identification with) former ingroup membership was successful.

We classified game partners into three conditions: ingroup (current team), former ingroup (teams that the participant had played for earlier in their career), and outgroup (teams that the participants had never played for). Following the previous analytical approach, we examined the effect of former ingroup membership on cooperation (Figure 2). We found a significant main effect, $F(2, 1110.90) = 278.92$, $p < .001$, $\eta_p^2 = .33$. Cooperation in the ingroup condition ($EMM = 100.3$, $SE = 4.07$) was significantly higher than the former ingroup ($EMM = 63.00$, $SE = 4.34$) and outgroup ($EMM = 61.90$, $SE =$

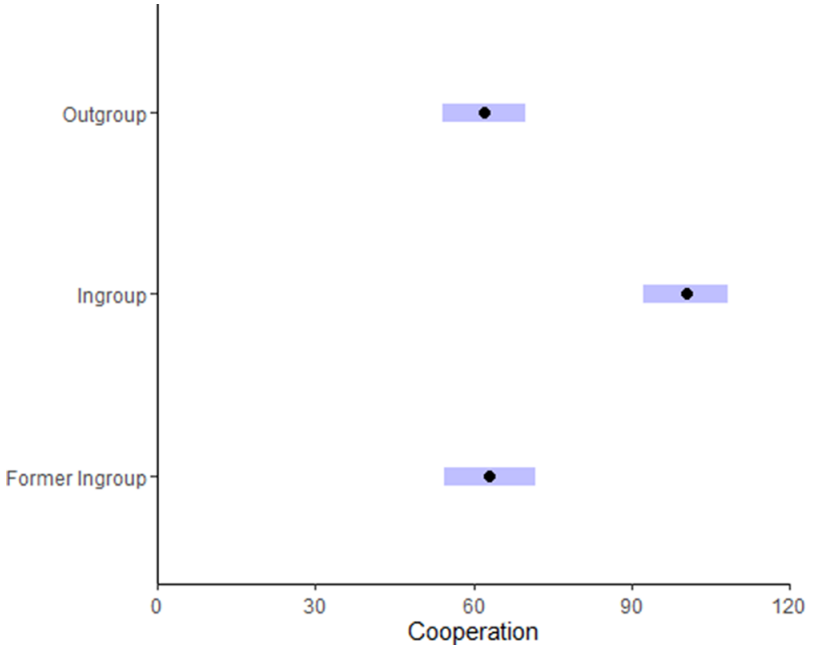

Figure 2. *Estimated marginal means of cooperation by group type.*
Note: HCS: high conflict salience; LCS: low conflict salience. Shadowed areas indicate 95% confidence intervals.

[5]We assigned players to four categories: 22 players transferred to the team at the beginning of the season; 18 players joined the team from another team in previous seasons; 9 veteran players who never played for another team; and 1 player was new to the league.

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3.92) conditions, $t_s > 14.94$, $p_s < .001$. Supporting Hypothesis 3b (but conflicting with Hypothesis 3a), cooperation in the former ingroup condition was not significantly higher than that in the outgroup condition, $t(1191) = 0.48$, $p = .63$. The effect held after controlling for player demographics (Supplementary S5). Cooperation in the ingroup condition was significantly higher than cooperation in every former ingroup and outgroup (Supplementary S6).

3.3. National team

We classified different game partners into two conditions: ingroup and outgroup conditions. We regressed the group, whether the player currently played for the national team, the number of national team players in the group from which a game partner is drawn, and their interactions. We found a significant three-way interaction (for a full ANOVA table, see Supplementary S7), $F(1, 1081.50) = 13.99, p < .001, \eta_p^2 = .01$ (Figure 3a). Simple slope analyses revealed that the more national team players there were in the ingroup, the more cooperative those who were playing for the national team were with ingroup game partners. However, the number of national team players did not significantly influence cooperation among current national team players when they played the PGG with outgroup members, contrary to Hypothesis 4. It did not influence cooperation among players who were not playing for the national team. When controlling for player demographics, unexpectedly, we found that the more national players there were in the ingroup, the less cooperative those who were not playing for the national team were (Figure 3b).

Finally, as a robustness check, we tested Hypotheses 1, 3a, 3b, and 4 in the single model; we first classified game partners into five group type conditions: ingroup, former ingroup × HCS, former ingroup × LCS, outgroup × HCS, and outgroup × LCS. We then regressed group type, the number of national team players in the team from which a game partner was drawn, whether participants were playing for the national team, and their interactions, with player demographics. We replicated the previously reported results: cooperation in the ingroup condition ($EMM = 93.90$, $SE = 7.82$) was significantly higher than that in the other conditions (former ingroup × HCS: $EMM = 59.20$, 8.80; former ingroup × LCS: $ESS = 66.10$, $SE = 7.98$; outgroup × HCS: $ESS = 57.60$, $ES = 7.81$; outgroup × LCS: $ESS = 59.4$, $SE = 7.64$), $t_s > 7.00$, $p_s < .001$. Cooperation in the four conditions did not significantly differ, $t_s < 2.63$, $p_s > .05$. Moreover, the three-way interaction was significant, $F(4, 1213.04) = 4.96$, $p < .001$. Simple slope analyses revealed that the effect of the number of national team players in the target team was significant only in the ingroup condition among those who were playing for the national team such that the more national team players there were in the ingroup, the more cooperative they were. See Supplementary S8 for more details.

4. Discussion

Leveraging data from professional Israeli female volleyball players, we have examined how individuals cooperate with different outgroups varying in conflict salience, past shared membership, and the number of members sharing the superordinate group membership. Contrary to Hypothesis 1, we found that conflict salience did not influence outgroup cooperation. Inconsistently with the social identity perspective (Tajfel and Turner, 1979; Turner et al., 1987), we found that while individuals reported an increased level of self-other overlap with former ingroups (i.e., Hypothesis 2) as compared with outgroups, they did not display the increased level of cooperation with members of former ingroup members. Finally, we found that the national team membership (i.e., the superordinate membership) was associated with ingroup cooperation, but not outgroup cooperation such that the more national team players there are in the ingroup, the more cooperative people are with ingroup members. These findings were robust against individual differences in the key player characteristics. Overall, our data and results offered evidence that ingroup favoritism is robust in the dynamic intergroup context; while conflict salience does not exacerbate the ingroup favoring tendency, past shared ingroup membership

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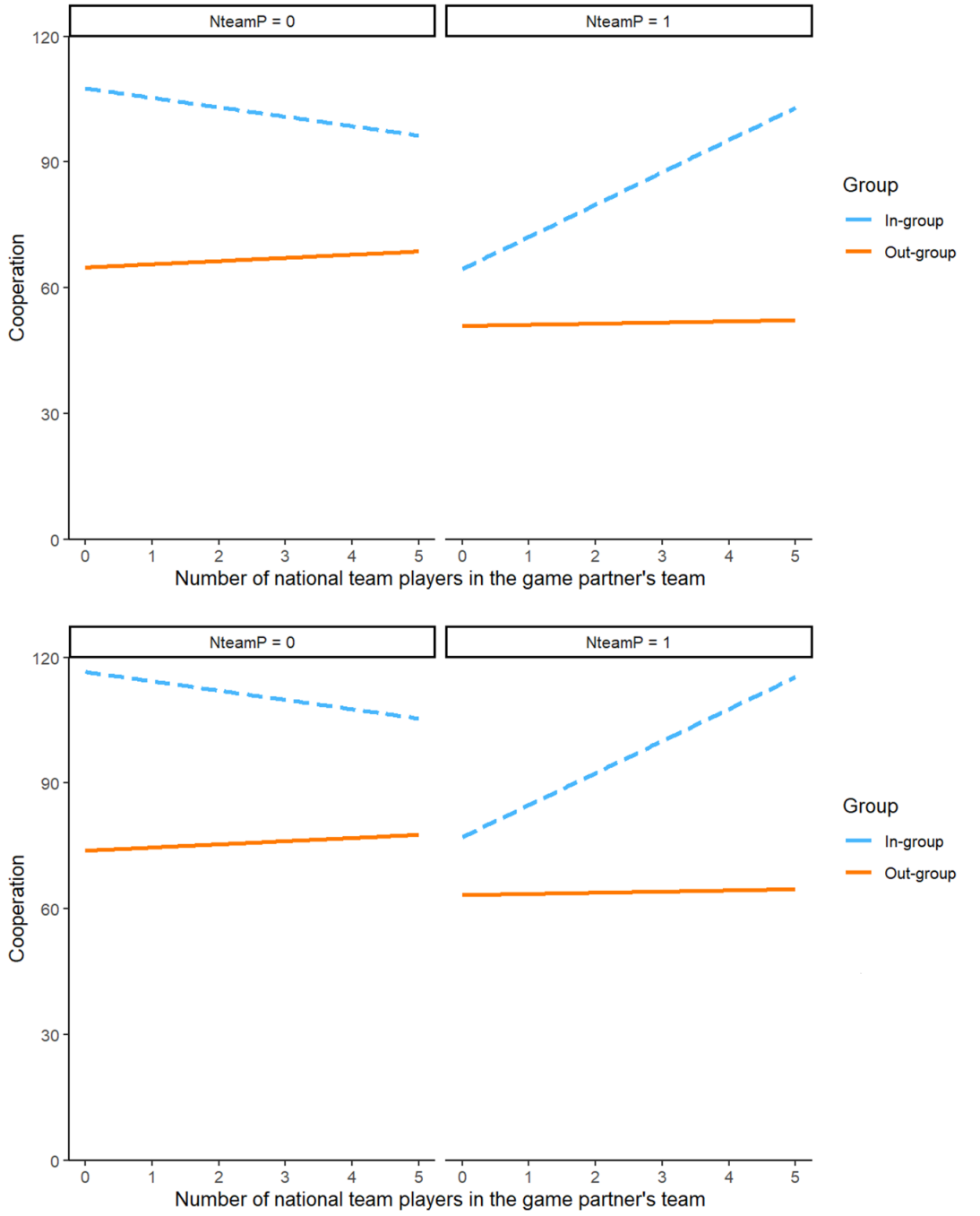

Figure 3. *(a) Interaction plot without player demographic controls. (b) Interaction plot with player demographic controls.*

Note: NteamP = 0: participants did not play for the national team; NteamP = 1: participants were playing for the national team.

and the presence of the shared superordinate group with outgroup members did not increase outgroup cooperation.

Conflict and competition between professional teams are characterized by high stakes and intense pressure, as both individual and team performances substantially impact players' lives (Berri

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et al.,2024; Stiroh, 2007). Previous research on conflict suggested that such high conflict salience would encourage hostile intergroup attitudes and behaviors (Jackson, 1993; Martínez et al., 2022). Nevertheless, we found that high conflict salience did not translate into reduced cooperation with outgroup members in our study. First, previous work has linked conflict salience and resulting outgroup threats with negative intergroup outcomes such as aggression (Martínez et al., 2022). While it is tempting to assume that favorable ingroup treatments and hostile outgroup treatments go hand in hand, the existing work, in fact, suggests that cooperation and aggression are distinct (Imada and Mifune, 2024) and different mechanisms underlie them (Columbus et al., 2023, 2024; De Dreu et al., 2010). Relatedly, previous studies showed that in social dilemma contexts, outgroup membership did not encourage individuals to reduce cooperation and ingroup favoritism is a product of ingroup love rather than outgroup hate (Balliet et al., 2014; Brewer, 1999). Thus, our results suggest that conflict salience may have a limited role in shaping intergroup cooperation, rather than hostility.

Second, we note that the results might have been influenced by the norm of sportsmanship (e.g., respecting harmonious social conventions with opponents: Vallerand et al., 1996). The Olympics, for instance, embraces respect and friendship as two of the three core values. Social norms are strong determinants of intergroup behavior (Brauer, 2024) and they might counter the effect of conflict salience in the professional sports context. Additionally, previous work suggests that intergroup violence and aggression are generally less common among women than men in both recreational (Warden et al., 2009), student (Rahimizadeh et al., 2011), and professional (Bovolon et al., 2024) sports contexts.

Moreover, Rainey (1986) suggested that female students were less accepting of aggression in sports contexts than male students. These studies suggest that conflicts and aggression in sports contexts are associated less strongly among women than men. As such, women may not perceive conflicts in the sports contexts in the same way they do conflicts in, for instance, war contexts, as much as men do. Thus, given the gender, the effect of conflict salience might be more pronounced if data were gender-balanced. Overall, it is sensible to test the generalizability of our findings on conflict salience in different intergroup contexts.

Professional sports contexts are characterized by high group mobility; players move from one team to another. We found that players indeed reported a higher self-other overlap with former ingroups compared with teams for whom they had never played. However, the psychological representation of the self and the former ingroups did not translate into cooperation; they did not extend favorable treatments (i.e., ingroup favoritism) toward former ingroups. This finding is inconsistent with the social identity perspective that predicts that heightened self-other overlap (i.e., depersonalization) should lead to a stronger valuation of the welfare of other members of the group and increased cooperation.

Yet, our finding was consistent with research emphasizing the role of beliefs rather than self-other overlaps in shaping ingroup favoritism (Imada et al., 2024b; Yamagishi et al., 1999). Some previous experimental studies demonstrated that the effect of shared group membership on cooperation only emerges when two players of the prisoner's dilemma game are both aware of the shared group membership (Balliet et al., 2014). This is because one cannot expect an ingroup partner to cooperate with them when the partner does not know that they share the ingroup membership (Imada et al., 2023; Imada et al., 2024b; Yamagishi et al., 1999). In our study, participants were presented with the group membership of their partner—when participants played the game against someone from the group they used to belong to, the interaction partner would never know whether their partner (i.e., participants) played in their group before. This experimental setup might offset the effect of past ingroup membership, and we may observe a stronger effect if it is made to be explicit and clear that participants' past ingroup membership is known to their partners.

Regarding the generalizability of the findings, we anticipate some cross-cultural differences. Yuki et al. have suggested that individuals in Western and East Asian societies perceive group boundaries differently: East Asians tend to define a group as a network of interconnected individuals, whereas Westerners tend to perceive groups as categorical entities (Yuki, 2003; Yuki et al., 2005). While the cultural difference in the perception of group membership on cooperation is not established yet (Imada

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et al., 2024c), the effect of past ingroup membership would be more pronounced in East Asian societies in which individuals emphasize personal connections with others as a defining feature of their group. It is thus a promising future direction to revisit the role of past ingroup membership and intergroup mobility (i.e., transfer) with a diverse set of nations in the context of globally played sports.

Drawing upon the common ingroup identity model (Gaertner et al., 1993), we predicted that national team players would be more cooperative with outgroup members whose teams had a higher number of national team players. Contrary to the hypothesis, the number of national team players did not influence outgroup cooperation. Unexpectedly, we found that ingroup cooperation increases among national team players as the number of ingroup members playing for the national team increases. This mirrors the previous findings that different ingroup memberships additively increase cooperation (Imada et al., 2024a; Uğurlar et al., 2023). It is noteworthy that there was weak evidence suggesting that non-national team players reduce ingroup cooperation when there are more national players in their team. One potential explanation is that the presence of national team players in the ingroup may threaten non-national players and motivate them to sabotage them. Envy may be another candidate as malicious envy triggered through upward social comparison has been shown to decrease cooperation (Montal-Rosenberg and Moran, 2022).

Our study has documented the initial evidence pointing to the impact of national team membership on intragroup cooperation dynamics among professional team sports players and further investigation would be of practical importance. We have thus far primarily discussed cooperation with different outgroups in professional sports contexts. In many intergroup contexts that have been studied in previous studies, there is no salient within-group competition or conflict of interest. By contrast, while team sports players have to cooperate with other ingroup members to successfully compete, they also have to compete with them (Landkammer et al., 2019) to secure their position and playtime, which directly involves economic and status consequences (Berri et al., 2024; Stiroh, 2007). As such, professional sports contexts are unique in that players face both intra and intergroup conflicts. Our finding on the role of national team membership may mirror the presence of within-group competition.

Finally, we note methodological limitations. We obtained data from professional volleyball players before and during one league cycle. Player transfers are endogenous, and our results may have been influenced by self-selection bias such that players left a previous team because they did not like it and were not willing to cooperate with members of the team in the first place. As such, our findings on the role of former ingroup membership should be interpreted with caution. Similarly, the observed effect of the number of national team players in the ingroup among non-national team players should be interpreted cautiously. Specifically, the finding that the more national players there are in the ingroup, the less cooperative non-national team players are with other ingroup members may reflect the correlational phenomenon, for instance, that better (stronger) teams tend to employ players who are good enough to be called up to the national team *and* are cooperative with ingroup members. Longitudinal research tracking cooperation and transfers over several seasons will help us better elucidate the causal role of player transfer and group mobility in professional sports contexts.

5. Conclusion

Our study was the first to examine intergroup cooperation in the dynamic group context which allowed us to examine the role of conflict salience, past ingroup membership, and the superordinate group identity in shaping cooperation with different outgroups. Overall, we have found that Israeli female professional sports players display persistent ingroup favoritism regardless of whether they face outgroups in the next match, whether they used to belong to outgroups, and how many outgroup members they share the superordinate group membership with. Consistently with and extending past research, our study did not provide evidence that the social identity perspective predicts ingroup favoritism in cooperation in the professional sports context. Our work contributes to the emerging literature where scholars examine intragroup and intergroup cooperation in dynamic and complex intergroup contexts

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(Imada et al., 2024a; Otten et al., 2022; Uğurlar et al., 2023). Nevertheless, as discussed earlier, while our real-world dynamic data are unique and indeed has provided valuable insights into how group membership influences intergroup cooperation, the findings should be interpreted with caution regarding their generalizability. We call for further empirical investigations into intergroup cooperation in a wide array of dynamic intergroup contexts.

Supplementary material. The supplementary material for this article can be found at http://doi.org/10.1017/jdm.2025.9.

Data availability statement. Data associated with the paper can be accessed at https://osf.io/534cr/.

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