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BRACKETED MORALITY

**Bracketed Morality in Adolescent Football Players: A Tale of Two Contexts**

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**Abstract**

**Background.** The concept of bracketed morality has received empirical support in several sport studies. In this research, we examined bracketed morality in adolescent football players. Specifically, we investigated: (a) whether moral behaviour differs between two contexts - sport and school - and whether these differences are moderated by age and sex; and (b) whether context differences in moral behaviour are explained by corresponding context differences in peer motivational climate, moral disengagement, and empathy.

**Design.** We conducted two studies using a cross-sectional design.

**Method.** In both studies, adolescent football players completed measures of prosocial and antisocial behaviour toward their teammates and opponents in sport and toward their classmates in school. Participants also completed measures of peer motivational climate (Study 1) and moral disengagement and empathy (Study 2), in the two contexts.

**Results.** Across the two studies and all age groups, prosocial teammate behaviour was more frequent in sport than school; the opposite pattern was revealed for prosocial opponent behaviour. Antisocial teammate behaviour was less frequent in sport than school in younger athletes, but there was no (overall) context difference in older athletes. In Study 2, in girls, antisocial opponent behaviour was more frequent in sport than school across all age groups. In boys, this behaviour was less frequent in sport than school in early adolescence, but this pattern was reversed in mid and late adolescence. Context differences in task peer climate accounted for context differences in the two prosocial behaviours, while context differences in moral disengagement accounted for context differences in the two antisocial behaviours.

**Conclusions.** Our findings extend the concept of bracketed morality to moral behaviour in sport and school in adolescents and suggest that by intervening on task peer climate and moral disengagement we could reduce the gap in prosocial and antisocial behaviours between the two contexts.

## 1           **Bracketed Morality in Adolescent Football Players: A Tale of two Contexts**

2           Sport is replete with both prosocial and antisocial behaviours. Helping an opponent off  
3 the ground during a match, congratulating a teammate after good play, but also verbally  
4 abusing a teammate, and intentionally injuring an opponent are acts frequently encountered in  
5 the context of sport (see Kavussanu & Al-Yaaribi, 2019; Shields et al., 2005). Some evidence  
6 suggests that prosocial behaviours tend to decrease and antisocial ones tend to increase  
7 during adolescence in male football players (e.g., Kavussanu et al., 2006). It has been  
8 proposed that sport has its own morality, that is distinct from the morality of daily life  
9 (Bredemeier & Shields, 1986a, 1986b). However, to date, very few studies have examined  
10 whether prosocial and antisocial behaviours occur in similar frequency in sport compared to  
11 other contexts (e.g., Kavussanu et al., 2013; Kavussanu & Ring, 2016). The present research  
12 was designed to fill this gap in the literature by examining adolescent football players' moral  
13 behaviour in sport and school.

### 14   **Bracketed Morality**

15           The term “bracketed morality” was introduced by Bredemeier and Shields (1984,  
16 1986a, 1986b), who compared athletes' moral reasoning (i.e., the criteria people use to  
17 resolve moral conflicts) in sport and daily life. These researchers found some evidence that  
18 sport moral reasoning was more egocentric than daily life moral reasoning among high school  
19 and college athletes and non-athletes and used the term “bracketed morality” to refer to this  
20 phenomenon. In two studies of children, aged 10-13, who were enrolled in a summer sports  
21 camp, Bredemeier (1994, 1995) found that only the older children exhibited more egocentric  
22 moral reasoning in sport compared to daily life, suggesting a developmental trajectory in  
23 moral reasoning. Overall, these findings suggest that athletes think differently about moral  
24 issues in sport and daily life.

25           More recently, researchers have examined the concept of bracketed morality with  
26 respect to prosocial and antisocial behaviour in sport. Prosocial behaviour refers to actions

1 intended to help or benefit another individual (Eisenberg & Fabes, 1998), and examples in  
2 sport are encouraging or helping another player. Antisocial behaviour pertains to actions  
3 intended to harm or disadvantage another individual (Sage et al., 2006), such as cheating or  
4 trying to injure another player. Prosocial and antisocial behaviours can be directed toward  
5 teammates and opponents and vary depending on the recipient (Kavussanu & Boardley,  
6 2009). For instance, during a football match one typically encourages a teammate, but not an  
7 opponent, and one may try to distract or injure an opponent but not a teammate<sup>1</sup>. Prosocial  
8 and antisocial behaviours are deemed morally relevant because they can have positive or  
9 negative consequences for the recipient's welfare (Kavussanu, 2012). In this article, the term  
10 moral behaviour is used to collectively refer to prosocial and antisocial behaviours.

11         Bracketed morality in relation to athletes' moral behaviour has been investigated in two  
12 studies. In the first study, Kavussanu et al (2013) examined the behaviour of student-athletes  
13 in sport and university contexts. Across two independent samples, participants reported more  
14 frequent antisocial behaviour toward their opponents and more frequent prosocial behaviour  
15 toward their teammates in sport than toward their fellow students in university. Prosocial  
16 behaviour was less frequent toward opponents than toward other students, whereas antisocial  
17 teammate behaviour did not differ between the two contexts. In the second study, Kavussanu  
18 and Ring (2016) examined university student-athletes' moral behaviour in hypothetical  
19 situations in sport and school. Participants indicated that they were more likely to physically  
20 intimidate an opponent in sport than another student in university. In contrast, they were less  
21 likely to criticize a teammate and help an opponent off the ground in sport than engage in  
22 these behaviours toward other students in university. However, there was no context  
23 difference in the prosocial behaviour of lending equipment to an opponent or notes to a  
24 student.

25         Although these studies extended the concept of bracketed morality (Bredemeier &  
26 Shields, 1986a, 1986b) to moral behaviour in young adults, we know little about this

1 phenomenon in adolescents. Understanding how the context divergence in moral behaviour  
2 varies across adolescence is important in developing interventions targeting the appropriate  
3 age to promote prosocial and reduce antisocial behaviour. Thus, there is a need to examine  
4 prosocial and antisocial behaviour in sport and school and whether these behaviours vary  
5 across adolescence. In this research, we aimed to fill this gap in the literature. We used school  
6 as the comparative context, because like sport, school is an achievement context where  
7 adolescents have many opportunities to interact with peers. In addition, given that sex  
8 differences have been consistently observed in sport morality research (e.g., Kavussanu &  
9 Boardley, 2009; Boardley & Kavussanu, 2008) as well as in aggression in non-sport contexts  
10 (e.g., Archer, 2004), it is important to understand whether such variation is the same in boys  
11 and girls.

## 12 **Explanatory Variables**

13 As well as examining the divergence in moral behaviour across sport and school in  
14 adolescents, it is important to explain why such divergence may occur. To this end, we  
15 investigated peer motivational climate, moral disengagement, and empathy as potential  
16 explanatory factors for any differences in adolescents' moral behaviour between sport and  
17 school contexts. Below, we define each of these constructs and discuss the relevant literature.

18 Motivational climate refers to the situational goal structure, that is, the achievement  
19 goals communicated to the participants via the behaviour of significant others such as  
20 teachers, and the structures they create in the achievement context (Ames, 1992). The  
21 motivational climate can be task involving (or mastery oriented), where effort, improvement  
22 and personal progress are valued and emphasized, or ego involving (or performance oriented)  
23 where normative ability and outperforming others are rewarded. Using qualitative methods,  
24 Vazou et al (2005) investigated the motivational climate created by peers and identified  
25 improvement, relatedness support, and effort, as sub-dimensions of the task-involving peer

1 climate and intra-team competition/ability and intra-team conflict as sub-dimensions of the  
2 ego-involving peer climate.

3       Developmental work suggests that from late childhood onwards, peers become  
4 increasingly important as significant others (e.g., Chan et al., 2012) and have the potential to  
5 influence young athletes' moral attitudes (e.g., Ntoumanis et al., 2012). A peer motivational  
6 climate that promotes intra-team rivalry is likely to facilitate moral dysfunction. Indeed,  
7 Ntoumanis et al (2012) found that young athletes' perceptions of peer ego-involving climate  
8 positively predicted gamesmanship (a form of antisocial behaviour). Although peer climate  
9 has not been examined in relation to prosocial and antisocial behaviours in sport, it has been  
10 investigated in relation to "good" and "poor" sport behaviours, which are conceptually  
11 similar to prosocial and antisocial behaviours. In a study of youth hockey players, Davies et  
12 al. (2016) found that task<sup>2</sup> peer climate was positively associated with good and negatively  
13 linked with poor sport behaviours, whereas the reverse relationships were documented for  
14 ego peer climate. Accordingly, sport-school differences in the two dimensions of peer  
15 motivational climate may help explain context differences in moral behaviour.

16       Moral disengagement refers to a set of psychological mechanisms that individuals use  
17 to minimize negative emotional reactions, which typically arise when engaging in harmful  
18 conduct that runs contrary to one's moral standards (Bandura, 1991). The mechanisms act by  
19 mentally re-construing harmful behaviours into benign acts, minimizing personal  
20 accountability for transgressive behaviour, and cognitively distorting the consequences of this  
21 behaviour. Moral disengagement has been positively linked to antisocial behaviour toward  
22 teammates and opponents in numerous studies (see Kavussanu & Al-Yaaribi, 2019). In these  
23 studies, the link to prosocial behaviour toward teammates and opponents is typically negative  
24 and somewhat weak. Moral disengagement has also been positively associated with  
25 aggression in school (e.g., Bandura et al., 1996). Thus, this variable is likely to explain  
26 potential divergence in antisocial behaviour between the two contexts.

1           Although opportunities for moral disengagement exist in one's interactions with other  
2 pupils in school, a number of conditions may facilitate moral disengagement in sport. For  
3 instance, in the pursuit of victory, coaches may ask players to cheat or injure their opponents,  
4 and players may receive pressure from their teammates to do so. Although pupils have  
5 classmates and teachers, these individuals are not expected to explicitly pressure pupils to  
6 cheat or injure other pupils in school, as they have no reason to do so. Therefore, it may be  
7 easier to morally disengage in sport because responsibility for one's antisocial behaviour can  
8 be more easily displaced onto others. In a study of college athletes, moral disengagement was  
9 higher in sport compared to university, and this difference partially accounted for the context  
10 difference in antisocial behaviour (Kavussanu et al., 2013). In sum, context differences in  
11 moral disengagement may explain context differences in antisocial behaviour in adolescent  
12 athletes.

13           Empathy is defined as the responses of an individual to the observed experiences of  
14 another (Davis, 1983) and comprises both cognitive (perspective taking) and affective  
15 (empathic concern) components. Perspective taking pertains to the attempts of an individual  
16 to understand another by imagining their perspective, while empathic concern refers to  
17 feelings of sympathy and concern for others more unfortunate than oneself. Empathy has  
18 been associated negatively with antisocial, and positively with prosocial, behaviour in both  
19 sport (Stanger et al., 2016) and non-sport (Eisenberg & Fabes, 1998) contexts. Taken together  
20 with evidence that competitive contexts tend to promote counter-empathic reactions (e.g.,  
21 Lanzetta & Englis, 1989), empathy may be lower in one's interactions with teammates and  
22 opponents in sport compared to their interactions with classmates in school. Accordingly,  
23 potential context differences in empathy may explain context differences in moral behaviour.

#### 24 **The Present Research**

25           In sum, research evidence suggests that the concept of bracketed morality extends to  
26 the realm of moral behaviour in sport (Kavussanu et al., 2013). In addition, some individual



1 difference variables or aspects of the social environment may vary between sport and school  
2 contexts, and this variation may explain potential context divergence in moral behaviour. In  
3 the present research, we aimed to examine whether moral behaviour of adolescent football  
4 players differs between sport and school and the factors that may explain this divergence. To  
5 this end, we conducted two studies in two independent samples of football players, in which  
6 we assessed moral behaviour toward teammates and opponents in sport and toward  
7 classmates in school.

8 In each study, we had two purposes pertaining to (a) describing and (b) explaining the  
9 context divergence in moral behaviour. In Study 1, the first purpose was to examine whether  
10 moral behaviour differs between sport and school and whether this divergence is moderated  
11 by age. The second purpose was to investigate whether peer climate accounts for potential  
12 context differences in moral behaviour. In Study 2, our first purpose was to examine  
13 differences in moral behaviour between sport and school and whether they are moderated by  
14 age and sex. Our second purpose was to investigate whether context differences in moral  
15 behaviour are explained by context differences in moral disengagement and empathy. The  
16 specific hypotheses associated with each study purpose have been stated in the introductory  
17 sections of Studies 1 and 2.

### 18 **Study 1**

19 In Study 1, our first purpose was to examine differences in moral behaviour between  
20 sport and school and whether these differences are moderated by age. In line with previous  
21 research (Kavussanu et al., 2013; Kavussanu & Ring, 2016), we expected more prosocial and  
22 less antisocial behaviour toward one's teammates in sport than toward one's classmates in  
23 school. This is because acting prosocially toward teammates (e.g., by encouraging and  
24 supporting them) should facilitate team goal achievement, whereas acting antisocially toward  
25 them (e.g., by verbally abusing and criticizing them) should impede this achievement  
26 (Kavussanu & Al-Yaaribi, 2019; Kavussanu & Boardley, 2009). We also expected less

1 prosocial and more antisocial behaviour toward opponents in sport than toward classmates in  
2 school (Kavussanu et al., 2013).

3 In previous research in male footballers, antisocial behaviour toward opponents  
4 increased as age increased (Kavussanu et al., 2006). In addition, when responding to moral  
5 dilemmas set in sport, male basketball players showed less mature moral reasoning than when  
6 responding to dilemmas set in daily life (Bredemeier & Shields, 1986a). Traditional models  
7 of moral development suggest that moral development follows the pattern of cognitive  
8 development (e.g., Kohlberg & Hersh, 1977). Thus, we hypothesized that age would  
9 accentuate the gap between sport and school in antisocial opponent behaviour. That is,  
10 compared to younger participants, we expected that older ones would show more antisocial  
11 behaviour toward their opponents in sport than toward their classmates in school. This  
12 hypothesis is also supported by the finding that sport experience (which is higher in older  
13 athletes) corresponds to lower levels of moral functioning in team sport athletes (Kavussanu  
14 & Ntoumanis, 2003). We made no predictions regarding the pattern of prosocial and  
15 antisocial teammate behaviours or prosocial opponent behaviour across adolescence, due to  
16 insufficient research evidence.

17 Our second study purpose was to examine whether the sport-school divergence in  
18 moral behaviour could be explained by context variation in task- and ego-involving peer  
19 motivational climate. Based on findings of studies that have examined peer climate in relation  
20 to moral attitudes (Ntoumanis et al., 2012) and good and poor sport behaviours (Davies et al.,  
21 2016), we tentatively hypothesized that a context divergence in task and ego peer climate  
22 would explain a context divergence in prosocial and antisocial behaviour toward opponents.  
23 We did not form specific hypotheses for the two teammate behaviours, as previous research  
24 has not examined these behaviours in relation to peer motivational climate.

## 25 **Method**

### 26 **Participants**

1 Participants were boys ( $N = 190$ ) recruited from local association football clubs. We  
2 studied footballers because in this popular team sport, participants come in physical contact  
3 with opponents and interact regularly with teammates during play, and, therefore, there is  
4 high potential for moral issues to arise. Their ages ( $M = 14.98$ ,  $SD = 1.42$  years) were  
5 similarly distributed across the secondary school age range, and included 13 (20%), 14  
6 (23%), 15 (16%), 16 (22%) and 17 (20%) years. At the time of data collection, participants  
7 had been playing football for an average of 6.78 ( $SD = 2.76$ ) years.

## 8 **Measures**

9 **Prosocial and antisocial behaviour.** The Prosocial and Antisocial Behaviour in Sport  
10 Scale (PABSS; Kavussanu & Boardley, 2009) was used to measure prosocial and antisocial  
11 behaviour in sport. The PABSS comprises four subscales that measure prosocial behaviour  
12 toward teammates (e.g., encouraged a teammate) and opponents (e.g., helped an opponent off  
13 the floor), and antisocial behaviour toward teammates (e.g., criticized a teammate) and  
14 opponents (e.g., tried to injure an opponent). Participants were presented with items  
15 describing prosocial and antisocial behaviours in sport, were asked to think about their  
16 experiences when playing football this season, and indicate how often they engaged in each  
17 behaviour. Responses were made on a scale anchored by 1 (*never*) and 5 (*very often*).  
18 Previous research has provided evidence for the internal reliability and validity of the scale  
19 (Kavussanu et al., 2013; Kavussanu & Boardley, 2009).

20 We measured prosocial and antisocial behaviour in school using a version of the  
21 PABSS, which has been adapted for use in the education context in previous research  
22 (Kavussanu et al., 2013). Participants were presented with items referring to the same  
23 behaviours described in the PABSS and were asked to report how often they had engaged in  
24 each behaviour this year in school. The words “teammate” and “opponent” were replaced  
25 with the word “classmate”. The scale contained items that measured prosocial (e.g.,  
26 encouraged a classmate, helped an injured classmate) and antisocial (e.g., criticized a

1 classmate, deliberately hurt a classmate) behaviours towards one's classmates. The PABSS  
2 measures prosocial and antisocial behaviour toward teammates and opponents in sport.  
3 However, as there are no formal teammates and opponents in the school context, the adapted  
4 scale referred *only* to classmates. We have noted this in all tables and figures and referred to  
5 classmates in our discussion of the findings that pertain to behaviour in school. We have also  
6 provided the full list of the PABSS behaviours that were assessed in the school context (i.e.,  
7 toward classmates) in supplementary material (see Table S1).

8 **Peer motivational climate.** The Peer Motivational Climate in Sport Questionnaire  
9 (Ntoumanis & Vazou, 2005) was used to measure the perceived peer motivational climate of  
10 participants' team. This instrument measures task-involving (e.g., help each other improve,  
11 set an example by giving maximum effort) and ego-involving (e.g., try to do better than their  
12 teammates, laugh at their teammates when they make mistakes) climate. The stem "In my  
13 team, most players..." preceded questionnaire items and participants responded on a scale  
14 anchored by 1 (*strongly disagree*) and 7 (*strongly agree*). An adapted version of the  
15 instrument was used to assess peer motivational climate in school. The stem "In my classes,  
16 in school, most students..." was followed by the same items used in sport, but the word  
17 "teammate" was replaced with "classmate". This instrument has demonstrated good  
18 reliability and validity (Chan et al., 2012).

### 19 **Procedure**

20 After obtaining permission from parents and coaches, participants were approached by  
21 a research assistant either before or after a training session. They were informed of the study  
22 purposes, its voluntary nature, that honesty in responses was vital, and that data would be  
23 kept confidential and used only for research purposes. Data collection was scheduled midway  
24 through the football season. Participants completed the measures described above. The order  
25 of the scales was counterbalanced to avoid order effects.

### 26 **Data Analysis**

1 We analysed our data using SPSS version 24, and the MEMORE 2.1 macro (Montoya,  
2 2019; Montoya & Hayes, 2017), using OLS regression. First, we performed a series of  
3 moderation analyses for a two-condition (i.e., sport, school) within-participant design, using  
4 Model 2, to examine: (a) whether each behaviour differed between sport and school; and (b)  
5 whether this divergence was moderated by age. Next, we used Model 1 to examine whether  
6 context differences in peer climate explained context differences in moral behaviour. The two  
7 dimensions of peer climate (task and ego) were entered in the model as parallel mediators, as  
8 we were interested in the unique effects of the context difference in each dimension of the  
9 motivational climate on the context difference in each behaviour.

10 In all MEMORE analyses, we set bootstrapping at 10,000 samples; estimated percentile  
11 95% Confidence Intervals (CIs) for all effects; considered an effect as significant when the CI  
12 did not cross zero; reported the unstandardized coefficients; and reported the partially  
13 standardized indirect effect (PSIE), representing the size of the indirect effect in terms of  
14 standard deviation units of the outcome variable (MacKinnon, 2008). Values of .10, .30 and  
15 .50 represent small, medium, and large effect sizes, respectively, as per Cohen's (1992) *d*.

## 16 Results

### 17 Alpha Coefficients, Descriptive Statistics, and Correlations

18 Cronbach's alpha coefficients were computed for all scale scores, are presented in  
19 Table 1, and indicate good-to-very-good levels of internal consistency for all scales in both  
20 contexts. Table 1 also shows descriptive statistics and correlations between all variables  
21 within each context. On average, participants reported engaging often in prosocial behaviour  
22 toward teammates, sometimes in prosocial behaviour toward opponents, and rarely in  
23 antisocial behaviour toward teammates and opponents. They also reported engaging  
24 sometimes in prosocial behaviour and rarely in antisocial behaviour toward their classmates.  
25 Task peer climate was positively associated with the two prosocial behaviours and negatively  
26 linked to the two antisocial behaviours in both contexts; however, the negative correlation (*r*

1 = -.12) between task peer climate and antisocial opponent behaviour in sport was not  
2 significant. With the exception of a positive correlation between ego climate and prosocial  
3 teammate behaviour in both contexts, this peer climate was not associated with any behaviour  
4 in either context.

### 5 **Context Differences in Moral Behaviour across Adolescence**

6 The means for each behaviour as a function of context and age are presented in Figure  
7 1. In order to examine our first study purpose, that is, whether moral behaviour differs across  
8 the two contexts, and whether this divergence is moderated by age, we performed moderation  
9 analysis using MEMORE, Model 2. In all MEMORE analyses, the scores of each behaviour  
10 in the school context were subtracted from the scores of the corresponding behaviour in the  
11 sport context. Thus, a positive value of the point estimate (which reflects context differences)  
12 indicates higher scores in sport relative to school, whereas a negative value indicates lower  
13 scores in sport compared to school. For clarity, we have used the notation  $M_{difference}$  to refer to  
14 this point estimate.

15 This analysis revealed that prosocial teammate behaviour was more frequent in sport  
16 than school ( $M_{difference} = 0.52$ , 95% CI = 0.40, 0.65), whereas prosocial opponent behaviour  
17 was less frequent in sport than school ( $M_{difference} = -0.40$ , 95% CI = -0.54, -0.25). Age did not  
18 moderate the context difference in prosocial teammate ( $b = -.01$ , 95% CI = -.10, .08) or  
19 opponent ( $b = .06$ , 95% CI = -.04, .17) behaviours. In other words, participants reported more  
20 frequent prosocial behaviour toward their teammates and less frequent prosocial behaviour  
21 toward their opponents in sport, than they did toward their classmates in school, and this  
22 difference was consistent across all ages.

23 A different pattern of results emerged for the two antisocial behaviours. Overall,  
24 antisocial teammate behaviour was lower in sport than school ( $M_{difference} = -0.16$ , 95% CI = -  
25 0.28, -0.04), however, this context difference was moderated by age,  $b = .14$ , 95% CI = .06,  
26 .22. As can be seen in Figure 1C, this behaviour was less frequent in sport than school in

1 early and middle adolescence, but did not differ between sport and school in late adolescence.  
2 Overall, antisocial opponent behaviour did not differ between sport and school ( $M_{\text{difference}} =$   
3  $0.03$ ,  $95\%$  CI =  $-0.10, 0.16$ ), however, the interaction with age was significant,  $b = .17$ ,  $95\%$   
4 CI =  $.08, .26$ . In early adolescence, antisocial opponent behaviour was less frequent in sport  
5 than school, but by late adolescence, this behaviour was more frequent in sport than school.  
6 Detailed results of these analyses for three age groups (13, 15, 17 years), representing early,  
7 middle, and late adolescence, can be seen in Supplementary Material, Table S2.

### 8 **Explaining Context Differences**

9 We examined our second study purpose, that is, whether context differences in moral  
10 behaviour were explained by context differences in peer motivational climate using  
11 MEMORE Model 1. The models for the two prosocial behaviours are illustrated in Figure 2.  
12 Below we describe these findings and present indirect effects, which are used to test  
13 mediation (Montoya & Hayes, 2017). We also present significant context direct effects,  
14 which represent the estimated mean difference ( $M_{\text{difference}}$ ) between the two contexts in moral  
15 behaviour or peer climate.

16 As can be seen in Figure 2, participants perceived a higher task peer climate in sport  
17 relative to school ( $M_{\text{difference}} = 0.62$ ), but there was no significant context difference in ego  
18 peer climate ( $M_{\text{difference}} = 0.10$ ). The context difference in task peer climate had an indirect  
19 effect on the context difference in prosocial teammate behaviour, point estimate =  $0.12$ ,  $95\%$   
20 CI =  $0.03, 0.22$ ,  $PSIE = 0.16$ , as well as a direct effect ( $M_{\text{difference}} = 0.40$ ); there was no  
21 significant indirect effect of the context difference in ego climate on the context difference of  
22 this behaviour. In other words, because participants perceived a higher task peer climate in  
23 sport relative school, their prosocial behaviour toward their teammates in sport was estimated  
24 to be higher (by  $0.12$  scale points) compared to the same behaviour toward their classmates in  
25 school. The significant context direct effect ( $0.40$ ; see Figure 2A) suggests that other factors,

1 besides the higher task peer climate in sport relative to school, account for the more frequent  
2 prosocial teammate behaviour in sport relative to school.

3 With respect to the prosocial opponent behaviour, the analysis showed that the context  
4 difference in task peer climate had an indirect effect on the context difference in this  
5 behaviour, 0.11, 95% CI = 0.00, 0.22, PSIE = 0.12. Figure 2B illustrates these results and  
6 shows that there was also a significant direct effect, -0.51, 95% CI = -0.68, -0.33, indicating a  
7 larger context difference in prosocial opponent behaviour, when we controlled for the context  
8 difference in task peer climate. This suggests that the original difference between the two  
9 contexts ( $M_{\text{difference}} = -0.40$ ) reflecting lower prosocial opponent behaviour in sport relative to  
10 school would be even greater ( $M_{\text{difference}} = -0.51$ ), if the positive effect of task peer climate  
11 (which was higher in sport compared to school) on prosocial opponent behaviour was  
12 removed. That is, participants would report even lower prosocial opponent behaviour in sport  
13 compared to school, if they did not perceive a higher task peer climate in sport compared to  
14 school. The context difference in ego peer climate had no indirect effect on prosocial  
15 opponent behaviour.

16 With respect to the two antisocial behaviours, the context difference in task and ego  
17 peer climate had no significant indirect effects on the context difference in these behaviours.  
18 Due to space constraints, the results of the mediation analysis that included the two antisocial  
19 behaviours are presented in supplementary material (Figure S1).

## 20 Study 2

21 In sum, Study 1 showed that across all ages, prosocial teammate behaviour was more  
22 frequent in sport than school, whereas the opposite pattern was revealed for prosocial  
23 opponent behaviour. These findings suggest a clear differentiation between prosocial  
24 behaviours directed toward teammates and opponents and underline the importance of  
25 considering the recipient of the behaviour when examining context differences in moral  
26 behaviour in sport. In contrast, the two antisocial behaviours showed a similar pattern across



1 adolescence, with younger athletes displaying more frequent antisocial behaviour in school  
2 than sport compared to their older counterparts. Finally, task peer climate partially explained  
3 the context divergence in the two prosocial behaviours.

4 In Study 2, we aimed to extend the findings of Study 1, in two ways. First, we recruited  
5 both male and female football players, thus examining moderation of the context divergence  
6 not only by age but also by sex. Second, given that peer task climate only partially explained  
7 the context divergence in prosocial behaviour, and that there was no effect for ego climate, in  
8 Study 2, we examined two other potential explanatory variables - moral disengagement and  
9 empathy – and we had two purposes. Our first purpose was to examine context (sport vs  
10 school) differences in moral behaviour and whether these differences are moderated by age  
11 and sex. We expected that context differences in antisocial opponent behaviour would be  
12 larger for boys than girls, especially for the older adolescents.

13 Our second study purpose was to determine whether context differences in moral  
14 behaviour could be explained by context differences in moral disengagement and empathy.  
15 We tentatively hypothesized that these two variables would explain the context divergence in  
16 antisocial behaviours (Kavussanu et al., 2013; Stanger et al., 2016), however, we did not  
17 forward any specific hypotheses for prosocial behaviour due to insufficient evidence from  
18 previous research.

## 19 Method

### 20 Participants

21 Participants were male ( $n = 296$ ) and female ( $n = 306$ ) athletes recruited from 15 local  
22 schools and football clubs. We studied footballers as per Study 1. Their ages ( $M = 14.68$ ,  $SD$   
23  $= 1.71$  years) were distributed across the secondary school age range, 12 (13%), 13 (17%), 14  
24 (14%), 15 (21%), 16 (16%), 17 (17%) and 18 (2%). At the time of data collection,  
25 participants had been playing football on average for 5.30 ( $SD = 2.40$ ) years.

### 26 Procedure

1 The procedure was the same as in Study 1.

## 2 **Measures**

3 **Prosocial and antisocial behaviour.** We used the PABSS to assess prosocial and  
4 antisocial behaviour in sport and school as in Study 1.

5 **Moral disengagement.** The Moral Disengagement in Sport Scale Short (Boardley &  
6 Kavussanu, 2008) was used to measure moral disengagement. Participants were asked to read  
7 a number of statements describing thoughts and feelings players may have and indicate their  
8 level of agreement on a Likert scale anchored by 1 (*strongly disagree*) and 7 (*strongly agree*).  
9 An example item is “Insults among players do not really hurt anyone”. The scale has  
10 demonstrated very good internal consistency with alpha coefficients ranging from .80 to .85,  
11 and evidence for its factorial, convergent, and concurrent validity has been provided  
12 (Boardley & Kavussanu, 2008). An adapted version of the scale was used to assess moral  
13 disengagement in school. Specifically, the words “player” and “teammate” were replaced  
14 with “classmate” (e.g., Insults among classmates do not really hurt anyone).

15 **Empathy.** Empathy was measured using two subscales of the Interpersonal Reactivity  
16 Index (Davis, 1980): perspective taking and empathic concern. Participants were asked to  
17 indicate how well a number of statements describe them while playing football. Examples of  
18 the perspective taking items are “Before criticizing a player, I try to imagine how I would feel  
19 if I were in their place” and “I sometimes try to understand other players better by imagining  
20 how things look from their perspective”. Examples of the empathic concern subscale items  
21 are “I often have concerned feelings for players less fortunate than me” and “Other players’  
22 misfortunes usually disturb me a great deal”. Responses were made on a 5-point scale  
23 anchored by 1 (*does not describe me well*) and 5 (*describes me very well*). An adapted  
24 version of the scale was used to assess empathy in school. Participants were asked to indicate  
25 how well a number of statements describe them in school; the word “classmate” was used to  
26 refer to a person in the relevant items. Example items are “Before criticizing a classmate, I try

1 to imagine how I would feel if I were in their place” and “My classmates’ misfortunes usually  
2 disturb me a great deal”.

3 Because perspective taking and empathic concern are theoretically and empirically  
4 related (Davis, 1983) and because preliminary analysis showed that the two subscales were  
5 strongly correlated in both contexts ( $r_s = .47-.49, p_s < .001$ ), responses on the two subscales  
6 were averaged to form an overall empathy score, which was used in all analyses. The  
7 combined scale has been used in past research and has shown high internal consistency, with  
8 Cronbach's alpha coefficients ranging from .76 to .86 (Carlo et al., 1999).

### 9 **Data Analysis**

10 We adopted the same analytic strategy as described in Study 1. However, as we had  
11 both male and female participants in Study 2, we performed multiplicative moderation  
12 analyses using MEMORE 2.1 (Model 3) (Montoya, 2019) to examine whether the conditional  
13 effect of age on the context divergence in each behaviour was itself conditional on  
14 participants’ sex.

## 15 **Results**

### 16 **Alpha Coefficients, Descriptive Statistics, and Correlations**

17 Cronbach’s alpha coefficients were computed for all scale scores, and can be seen in  
18 Table 2. The values indicate good-to-very-good levels of internal consistency for all scales in  
19 both contexts. Table 2 also shows descriptive statistics and correlations between all variables  
20 within each context. The frequency of the four behaviours in each context was largely similar  
21 to Study 1; moreover, participants reported moderate levels of moral disengagement and  
22 empathy. In both contexts, moral disengagement was strongly and positively related to the  
23 two antisocial behaviours, while empathy was positively related to the two prosocial  
24 behaviours and negatively associated with the two antisocial behaviours.

### 25 **Context Differences in Moral Behaviour Across Adolescence**

1 Our first study purpose was to examine context differences in moral behaviour and  
2 whether these are moderated by age and sex. Means for each behaviour as a function of  
3 context and age can be seen in Figure 3. In line with Study 1, below we present mean context  
4 differences, which we estimated via bootstrapping. Due to space constraints, all moderation  
5 analysis results are presented in Table S3 of the supplementary material. Below, we describe  
6 only significant effects.

7 On average, our participants reported: more frequent prosocial behaviour toward  
8 teammates in sport than toward classmates in school ( $M_{\text{difference}} = 0.23$ , 95% CI = 0.17, 0.29);  
9 less frequent prosocial behaviour toward opponents in sport than toward classmates in school  
10 ( $M_{\text{difference}} = -0.15$ , 95% CI = 0.08, 0.22); and less frequent antisocial behaviour toward  
11 teammates in sport than toward classmates in school ( $M_{\text{difference}} = -0.09$ , 95% CI = -0.14, -0.03).  
12 The context differences in these behaviours were not moderated by age, sex, or by age and  
13 sex (see supplementary material, Table S3) In other words, their relative context frequency  
14 was similar across the five age groups, as well as across males and females. However, the  
15 pattern of results was different for antisocial opponent behaviour.

16 Antisocial opponent behaviour was more frequent in sport than school ( $M_{\text{difference}} =$   
17 0.13, 95% CI = 0.08, 0.19), and this context difference was moderated by both age,  $b = 0.10$ ,  
18 95% CI = 0.05, 0.15, and sex,  $b = 1.52$ , 95% CI = 0.56, 2.47. We also found an interaction  
19 effect between age and sex,  $b = -0.10$ , 95% CI = -0.16, -0.04: In girls, antisocial opponent  
20 behaviour was more frequent in sport than school across all age groups (0.16), whereas in  
21 boys, this behaviour was less frequent in sport than school in early adolescence (e.g., at 12  
22 years, -0.16), more frequent in sport than school in mid adolescence (e.g., at 15 years, 0.14),  
23 and markedly more frequent in sport than school in late adolescence (e.g., at 18 years, 0.44).

#### 24 **Explaining Context Differences**

25 Our second study purpose was to examine whether context differences in moral  
26 behaviour were mediated by context differences in moral disengagement and empathy. That

1 is, we wished to understand whether the context differences between sport and school in  
2 moral behaviour are explained by concomitant differences in moral disengagement and  
3 empathy. In line with Study 1, these variables were examined as parallel mediators, as we  
4 were interested in the unique effect of each variable on each behaviour. The analysis revealed  
5 that moral disengagement was higher in sport than school ( $M_{difference} = 0.15$ , CI = 0.08, 0.22),  
6 while empathy was lower in sport than school ( $M_{difference} = -0.15$ , 95% CI = -0.19, -0.11). The  
7 context differences in moral disengagement and empathy had no indirect effect on the context  
8 differences in the two prosocial behaviours. Due to space constraints, these results have been  
9 included in supplementary material, Figure S2).

10       Mediation analysis results for the two antisocial behaviours can be seen in Figure 4.  
11 The context difference in moral disengagement had an indirect effect on the context  
12 difference in antisocial teammate behaviour (0.02, 95% CI = 0.01, 0.04, PSIE = 0.02). There  
13 was also a significant direct effect (-0.12), indicating a slightly larger context difference  
14 (compared to the original context difference of -0.09) in antisocial teammate behaviour, when  
15 we controlled for moral disengagement and empathy. This suggests that the context  
16 difference ( $M_{difference} = -0.09$ ) reflecting lower antisocial teammate behaviour in sport relative  
17 to school increased ( $M_{difference} = -0.12$ ), when the positive effect of moral disengagement  
18 (which was higher in sport compared to school) on antisocial teammate behaviour was  
19 removed. That the direct effect was significant (-0.12, 95% CI = -.18, -.06) suggests that  
20 other factors, which vary between the two contexts may explain the context difference in  
21 antisocial teammate behaviour.

22       The context difference in moral disengagement had an indirect effect on the context  
23 difference in antisocial opponent behaviour (0.03, 95% CI = 0.01, 0.05, PSIE = 0.03). Thus,  
24 because of the higher moral disengagement in sport relative to school, our participants  
25 displayed 0.03 units more antisocial behaviour toward their opponents in sport relative to  
26 how they acted toward their classmates in school. Compared to the original context difference

1 (0.13) the direct effect of context (reflecting the difference between sport and school) on  
2 antisocial opponent behaviour was reduced but remained significant ( $M_{difference} = 0.08$ , 95%  
3 CI = 0.03, 0.14). This suggests that besides moral disengagement, other factors which vary  
4 between the two contexts may explain the context variation in antisocial opponent behaviour.

### 5 **Discussion**

6 Previous research has documented bracketed moral reasoning in sport compared to  
7 daily life (Bredemeier & Shields, 1986a, 1986b), and more recent studies have extended this  
8 work to moral behaviour of student-athletes in sport and university contexts (Kavussanu et  
9 al., 2013; Kavussanu & Ring, 2016). However, we know little about bracketed moral  
10 behaviour in adolescence. The present research was designed to fill this gap in the literature.  
11 In two studies of young football players, we investigated divergence in moral behaviour  
12 between sport and school. We also examined whether this divergence was moderated by age  
13 and sex and explained by variation in peer motivational climate, moral disengagement, and  
14 empathy.

15 Prior to discussing our findings, it is worth reiterating that the four subscales measuring  
16 prosocial and antisocial behaviour toward teammates and opponents tapped into different  
17 types of behaviour, reflecting the distinct acts that are typically observed in team sport.  
18 Specifically, the prosocial teammate behaviours were acts conducive to team achievement  
19 (e.g., congratulating a teammate), whereas the prosocial opponent behaviours were helping  
20 acts (e.g., helping an opponent off the ground). Similarly, the antisocial teammate behaviours  
21 were aggressive acts (e.g., verbally abusing a teammate), while the antisocial opponent  
22 behaviours were a combination of aggression (e.g., trying to injure an opponent),  
23 gamesmanship (e.g., intentionally distracting an opponent) and cheating (e.g., intentionally  
24 breaking the rules). There was also variation in the recipient of moral behaviour in the two  
25 contexts: In sport, the recipient was either a teammate or an opponent, whereas in school, the

1 recipient was always a classmate, as the teammate/opponent distinction was relevant to sport  
2 but irrelevant to school. Below we discuss our findings as they pertain to our study purposes.

### 3 **Context Differences in Moral Behaviour**

4 In both studies, compared to their behaviour toward classmates in school, our  
5 participants reported more prosocial behaviour toward their teammates and less prosocial  
6 behaviour toward their opponents in sport. Moreover, this divergence in the two prosocial  
7 behaviours held regardless of age or sex. These findings replicate and extend previous  
8 research, which has shown that student-athletes are more prosocial toward their teammates  
9 but less prosocial toward their opponents in sport, than toward their fellow students in  
10 university (Kavussanu et al., 2013; Kavussanu & Ring, 2016). They are also in line with  
11 research in children (Abrams et al., 2015) showing that prosociality (i.e., intentions to share,  
12 help and comfort another child) was lower in an intergroup art competition, than in an  
13 interpersonal or a non-competitive context. Specifically, children were more likely to help an  
14 individual than someone who was not part of their team (i.e., an out-group member) and this  
15 effect was accentuated in the competitive context.

16 A large body of literature indicates that the in-group versus out-group classification  
17 influences individuals' responses (e.g., Hewstone et al., 2002). People tend to act more  
18 favourably toward members of their own group and less favourably toward members of the  
19 out-group (Tajfel et al., 1971). According to social identity theory (Tajfel et al., 1971), being  
20 a member of a group leads one to develop a positive social identity through comparing and  
21 distinguishing itself along dimensions of value. Children view prosocial behaviour directed to  
22 the outgroup as less acceptable in competitive contexts (Rhodes & Brickman, 2011). Taken  
23 together with past research, our findings suggest that, relative to school, the competitive  
24 context of sport is likely to suppress prosocial behaviour toward one's opponents, who belong  
25 to the out-group, but promote prosocial behaviour toward one's teammates, who are members  
26 of the in-group.

1           Across the two studies, our participants reported lower antisocial behaviour toward  
2 their teammates in sport than toward their classmates in school, and this difference was more  
3 pronounced in younger athletes, with no context difference in older athletes observed in  
4 Study 1. It has been suggested that the peer group is important as one enters the teenage years  
5 (Ntoumanis et al., 2012; Wentzel, 1998). Due to the significance of sport in adolescents'  
6 lives, it is likely that the bond among teammates is stronger in younger ages, which may  
7 explain the less frequent antisocial behaviour toward teammates in sport than toward  
8 classmates in school. The lack of context difference in antisocial teammate behaviour in the  
9 older age groups is in line with the results of two other studies, which examined the same  
10 research question in university student athletes (Kavussanu et al., 2013; Kavussanu & Ring,  
11 2016).

12           Context differences in antisocial opponent behaviour were moderated by both age and  
13 sex. In girls, antisocial opponent behaviour was more frequent in sport than school across all  
14 age groups, whereas in boys, this behaviour was less frequent in sport than school in early  
15 adolescence, more frequent in sport than school in middle adolescence, and markedly more  
16 frequent in sport than school in late adolescence. These findings suggest that in girls, the  
17 social experience of taking part in sport may not vary dramatically across age groups, as it  
18 does for boys, where antisocial behaviour toward opponents tends to be more frequent in  
19 older ages (see Kavussanu et al., 2006). Boys appear to be socialized through sport into  
20 becoming more antisocial over time. The more frequent antisocial behaviour toward  
21 opponents in late adolescence in sport may be due to the greater sport experience, which  
22 increases as age increases (Kavussanu & Ntoumanis, 2003). These findings are in line with  
23 previous research which has shown that moral reasoning is less mature in sport compared to  
24 daily life and this divergence is more pronounced in older male athletes (Bredemeier, 1995;  
25 Bredemeier & Shields, 1986a, 1986b).

26   **Explaining Context Differences in Moral Behaviour**



1           We also examined whether peer motivational climate (in Study 1), and moral  
2   disengagement and empathy (in Study 2) explained the context differences in moral  
3   behaviour. Task peer involving climate mediated the context difference in both prosocial  
4   behaviours but had no effect on the two antisocial behaviours. Thus, the higher frequency of  
5   prosocial teammate behaviour in sport relative to school could be attributed, in part, to the  
6   greater task peer climate in sport compared to school. In a task peer climate, teammates help  
7   each other improve their skills and encourage them to keep trying after making a mistake, in  
8   short, via their behaviour they create a prosocial environment that is conducive to  
9   achievement (Ntoumanis & Vazou, 2005). Our participants tended to agree that this was the  
10   behaviour of most players in their team, more so than the behaviour of other students in their  
11   school toward their classmates.

12           Task peer climate was perceived as higher in sport than in school and was positively  
13   associated with the two prosocial behaviours in both contexts, a finding that is in line with  
14   previous research on good sport behaviours (Davies et al., 2016). When the context  
15   difference in task climate (alongside ego climate) was entered in the model, the context  
16   difference in prosocial opponent behaviour (-0.40) increased in absolute value (-0.51). This  
17   suggests that participants would report even lower prosocial opponent behaviour in sport  
18   relative to school, if they did not perceive a higher task peer climate in sport compared to  
19   school.

20           Ego-involving climate did not differ between the two contexts and was unrelated to  
21   moral behaviour in both sport and school (with the exception of a small correlation with  
22   prosocial teammate behaviour in both contexts). In a previous study (Ntoumanis et al, 2012),  
23   adolescents' perceptions of the peer ego climate positively predicted gamesmanship but not  
24   cheating of young athletes. The discrepancy in the findings between the two studies may be  
25   due to the different measures used. In our study, we examined prosocial and antisocial  
26   behaviour, whereas Ntoumanis et al (2012) measured moral attitudes. Ego peer climate may

1 not be relevant to all types of moral behaviour, and the behaviours we measured may be more  
2 likely to be influenced by the coach- (rather than the peer-) motivational climate. Indeed, the  
3 coach-created ego-involving motivational climate has been positively linked with antisocial  
4 behaviour in sport in numerous studies (e.g., Kavussanu et al., 2006; Stanger et al., 2018; van  
5 de Pol et al., 2018). However, ego peer climate does not appear relevant to moral behaviour  
6 in school.

7       The context difference in moral disengagement had an indirect effect on the context  
8 difference in the two antisocial behaviours, providing some evidence for mediation.

9 Specifically, when we controlled for the context difference in moral disengagement (which  
10 was higher in sport than school, and was positively related to both antisocial behaviours in  
11 both contexts) and empathy, the original context difference (-0.09) in antisocial teammate  
12 behaviour increased in absolute size (-0.12). This suggests that context variation in antisocial  
13 teammate behaviour is partly explained by context variation (albeit small) in moral  
14 disengagement.

15       The context difference in moral disengagement had an indirect effect on the context  
16 difference in antisocial opponent behaviour, as the original context difference (0.13) in this  
17 behaviour became smaller (0.08) when we controlled for moral disengagement (and  
18 empathy). This suggests that our participants may have acted antisocially slightly more often  
19 toward their opponents in sport (than school) because of their higher moral disengagement in  
20 that context relative to school (cf., Kavussanu et al., 2013). Perhaps certain features of sport,  
21 such as the presence of officials to whom participants can displace responsibility, promote  
22 moral disengagement. Indeed, athletes frequently refer to officials in their justifications of  
23 transgressive behaviour (Corrion et al, 2009).

24       Although empathy was slightly lower in sport than school, this context difference had  
25 no indirect effect on context differences in moral behaviour. However, empathy was related  
26 positively to prosocial and negatively to antisocial behaviours in the two contexts, a finding

1 that is in line with previous research in sport (Stanger et al., 2012) and non-sport (e.g.,  
2 Eisenberg & Fabes, 1998) contexts. Thus, the context difference in dispositional empathy  
3 made a very small contribution to the explanation of the context difference in moral  
4 behaviour beyond that made by moral disengagement and task peer climate. It is also  
5 important to note that empathy, task peer climate, and moral disengagement were only partial  
6 mediators of the effects of context on moral behaviour and in general the effects were small.  
7 Thus, other factors should help explain the context differences in moral behaviour identified  
8 in this study.

### 9 **Limitations of the Study and Directions for Future Research**

10 Our study revealed some novel findings but also has some limitations. First, all our  
11 participants were football players. Thus, our findings can be generalized only to this sport, as  
12 we do not know how moral behaviour varies throughout adolescence in athletes from sports  
13 that differ in contact or in individual versus team sports (see Mouratidou, 2007; Mouratidou  
14 et al., 2017). Future research should study athletes from a variety of sports to determine  
15 whether sport type moderates the sport-school divergence observed in this study. Second, we  
16 did not examine whether years of sport experience (see Mouratidou et al., 2007)  
17 and/or the degree of physical contact that characterizes a sport type (see Mouratidou, 2017),  
18 as well as whether the sport is individual or team influence the divergence in behaviour  
19 between sport and school. Future research should attempt to answer these questions. Third,  
20 our study was cross-sectional and included different age groups. It is possible that the group  
21 dynamics in the younger age groups were different, given that coaches who can influence the  
22 peer climate were different in each team. Future research could employ longitudinal designs  
23 to determine how moral behaviour of the same athletes and teams, changes over time.  
24 Finally, it would be interesting to determine how athletes who identify highly with their team  
25 behave toward opponents and teammates. For example, the context differences identified in

1 this study may be even greater for those participants who feel that being a member of their  
2 football team is a strong part of their social identity.

### 3 **Conclusion**

4 Our findings extend the concept of bracketed morality (Bredemeier & Shields, 1986a,  
5 1986b) to the moral behaviour of adolescent football players. They highlight the need for a  
6 more refined understanding of variations in expressions of morality in different social  
7 environments and underscore the need to distinguish the recipient of the behaviour. It is clear  
8 that adolescents behave differently depending on whether the recipient of the behaviour is a  
9 teammate, opponent, or classmate, which may be a sport-based manifestation of the classic  
10 in-group versus out-group distinction.

11

1

**Endnotes**

2

<sup>1</sup>One can also congratulate an opponent for good play, but these behaviours do not take place with similar frequency in sport. Therefore, they have not been part of recent

3

4

instruments measuring prosocial and antisocial sport behaviours like the Prosocial and

5

Antisocial Behavior in Sport Scale.

6

<sup>2</sup>The terms task and ego climate are used to refer to task-involving and ego-involving

7

climate.

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**Table 1**

*Alpha Coefficients, Descriptive Statistics, and Pearson Correlations for Sport (Below Diagonal) and School (Above Diagonal) - Study 1 (N = 190)*

	1. PB T/C	2. PB O/C	3. AB T/C	4. AB O/C	5. Task Cl	6. Ego Cl	7. Sport Exp	8. Age
1. PB T/C		.53***	-.09	-.09	.40***	.15*	-.10	-.13
2. PB O/C	.34***		.14*	.13	.34***	.01	-.08	-.13
3. AB T/C	-.23***	.13		.81***	-.20**	-.03	-.07	-.08
4. AB O/C	-.19**	.05	.58***		-.21**	-.01	-.10	-.11
5. Task Cl	.37***	.17*	-.18**	-.12		.10	.05	.00
6. Ego Cl	.17*	.01	.12	.04	.14*		-.13	-.03
7. Sport Exp	.07	.07	.17*	.20**	.03	.20**		.36***
8. Age	-.16*	-.02	.18*	.21**	.14*	-.08	.36***	
Sport								
$\alpha$	.73	.73	.79	.83	.90	.68		
<i>M</i>	3.82	2.80	2.27	2.36	4.96	4.16	6.78	14.98
<i>SD</i>	0.74	0.90	0.81	0.77	0.99	0.85	2.76	1.42
School								
$\alpha$	.75	.70	.73	.80	.90	.71		
<i>M</i>	3.30	3.20	2.43	2.33	4.34	4.06		
<i>SD</i>	0.76	0.79	0.74	0.74	0.95	0.83		

*Note.* PB = prosocial behaviour; AB = antisocial behaviour; T/C = teammates or classmates; O/C = opponents or classmates; Task Cl = task peer climate; Ego Cl = ego peer climate; Sport Exp = sport experience (i.e., number of years competing in sport). Possible range for all variables was 1 – 5 except for task and ego climate (1-7). In school, all behaviours were directed toward classmates.

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

1

**Table 2***Alpha Coefficients, Descriptive Statistics, and Pearson Correlations for Sport (Below Diagonal) and School (Above Diagonal) - Study 2 (N = 602)*

	1. PB T/C	2. PB O/C	3. AB T/C	4. AB O/C	5. MD	6. Empathy	7. Sport Exp	8. Age	9. Sex
1. PB T/C		.56***	-.14***	-.13***	-.05	.41***	-.05	.01	.05
2. PB O/C	.28***		.01	.01	.04	.33***	-.19***	-.05	.17***
3. AB T/C	-.18***	.17***		.87***	.61***	-.33***	.07	.04	-.13***
4. AB O/C	-.14**	.09*	.82***		.68***	-.32***	.02	.03	-.07
5. MD	-.12**	.11**	.67***	.68***		-.25***	-.10*	.00	.00
6. Empathy	.14***	.20***	-.25***	-.31***	-.23***		-.10*	.02	.28***
7. Sport Exp	.03	-.13***	-.06	.01	-.11**	-.12**		.39***	-.35***
8. Age	-.03	.04	.10*	.12**	.03	.02	.39***		.01
9. Sex	-.12**	.12**	.00	-.03	.07	.16***	-.35***	.01	
Sport									
$\alpha$	.70	.75	.87	.92	.85	.81			
<i>M</i>	3.60	3.06	2.42	2.58	3.65	3.01	5.30	14.68	0.51
<i>SD</i>	0.66	0.81	0.87	0.89	1.18	0.52	2.40	1.71	0.50
School									
$\alpha$	.76	.71	.84	.90	.86	.82			
<i>M</i>	3.37	3.21	2.51	2.44	3.50	3.16			
<i>SD</i>	0.66	0.68	0.83	0.83	1.22	0.50			

*Note.* PB T/C = Prosocial behaviour toward teammates/classmates; PB O/C = Prosocial behaviour toward opponents/classmates. AB T/C = Antisocial behaviour toward teammates/classmates; AB O/C = Antisocial behaviour toward opponents/classmates. Sport Exp = sport experience (i.e., number of years competing in sport); MD = moral disengagement. Possible range for all variables was 1 – 5 except for moral disengagement and empathy (1-7). \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

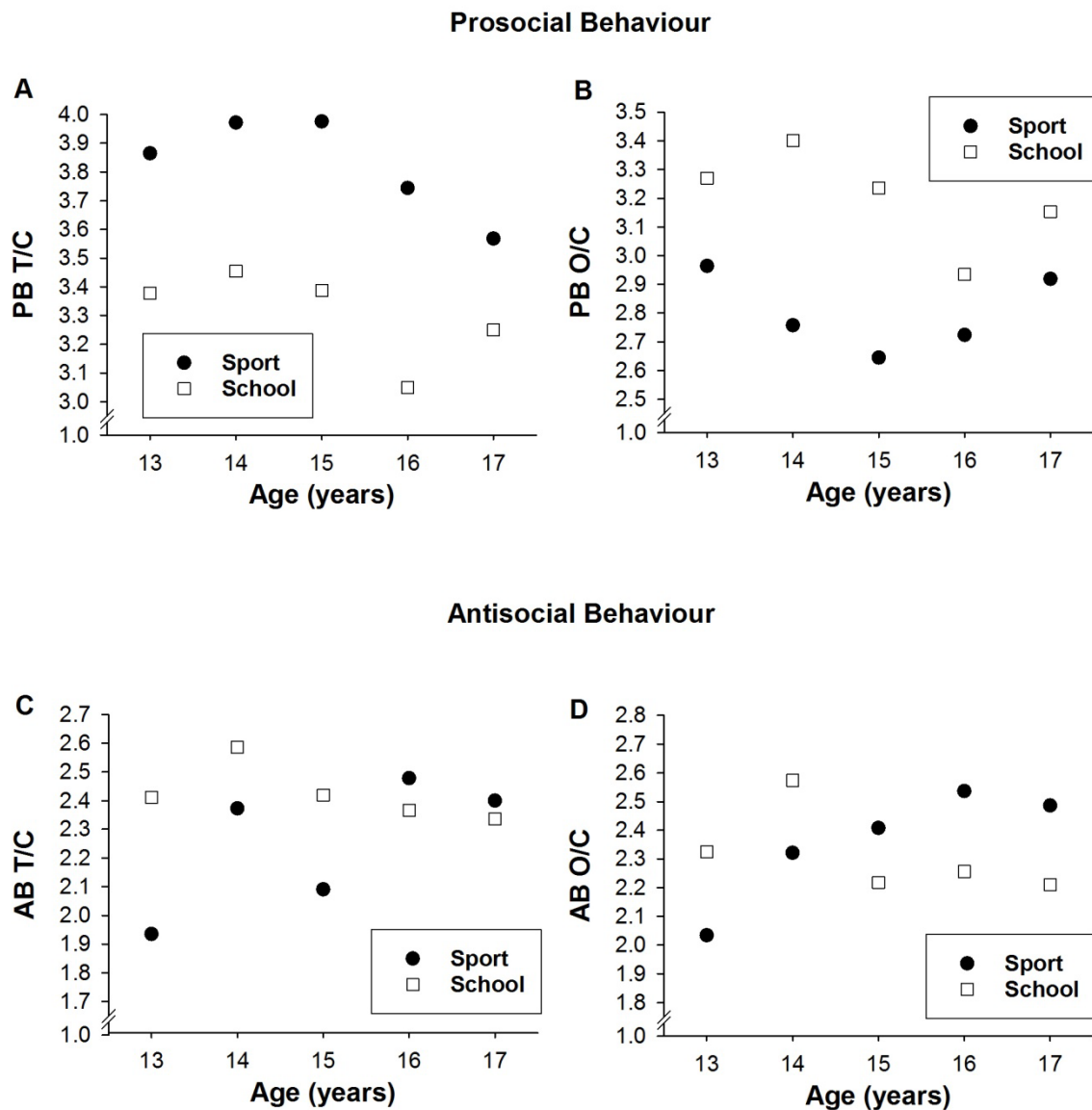
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SUPPLEMENTARY MATERIAL

**Figure 1**

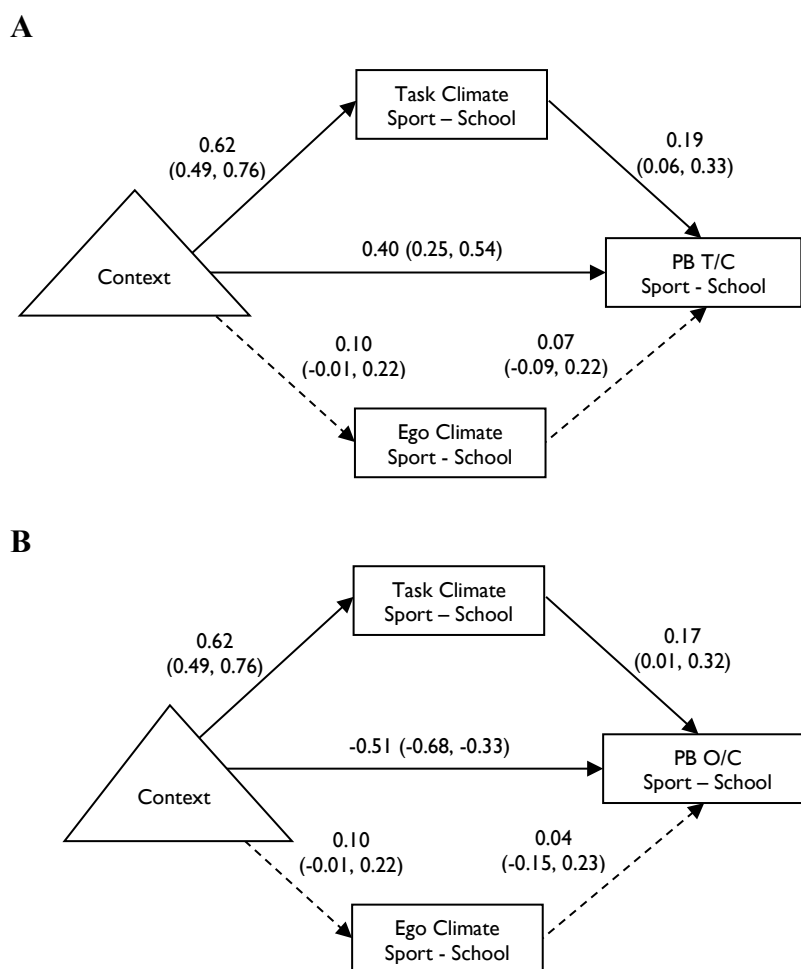
*Moral Behaviour as a Function of Context (Sport, School) and Age in Study 1 (N = 190)*



*Note.* The figure shows: prosocial behavior toward teammates and classmates (Panel A); prosocial behaviour toward opponents and classmates (Panel B); antisocial behaviour toward teammates and classmates (Panel C); antisocial behaviour toward opponents and classmates (Panel D). Dots and squares represent mean behaviour for each age group within each context. PB = prosocial behavior; AB = antisocial behaviour; T/C = teammates/classmates; O/C = opponents/classmates. Possible range of variables: 1-5

**Figure 2**

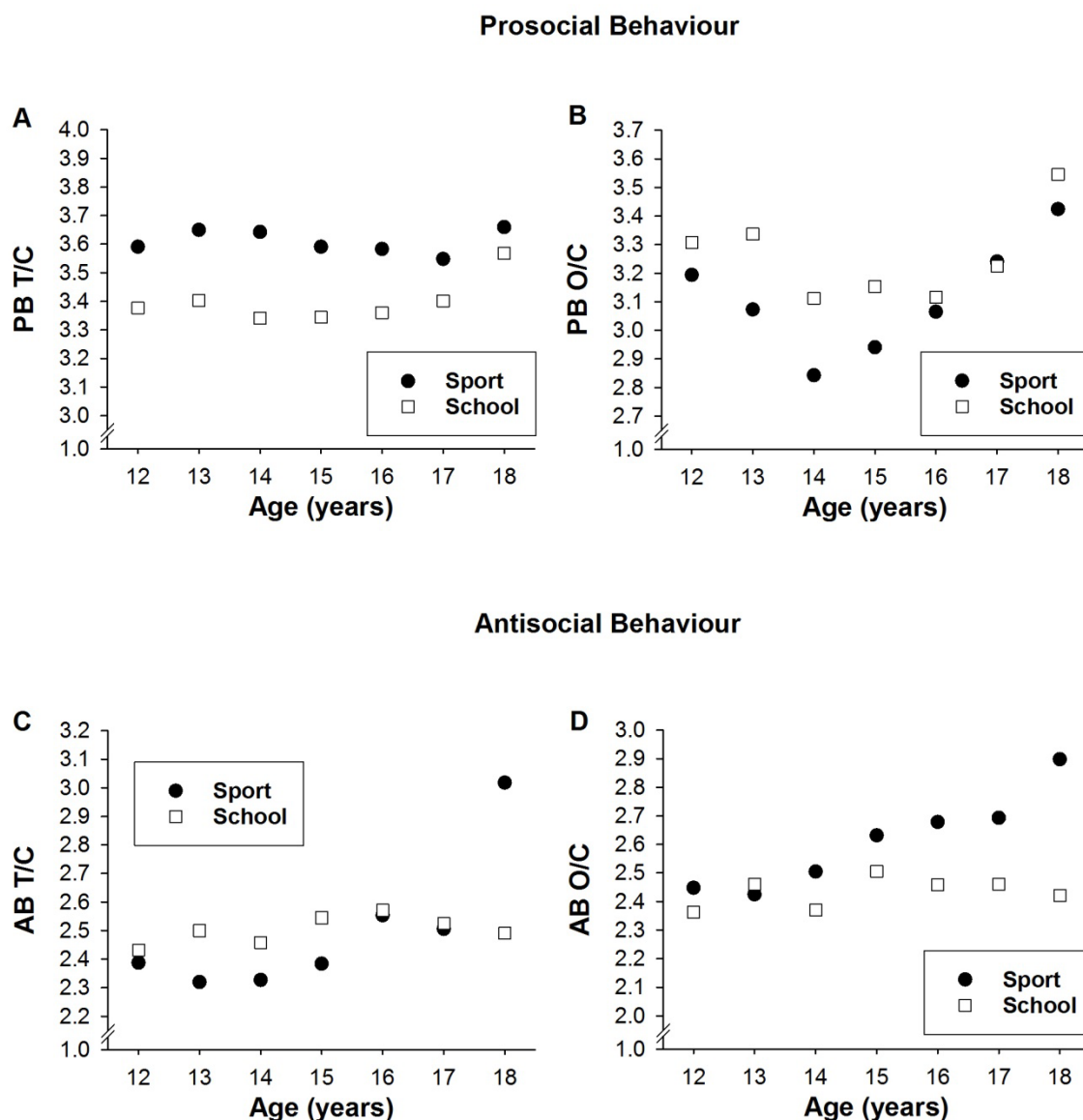
*Results of Mediation Analysis for the two Prosocial Behaviours - Study 1 (N = 190)*



*Note.* Panel A shows the results for prosocial behaviour toward teammates/classmates, while Panel B shows the results for prosocial behaviour toward opponents/classmates. Each variable was computed by subtracting participants' score in the school context from their respective score in the sport context. PB T/C = Prosocial behaviour toward teammates/classmates; PB O/C = Prosocial behaviour toward opponents/classmates. Unstandardized coefficients are reported, with 95% confidence intervals in brackets. Solid lines indicate significant paths; dashed lines indicate non-significant paths.

**Figure 3**

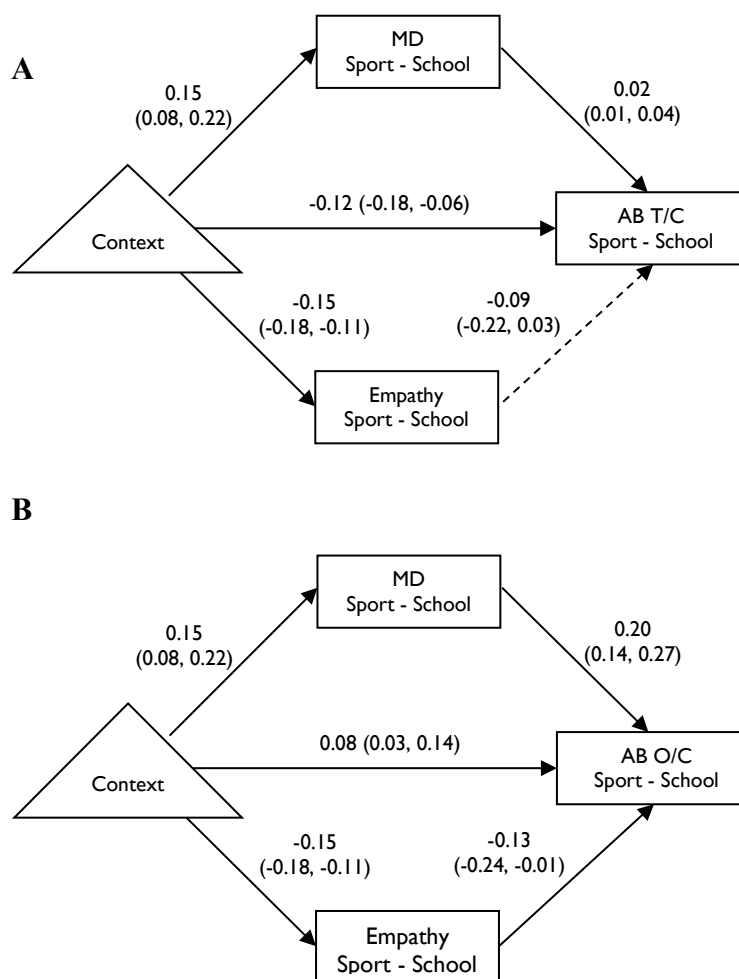
*Moral Behaviour as a Function of Context (Sport, School) and Age - Study 2 (N = 602)*



*Note.* The figure shows: prosocial behavior toward teammates and classmates (Panel A); prosocial behaviour toward opponents and classmates (Panel B). antisocial behaviour toward teammates and classmates (Panel C); antisocial behaviour toward opponents and classmates (Panel D). Dots and squares represent mean behaviour for each age group within each context. PB = prosocial behaviour; AB = antisocial behaviour; T/C = teammates/classmates; O/C = opponents/classmates.

**Figure 4**

*Results of Mediation Analysis for the two Antisocial Behaviours - Study 2 (N = 602)*



*Note.* Panel A shows the results for antisocial teammate behaviour, while Panel B shows the results for antisocial opponent behaviour. Each variable has been computed by subtracting the participant score in the school context from the participant score in the sport context. AB T/C = Antisocial behaviour toward teammates/classmates; AB O/C = Antisocial behaviour toward opponents/classmates. MD = moral disengagement. Unstandardized coefficients are reported, with 95% confidence intervals in brackets. Solid lines indicate significant paths; dashed lines indicate non-significant paths.



SUPPLEMENTARY MATERIAL

**Table S1**

*Adaptation of PABSS to Measure Behaviours in the School Context*

Prosocial Behaviours	
Teammates	Opponents
Gave positive feedback to a classmate	Helped a classmate in need
Encouraged a classmate	Sought help for a classmate who was hurt
Gave constructive feedback to a classmate	Helped a classmate who was hurt
Congratulated a classmate for good work	
Antisocial Behaviours	
Teammates	Opponents
Criticized a classmate	Deliberately hurt a classmate
Argued with a classmate	Retaliated after being hurt by a classmate
Verbally abused a classmate	Tried to wind up a classmate
Swore at a classmate	Undermined a classmate
Shown frustration at a classmate's poor performance	Tried to injure a classmate
	Intentionally distracted a classmate during a class
	Intentionally broke the rules of the school
	Physically intimidated a classmate

**Table S2**

*Moderation Analysis Results for Context Differences (Sport Minus School) on Behavior in Three Age Groups - Study 1 (N = 190)*

Moral Behaviour (Sport minus School)	Context Differences on Moral Behaviour in three Age Groups							
	Moderation Effect of Age		13 years		15 years		17 years	
	<i>b</i>	95% CI	<i>b</i> <sup>†</sup>	95% CI	<i>b</i> <sup>†</sup>	95% CI	<i>b</i> <sup>†</sup>	95% CI
PB T/C	-0.01	-0.10, 0.08	0.55*	0.33, 0.77	0.52*	0.40, 0.65	0.49*	0.28, 0.71
PB O/C	0.06	-0.04, 0.17	-0.52*	-0.77, -0.27	-0.40*	-0.54, -0.25	-0.27	-0.53, -0.01
AB T/C	0.14*	0.06, 0.22	-0.44*	-0.64, -0.23	-0.16*	-0.28, -0.04	0.12	-0.08, 0.33
AB O/C	0.17*	0.08, 0.26	-0.31*	-0.52, -0.10	0.03	-0.09, 0.15	0.37*	0.16, 0.58

*Note:* PB T/C = Prosocial behaviour toward teammates/classmates; PB O/C = Prosocial behaviour toward opponents/classmates. AB T/C = Antisocial behaviour toward teammates/classmates; AB O/C = Antisocial behaviour toward opponents/classmates

\* Effect is significant when the 95% CI does not cross zero. † A positive coefficient indicates that the behaviour was more frequent in sport than school, whereas a negative coefficient indicates that the behaviour was less frequent in sport than school.

1

**Table S3***Moderation of Context Differences in Moral behaviour by age and sex - Study 2 (N = 602)*

Variable / Moderator(s)	<i>B</i>	<i>SE</i>	LL	UL	<i>t</i> (598)	<i>p</i>
PB T/C						
Age	-0.03	0.03	-0.08	0.02	1.28	.20
Sex	-0.71	0.54	-1.76	0.35	1.32	.19
Age × Sex	0.03	0.04	-0.04	0.10	0.91	.36
PB O/C						
Age	0.04	0.03	-0.02	0.10	1.41	.16
Sex	-0.01	0.59	-1.17	1.15	0.02	.98
Age × Sex	0.00	0.04	-0.08	0.08	0.03	.98
AB T/C						
Age	0.04	0.02	0.00	0.09	1.84	.07
Sex	0.62	0.50	-0.36	1.59	1.25	.21
Age × Sex	-0.03	0.03	-0.09	0.04	0.81	.42
AB O/C						
Age	0.10	0.02	0.06	0.15	4.26	.001
Sex	1.52	0.48	0.56	2.47	3.13	.002
Age × Sex	-0.10	0.03	-0.16	-0.04	3.03	.003

2 *Note.* PB T/C = Prosocial behaviour toward teammates/classmates; PB O/C = Prosocial  
3 behaviour toward opponents/classmates. AB T/C = Antisocial behaviour toward  
4 teammates/classmates; AB O/C = Antisocial behaviour toward opponents/classmates

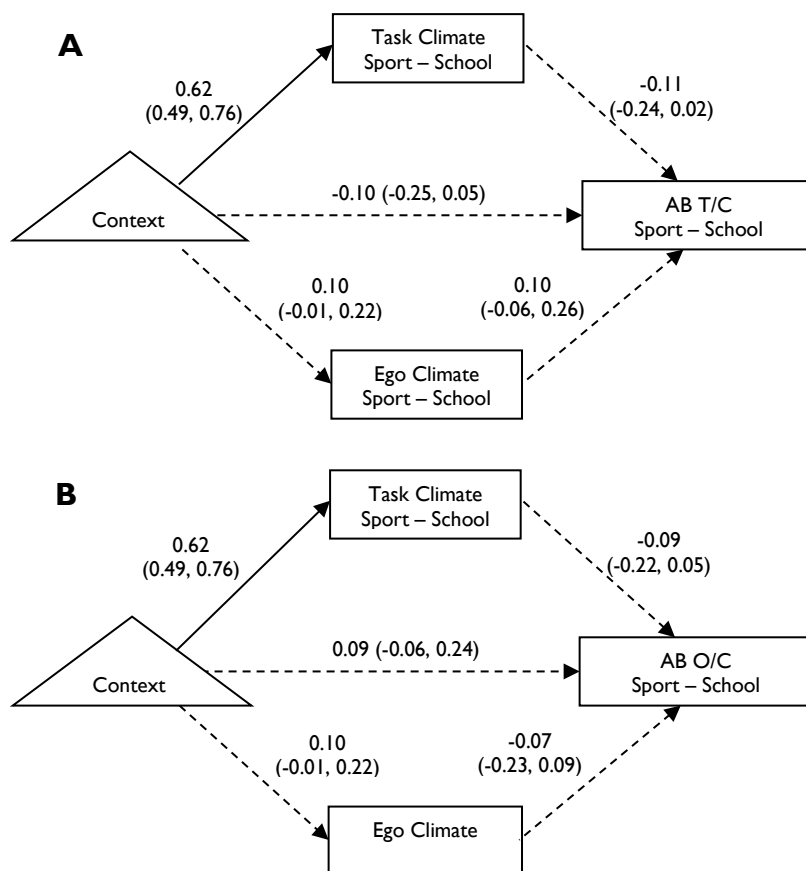
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1 **Figure S1**

2 *Results of Mediation Analysis for the two Antisocial Behaviours - Study 1 (N = 190)*

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5 *Note.* Panel A shows the results for antisocial behaviour toward teammates/classmates, while  
 6 Panel B shows the results for antisocial behaviour toward opponents/classmates. Each  
 7 variable has been computed by subtracting participants score in the school context from their  
 8 respective score in the sport context. AB T/C = Antisocial behaviour toward  
 9 teammates/classmates; AB O/C = Antisocial behaviour toward opponents/classmates.

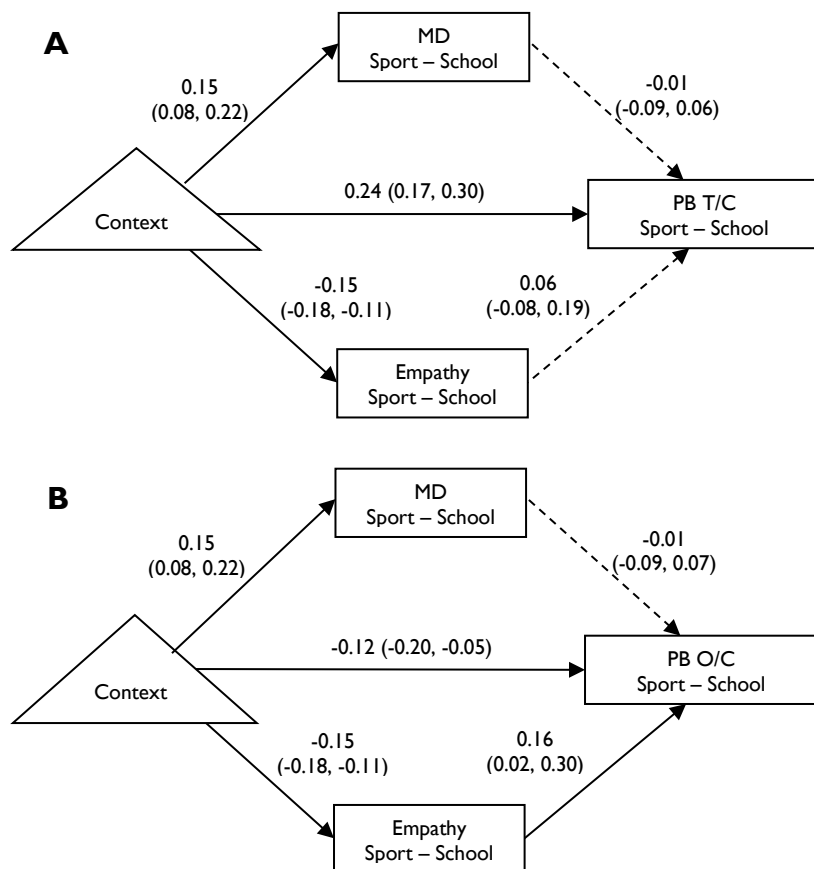
10 Unstandardized coefficients are reported, with 95% confidence intervals in brackets. Solid  
 11 lines indicate significant paths; dashed lines indicate non-significant paths.

12

1 **Figure S2**

2 *Results of Mediation Analysis for the two Prosocial Behaviours - Study 2 (N = 602)*

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6 *Note.* Panel A shows the results for antisocial behaviour toward teammates/classmates, while  
 7 Panel B shows the results for antisocial behaviour toward opponents/classmates. Each  
 8 variable has been computed by subtracting participants score in the school context from their  
 9 respective score in the sport context. AB T/C = Antisocial behaviour toward  
 10 teammates/classmates; AB O/C = Antisocial behaviour toward opponents/classmates. MD =  
 11 moral disengagement. Unstandardized coefficients are reported, with 95% confidence  
 12 intervals in brackets. Solid lines indicate significant paths; dashed lines indicate non-  
 13 significant paths.

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