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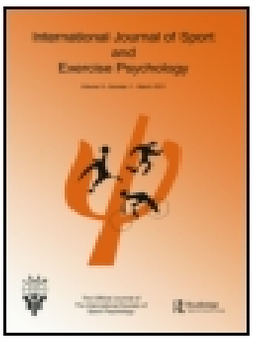

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Moral functioning across training and competition in sport

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This study examined whether (a) adolescent (*M*age = 15.13, *SD* = 1.55) team-sport athletes' (*N* = 137) perceived motivational climate, moral disengagement, and prosocial and antisocial behaviour differ in training and competition contexts, (b) moral disengagement mediates the relationship between motivational climate and prosocial and antisocial behaviour in training and competition, and (c) indirect effects between motivational climate, moral disengagement, and prosocial and antisocial behaviour are moderated by context. Repeated measures ANOVA revealed that athletes reported higher performance climate and antisocial behaviour in competition than in training, whereas mastery climate, moral disengagement and prosocial behaviour did not differ between contexts. Moderated mediation analysis revealed that the relationships between mastery climate and antisocial behaviour, and between performance climate and antisocial behaviour, were both mediated by moral disengagement in both contexts. No mediation effect was moderated by context. The findings of this study contribute to a better understanding of personal and contextual influences on athletes' moral functioning in sport.

Keywords: morality; motivational climate; moral disengagement; fair play; sport

Tuesday, 10 April 2012. In the second league of the German Bundesliga, football club St. Pauli played a crucial promotion match against Union Berlin. Midway through the second half, at a 1-1 score, St. Pauli striker Marius Ebbers appeared to head his team into a potential decisive 2-1 lead. However, neither the referee nor the linesman spotted that Ebbers actually scored the goal with his left hand; thus, the referee initially approved the goal. But then, Ebbers obviously felt remorse, and without hesitation he approached the referee to convince him that it concerned a hand ball, and thus an invalid goal (Görtzen, 2012). In professional sport, this may be regarded as a notable moment of fair play considering the numerous "less positive" examples: To keep it with football, the hand ("of God") ball from the Argentinean Diego Maradona in the 1986 world cup quarter final against England, and the one of the French striker Thierry Henry in the 2009 world-cup qualification match against Ireland, are both (in)famous examples in which the players did not admit their "unfair play", and which eventually appeared to be decisive moments in these matches.

The incidents described above clearly indicate the moral dilemmas that athletes face when participating in sport; these are relevant not only for elite athletes, but at any level and age. The choices athletes eventually make can be captured in the concept of "fair play", which

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refers to the formal (e.g. regulations) and informal (e.g. respect for opponents) rules of the game (International Fair Play Committee; CIFP, 2015). Although fair play is a central objective in sport (CIFP, 2015), as daily reality shows, it cannot be taken for granted. Nevertheless, it is commonly agreed that the dominant ideal within ethical dilemmas in sport may be considered as an "attempt to fairness in the pursuit of its ends" (Loland & McNamee, 2000, p. 63). From this perspective, fair play in sport is a matter of "morality", in which all participants (i.e. players, coaches, umpires) have a shared moral responsibility to preserve a context that permits them to display game-specific physical excellence (Russell, 2004).

Moral behaviour in sport

Over the last three decades, the topic of morality in sport has attracted substantial interest from scholars and practitioners (for reviews see Kavussanu, 2012; Kavussanu & Stanger, 2017). A popular approach in this line of work is to examine two distinct dimensions of morality, namely *prosocial behaviour* and *antisocial behaviour* (e.g. Kavussanu & Boardley, 2009; Sage, Kavussanu, & Duda, 2006). These dimensions of moral behaviour are conceptualised based on Bandura's social cognitive theory of moral thought and action (Bandura, 1999), in which prosocial and antisocial behaviour corresponds to proactive and inhibitive morality, respectively (Sage et al., 2006). Prosocial behaviour is voluntary behaviour intended to help or benefit others (Eisenberg & Fabes, 1998), and examples in sport are encouraging teammates and helping injured players, whereas antisocial behaviour refers to voluntary acts intended to harm or disadvantage others, such as cheating, aggression and disrespect (e.g. Sage et al., 2006). Promoting prosocial and deterring antisocial behaviour is highly relevant to the young athletes' social and moral development (Shields & Bredemeier, 2007). Therefore, it is vital to understand which factors influence these behaviours.

Motivational climate and moral behaviour

One aspect of the social environment, which appears to play an important role on moral behaviour in sport, is the motivational climate. This refers to athletes' subjective appraisals of the goal structure that is prevalent in the team, and has been distinguished in *mastery climate,* in which effort and personal skill development are encouraged, and *performance climate*, in which normative comparison and public evaluation are emphasised (Ames, 1992). The motivational climate is created by "significant others", and in sport the coach is the central person in creating it. A mastery climate has been associated positively with prosocial behaviour and negatively with antisocial behaviour, whereas the reverse relationships have been found between performance climate and antisocial behaviour (Boardley & Kavussanu, 2009; Kavussanu, 2006; Stanger, Backhouse, Jennings, & McKenna, 2018).

The mediating role of moral disengagement

Although previous research has provided valuable knowledge about the relationship between motivational climate and moral behaviour in sport, it is important to understand the underlying mechanisms of this relationship. A potential mediator of this relationship is *moral disengagement*, which refers to the selective use of psychosocial maneuvers that allow an individual to transgress moral standards without experiencing negative affect (e.g. guilt), thereby decreasing constraint on future negative behaviour (Bandura, 1999, 2002). Moral disengagement may be a potential mediator because it has been linked to both motivational climate and moral behaviour.*The relationship between motivational climate and moral disengagement*. Mastery climate typically

promotes cooperation (Ames, 1992), hence, this climate may encourage moral values and the importance of helping others, thereby reducing the tendency to morally disengage. In contrast, performance climate may promote moral disengagement because in this climate athletes will be typically exposed to coaching behaviours that emphasise social comparison and unequal recognition, leading them to justify their antisocial behaviours. We are aware of two previous studies that examined these relationships: Boardley and Kavussanu (2009) and Stanger et al. (2018) found that moral disengagement was negatively related to mastery climate, and positively related to performance climate.*The relationship between moral disengagement and moral behaviour*. Moral disengagement has been consistently and positively associated with antisocial behaviour (e.g. Hodge & Gucciardi, 2015; Kavussanu, Boardley, Sagar, & Ring, 2013; Stanger et al., 2018; Stanger, Kavussanu, Boardley, & Ring, 2013). The relationship between moral disengagement and prosocial behaviour is less clear, with some studies reporting a negative relationship (Boardley & Kavussanu, 2009; Stanger et al., 2018), and others reporting null findings (e.g. Hodge & Lonsdale, 2011; Kavussanu et al., 2013).

These findings indicate that moral disengagement evidently takes place in sport, but also that it may help to better understand the relationship between adolescent athletes' perceived (coach-created) mastery and performance climate and prosocial and antisocial behaviour. To date, only one study has investigated these specific indirect relationships. In a study on youth team-sport players, Stanger et al. (2018) found that mastery climate was negatively associated with antisocial behaviour towards opponents and teammates indirectly via social support, perspective taking, and moral disengagement. Performance climate was positively associated with antisocial behaviour indirectly via moral disengagement. In addition, moral disengagement has been found to mediate the relationship between moral behaviour and other facets of athletes' coaching environment. For instance, moral disengagement mediated the relationships between perceived coach's character-building competency and prosocial and antisocial behaviour (Boardley & Kavussanu, 2009) and the effects of a controlling coach climate on antisocial behaviour (Hodge & Gucciardi, 2015; Hodge & Lonsdale, 2011).

Taken together, these findings indicate that moral disengagement may mediate the negative relationship between mastery climate and antisocial behaviour, as well as the positive relationship between performance climate and antisocial behaviour. This indirect relationship has not been examined yet when considering training and competition, the two central contexts in sport.

Training versus competition

The sport domain can be subdivided into two core (sub)contexts: *training* and *competition*. As organised structures these contexts may affect perceived motivational climate, moral disengagement, and moral behaviour, *and* the inter-relationships between these variables.

Regarding the contextual influence on motivational climate, previous research indicates that athletes perceive a higher performance climate in competition than in training, while perceived mastery climate is more stable across the two contexts (van de Pol, Kavussanu, & Ring, 2012). Athletes' moral disengagement, and prosocial and antisocial behaviour may also be affected by the two contexts. Performance-contingent rewards are more prevalent in competition than in training, as performance in competition is formally evaluated by extrinsic means, such as ranking points, and prize money (van de Pol, Kavussanu, & Kompier, 2015). Based on these features, competition can be regarded as a more controlling environment than training. This may make people more self-centred and promote antisocial behaviour and hinder prosocial behaviour (Hodge & Gucciardi, 2015; Shields, Funk, & Bredemeier, 2015).

In addition, in competition the distribution of rewards is formally based on a "zero-sum principle", which implies that one person/team either wins or loses (Stanne, Johnson, & Johnson,

1999). In order to obtain competitive success, athletes may be more likely to justify antisocial behaviours (e.g. intentionally breaking the rules) as acceptable means to a desired end (e.g. winning) (cf. Hodge & Gucciardi, 2015); this may evoke moral disengagement in competition. In support of this argument, a controlling climate has also been associated positively with moral disengagement (Hodge & Gucciardi, 2015). In contrast, organised training is characterised by the aim of skill learning and development. In this context, athletes typically work together in achieving this aim. This cooperation among athletes can be viewed as a mutually beneficial process, which fosters enjoyment and growth (regardless of who wins) and may reduce moral disengagement (see Shields et al., 2015).

Finally, the context may also affect the relationships between motivational climate, moral disengagement and moral behaviour. In both contexts, a mastery climate should be positively related to prosocial behaviour and negatively to antisocial behaviour, whereas a performance climate should predict these outcomes in the opposite direction. Moreover, these relationships may be mediated by moral disengagement in both contexts. However, due to the emphasis on normative rewards in competition, and that a performance climate may be more prominent in this context compared to training (van de Pol et al., 2012) the relationship between this climate, moral disengagement, and prosocial and antisocial behaviour may be stronger in competition than in training.

The present study

To date, the relationship between coach-created motivational climate and adolescent athletes' moral behaviour has received little attention (see Kavussanu & Stanger, 2017). Moreover, researchers have not examined whether the mediating role of moral disengagement in this relationship is influenced by training and competition contexts. The present study was designed to address this gap in the literature and had three purposes.

The first purpose was to examine whether adolescent athletes' perceived motivational climate, moral disengagement, and prosocial and antisocial behaviour differ across training and competition. We expected that performance climate, moral disengagement, and antisocial behaviour would be higher, and prosocial behaviour would be lower, in competition than in training; we expected no differences in perceived mastery climate (Hodge & Gucciardi, 2015; Shields et al., 2015; van de Pol et al., 2012).

Our second purpose was to examine indirect effects between motivational climate, moral disengagement, and prosocial and antisocial behaviour in training and competition (i.e. "contextual indirect effects"). We hypothesised that in both contexts, moral disengagement would mediate the negative relationship between mastery climate and antisocial behaviour. Furthermore, we hypothesised that in both contexts moral disengagement would mediate the positive relationship between performance climate and antisocial behaviour. We formed no hypotheses regarding the contextual indirect relationships between motivational climate, moral disengagement and prosocial behaviour, due to mixed findings in previous research (Boardley & Kavussanu, 2009; Hodge & Lonsdale, 2011; Stanger et al., 2018; Stanger et al., 2013).

Our third purpose was to examine whether indirect effects between motivational climate, moral disengagement, and prosocial and antisocial behaviour are moderated by context (i.e. "moderated mediation"). We expected that context would moderate the relationship between performance climate, moral disengagement, and antisocial behaviour, leading to a stronger indirect effect in competition than in training. We expected no moderation by context of the relationship between mastery climate, moral disengagement, and antisocial behaviour (Boardley & Kavussanu, 2009; Hodge & Lonsdale, 2011; van de Pol et al., 2012).

We focused on adolescent (i.e. age range 12–18) team-sport athletes because: (a) team sport provides athletes many opportunities (e.g. inherent social interaction with opponents

and team members) for antisocial behaviour and the tendency to morally disengage from such behaviour (Boardley & Kavussanu, 2009); and (b) in adolescence, the foundation is laid for individuals' social and moral development (e.g. Bruner, Boardley, & Côté, 2014; Kohlberg, 1984). The knowledge obtained by this present study could contribute to a next step forward in the development of practical interventions that can promote athletes' fair play in sport.

Method

Participants

An a-priori power analysis for sample size estimation was performed with the programme G*Power 3.1.9.2. (Faul, Erdfelder, Lang, & Buchner, 2007). We conducted this analysis for linear multiple regression (Fixed model, R^2 deviation from zero) with four predictors (i.e. two independent variables, one mediator, and one moderator; see section "Main analyses"). This analysis indicated that we needed 129 participants to have a desirable 95% power for detecting a medium sized effect ($f^2 = .15$; Cohen, 1992) with an alpha of 0.05 (two tailed). Initially, 151 participants completed the questionnaire. However, cases with one or more uncompleted subscales were removed from the data set ($n = 11$). Participants who did not meet the age criterion (12–18 years) were also excluded from the data set ($n = 3$). This resulted in a final data set of 137 participants (75 males), with a mean age of 15.13 ($SD = 1.55$; range 12–18) years. Although this number of participants met the required sample based on the a-priori power analysis, we also used bias-corrected bootstrap tests in our main analysis (see also our section "Data Analyses") to achieve adequate power (Fritz & MacKinnon, 2007).

Participants were recruited from eight sport clubs in the Netherlands, and they participated in three different team sports: football ($n = 52$), handball ($n = 44$) and basketball ($n = 41$); participants were a member of their current club for an average of 6.88 ($SD = 3.15$) years. Participants' competition level was determined by the league in which they played and was categorised as "high" (i.e. league 1, $n = 55$, 40%) and "low" (i.e. league 2 and lower, $n = 82$, 60%). At the time of data collection, the average number of sessions participants had trained per week with their coach in that season was 2.30 ($SD = 0.93$) and varied from one (11%), two (63%), three (15%), four (9%), and five or more (2%) times a week; their mean number of played competition matches that season was 21.80 ($SD = 7.80$) and varied from 8 to 15 (22%), 16 to 25 (58%), and 26 or more (20%). The mean number of seasons that they were coached by their current coach was 2.12 ($SD = 1.71$) years, and the average number of seasons they played with their current team members was 2.54 ($SD = 1.86$) years.

Measures

We used a questionnaire divided into two sections, one referring to training and one to competition. We used identical items for both sections in order to make comparisons between training and competition responses. The players were oriented towards the two contexts via written instructions (e.g. "Please think about your sport experiences in training, and respond to the following statements."). The contexts were defined as *organised* training (i.e. training sessions which you follow together with your team members under supervision of your coach) and competition (i.e. formal competition matches which are organised under the auspices of the club and under supervision of a referee). Training and Competition sections were counterbalanced to control for order effects. A similar procedure has been used in previous research (e.g. van de Pol et al., 2012; van de Pol & Kavussanu, 2011, 2012).

Prosocial and antisocial behaviour

To measure prosocial and antisocial behaviour in the two contexts we used the Prosocial and Antisocial Behavior in Sport Scale (PABSS; Kavussanu & Boardley, 2009). The PABSS consists of four subscales that measure prosocial and antisocial behaviour toward teammates and opponents. It was clarified towards the athletes that an "opponent" in training referred to team members which act as opponents in practice games and drills. However, for the current study we were primarily interested in athletes' "general" prosocial and antisocial behaviours in each context. Therefore, we combined the opponent and teammate scales, resulting in a 7-item prosocial, and a 13-item antisocial behaviour scale. In support of this, we found medium correlations between prosocial teammate and opponent scales in training ($r = .34$, $p < .01$) and competition ($r = .28$, $p < .01$), and high correlations between antisocial teammate and opponent scales in training ($r = .71$, $p < .01$) and competition ($r = .60$, $p < .01$).

Then, participants were asked to report how often they had engaged in each behaviour this season. The stem for each item was "During training/competition I have … ", and example items were "helped an injured opponent" for prosocial behaviour, and "tried to injure an opponent" for antisocial behaviour. The scale was anchored by 1 (*never*), 2 (*seldom*), 3 (*sometimes*), 4 (*often*) and 5 (*very often*). In previous research the PABSS has showed good-to-very-good levels of reliability ($\alpha = .86$ for antisocial opponent behaviour, $\alpha = .83$ for antisocial teammate behaviour, and $\alpha = .74$ for prosocial teammate and opponent behaviour; see Kavussanu & Boardley, 2009).

Coach-created motivational climate

Coach-created motivational climate was assessed with an adapted version of the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2; Newton, Duda, & Yin, 2000), which measures perceptions of mastery (17 items) and performance climate (16 items). The version used in this study was adapted by van de Pol et al. (2012) and includes only the (PMCSQ-2) items, which refer to coach behaviours *and* are deemed relevant to both training and competition contexts; this scale consists of 16 items, eight items for the mastery climate subscale and eight items for the performance climate subscale. The stem was: "During training/competition, on this team the coach … ", and example items are: "rewards trying hard" for mastery climate, and "gives most of his or her attention to the stars" for performance climate. Responses were made on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). This scale has demonstrated good internal consistency with alpha coefficients of .78 for the mastery climate in training and .79 for the mastery climate in competition scale, and .85 for the performance climate in training and .88 for the performance climate in competition scale (van de Pol et al., 2012).

Moral disengagement

We measured moral disengagement in each context with the 8-item Moral Disengagement in Sport Scale-Short (MDSS-S; Boardley & Kavussanu, 2008). Each item represents one of the eight psychological mechanisms for moral disengagement (see Bandura, 1999, 2002). Participants were asked to respond to statements that describe thoughts and feelings athletes may have about their sport in each context and indicate their level of agreement on a 7-point scale anchored by 1 (*strongly disagree*) to 7 (*strongly agree*). The stem for each item was: "During training/competition … ", and an example item is: "Insults among players do not really hurt anyone". The scale has shown very good internal consistency, with alpha coefficients ranging from .80 to .85 (Boardley & Kavussanu, 2008).

Procedure

For our data collection we identified sport clubs in the Netherlands and contacted the coaches of these teams to request their help with the study. We also informed the club committee of each club and requested their approval for this study. The general study purpose and procedure for data collection were explained to the coaches and club committees during a phone call and a follow-up information letter by email. Our target sample was "team-sport athletes in the age range of 12 to 18 years". Parents and guardians received, via the coach, a letter in which the study was fully explained, and in which they were offered the option to object to their child's participation in this study. No parents/guardians refused participation.

Data collection took place around three months after the season had started. Questionnaires were administered to the participants at their sport club, by one of the four research assistants. Players were informed of the study purposes verbally by the research assistant and via the information sheet attached to each questionnaire. It was emphasised that participation in the study was voluntary and that all participants' responses would remain confidential. Before completing the questionnaires, participants signed a consent form. Finally, the players were asked to think about how they *usually* experience training and competition when they completed the respective parts of the questionnaire (see van de Pol et al., 2012; van de Pol & Kavussanu, 2011, 2012). The coach was not present when the athletes completed the questionnaire. The research assistants checked up on that participants completed the questionnaires independently and under quiet circumstances. Following this procedure we tried to minimise socially desirable responses and evaluation apprehension which should reduce potential common method bias when using self-report measures (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Results

Preliminary analyses

Preliminary analyses were conducted to examine missing values, outliers, and internal consistency of the scales. These analyses revealed that 0.1% of the data points were randomly missing across the data; missing values were replaced with the series mean of the individual items (Tabachnick & Fidell, 2007). Outliers were examined using *Z*-scores; cases with scores in excess of 3.29 *SD* from the mean of the respective subscale were considered as outliers (Tabachnick & Fidell, 2007). In the entire data set, six outliers were found and transformed within 3.29 *SD* (Field, 2009). Results of reliability analysis are presented in Table 1. This analysis showed that the scales for prosocial and antisocial behaviour, mastery and performance motivational climate, and moral disengagement, had acceptable to excellent internal consistency in both contexts (see Nunnally & Bernstein, 1994).

Descriptive statistics

Means for all variables are presented in Table 1. Participants reported, based on the scale ranges, moderate levels of prosocial behaviour and low-to moderate antisocial behaviour in training and competition; high perceived mastery climate and low-to-moderate perceived performance climate, across both contexts; and moderate moral disengagement in both contexts. Correlations between all variables are presented in Table 2.

Main analyses

Context differences

We examined our first study purpose using a repeated measures Analysis of Variance (ANOVA) with context as the within-subjects factor. Partial eta-squared (η_p^2) was used as a measure of effect

Table 1. Descriptive statistics and alpha coefficients of all variables ($N = 137$).

	Context									
	Training				Competition					
Variable	*M*	*SD*	Range	α	*M*	*SD*	Range	α	*F*(1,136)	η_p^2
Prosocial behaviour	3.39	0.60	1.43–4.86	.72	3.32	0.60	1.35–4.71	.70	2.67	0.02
Antisocial behaviour	2.26	0.72	1.00–4.15	.91	2.39	0.70	1.00–3.92	.90	14.49**	0.10
Mastery climate	4.00	0.63	2.13–5.00	.87	4.01	0.66	2.00–5.00	.88	0.00	0.00
Performance climate	2.71	0.75	1.00–4.50	.85	2.80	0.73	1.00–4.38	.84	4.45*	0.03
Moral disengagement	3.87	1.03	1.75–6.25	.71	3.98	1.15	1.00–7.00	.81	1.89	0.01

Notes: η_p^2 = Partial eta-squared, values of .02, .13 and .26, indicate small, medium, and large effect sizes, respectively (Cohen, 1992).
**<.001; *<.05.

Table 2. Bivariate correlations among variables in training and competition ($N = 137$).

	1	2	3	4	5	6	7	8	9	10	11	12
1. PB		−.06	.39**	−.19*	−.16	.22*	.18*	−.05	.14	.14	.05	−.06
2. AB	.06		−.32**	.43**	.55**	−.43**	.26**	.23**	.08	.22*	.06	.05
3. Mastery Climate	.28**	−.20*		−.46**	−.23**	.11	.02	.07	.17*	.13	−.11	−.23**
4. Perf. Climate	−.03	.42**	−.43**		.39**	−.23**	.20*	.20*	−.00	.09	.31**	−.08
5. Moral Diseng.	−.16	.55**	−.22**	.40**		−.32**	.14	.15	.08	.21*	−.05	−.09
6. Gender	.25**	−.47**	.07	−.23**	−.36**		−.20*	−.10	.01	−.23**	.04	−.14
7. Age	.30**	.24**	.06	.23**	.05	−.20*		−.10	.19*	.40**	.25**	.02
8. Years in team	.05	.23**	−.03	.16	.13	−.10	−.10		.02	−.04	−.04	−.26**
9. Trainings per week	.20*	.15	.11	−.03	.14	.01	.19*	.02		.54**	.27**	−.29**
10. Matches per season	.18*	.28**	.10	.07	.17*	−.23**	.40**	−.04	.54**		.12	−.41**
11. Sport type	.11	.02	−.09	.24**	−.01	.04	.25**	−.04	.27**	.12		.05
12. Club	−.13	.06	−.12	.00	−.07	−.14	.02	−.26**	−.29**	−.41**	.05	

Notes: Correlations among variables in training are presented below the diagonal, and those for competition above the diagonal; values of .10, .30, and .50 are considered small, medium, and large effect sizes, respectively (Cohen, 1992). PB = Prosocial Behaviour; AB = Antisocial Behaviour; Perf = Performance; Diseng. = Disengagement.
**<.01; *<.05.

size, and values of .02, .13 and .26, indicate small, medium, and large effect sizes, respectively (Cohen, 1992). Pairwise comparisons were conducted with the Bonferroni correction applied to multiple comparisons. This analysis revealed significant univariate effects for context on performance climate, $F(1, 135) = 4.45$, $p = .037$, $\eta_p^2 = .03$), and antisocial behaviour, $F(1, 135) = 14.49$, $p < .001$, $\eta_p^2 = .10$, indicating that our participants reported higher levels of performance climate (*M* difference = 0.09, *SE* = .04) and antisocial behaviour (*M* difference = 0.13, *SE* = .03) in competition than in training; the effect size was small for performance climate, and small-to-medium for antisocial behaviour. Mastery climate, moral disengagement, and prosocial behaviour did not differ significantly between the two contexts (for all results, see Table 1).

Contextual indirect effects and moderated mediation

To examine our second and third study purposes, we used PROCESS (Hayes, 2013), which allows testing different models simultaneously (e.g. multiple mediators, moderators, and control variables) and uses bias-corrected bootstrap test, where the sampling distribution of the conditional indirect effect is not assumed to be normal (Hayes, 2013). We used PROCESS model 59, which integrates a moderation and mediation analysis, more specifically this model tests moderation of the *a* path, the *b* path, and the *c′* path (see Hayes, 2013). We tested four of these moderated-mediation models (see Figure 1), in which we examined the relationship between motivational climate (mastery and performance) and moral behaviour (prosocial and antisocial), with moral disengagement as mediator, and context (dummy coded: 0 = training, 1 = competition) as moderator. Moderated-mediation occurs when two contextual indirect effects are found to be different from each other (Hayes, 2015). Demographic variables which were significantly correlated with either an independent, mediator, moderator, or dependent variable were included as covariates. See Table 3 (in the "Note") for the included covariates in each model. The data were treated as the population and 5,000 bootstrap samples were drawn (with replacement) to create 95% bias-corrected confidence intervals (BC CIs) as a test of significance; when a confidence interval (CI) does *not* include zero an effect is considered significant (Hayes, 2015).

The results of these analyses are reported in Table 3. We found contextual indirect effects for the models with antisocial behaviour as dependent variable. First, we found an indirect relationship between mastery climate, moral disengagement, and antisocial behaviour, which showed that mastery climate was negatively related to moral disengagement which in turn suppressed the positive relationship between moral disengagement and antisocial behaviour (see Figure 1). This

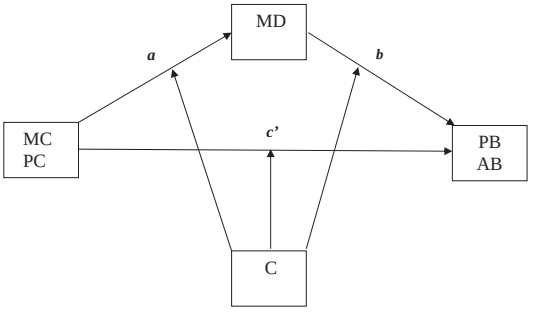

Figure 1. Conceptual representation of moderated mediation models for pro- and antisocial behaviour. Notes: MC = mastery climate, PC = performance climate; MD = moral disengagement; C = context; PB = prosocial behaviour, AB = antisocial behaviour.

Table 3. Conditional direct, indirect, and moderated-mediation effects between climate, moral disengagement, and pro- and antisocial behaviour.

Contextual Direct Effects[a]		Contextual Indirect Effects[b]		Moderated Mediation[c]	
Context	*b (SE)*	*b (SE)*	BC CI	*b (SE)*	BC CI
Prosocial behaviour					
Mastery Climate[d]					
Training	.22(.08)**	.01(.02)	−.03, .06	.00(.03)	−.05, .06
Competition	.29(.07)***	.02(.02)	−.02, .06		
Performance Climate[e]					
Training	−.01(.07)	−.02(.03)	−.08, .03	.00(.04)	−.07, .07
Competition	−.15(.07)*	−.02(.03)	−.08, .03		
Antisocial behaviour					
Mastery Climate[f]					
Training	−.11(.07)	**−.11(.04)**[h]	**−.20, −.04**	.01(.05)	−.09, .12
Competition	−.24(.07)***	**−.10(.03)**	**−.18, −.04**		
Performance Climate[g]					
Training	.17(.07)*	**.13(.04)**	**.07, .22**	−.01(.05)	−.10, .10
Competition	.18(.07)**	**.12(.04)**	**.06, .22**		

Notes: BC CI = bias-corrected confidence interval. Bold font indicates a significant indirect effect (i.e. BC CI does not include zero); Effect sizes for indirect effects: .01, 09, 25, are considered small, medium, and large effect sizes, respectively (Kenny & Judd, 2014).
**≤.001; **≤ .01; *≤.05.
[a]Direct effects at (−1/+1 *SD*) values of the moderator "context"; [b]Indirect effects at values of the moderator "context"; [c]As the moderator "context" is dichotomous; this is a test of equality of the indirect effects in the two groups/contexts; [d]Controlled for gender, age, years in team, training sessions per week, matches per season; [e]Controlled for gender, age, sport type; [f]Controlled for gender, age, years in team, matches per season, club; [g]Controlled for gender, age, years in team, matches per season, sport type; [h]full mediation.

effect was revealed in both contexts. However, in training the relationship (i.e. "total effect"; $r = -.20$, $p < .05$; see Table 2) between mastery climate and antisocial behaviour was not significant ($b = -.11$, $p > .05$) when controlling for moral disengagement (i.e. "direct effect", see Figure 1); this indicates a full ("indirect-only") mediation. Second, we found an indirect relationship between performance climate, moral disengagement and antisocial behaviour in both contexts: Performance climate was positively related to moral disengagement, which in turn was positively related to antisocial behaviour. The direct relationship between performance climate and antisocial behaviour remained significant, indicating a partial mediation effect via moral disengagement (see Baron & Kenny, 1986).

Moral disengagement did not mediate the relationships between motivational climates and prosocial behaviour in either context. Finally, we found no moderated-mediation effects in the tested models; in other words, no two contextual indirect effects were found to be different from each other. All results (including the direct effects) are presented in Table 3.

Discussion

The present study aimed to advance our understanding of personal and contextual factors that may explain moral functioning in sport. To this end, we examined whether: athletes' perceived motivational climate, moral disengagement, and prosocial and antisocial behaviour differ across training and competition (context differences); moral disengagement mediated the relationship between motivational climate and prosocial and antisocial behaviour in each context (contextual indirect effects); and, potential mediation effects were moderated by context (moderated mediation).

Context differences

In line with our expectations, athletes reported higher antisocial behaviour and performance climate in competition than in training. This suggests that competitive conditions, which typically emphasise and reward normative success (e.g. winning), may evoke more misconduct (e.g. deliberately fouling an opponent) by athletes (Shields et al., 2015), compared to training. This is the first study to report this finding and enhances our understanding of the contextual influences on antisocial behaviour in sport. Mastery climate did not differ across the two contexts. These findings are in line with our hypotheses, and with previous research in football players with a mean age of 21 years (van de Pol et al., 2012). However, the present study extends these findings to a younger age group (12–18 years). This indicates that coaches of adolescent team-sport athletes put stronger emphasis on normative success in competition than in training but reward mastery criteria to an equal extent in each context.

Moral disengagement did not differ across the two contexts. However, there was a tendency of higher moral disengagement in competition than in training. Bandura (2002) has argued that moral disengagement, as a "self-regulatory mechanism", does not operate unless it is activated. Hence, an explanation for the lack of (significant) contextual variation in moral disengagement may be "competition level". The current sample of athletes participated (on average) at a recreational-competitive level, and reported moderate levels of moral disengagement in both contexts. However, on a higher (i.e. elite/professional) competition level, winning and beating others become more important as it is more strongly rewarded (e.g. via prize money, public recognition). Accordingly, more emphasis on such competition features may put more demands on athletes' moral functioning (e.g. Fruchart & Rulence-Paques, 2014), and may stronger activate disengagement of self-sanctions in this context in order to obtain this normative success (e.g. "winning at all costs"). Hence, athletes may show higher moral disengagement in competition when level of competition increases. Accordingly, this may emerge in a higher discrepancy in moral disengagement across contexts. Prosocial behaviour did not differ across contexts. Competition level may also explain this null finding: When the normative performance cues get stronger this may reduce athletes' pro-social behaviour in competition (e.g. Kleiber & Roberts, 1988 in Nicholls, 1989, p. 133), and lead to more discrepancy with this type of behaviour compared to training.

In sum, according to game reasoning theory, "sport provides a unique context where moral functioning can, within limits, be legitimately 'bracketed' because the nature of the activity itself requires focusing on personal (or team) gain and there are protections in place to safeguard participants" (Shields et al., 2015, p. 655). The current findings provide more insight in this process by distinguishing the two central contexts in sport, training and competition. Our findings indicate that this "bracketed morality" is more salient in competition than in training and may suggest that characteristics of competition (e.g. importance of "winning"; Stanne et al., 1999) may encourage a temporary increase in antisocial behaviour compared to training. However, our athletes did not indicate to justify this temporal suspension of morality as appropriate (cf. Kavussanu et al., 2013), as their moral disengagement appeared to remain stable across the two contexts.

Contextual indirect effects

In line with previous work (Stanger et al., 2018) and our expectations, we found that that the relationship between mastery climate and antisocial behaviour, and between performance climate and antisocial behaviour, were both mediated by moral disengagement in each context. These findings also extend previous research which found that moral disengagement mediated

the relationships between antisocial behaviour and situational antecedents, such as autonomous versus controlling coaching styles (Hodge & Gucciardi, 2015) and coach's character-building competency (Boardley & Kavussanu, 2009). Moreover, these processes seem to occur in both training and competition, an issue which was not examined before.

With respect to perceived mastery climate, our findings indicate that a coach's emphasis on athletes' self-referenced achievement standards may prevent athletes from morally disengaging from their ethical standards, which in turn can reduce their antisocial behaviour. This process seems to occur in both contexts, however, we found a full ("indirect-only") mediation, only in training. This suggests that in competition other variables may further explain this negative association between mastery climate and antisocial behaviour. For example, in previous research "empathy" has been linked positively to mastery climate (Ettekal, Ferris, Batanova, & Syer, 2016) and negatively to antisocial behaviour (Bortoli, Messina, Zorba, & Robazza, 2012) in competitive sport settings. Hence, future research could further examine this relationship across contexts by including other potential mediators, such as athletes' empathy.

With respect to performance climate, the positive relationship between this climate and antisocial behaviour was partly explained by moral disengagement. The univariate relationships between these variables support previous research, and showed all strong effects sizes. This highlights not only the potential detrimental impact of a performance climate on moral behaviour (Kavussanu, 2012) but also the important role of moral disengagement in this process (see also Stanger et al., 2018). More specifically, when coaches create a climate in which the emphasis lies on normative comparison and public evaluation (Ames, 1992), this may lead athletes to behave more antisocially because they morally disengage from these behaviours. Moreover, these processes may occur in *both* contexts.

Regarding prosocial behaviour, the relationships between (mastery and performance) motivational climate and prosocial behaviour were not mediated by moral disengagement in either context. This finding supports previous research by Stanger and colleagues (2018). However, performance climate was (marginally) negatively related to prosocial behaviour in competition, but was unrelated to this outcome in training. The null finding in training may be due to the relatively low level of performance climate that athletes reported in the current study (cf. Kavussanu, 2006). Moreover, as discussed before, perceived performance climate was higher in competition than in training. Together, this may suggest that the relationship between prosocial behaviour and performance climate may depend on the degree that this climate is perceived by the athlete. This explanation could be explored in future research. A mastery climate was related positively with prosocial behaviour in both contexts. These findings are in line with previous research and re-emphasise that a coach-created climate, in which self-referenced competence criteria are rewarded, may promote prosocial behaviour (e.g. Boardley & Kavussanu, 2009; Kavussanu & Spray, 2006; Stanger et al., 2018).

Finally, no moderated-mediation effects were found, that is, no two contextual indirect effects differed from each other. Despite this null finding, making the contextual distinction regarding this study purpose may be fruitful in future research. We found contextual differences in performance climate and antisocial behaviour, but these effect sizes were small-to-medium. Moreover, moral disengagement did *not* differ between the contexts. This may suggest that contextual indirect effects could differ in a population with more contextual variation in these variables. Again, this may be revealed in athletes who participate on higher competition levels, as when competition level increases this may create greater contextual discrepancy in athletes' perceived performance climate, moral disengagement, and antisocial behaviour (Fruchart & Rulence-Paques, 2014; van de Pol et al., 2012), and accordingly, in their indirect relationships.

Practical implications

The current findings provide guidelines for coaches who want to encourage prosocial and deter antisocial behaviour among adolescent athletes. Coaches can accomplish both by encouraging a mastery climate and suppressing a performance climate, for example by promoting cooperation among team members, and avoiding intra-team rivalry, respectively. This may directly promote athletes' prosocial behaviour. However, when the aim is to reduce their antisocial behaviour, it is important that coaches suppress athletes' tendency to morally disengage from these behaviours. Coaches can accomplish this by creating a mastery climate in which athletes learn to appraise their own performance on self-referenced criteria (e.g. personal progress) and are provided with opportunities to take an active part in their own learning process (see Ames, 1992). This can facilitate that athletes acknowledge their personal responsibility when engaging in antisocial behaviour, and contribute to an internalisation of their moral standards (Bandura, 1999, 2002). At the same time, coaches need to suppress a performance climate as the characteristics of this climate, such as an emphasis on winning, may facilitate that athletes justify antisocial acts (e.g. an intentional foul) as morally acceptable (e.g. "doing whatever it takes to win"). Finally, these guidelines are pertinent to both training and competition contexts; however, coaches need to pay extra attention when applying them in competition as the inherent focus on normative criteria in this context may make it more difficult to identify, and thereby reward, athletes' personal standards of success.

Limitations and future research directions

Our study has some limitations, which should be considered when interpreting the findings. First, we used a cross-sectional design. This approach may have provided a valuable first step in identifying relationships between our variables of interest. However, our allocation of (independent, mediatior, and dependent) variables and our hypotheses were purely based on a theoretical rationale for directionality as our cross-sectional design inherently lack time precedence, and thus, does not allow assertions about the direction of causality. Future research should use (quasi) experimental and longitudinal designs to verify the direction of causality in our model and the observed relationships over time, respectively.

Second, our findings were based on athletes' self reports as this method is appropriate in measuring constructs that are by definition perceptual in nature (Spector, 2006). However, a potential problem, which has been linked to this method, is social-desirability response bias. To limit this potential threat we tried to maximise subject anonymity and reduce evaluation apprehension (Podsakoff et al., 2003). Future studies might further minimise this potential bias through the addition of "more objective" indicators of athletes' moral behaviour, for example via coach observations of athletes' prosocial and antisocial behaviours in training and competition.

Third, we did not make the distinction between prosocial and antisocial behaviour towards teammates versus opponents; "opponents" in training referred to team members which act as opponents in practice games and drills. A step forward in addressing this issue may be obtained by examining this variable explicitly in training contexts in which athletes practice against athletes from other teams. By this, the meaning of "opponents" is consistent across contexts (i.e. "members of the *other* team") while contextual characteristics are maintained (i.e. practising against other teams in organised training involves competitive elements, but contrary to organised competition, normative success is not *formally* rewarded).

Making the distinction between team members and opponents explicit may also test the assumption that "outgroup members", like opponents in sport, are treated with less moral concern (i.e. "human estrangement", Bandura, 2002) compared to "ingroup members", like

team members (e.g. "It is okay to treat badly an *opponent vs. team member* who behaves like an animal"). However, an opposite pattern may also emerge. Team members are more frequently exposed to each other's behaviours compared to opponents. Based on the mere exposure effect (Zajonc, 1968), it could be argued that by more frequent interaction, fellow team members may adopt a more tolerant attitude towards each other's immoral conduct compared to opponents' immoral conduct. In support of this, research indicates that the perceived seriousness of one's own immoral behaviour is inversely related to the closeness of the personal relationship (Hessick, 2007). From this perspective, immoral conduct towards team members may be considered as less serious than towards opponents as they can be perceived by athletes as comrades versus strangers, respectively. Thus, making the distinction between team members versus opponents explicit in measures of moral disengagement and moral behaviour may further extend our understanding of the situational antecedents of moral behaviour in sport.

Finally, our sample of athletes reported in both contexts: low levels of perceived performance climate and antisocial behaviour, moderate-to-low moral disengagement, and moderate-to-high prosocial behaviour and perceived mastery climate. This is hopeful because in this age group the foundations for moral development are laid (Kohlberg, 1984). At the same time, it needs to be acknowledged that age was positively related to prosocial *and* antisocial behaviour. This suggests that when athletes (within this examined age group) grow older they may show more of both of these – morally conflicting – behaviours. As diversity in moral functioning may increase with age, this is important to consider in future research and practical interventions.

Conclusion

Our findings suggest that team-sport athletes' perceived performance climate and antisocial behaviour vary across training and competition contexts in sport. In addition, we found that the relationships between mastery climate and antisocial behaviour, and between performance climate and antisocial behaviour, were both mediated by moral disengagement in both contexts. This study was the first to examine these issues, and hereby, provided a valuable theoretical contribution in understanding the contextual influence on moral functioning in sport. Moreover, this knowledge can help to advance practical guidelines in order to facilitate adolescent athletes' moral functioning in sport. Considering the cross-sectional nature of our data, future studies using (quasi) experimental and/or longitudinal designs are warranted to verify the current preliminary findings.

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