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## **Contextual Influences on Moral Functioning of College Basketball Players**

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The purpose of this study was to examine the role of moral atmosphere and perceived performance motivational climate on moral functioning of college basketball players and to determine the relationship between moral atmosphere and perceived performance motivational climate. A total of 199 athletes participated in the study. Structural equation modeling was used to examine the interrelationships among the variables of interest. Athletes' perceptions of the moral atmosphere of their team had a significant effect on moral functioning, while the effect of performance motivational climate on moral functioning was not significant. Perceptions of a performance motivational climate were positively associated with the moral atmosphere of the team. Implications of the findings for eliminating unsportspersonlike conduct in the sport realm are discussed.

That sport builds character is a popular lay belief. This belief is based on the premise that sport provides a context for display of such virtues as hard work, dedication, and perseverance. Sport is also assumed to play a significant role in children's socialization by providing a context in which the child comes in contact with existing order and values of society (Roberts, 1984). Despite popular beliefs

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regarding the link between sport participation and character development, the notion that sport builds character has been questioned. In 1971, Ogilvie and Tutko published an article titled "Sport: If you want to build character, try something else," and research has shown that competition promotes antisocial behavior (Kohn, 1986) and reduces prosocial behavior (e.g., Kleiber & Roberts, 1981).

A useful theoretical framework for investigating moral issues in sport is Rest's (1983, 1984) four-component model of moral action. Rest proposed that in order to understand moral behavior, we need to examine the inner processes that produce the behavior. According to Rest, in each moral action, at least four major processes are implicated. Deficiency in any of these processes can result in moral failure. The four processes are (a) interpreting the situation by recognizing possible courses of action and how different actions would influence the welfare of all parties involved, (b) forming a moral judgment about the right thing to do, (c) deciding what one actually intends to do by selecting among competing values, and (d) implementing what one intends to do that is actual behavior. Moral development involves gaining proficiency in all four processes (Rest, 1983, 1984).

Rest (1983, 1984) proposed that the four processes are interactive, influencing each other through feedback and feed-forward loops, and a number of factors act upon them. For instance, the process of making a moral decision is influenced by motivational factors, while actual behavior is affected by distraction, fatigue, or factors that physically prevent someone from carrying out a plan of action. Because of the interactive nature of the four processes, factors proposed to act primarily on one process also indirectly influence the others.

Recently, Shields and Bredemeier (1995) applied Rest's model to the physical activity domain and proposed that the same four processes operate in sport contexts. Drawing mainly from the work of Haan (e.g., Haan, 1991; Haan, Aerts, & Cooper, 1985), Kohlberg (e.g., Higgins, Power, & Kohlberg, 1984; Kohlberg, 1984; Kohlberg & Higgins, 1987) and relevant research in general and sport psychology (e.g., Duda, Olson, & Templin, 1991; Eisenberg, 1986; Orlick, 1981; Sherif & Sherif, 1969), they identified three sets of influences on each of the four components of moral action. A major factor that has been proffered by Shields and Bredemeier to influence the construction of a moral judgment and consequently moral behavior in sport is the moral atmosphere of the team.

The concept of moral atmosphere was originally described by Kohlberg and his associates (Higgins et al., 1984; Kohlberg & Higgins, 1987; Power, Higgins, & Kohlberg, 1989), who investigated school and prison environments to determine the influence of the group norms of these settings on moral reasoning and behavior. Through the interactions of their members, groups develop their own culture and a shared understanding of what constitutes appropriate behavior. These shared group norms are the definitive aspect of the moral atmosphere of a group (Power et al., 1989). Thus, moral atmosphere involves a set of collective norms regarding moral action on the part of group members (Power et al., 1989).

Recent work has identified the moral atmosphere of the team as a significant predictor of reported likelihood to display aggressive behavior in sport. Specifically, in their study with young soccer players, Stephens and Bredemeier (1996) found that those girls who perceived a large number of their teammates as willing to aggress against an opponent described themselves as more likely to display aggression in a similar situation. In fact, among a number of motivational and moral variables, perceptions of the team's proaggressive norms were the most

significant predictor of reported likelihood to aggress. These findings were corroborated by a second study (Guivernau & Duda, 1998) with a sample of adolescent soccer players. In the present study, it was of interest to extend this work and examine the role of moral atmosphere on moral functioning of college basketball players.

Another factor proposed to influence moral functioning in sport is the contextual goal structure, that is whether the context within which behavior occurs is competitive, noncompetitive, or cooperative (Shields & Bredemeier, 1995). A plethora of studies have clearly shown that competition tends to reduce the frequency of prosocial behavior and increase antisocial behavior, hostility, and aggression (e.g., Anderson & Morrow, 1995; Bayhinitz, Peterson, & Quilitch, 1994; Berkowitz, 1973; Deutsch, 1985), whereas cooperative structures enhance prosocial behavior (e.g., Aronson, Bridgman, & Geffner, 1978). A likely mechanism through which competition constrains moral behavior is that it focuses participants' attention on the self thereby reducing their ability for empathy and their sensitivity to the needs of others (Staub, 1978, cited in Shields & Bredemeier, 1995), two qualities essential for mature moral functioning.

Although overwhelming evidence suggests that too much emphasis on competition between groups leads to moral problems (e.g., Anderson & Morrow, 1995; Bayhinitz et al., 1994; Deutch, 1985; Kleiber & Roberts, 1981; Rabie, 1982), researchers have neglected to examine the influence of intragroup competition on moral functioning. Competition among team members is present when a performance motivational climate is prevalent within the team. The motivational climate of a context involves the achievement goals emphasized and the values conveyed to the participants by significant others such as teachers, parents, and coaches (Ames, 1992; Duda, 1993; Roberts, Treasure, & Kavussanu, 1997). According to achievement goal theory, those significant others who structure the achievement situation determine important features of the context, such as the criteria for success, the evaluation procedures, and the distribution of rewards, to name a few. A performance motivational climate is salient when success is defined in normative terms, the top athletes typically receive recognition, and the emphasis is on how one's ability compares to that of others. In contrast, a mastery motivational climate is predominant when success is defined as skill mastery and individual improvement, the focus is on skill development and embracement of one's potential, and when all athletes have an important role. The two climates have been associated with different motivational patterns (for a review, see Roberts et al., 1997).

When the emphasis within the team is on how one's ability compares to that of others, it is reasonable to expect that athletes may try to use any means they have to demonstrate high ability, including engaging in inappropriate action. Thus, a context that encourages intrateam rivalry is likely to facilitate moral dysfunction. Indeed, Stephens and Bredemeier (1996) found that soccer players who perceived their coach to emphasize ego-oriented goals reported a higher likelihood to aggress against an opponent, and this was a stronger predictor of these players' reported likelihood to aggress than their own motivational orientation. Although Stephens and Bredemeier (1996) did not measure perceived motivational climate, it can be assumed that a coach that places importance on ego-oriented goals (as perceived by the athletes) is likely to create a performance motivational climate.

A few studies grounded on achievement goal theory have investigated the role of achievement goals on moral issues in sport. These studies have focused on

the dispositional (i.e., task and ego goal orientations) rather than the contextual aspects of achievement goal theory examining Nicholls' (1989) assertion that goal orientations have relevance for moral functioning. Duda, Olson, and Templin (1991) were the first to report a positive relationship between ego orientation and the endorsement of unsportsmanlike play/cheating as well as the view that certain intentionally injurious acts are legitimate among interscholastic basketball players. Their findings were corroborated by a second study involving elite ice hockey players (Dunn & Dunn, 1999). In this study, athletes high in ego orientation were more likely than those low in ego orientation to approve aggressive behaviors. Finally, Kavussanu and Roberts (2001) reported that among female intercollegiate basketball players, high ego orientation corresponded to lower levels of moral functioning, greater approval of unsportsmanlike behaviors, and the judgment that certain intentionally injurious sport acts are legitimate. In the present study, we focused on the contextual aspects of achievement goal theory and were interested in determining the relationship between perceived performance motivational climate and moral functioning in college basketball players.

In addition to examining the role of perceived performance motivational climate and moral atmosphere on moral functioning of college basketball players, we were interested in investigating whether these structures are interrelated. There is reason to believe that athletes' perceptions that a moral atmosphere condoning inappropriate action exists in their team may be related to perceptions that a performance motivational climate is also predominant in one's team. We proposed this hypothesis based on Ames' (1992) theoretical work on motivational climate as well as on recent findings establishing a link between moral atmosphere condoning inappropriate action and an autocratic leadership style in sport.

In her theoretical work, Ames (1992) identified a number of structures within the classroom context that make salient a particular motivational climate. One of the structures that have been identified is the degree of student participation in the instructional process (Ames, 1992). In a performance motivational climate, individuals have limited opportunities to participate in decision making and the teacher or coach is the primary authority within the context. This resembles the autocratic style of leadership, where the coach stresses personal authority in dealing with athletes (Chelladurai & Saleh, 1980). Recent work has demonstrated a link between perceived autocratic leadership style and team norms or the moral atmosphere of the team. Specifically, coaches who were perceived as being autocratic leaders by their athletes in baseball or softball were also perceived as sanctioning cheating and aggression (Shields, Bredemeier, Gardner, & Bostrom, 1995). Although to date, research has not demonstrated a link between performance motivational climate and autocratic leadership style, based on the above arguments, an autocratic coach may be more likely to create a performance motivational climate. Thus, it was hypothesized that perceptions of a performance motivational climate may be related to a moral atmosphere condoning inappropriate action.

In summary, the purpose of the present study was to examine the network of relationships among the moral atmosphere of the team, perceived performance motivational climate, and moral functioning in college basketball players. Utilizing Rest's (1983, 1984) theoretical framework, three indices of moral functioning (i.e., moral judgment, intention, and behavior) were investigated. It was hypothesized that a moral atmosphere condoning inappropriate action and perceptions of a performance motivational climate would correspond to low levels of moral

functioning. A positive relationship was expected between this type of moral atmosphere and perceptions of a performance motivational climate.

## Method

### *Participants*

Male ( $n = 56$ ) and female ( $n = 143$ ) college basketball players participated in this study. Participants were recruited from 34 teams competing in Divisions I, II, or III in the midwest region of the United States. Their age ranged from 17 to 25 years ( $M = 19.58$ ,  $SD = 1.26$ ). At the time of data collection, these athletes had participated in competitive basketball for 9.31 years ( $SD = 2.47$ ) on the average and had played for an average of 20.01 ( $SD = 11.06$ ) months in their current team. In terms of ethnic background, 72% of the participants were Caucasian, 22% were African-American, 1% were American-Indian, and 1% were Hispanic. The remaining 4% did not specify their race.

### *Procedures*

Initially, the first author contacted the head coaches of the basketball teams in two States and asked for their assistance in conducting the study. Those coaches who agreed to participate were sent a package with questionnaires for their athletes. The package contained (a) the Perceived Motivational Climate in Sport Questionnaire, (b) four sport specific moral dilemmas with questions assessing moral functioning and moral atmosphere, (c) a social desirability scale, (d) questions about demographics, (e) a cover letter, and (f) a stamped envelope to each athlete. The return rate of the questionnaire was approximately 53%. As similar return rates have been reported in past research of this type (e.g., Baldwin & Courneya, 1997; Courneya, 1995; Gorely & Gordon, 1995), this return rate was deemed acceptable.

In most teams, the questionnaires were administered by the coaches. To ensure confidentiality of responses, athletes returned the questionnaires to the first author individually using the stamped envelope. In addition, in the cover letter accompanying each questionnaire, the purpose of the study was explained to each athlete, and confidentiality of responses was emphasized. Athletes were asked to answer the questions as honestly as possible and were reassured that the information they would provide would not be shared with the coach or university personnel and that their responses would be kept strictly confidential. The first author also visited three teams and administered the questionnaires to the athletes personally in a team meeting. At all the data gathering sessions, it was emphasized that responses would be kept strictly confidential, and participants were encouraged to complete the questionnaires as honestly as possible.

### *Measures*

**Moral Functioning.** Moral functioning was assessed using an instrument developed by Gibbons, Ebbeck, and Weiss (1995). This instrument was modified to adapt to the present study. Four basketball-specific moral dilemmas were used to assess athletes' moral functioning in sport. The dilemmas were developed based on previous research (e.g., Stephens, 1993; Stuart & Ebbeck, 1995) and after consultation with basketball players and experts on issues of measurement. The dilemmas used in the present study are presented below:

1. During a critical basketball game, you have the opportunity to push an opposing player in order to intimidate him or her when the referees are not looking.

2. Imagine yourself during the last minute of a critical basketball game. A player from the opposite team is going for a fast break, and you are the sole defender. Because of your position, the only way to stop the player from making the basket may result in an injury. You have to decide whether to risk injuring the player to prevent the basket.

3. It is the last minute of a critical basketball game, and your team is leading by one point. You and a player from the opposite team are running after a loose ball at half court. You come in contact with the other player, but he/she manages to get the ball and is going for a fast break. Your only opportunity to stop him/her from making the basket is to fake an injury, hoping that the referees will stop the play.

4. You are in a critical basketball game, and the star player of the other team has mildly injured his/her wrist, but he/she is still playing. You are both jumping for a rebound. You know that you could hit the other player's hand and take him/her out of the game without being caught by the referee.

Following each dilemma, athletes were asked to judge whether it is appropriate to engage in the described behavior. Consistent with component 2 of Rest's (1983, 1984) model, this question was used to assess participants' moral judgment. Athletes responded on a 5-point Likert scale anchored by *never appropriate* (1) and *always appropriate* (5). Scores were averaged across the four dilemmas to provide a total score for moral judgment. The same procedure was followed for intention and behavior. Cronbach's (1951) alpha coefficient for moral judgment was .67.

Two items were used to assess components 3 and 4 of Rest's (1983, 1984) model. Component 3, which involves deciding what one actually *intends* to do in a situation of moral conflict was assessed by asking athletes whether they would engage in the behavior described in each dilemma. Responses were indicated on a 5-point Likert scale ranging from *never* (1) to *very often* (5). Component 4 which involves implementing the intended plan of action, that is actual behavior, was assessed by asking participants to indicate how often they engaged in the described behaviors in the previous five games. Responses ranged from *never* (1) to *very often* (5). Alpha coefficients were .72 and .70 for the intention and behavior subscales respectively.

**Moral Atmosphere.** Following each dilemma, participants were also asked two questions intended to assess two components of moral atmosphere or collective team norms (Shields et al., 1995). One strategy to assess the existence and strength of moral collective norms is to ask participants how many of their peers are likely to behave in a certain way. When someone perceives that a large number of peers would act in a certain way, this implies the presence of a collective norm endorsing this type of behavior (Power et al., 1989). In addition to the peers, the coach also plays a prominent role in shaping the team's collective norms (Shields et al., 1995). Thus, athletes were asked (a) how many of their teammates would engage in the specific behavior, if it was necessary for the team to win, and (b) whether the coach would encourage this behavior, if it was necessary for the team to win. Responses to the first question were indicated on a 5-point Likert scale. Possible responses were *none of the players* (1), *a few players* (2), *about half of the players* (3), *most of the players* (4), and *everyone on the team* (5). Responses to the

second question were also indicated on a 5-point Likert scale anchored by *strongly discourage* (1) and *strongly encourage* (5). The two subscales demonstrated satisfactory reliability across the four moral dilemmas with alpha coefficients of .70 and .82 for the teammates and coach aspects of moral atmosphere respectively.

**Perceived Motivational Climate.** Athletes' perceptions of the motivational climate of their team were measured using the Perceived Motivational Climate in Sport Questionnaire (PMCSQ; Seifriz, Duda, & Chi, 1992), which assesses the degree to which basketball players perceive the motivational climate of their team as emphasizing performance versus mastery goals. Because the purpose and hypotheses of the present study involved only perceptions of a performance motivational climate, only the items pertaining to this construct (12 items) were used in this paper. Athletes were asked to think about what it was like participating on this basketball team. The stem for each item was "On this basketball team. . ." and examples of items are "Only the top players get noticed" and "Outplaying teammates is important." Responses were indicated on a 5-point Likert scale anchored by *strongly disagree* (1) and *strongly agree* (5). The PMCSQ has demonstrated satisfactory internal consistency (Seifriz et al., 1992). In the present study, Cronbach's alpha for the performance climate subscale was .78.

**Social Desirability.** A social desirability scale was included in this study to determine whether athletes responded to the questions in a socially desirable manner. The short version of the Marlowe-Crowne (1960) social desirability scale was used. This scale contains 10 statements describing socially desirable attributes. Examples of statements are "I always try to practice what I preach" and "I never resent being asked to return a favor." Participants responded indicating whether each statement is true or false as it pertains to them personally. A score of 1 was assigned if the athlete had responded to a statement in a socially desirable manner, while a score of 0 was assigned if the athlete had not responded in a socially desirable way. The total score was determined by summing the numbers assigned to each statement.

## Results

### **Preliminary Analyses**

Prior to investigating the hypotheses proposed in this study, we conducted some preliminary analyses. First, we determined the intrateam versus interteam variability on athletes' perceptions of moral atmosphere to provide some evidence for the construct validity of this measure. Second, we calculated descriptive statistics for each variable to provide a picture of the total sample of athletes. Third, we examined differences across the three divisions on all the variables assessed in the present study. Finally, we calculated simple correlations to examine whether social desirability scores were related to indices of moral functioning. These analyses are reported in this section.

**Assessment of Moral Atmosphere.** We calculated the coefficient of variation for each team in order to determine the intrateam variability in perceived moral atmosphere and examine whether members of the same team see the moral atmosphere in a similar way. The coefficient of variation for each team was determined by dividing the standard deviation of the group by the mean of the group and multiplying by 100. This statistic expresses the standard deviation of a group as a percentage of the mean value and allows for the comparison of variability of a



certain value within a group across groups. The coefficient of variation was calculated for each team for the two aspects of moral atmosphere (i.e., coach and teammates). Results indicated considerable intrateam consistency of responses. Coefficients of variation ranged from 13 to 65% for the coach and from 11 to 41% for the teammates' aspects of the moral atmosphere.<sup>1</sup> These results indicate that players in the same team tend to see the moral atmosphere of their team in a similar way.

We also performed Multivariate Analysis of Variance to examine whether athletes' perceptions of the moral atmosphere of their team were different across teams. A multivariate main effect emerged,  $F(54, 340) = 2.44, p < .001$ . Follow up univariate analyses indicated that athletes' perceptions of their team's moral atmosphere were significantly different regarding both the coach,  $F(27, 171) = 2.34, p < .001$  and the teammates' aspects,  $F(27, 171) = 2.86, p < .001$ .

Thus, athletes' responses across teams were significantly different from each other, indicating that there is significant interteam variability. In addition, athletes within the same team were generally consistent in their responses of how they viewed the team's moral atmosphere as indicated by the coefficients of variation for each team. These findings provide some evidence for the construct validity of the moral atmosphere measure.

**Descriptive Statistics.** In general, most athletes did not perceive their coach as encouraging inappropriate action ( $M = 2.10, SD = .86$ ) but believed that quite a few players would engage in the described behaviors ( $M = 2.34, SD = .68$ ). Athletes perceived a moderately high performance climate in their team ( $M = 3.47, SD = .58$ ), tended to think that the described behaviors were not appropriate ( $M = 2.10, SD = .79$ ), and reported that they would rarely engage in the behaviors ( $M = 2.06, SD = .80$ ) and that indeed they had rarely engaged in the behaviors during the past five games ( $M = 1.48, SD = .59$ ).

**Differences Across Divisions.** Because participants were recruited from basketball teams competing in three different divisions and because of the importance of social environmental factors on moral functioning, a one-way MANOVA was conducted to determine whether basketball players competing in different divisions varied on the variables assessed in the present study. A significant multivariate effect emerged,  $F(14, 380) = 2.30, p < .01$ . Subsequent univariate analysis indicated significant differences among divisions in judgment,  $F(2, 196) = 4.39, p < .01$ ; intention,  $F(2, 196) = 3.57, p < .01$ ; and behavior,  $F(2, 196) = 2.58, p < .001$ . Tukey Honestly Significant Difference post hoc comparisons indicated that players competing in Division III were significantly more likely than those competing in Divisions I and II to judge the described behaviors as appropriate ( $M = 2.56, SD = 1.00$  for Division III;  $M = 1.97, SD = .67$  for Division I; and  $M = 2.11, SD = .79$  for Division II). Also, they were more likely than players of Division I to report the intention to engage in the behaviors ( $M = 2.46, SD = 1.09$  for Division III and  $M = 1.93, SD = .70$  for Division I) and greater frequency of engagement in the behaviors ( $M = 1.81, SD = .77$  for Division III and  $M = 1.37, SD = .50$  for Division I). No other significant differences were found.

**Social Desirability and Moral Functioning.** Simple correlations were calculated between the social desirability score and the moral variables to determine whether scores on this scale were related to the various indices of moral functioning. Correlations ranged from .05 to -.28, while the mean social desirability score was 4.58 ( $SD = 1.39$ ), indicating that athletes responded to some of the questions in a socially desirable manner. To examine whether team norms and motivational

climate were truly related to the moral variables, partial correlations were computed controlling for social desirability. The link between the moral variables and team norms and motivational climate remained robust providing further support for the observed relationships between these variables.

### ***Structural Equation Modeling***

The purpose of this study was to examine the network of relationships among moral atmosphere, perceived performance motivational climate, and moral functioning in college basketball players. It was hypothesized that moral atmosphere and perceived performance motivational climate would covary and independently predict moral functioning. Structural Equation Modeling (SEM) was used to test the hypothesized model. Prior to this, we examined the factorial structure of each of the model's components. First, the factorial structure of moral atmosphere and moral functioning was examined followed by an examination of the factorial structure of perceived performance motivational climate. Then, the hypothesized model was tested.

Although one could argue that we should have included gender in these analyses because past research has reported gender differences on moral variables (e.g., Bredemeier & Shields, 1986a, 1986b), there was no theoretical reason that we should expect the relationships among the variables to differ in males and females. In addition, our primary interest in this study centered on the relationships among the variables rather than on gender differences on moral functioning and team norms. Finally, although we could have conducted multisample analysis to examine gender invariance of the model parameters, we chose not to do so because (a) the male sample size was too small and (b) the male and female sample sizes were too dissimilar ( $n = 46$  for males,  $n = 143$  for females). The latter would have resulted in an unequal split of the sample. For these reasons, gender was not included in the analyses.

***Multitrait-Multimethod (MTMM) Analysis of Moral Atmosphere and Moral Functioning.*** Moral atmosphere had two indicators (i.e., coach and teammates), whereas moral functioning had three indicators (judgment, intention, and behavior). Because the two indicators of moral atmosphere and the three indicators of moral functioning were measured across 4 different dilemmas, the MTMM analysis was considered the most suitable method to examine the factorial structure of these instruments (see Marsh, 1996; Marsh & Grayson, 1995). The five moral variables (i.e., coach, teammates, judgment, intention, and behavior) were regarded as traits, and the four dilemmas were considered as methods.

In the present study, the Confirmatory Factor Analysis (CFA) approach to MTMM data (e.g., see Marsh, 1996; Marsh & Grayson, 1995) was used. In this approach, different models that posit specific trait and method factors are defined, and the ability of these models to fit the data is tested. Each measured variable (i.e., questionnaire item) loads on one trait and one method factor, but it is constrained not to load on any other factors. The purpose of this analysis is to ascertain the relationship among traits when the effects of method variance and random error are present (Schmitt & Stults, 1986). Convergent validity, discriminant validity, and method effects are also assessed. Large loadings on trait factors provide support for convergent validity, which refers to the stability of traits (i.e., moral variables) across the different methods (i.e., dilemmas; see Marsh, 1996). Very large correlations among trait factors suggest lack of discriminant validity among

traits. Finally, large loadings on method factors indicate method effects, that is variation in the responses specific to each dilemma.

According to Marsh (1989), four major MTMM models should be tested and compared. The first is the trait only model with 5 correlated trait factors (5CT in Table 1), which postulates trait but no method effects. The comparison of this model with models positing trait and method effects determines the extent to which method effects exist. The second model (5CT4CM) represents five correlated trait factors and four correlated method factors. The third model (5CT4UM) posits five correlated trait factors and four uncorrelated method factors. The comparison between the second and third model evaluates the extent to which method factors are correlated (Marsh, 1989). The fourth model (5CTCU) also postulates five correlated traits, but method effects are inferred from correlated uniqueness among measured variables in the same method. In this model, the extent of method effects is ascertained from the size of the correlations among the uniqueness terms and the fit of this model in comparison to the trait only model (Marsh, 1989). The comparison between the correlated uniqueness model and the models positing method factors (i.e., 5CT4CM and 5CT4UM) tests whether method effects are multidimensional or unidimensional. The most appropriate model is selected based on (a) an evaluation of the fit indices and (b) whether the model has converged to a proper solution (Marsh & Grayson, 1995). If a model fails to converge, or if it converges to an improper solution, then it is not deemed as credible. Improper solutions (see Chen, Bollen, Paxton, Curran, & Kirby, 2001) refer to estimates that take on values that would be impossible for the corresponding parameters or that are constrained to the boundaries of possible values (e.g., correlations greater than 1 or constrained at 1 or a variance that is negative or constrained to zero).

The MTMM analyses were carried out with EQS 5.7 (Bentler, 1995) using the Maximum Likelihood Estimation method. Traditionally, a good factor structure is inferred when the chi-square ( $\chi^2$ ) likelihood ratio is nonsignificant. However, the chi-square statistic is sensitive to relatively large sample sizes and tends to reject well-specified models. To overcome this problem, additional fit indices have been presented in the literature (see Hair, Anderson, Tatham, & Black, 1998). Some of these indices are the Comparative Fit Index (CFI), the Bentler-Bonett Non-Normed Fit Index (NNFI), the Standardized Root Mean Square Residual (SRMR), the Root Mean Square Error of Approximation (RMSEA), and its 90% confidence interval (CI). A good model fit (i.e., a good factor structure) is achieved when the CFI and the NNFI values are close to .95, the SRMR is close to .08, and the RMSEA is close to .06 (Hu & Bentler, 1999). Furthermore, a close fit of the model to the intended population is implied, when the lower bound of the 90% CI of the RMSEA includes the value of .05 (Browne & Cudeck, 1993).

Results of the MTMM analyses are presented in Table 1. The 5CT model had a very poor model fit and the correlation between traits 1 and 2 (i.e., judgment and intention) was constrained at 1. The 5CT4CM model had a very good model fit, but the solution was improper as the correlation between method factors 2 and 3 (i.e., dilemmas 2 and 3) was constrained at 1. In contrast, the 5CT4UM and the 5CTCU models resulted in proper solutions with within-range parameter estimates and with fit indices that reached the criteria proposed by Hu and Bentler (1999). However, the 5CT4UM model was preferred because it achieved almost the same model fit and it was more parsimonious,  $\chi^2$  diff (20) = 22.94;  $p > .05$ .

Table 1 Goodness of Fit Indices for Various Models

Model	Solution	$\chi^2$	df	NNFI	CFI	SRMR	RMSEA (90% CI)
5CT	Improper	1555.06**	160	.41	.50	.14	.21 (.20 - .22)
5CT4CM	Improper	204.92**	134	.96	.98	.05	.05 (.04 - .07)
5CT4UM	Proper	231.63**	140	.96	.97	.06	.06 (.04 - .07)
5CTCU	Proper	208.69**	120	.95	.97	.06	.06 (.05 - .07)
Hierarchical 5CT4UM	Proper	232.91**	144	.96	.97	.06	.06 (.04 - .07)
Performance Climate (12 items)	Proper	281.78**	44	.52	.61	.14	.17 (.15 - .18)
Performance Climate (5 items)	Proper	7.15	5	.99	.99	.03	.05 (.00 - .12)
Hypothesized SEM in Figure 1	Proper	322.54**	247	.97	.98	.06	.04 (.03 - .05)

Note. CT = Correlated Traits; CM = Correlated Methods; CU = Correlated Uniqueness; Hierarchical = factor model with moral atmosphere and moral functioning as second-order factors; NNFI = Non-Normed Fit Index; CFI = Comparative Fit Index; SRMR = Standardized Root Mean Square Residual; RMSEA = Root Mean Square Error of Approximation; 90% CI = 90% confidence interval of RMSEA.

\*\*  $p < .01$

The trait factor and method factor loadings were almost identical to those in Figure 1 and, therefore, are not reported again. With the exception of one loading, all factor loadings were above .50 but not particularly high (median = .65), indicating moderate convergent validity. The correlations among the moral variables (see Table 2) were moderate (median  $r = .57$ ), indicating relatively good discriminant validity. The only exception was the correlation between judgment and intention ( $r = .95$ ). However, one should bear in mind that factor correlations are higher than Pearson's correlations, because they do not contain measurement error. Finally, all method factor loadings were significant and most of them were moderate in size (median  $r = .54$ ) indicating the presence of method effects.

In view of the MTMM results, it was decided to use the 5CT4UM model to capture the latent factor structure of the five moral variables across the four dilemmas in the SEM analysis. It was hypothesized that coach and teammates would be indicators of moral atmosphere, and judgment, intention, and behavior would be indicators of moral functioning. This hypothesis implied a hierarchical model with moral atmosphere and moral functioning as second-order factors indicated by the five traits of the MTMM model. Therefore, it was important to examine whether the five traits of the 5CT4UM model could be subsumed within the two-higher order factors. The hierarchical model was nested under the first-order model because it attempted to explain the correlations among the five first-order factors in terms of two higher-order factors (Marsh, 1987). The fit indices of a higher-order factor are worse or, in the best case, identical to the fit indices of the corresponding correlated first-order model. According to Marsh (1987), when the fit of a higher order model is very similar to the fit of the corresponding first-order model, support for the hierarchical model has been demonstrated.

In the present study, the first-order 5CT4UM and the hierarchical 5CT4UM had almost identical fit (see Table 1), and therefore, the hierarchical model was chosen since it is more parsimonious:  $\chi^2 \text{ diff } (4) = 1.28, p > .05$ . The first- and second-order trait loadings were almost identical to those presented in Figure 1 and, therefore, are not reported again. The correlation between the two second-order factors was  $r = .68$ . The second-order factor loadings were substantially high (median = .85) and accounted for a large percentage of the variance of the first-order factors (median % explained variance = 73). Thus, the five moral variables could be conceptualized along the two second-order dimensions of moral atmosphere and moral functioning.

**CFA of Performance Motivational Climate.** A CFA of the performance climate items resulted in a poor model fit (see Table 1) indicating that the factorial structure of the performance climate should be revised. Examination of the modification indices provided by EQS suggested the elimination of some items. These items were removed one at a time, and each time, the model fit was reevaluated. This procedure is regarded as a legitimate process in measurement evaluation as it retains the general structure of the originally hypothesized factor model, but with only the best available indicators (Hofmann, 1995).

One may argue that removing some items to improve model fit may be problematic because the removed items are strong reflections of the properties that characterize performance motivational climate. If these items were indeed strong reflections of performance climate, the fit of the scale would have been very good. This, however, was not the case in the present study. It is also worth noting that the fit indices reported by Walling, Duda, and Chi (1993) with all items included in

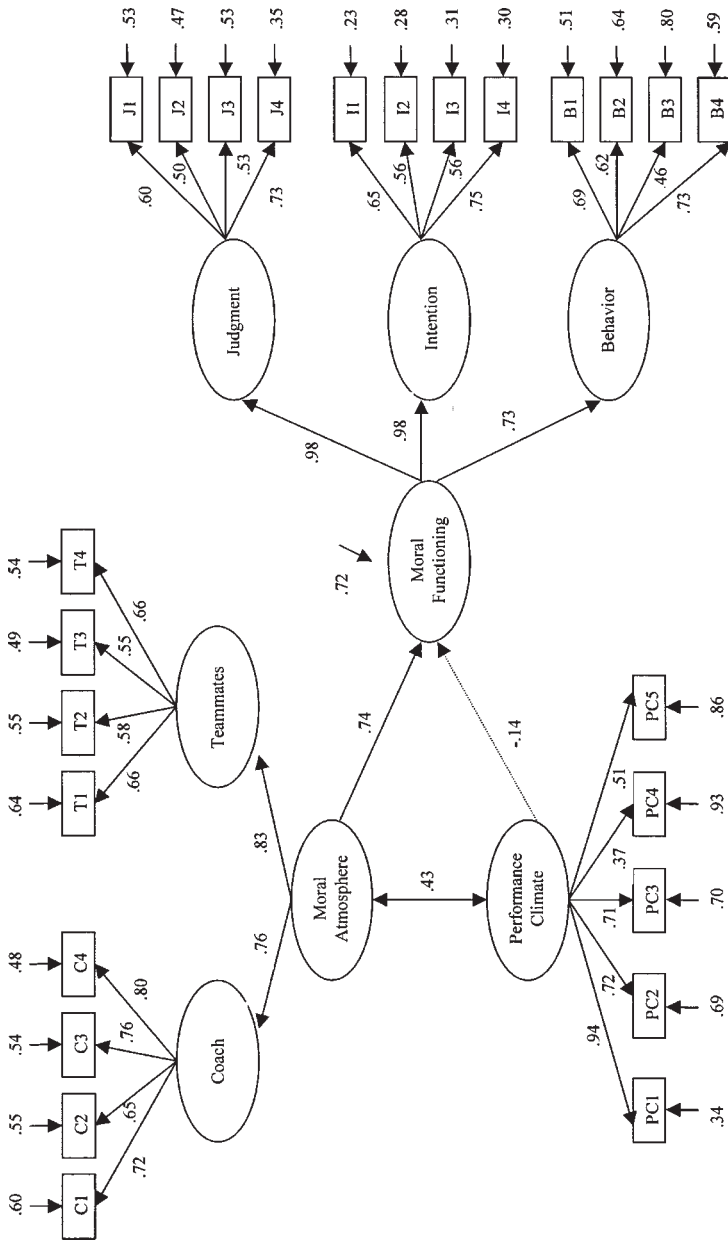


Figure 1 — SEM model depicting the relationships among performance climate, moral atmosphere, and moral functioning (the method factor loadings of the 5CT4UM solution are presented in Table 3).

Note. The dotted line between performance climate and moral functioning represents a nonsignificant parameter (all other parameters were significant at the  $p < .01$ ).

**Table 2 Trait Factor Correlations in the 5CT4UM Model**

	Judgment	Intention	Behavior	Coach	Teammates
Judgment		.95	.68	.49	.57
Intention			.73	.50	.57
Behavior				.37	.38
Coach					.63
Teammates					

*Note:* All correlations are significant at the  $p < .01$  level.

the model remained poor (see Hu & Bentler, 1999), even after some error terms were allowed to be correlated (e.g., AGFI ranged from .80 to .85). The five items, which were used in the present study, are strong reflections of performance climate, as indicated by the fit indices. However, future research is needed with a different sample to assess the generalizability of our factor solution.

The final model had an excellent fit (see Table 1) and comprised five items: “Players are taken out for mistakes,” “The coach pays most attention to the ‘stars’,” “The coach favors some players,” “Only the top players ‘get noticed’,” and “Only a few players can be the ‘stars’.” The standardized loadings were all significant and very similar to those reported in Figure 1. Cronbach’s alpha and descriptive statistics for performance motivational climate did not change substantially when we used only five items to calculate them ( $\alpha = .78$ ,  $M = 3.52$ ,  $SD = .79$ ).

**Testing the Hypothesized Model.** As mentioned earlier, it was hypothesized that moral atmosphere and perceived performance climate would covary and independently predict moral functioning. SEM was used to test the hypothesized model. The covariance between moral atmosphere and moral functioning required by the MTMM analysis was replaced in the SEM with a unidirectional arrow to test the hypothesis that moral atmosphere would predict moral functioning. The hypothesized model had an excellent fit (see Table 1). The correlation between performance climate and moral atmosphere was moderate ( $r = .42$ ). As hypothesized, moral atmosphere was a strong predictor of moral functioning ( $b = .74$ ), but the path from performance climate to moral functioning was small and nonsignificant ( $b = -.14$ ). Removing this nonsignificant path did not alter the model fit. All parameter estimates were significant and are presented in Figure 1.

## Discussion

Identifying factors that influence moral functioning in sport is an important area of research, not only from a theoretical but also from an applied point of view. Indeed, unsportspersonlike conduct is very common in the sport domain; the first step toward eliminating this conduct entails identifying its determinants. This study examined the role of two contextual influences, the moral atmosphere of the team, and the perceived performance motivational climate on moral functioning of college

**Table 3 Standardized Method Factor Loadings of the 5CT4UM MTMM Solution**

Traits	Methods			
	Intimidation	Risk Injury	Cheating	Intentional injury
Judgment	.60	.73	.67	.58
Intention	.73	.78	.77	.60
Behavior	.52	.46	.38	.34
Coach	.36	.52	.36	.37
Teammates	.39	.60	.67	.53

basketball players and determined the relationship between moral atmosphere and perceptions of a performance motivational climate.

Because the two instruments used in this study to examine moral atmosphere and moral functioning have not been used extensively in the literature, it was considered important to examine their factorial structure. It is worth noting that this is the first study to statistically evaluate the factorial structure of these instruments. Results from the MTMM analysis revealed the complexity of the moral atmosphere and moral functioning constructs when measured across different dilemmas. This complexity was modeled by postulating four factors to represent method effects across the different moral dilemmas. In addition, analysis revealed the hierarchical structure of the moral atmosphere and moral functioning variables. Specifically, the coach and teammates were subsumed under the latent factor of moral atmosphere, and judgment, intention, and behavior were subsumed under the latent factor of moral functioning.

Convergent validity, as indicated by the size of trait loadings, was moderate. This was expected because we measured the same variables across different dilemmas. Although all dilemmas involved moral issues, each dilemma was concerned with a different issue. For example, attempting to intimidate an opposing player is different from risking injuring a player. Discriminant validity in both moral atmosphere and moral functioning was good as attested by the moderate correlations among the indicators of moral atmosphere and moral functioning. The exception was the judgment and intention components of moral functioning, which were highly interrelated. This may be due to the way the items were worded. Future research should consider rewording these items to achieve higher discriminant validity between judgment and intention. Finally, method effects were found, as indicated by the moderate size of the method factor loadings. This was expected because the assessment of all moral variables was based on the same dilemmas.

Results of structural equation modeling testing the hypothesized model revealed that moral atmosphere had a direct effect on moral functioning. Thus, when athletes perceived a team environment sanctioning inappropriate action, they tended to view inappropriate behaviors as appropriate and report the intention to engage and greater frequency of engagement in these behaviors. These findings extend



recent work (Guivernau & Duda, 1998; Stephens, 2000; Stephens & Bredemeier, 1996) that has documented a link between young soccer players' reported likelihood to aggress against an opponent and perceptions of their team environment as being supportive of a lower standard of moral functioning. Further, they support Higgins et al.'s (1984) assertions that the group within which moral decisions are made has a strong influence on those decisions.

The influence of the social environment on various indices of moral functioning has also been the focus of other research. Specifically, Vallerand and colleagues (Vallerand, Deshaies, Cuerrier, Pelletier, & Mongeau, 1992) found that athletes' perceptions of what significant others in their social environment think regarding moral action influence their intention to engage in moral behavior through an effect on their attitudes. Significant others included their parents, teammates, friends, coach, and physical education teacher. In a related study using Rest's model (Stuart & Ebbeck, 1995), basketball players' perceptions of significant others' views regarding moral action were strongly associated not only with judging a moral issue in sport but also with deciding what to do in similar situations in the future. When viewed in conjunction with past work, the results of this study underline the importance of the athlete's immediate social environment on his or her moral functioning. It should be noted, however, that it is not the actual social environment that matters; rather, the athletes' perceptions of this environment determine his or her level of moral functioning. Thus, individuals play an active role in the influence that significant others may have upon them.

The results are also consistent with Shields and Bredemeier's contentions that a form of bracketed morality exists in the domain of sport. To explain the divergence in moral reasoning between sport and daily life found consistently in their research (e.g., Bredemeier, 1995; Bredemeier & Shields, 1984, 1986a, 1986b), these researchers theorized that sport involves a bracketed morality that legitimizes a temporary suspension of the obligation to consider the needs of others. Among the arguments they put forward to support their contention is that decision power and moral responsibility in the sport domain are concentrated within the roles of coaches and officials. The continuous presence and authority of these individuals allows for a temporary transference of moral responsibility (Shields & Bredemeier, 1989). Thus, the fact that the coach, the authority figure within the context, is perceived to encourage inappropriate action legitimizes behaviors that would be considered inappropriate in any other context.

Our findings suggest that the roots of unsportspersonlike conduct encountered in the sport context may reside within one's own athletic team. Many of the inappropriate actions we observe in the sport realm might be the result of certain social norms that become predominant in each team over time thereby reinforcing unsportspersonlike behaviors. Eliminating such behaviors from the sport arena may be difficult because they become part of the norms of behavior. However, interventions that involve educating athletes about the significance of moral action in maintaining the integrity of the sport institution may be promising. For example, coaches could organize discussions about dilemmas and encourage opportunities for moral dialogue (Haan et al., 1985). More importantly, coaches need to model and reinforce sportspersonlike behaviors if a substantial improvement in athletes' moral functioning is to be made.

The hypothesis that a performance motivational climate would correspond to low levels of moral functioning was not supported, suggesting that perceived

motivational climate may have no influence on college athletes' moral functioning. An alternative explanation for these findings may be offered if we consider the contexts within which indices of moral functioning and perceptions of the motivational climate were assessed. Specifically, the four moral dilemmas described situations likely to be encountered during a critical basketball game, whereas the items measuring perceptions of motivational climate pertained to the general team environment. Thus, the two contexts in which perceptions of motivational climate and athletes' moral functioning were measured were different. If the questionnaire assessing motivational climate had been adapted to the competitive game context, we may have been more likely to find the anticipated relationships. It will be interesting for future research to unveil such relationships.

An interesting relationship emerged between perceived performance motivational climate and the moral atmosphere of the team. Specifically, when athletes perceived their coach as paying more attention to the best players, favoring some players, and in general emphasizing normative success, they also perceived that the coach would encourage engagement in inappropriate behaviors and that teammates would behave accordingly if winning was at stake. It may be argued that the type of motivational climate created by the coach reflects his or her values and priorities. Coaches who strongly want to win are more likely to create a performance climate and to encourage inappropriate action in order to win. This implies that coaches who emphasize social comparison within the team and are primarily interested in the best players value winning over the welfare of sport participants. This is consistent with Shields and Bredemeier's (1995) contentions that the moral atmosphere of the team is shaped by coaches' own philosophies and with empirical work indicating that an autocratic leadership style, as perceived by softball and baseball players, was related to team norms sanctioning cheating and aggression (Shields et al., 1995).

In conclusion, the findings of this study highlight the importance of the athlete's own team environment on his or her moral functioning and suggest that if we want to eliminate inappropriate action in sport, we need to start intervening at the level of the coach. Because the coach is considered the authority figure of the context and as a result the holder of moral responsibility (see Shields & Bredemeier, 1989), if he or she encourages unsportsmanlike conduct, it is highly unlikely that athletes' own moral principles will predominate. Indeed, research has clearly shown that the social environment within which decisions involving moral issues are made has a profound influence on those decisions (e.g., Higgins et al, 1984; Vallerand et al., 1992).

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

One limitation of the present study is the return rate of the questionnaire. Approximately 53% of the athletes who were asked to complete questionnaires returned them to the investigator. This limits the generalizability of our findings as the sample does not fully represent the population we had targeted. It should be noted, however, that this is one of the limitations of this type of research when investigators try to get data from real people in real world contexts. Indeed, similar return rates have been reported in previous work (e.g., Baldwin & Courneya, 1997; Courneya, 1995; Gorely & Gordon, 1995).

This study revealed some interesting findings regarding the link between athletes' moral functioning and the moral atmosphere of their team. Future work should determine the role of the coaches' goal orientation and their philosophy and coaching style on athletes' moral functioning. In particular, whether coaches are more autocratic rather than democratic and more ego rather than task oriented might be related to athletes' moral functioning and to the perception of the moral atmosphere of their team. In addition, in the light of evidence (e.g., Orlick, 1981) indicating that cooperative games increase prosocial behavior, an important avenue for future research is to determine the influence of the degree of cooperation among team members on athletes' moral functioning.

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### **Authors' Note**

<sup>1</sup>Results of these analyses for individual teams are available from the first author upon request.

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