

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11

**Perry, J. L., Clough, P. J., Crust, L., Nabb, S., & Nicholls, A. R. (2014). Development and validation of the sportspersonship scale. *Research Quarterly for Exercise and Sport*, 1-14.**

Development and Validation of the Compliant and Principled Sportspersonship Scale

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14

### Abstract

A new measure of sportspersonship that differentiates between compliance and principled decisions was developed and validated in three studies. In Study 1, a 71-item questionnaire was developed and administered to 357 sports participants, before principal component analysis (PCA) reduced the questionnaire to a 7-factor, 37-item scale. Subsequently, Study 2 tested this revised questionnaire among a sample of 502 sports participants in a series of confirmatory factor analyses (CFA), suggesting a 28-item and 6-factor model was a good fit. Study 3 supported the construct validity of the scale using a sample of 176 athletes, providing evidence for the concurrent and discriminant validity of the scale. The Compliant and Principled Sportspersonship Scale (CAPSS) is proposed as a valid and reliable measure of sportspersonship.

Keywords: Sportspersonship, Moral behavior, Factor analysis

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

## Development and Validation of the Compliant and Principled Sportspersonship Scale

Sportspersonship is a topic for which many can provide anecdotes of good and bad examples, but the conceptual understanding is somewhat unclear. It is also a concept that has stalled over the past decade. Sportspersonship is the psychological construct typically referred to as sportsmanship in everyday language. The increasing size of public and media response to and interest in incidents of good and bad sporting behavior underlines the importance of sportspersonship in the popularity of a sport. However, while studying the frequency of good and poor sport behaviors, Shields, Bredemeier, LaVoi, and Power (2005) found that 27% of youth sports performers reported acting like a bad sport when their team lost and 31% indicated that they had argued with an official. In the main, existing understanding of sportspersonship can be accredited to Vallerand and colleagues (e.g., Vallerand, Deshaies, Cuerrier, Briere, & Pelletier, 1996; Vallerand, Briere, Blanchard, & Provencher, 1997), who developed a multidimensional definition and measure of sportspersonship; the multidimensional sportspersonship orientations scale (MSOS). This was a hugely positive step forward in sportspersonship research at the time, but the approach taken by Vallerand et al. largely presents sportspersonship orientations as an expectation. Therefore, by not adhering to such expectations, one is not sporting. In this article, we present a new model that builds on this compliant-based approach, but also includes a principled dimension of sportspersonship. This model enables researchers to not only identify the extent of transgressions as a measure of an individual's sportspersonship, but considers positive, principled, and proactive approaches to demonstrating good sportspersonship beyond mere expectation.

Vallerand et al.'s (1997) model demonstrated a clear factor structure of five dimensions: (1) one's full commitment towards participation, (2) respect for social

1 conventions, (3) respect for rules and officials, (4) respect for the opponent, and (5) the lack  
2 of a negative approach. The lack of a negative approach subscale in Vallerand et al.'s study  
3 yielded relatively low internal consistency (.54) and the rules and officials subscale did not  
4 correlate strongly with a given hypothetical scenario. Indeed, Treasure and Roberts (2002)  
5 suggested that respect for rules or officials may be separate dimensions rather than one,  
6 inferring an individual's ability to respect one and not the other supports this. Admittedly,  
7 these limitations were identified by the authors of the MSOS (REF), who stated that "present  
8 findings represent only the starting point of validation research on the scale" (Vallerand et al.,  
9 1997, p.204). One could also consider the rationale behind the inclusion of full-commitment  
10 as a dimension of sportspersonship. McCutcheon (1999) refers to the example of former  
11 tennis player John McEnroe to highlight the potential conflict between commitment and  
12 sportspersonship. Specifically, McCutcheon pointed out that the full-commitment was to  
13 better performance, not sportspersonship.

14 Bandura (1999) provided an approach that distinguished between levels of moral  
15 behavior, in addition to highlighting proactive (i.e., the power to behave humanely) and  
16 inhibitive (i.e., the power to refrain from behaving inhumanely) behaviors. Bandura  
17 suggested that moral disengagement occurs when one is unable to inhibit behavior relative to  
18 society's expectations. For example, a person's normal moral standard can be displaced  
19 through euphemistic labeling to perceive the behavior and its consequence as relatively  
20 innocuous, and therefore there is no need to inhibit behavior. Therefore, to proactively  
21 engage in behavior congruent with a society's ethos is a greater level of moral behavior than  
22 inhibitive behaviors. For example, a soccer player refraining from diving to win an  
23 undeserved penalty is an example of inhibitive sports behavior and is widely expected.  
24 However, informing the official that a penalty should not be awarded for one's team is a form  
25 of proactive sports behavior and is widely congratulated. Drawing on Bandura's (1991, 1999,

1 2002) seminal work on moral disengagement and behavior, Kavussanu and Boardley (2009)  
2 considered differentiating between prosocial and antisocial behavior in sport, and developed  
3 the prosocial and antisocial behavior in sport scale (PABSS). This scale identified behaviors  
4 towards teammates and opponents. The prosocial teammate subscale refers to proactive  
5 demonstrations to benefit teammates such as encouraging or congratulating them.  
6 Conversely, the antisocial teammate subscale highlights times when one has acted in an  
7 antisocial manner such as arguing with or criticizing a teammate. The prosocial opponent  
8 subscale denotes occasions when the performer has acted in the best interests of the opponent  
9 rather than gaining victory such as helping an injured opponent. The antisocial opponent  
10 items include distracting, fouling, injuring and physically intimidating an opponent.

11 Kavussanu and Boardley (2009) demonstrated the capability of distinguishing  
12 between levels of moral behavior. While useful, this does not explain the attitudes or  
13 approaches that may cause such behavior. Therefore, we could further consider how to  
14 distinguish between levels of individual approaches to sportspersonship, which Vallerand and  
15 colleagues (1996, 1997) refer to as orientations. To enable this, we can draw on structural  
16 developmental approaches from the psychology literature. Specifically, the work of Kohlberg  
17 (1969, 1976, 1981, 1984, 1986), Hann (1977, 1978, 1983) and Rest (e.g., Rest, Cooper,  
18 Coder, Masanz, & Anderson, 1974; Rest, 1979, 1984; Rest, Narvaez, Thoma, & Bebeau,  
19 2000) present a sound rationale of how this could be achieved. Kohlberg (1976) developed a  
20 six-stage model of moralization, in which stages are distinctly split into three levels; pre-  
21 conventional, conventional, and post-conventional. Pre-conventional morality refers to  
22 heteronomous morality and individualism, typically evident in young children when moral  
23 reasoning is based on an exchange relationship. For example, a child may act in a moral way  
24 to avoid getting into trouble. Conventional morality includes a notion of relationships,  
25 interpersonal conformity, and an awareness of social systems. This level requires

1 acknowledgement that actions have consequences for others within a society. Post-  
2 conventional morality includes more individual rights and universal ethical principles.  
3 Interestingly, Kohlberg's (1976) model acknowledges a social perspective, which would  
4 appear more in-keeping with a sporting context. It appears sensible to acknowledge that the  
5 level of morality should be differentiated, as the post-conventional level, whereby an  
6 individual follows self-chosen ethical principles, is clearly a more credible form of moral  
7 decisiveness than mere compliance. The model we present in this paper includes a principled  
8 dimension that is influenced by such theory.

9 Haan (1977, 1978, 1983) and Haan, Aerts, and Cooper (1985) proposed an alternative  
10 interactional model to Kohlberg's cognitive-based approach. This model added greater  
11 significance to the role of society and an individual's interactions with others, referring to the  
12 moral balance between assimilation and accommodation. Bredemeier (1985) further  
13 supported a structural-developmental approach identifying an inverse relationship between  
14 moral reasoning and the perceived legitimacy of injurious sport acts based on interviewing  
15 high school and college basketball players. The structural developmental approach to morality  
16 focused largely on moral reason and as such, was often assessed through qualitative  
17 responses such as moral dilemmas (e.g., Kohlberg, 1969) and Rest et al.'s Defining Issues  
18 Test (DIT; 1974; Rest, 1979), which incorporated some of Kohlberg's dilemmas as  
19 participants were presented with 12 moral issues. In sport, earlier studies measured behavior  
20 using subjective coach or teacher ratings (e.g., Gibbons & Ebbeck, 1997; Gibbons, Ebbeck,  
21 & Weiss, 1995; Stuart & Ebbeck, 1995). In this article, we propose a quantitative measure of  
22 an overall approach to sportpersonship, which incorporates perspectives and behaviors. This  
23 approach is required to develop a more comprehensive measure of the concept than exists  
24 presently.



1 sports performers. Coaches were all head coach of their respective clubs, with at least 10  
2 years experience and at least a Level 3 UK coaching certificate. The psychologists and  
3 coaches were provided with an information sheet indicating potential areas to consider,  
4 including dimensions from Vallerand et al.'s (1997) multidimensional sportspersonship  
5 orientation scale (MSOS) and they were asked to consider a distinction between compliant  
6 and principled approaches. The dimensions explained from the MSOS were respect towards  
7 officials, rules, opponent, and social convention. This was to encourage those generating  
8 items but they were not restricted to any areas of what they considered to best represent  
9 sportspersonship. To enhance content validity, each psychologist and coach verified the items  
10 generated by others as appropriate. The consultation ended with the development of a 71-item  
11 questionnaire assessed on a 4-point Likert-type scale anchored at 1 =*strongly disagree* and 4  
12 =*strongly agree*. A 4-point Likert-type scale was used because it eliminates the neutral option,  
13 which seems appropriate for requesting a moral response. If eliminating the neutral value, 4-  
14 point Likert-type scales have been found to have better psychometric properties than 6-point  
15 Likert-type scales (Chang, 1993).

## 16 **Participants**

17 357 participants (men = 236; women = 121) aged between 15 and 54 years ( $M$  age =  
18 20.77 years,  $SD = 4.95$ ) who played a variety of sports including team ( $n = 263$ ) and individual  
19 sports ( $n = 94$ ) took part in this study. The diverse range of participant experience ( $M$  number  
20 of years = 10.50,  $SD = 5.07$ ) and sport ensured heterogeneity within the sample. This sample  
21 completed the initial 71-item CAPSS.

## 22 **Procedure**

23 Following clearance from a UK university ethics committee, we contacted  
24 participants directly and attended training sessions for teams or invited student sport  
25 performers to volunteer for the study. All participants were informed that the questionnaire



1 examined sportspersonship attitudes, beliefs and behaviors. Further, participants were assured  
2 that all responses were anonymous and informed that their honesty was vital. Completion of  
3 the 71-item CAPSS and informed consent form took approximately 15-20 minutes. In total,  
4 400 questionnaires were distributed to gain a first sample of 357 participants.

## 5 **Results**

### 6 **Principal Component Analyses**

7 Data from the first sample of the 71-item CAPSS was collated and screened for  
8 outliers, before being subjected to principal component analysis with varimax rotation. Less  
9 than 0.1% of data was missing and univariate values for skewness ( $< 2$ ) and kurtosis ( $< 2$ )  
10 indicated no issues. Sample size was deemed appropriate ( $KMO = .910$ ). Bartlett's test of  
11 sphericity ( $\chi^2 (666) = 5060.413, p < .001$ ) indicated correlations between items were  
12 sufficiently large for PCA. A 7-factor, 37-item solution emerged with eigenvalues greater  
13 than 1, explaining 56.25% of the variance. Compliant sportspersonship subscales towards  
14 officials (Cronbach's  $\alpha = .87$ ), rules ( $\alpha = .86$ ), opponent ( $\alpha = .74$ ), and legitimacy of injurious  
15 acts to opponents ( $\alpha = .75$ ) were identified. Principled sportspersonship towards game  
16 perspective ( $\alpha = .81$ ) and opponent ( $\alpha = .72$ ) emerged, and a final game value subscale ( $\alpha =$   
17  $.53$ ) provided the seventh factor. Factor structure with item means, standard deviations, and  
18 factor loadings are displayed in Table 1. The model developed, as a result of PCA, supports  
19 the viability of a model that differentiates between compliant and principled  
20 sportspersonship. This model has a clear factor structure. Reliability of subscales was good,  
21 though the game value factor internal consistency was low, ( $< .7$ ). Thirty-seven items were  
22 retained and administered to the second sample, for which the data was subjected to CFA to  
23 assess model fit.

## 24 **Study 2**



1 standardized root mean square residual (SRMR). For model comparison, the Akaike  
2 information criterion (AIC) indicates a better model fit when closer to zero (Hair, Anderson,  
3 Tatham & Black, 1998). Typically, model development and testing is subject to rigid cutoff  
4 values for fit indices. CFI and TLI values equal to or greater than .95 are purported to  
5 indicate acceptable model fit and RMSEA values below .06 and SRMR values below .08  
6 further indicate good model fit (Hu & Bentler, 1999). However, researchers (e.g., Hopwood  
7 & Donnellan, 2010; Marsh, Hau, & Wen, 2004; Marsh, Hau, & Grayson, 2005;) have warned  
8 against the use of fit indices as cut-off values for acceptable model fit or not, instead  
9 proposing that they should be considered as subjective guidelines.

10 The first model assessed was the 37-item, 7-factor model which demonstrated a  
11 reasonable, but not acceptable fit (Table 2, row 1). Modification indices indicated a high error  
12 covariance between items within the rules factor. Consequently, two items were removed  
13 from the model. Further inspection of regression weights identified weak items within the  
14 compliant opponent factor and the officials factor and these items were removed, which  
15 provided a 33-item, 7-factor model (Table 2, row 2). Model fit was significantly improved  
16 but the compliant opponent factor only contained three items, two of which demonstrated  
17 lowest regression weights (.63 and .61). Therefore, this factor was deleted to produce a 30-  
18 item, 6-factor single order model (Table 2, row 3). This model demonstrated acceptable fit in  
19 all indices and the AIC value suggested a more appropriate fit. Examination of regression  
20 weights highlighted one item from the officials (.65) factor and one item from the game  
21 perspective (.69) factor as lowest. Consequently, these items were removed to yield a 28-  
22 item, 6-factor model (Table 2, row 4). Model fit indices all suggest an acceptable to good fit  
23 for this model and the AIC was closer to zero than in all other models. As advocated by  
24 Kavussanu and Boardley (2012), further models were developed to assess model fit when  
25 aggregating responses to form an overall score for compliant and principled sportspersonship

1 (two-factor model) and an overall sportspersonship score (single-factor model). The two-  
2 factor model fit was low (Table 2, row 5), indicating that the subscales within each overriding  
3 factor are relatively independent. The single-factor, unidimensional model (Table 2, row 6)  
4 fit was also low. While this calls into question the use of the model as an overall measure of  
5 sportspersonship, it does support the independence of compliant and principled  
6 sportspersonship. This is further demonstrated with very low (.08) covariance between the  
7 compliant and principled latent variables.

8           While a robust technique for testing an a priori model, CFA does have limitations.  
9 Specifically, all nontarget loadings are assumed to be zero and therefore, non-significant  
10 cross-loadings from items to factors other than their intended one result in model  
11 misspecification. To account for such loadings, we employed exploratory structural equation  
12 modeling (ESEM), as advocated by Marsh et al. (2009) and Marsh, Liem, Martin, Morin, and  
13 Nagengast (2011). The 6-factor, 28-item model fitted the data very well:  $\chi^2(225) = 323.0$ , CFI  
14 = .98, TLI = .96, RMSEA = .03, SRMR = .02. The standardized parameter estimates for the  
15 CFA and ESEM are presented in Table 3. The ESEM estimates support the model, as all  
16 intended factor loadings are significant.

17           With a potential higher-order model, it is necessary to consider the extent to which the  
18 factors are assessing the same overriding construct. As such, we conducted correlational  
19 analysis on factors. High correlations indicate that the overall construct is a measure in its  
20 own right as well as each factor. For example, significant correlations between factors  
21 indicate that the scale can be used to present compliant, principled and overall  
22 sportspersonship values. It is worth noting however, that very high correlations may indicate  
23 that factors are relatively indistinctive from each other. Correlations between factors (Table  
24 4) ranged from .35 to .73 and all were significant ( $p < .01$ ). This supports relative

1 interrelationships among factors while demonstrating that each factor is clearly distinctive  
2 from others, providing a broad measure of sportspersonship.

### 3 **Gender, Age, Sport Type and Sportspersonship**

4 In this study we used male and female participants from a range of team and  
5 individual sports. We examined whether athletes differed in levels of compliant, principled,  
6 and overall sportspersonship as a function of gender, age, and sport type. A one-way  
7 ANOVA on the second sample of 502 participants indicated that there was a significant  
8 gender effect for compliant,  $F(1,499) = 43.04, p < .001$ ; principled,  $F(1,499) = 25.37, p < .001$ ,  
9 and overall sportspersonship  $F(1,499) = 42.61, p < .001$ . In all cases, female sportspersonship  
10 was significantly higher. This is consistent with previous assessments of sex effects, as Tsai  
11 and Fung (2005) found that males significantly lower regard for sportspersonship using the  
12 MSOS. Further, Meyer, Jorn, and Mayhew (2007) claimed that male rugby players were less  
13 sporting than females, though this was based on an assumption that high competitiveness  
14 implies low sportspersonship. ANOVA revealed that individual sport performers scored  
15 significantly higher than team sport performers in compliant,  $F(1,500), p < .001$ ; principled,  
16  $F(1,500), p < .001$  and overall sportspersonship,  $F(1,500), p < .001$ . Finally, age correlated  
17 positively with compliant ( $r = .137, p < .001$ ), principled ( $r = .161, p < .001$ ), and overall  
18 sportspersonship ( $r = .164, p < .001$ ). While this is contradictory to the results of Tsai and  
19 Fung (2005), who found that younger performers possessed greater regard for  
20 sportspersonship, it is consistent with several other studies. Priest, Krause and Beach (1999)  
21 attempted to establish if college athletes' ethical behavior developed over a four year period.  
22 Contrary to expectations, the authors found ethical behavior decreased. Bredemeier and  
23 Shields (1986) found that more experienced performers were more likely to legitimize rule-  
24 violating behaviors while Blair (1985) identified that those who had competed for longer  
25 demonstrated a lower emphasis on playing fairly and a greater emphasis on winning.



## 1 **Methods**

### 2 **Participants**

3 Participants were 140 men and 36 women, who were aged between 16 and 34 years ( $M$   
4 age = 20.31 years,  $SD = 4.57$ ), who we recruited from sports clubs in northern England.  
5 Respondents played football ( $n = 100$ ), rugby ( $n = 27$ ), basketball ( $n = 14$ ), netball ( $n = 18$ ),  
6 cricket ( $n = 7$ ), hockey ( $n = 6$ ), and tennis ( $n = 4$ ). On average, they had participated in their  
7 sport for 10.71 years ( $SD = 4.91$ ) and competed at recreational ( $n = 88$ ), club ( $n = 69$ ), semi-  
8 professional ( $n = 14$ ), and professional ( $n = 5$ ) levels.

### 9 **Measures**

10 ***Compliant and Principled Sportspersonship.*** Compliant and principled  
11 sportspersonship was measured using the CAPSS model confirmed in Study 2. This included  
12 28 items and six subscales in total. Three of these were measures of compliant  
13 sportspersonship and three measured principled sportspersonship. Compliant subscales were  
14 compliance towards officials, including items such as “I never argue with officials” and “The  
15 official’s decision is final and I accept that”, towards rules, including items such as “I abide  
16 by all of the rules in my sport” and “I would not bend the rules to win”, and not legitimising  
17 injurious acts such as “I would not intentionally injure an opponent to gain advantage” and “I  
18 refrain from tactics that could injure my opponent”. Principled sportspersonship subscales  
19 were game value, including items such as “I do things for the good of the game” and “I  
20 respect the social conventions of my sport”, game perspective including items such as “I do  
21 not believe in winning at all costs” and “It is more important to do what is right than to win”,  
22 and towards opponent, including items such as “I truly respect a worthy opponent” and “I  
23 would go out of my way to congratulate an opponent”. Items are graded on a 4-point Likert  
24 scale anchored by 1 (*strongly disagree*) to 4 (*strongly agree*).

1           **Goal Orientation.** Goal orientation was assessed using the Task and Ego Orientation  
2 in Sport Questionnaire (TEOSQ; Duda & Nicholls, 1992). The TEOSQ is a 13-item  
3 questionnaire requiring participants to indicate when they feel successful in sport and  
4 physical activity. There are seven items relating to task orientation such as “something I learn  
5 makes me want to practice more” and “I learn a new skill by trying hard”. There are 6 ego  
6 orientation items including “The others can’t do as well as me” and “I score the most points  
7 or goals”. Responses are recorded on a 5-point Likert-type scale, anchored at 1 = *strongly*  
8 *disagree* and 5 = *strongly agree*.

9           **Prosocial and Antisocial Behavior in Sport.** Moral behavior was assessed using the  
10 PABSS (Kavussanu & Boardley, 2009). The PABSS is a 20-item questionnaire that requires  
11 participants to indicate how often they have engaged in each behavior during the current  
12 competitive season. The scale includes four subscales; prosocial teammate (e.g., “Encouraged  
13 a teammate”), prosocial opponent (e.g., “Helped an injured opponent”), antisocial teammate  
14 (e.g., “Criticized a teammate”) and antisocial opponent (e.g., “Physically intimidated an  
15 opponent”). Responses are recorded on a 5-point Likert-type scale anchored at 1 = *never* and  
16 5 = *very often*.

## 17 **Procedure**

18           Head coaches of eight sports clubs were contacted to request the participation of their  
19 athletes. All coaches agreed to allow us to collect data from their teams. As with data  
20 collection procedure in Study 1 and Study 2, participants were informed of the reason for data  
21 collection and assured that their responses would remain anonymous.

## 22 **Results**

### 23 **Descriptive Statistics**

24           Correlations among CAPSS subscales and descriptive statistics and can be found in  
25 Table 4 and Table 5 respectively. For all subscales, there was evidence that the full range of



1 scoring was used. Tests for normality indicated no issues with univariate skewness ( $< 2$ ) or  
2 kurtosis ( $< 2$ ). Correlations between subscales were low to moderate ( $r = .25$  to  $.50$ ).  
3 Composite reliability was lower in this sample than the larger sample used in Study 2 for all  
4 subscales except principled game value. The most significant decline was the compliant rules  
5 subscale.

### 6 **Construct Validity**

7       The purpose of Study 3 was to assess the construct validity of CAPSS by examining  
8 relationships with theoretically associated concepts. A significant relationship between  
9 variables supports this association but a correlation that is too high ( $r > .90$ ) would suggest  
10 that the new dimension is redundant (Kline, 2005). As expected, all CAPSS subscales  
11 significantly and positively correlated with task orientation (Table 5). These correlations were  
12 low to moderate ( $r = .18$  to  $.31$ ) for the six factors. There was little significant relationship  
13 between sportpersonship and ego orientation. Sportpersonship subscales were then  
14 correlated with subscales from the PABSS. In particular, the reported behavior towards  
15 opponents was of interest. All but the compliant officials subscale correlated positively with  
16 prosocial behavior towards an opponent ( $r = .17$  to  $.39$ ). Further, compliant officials,  
17 compliant rules, legitimacy of injurious acts, and principled opponent all significantly and  
18 negatively correlated with antisocial behavior towards an opponent ( $r = -.19$  to  $-.51$ ). The low  
19 to moderate correlations in the expected direction support the concurrent validity of CAPSS  
20 while ensuring that it is discriminant from a related measure of moral behavior. Further  
21 evidence for discriminant validity is demonstrated by the moderate factor correlations  
22 displayed in Table 4. The overall pattern of these correlations indicated that all factors are  
23 clearly distinct from each other. While this supports the discriminant validity of these factors,  
24 it makes a higher-order model, or one that be aggregated to an overall value of

1 sportpersonship difficult to establish. Researchers are advised to examine the composite  
2 reliability of higher order subscales before using them for analyses.

### 3 **Discussion**

4 Development of sportpersonship has somewhat stalled over the past decade. The  
5 MSOS (reference) has represented a useful tool and workable model, but has been criticized  
6 for the inclusion of the full-commitment factor (McCutcheon, 1999) and a weak negative  
7 approach subscale (Vallerand et al., 1997). Therefore, the aim of this series of studies was to  
8 develop a newer model informed by elements of developmental psychology research on  
9 morality as well as the psycho-sociological approach advocated by Vallerand et al., (1996;  
10 1997). We have presented a six-factor, compliant and principled sportpersonship model and  
11 scale, comprising of (1) compliance towards officials, (2) compliance to rules, (3) the  
12 legitimacy of injurious acts, (4) principled game value, (5) principled approach towards  
13 opponents, and (6) a principled game perspective.

14 By compliance, we are referring to approaches and behaviors that adhere to  
15 expectations. That is, by not performing in this way would be seen as poor sportpersonship.  
16 This is characterized in the compliant and principled model as compliance to expectations  
17 regarding adherence to rules, treating the officials with the respect society demands, and not  
18 viewing acts that endanger the opponent as legitimate. Though not linked directly to any of  
19 Kohlberg's (1976) levels of moralization, which focus specifically on moral reasoning,  
20 complying with expectations is an approach to sportpersonship that those in the early pre-  
21 conventional or middle conventional levels would be capable of. The conventional level  
22 relies largely on interpersonal expectations, conformity, and a social system. Therefore,  
23 behavior may be determined by one's desire to fit in with such societal norms and  
24 expectations. To further incorporate different approaches to understanding sportpersonship,  
25 there are also comparisons to inhibitive moral behavior as proposed by Bandura (1999,

1 2002). Inhibitive behavior applies to refraining from behaviors that could be considered  
2 immoral. In instances like this, one is complying to expectations by refraining from such  
3 actions.

4 By contrast to compliance, principled sportspersonship is characterized by its  
5 requirement for a individual to reason based on their own moral values. Another key  
6 distinction is that principled sportspersonship is proactive. To firstly understand reasoning,  
7 Kohlberg (1976) refers to post-conventional / principled morality as prior to society and from  
8 a moral point of view. This means selecting a moral course of action regardless of societal  
9 norms or expectations. In short, it is an individual doing what he or she believes is right  
10 rather than what he or she perceives what others would deem to be right. Of course, the  
11 societal norm and the individual's value are usually consistent with each other, but not  
12 always. For example, to call one's own foul in sports like golf or snooker is common  
13 practice, thus doing so is compliant sportspersonship. However, in most other sports, this  
14 would not be the norm. Therefore, by doing so, one would be proactive in their action and  
15 principled in their reasoning. In terms of action, Bandura (1999, 2002) discusses proactive  
16 moral behavior to distinguish between moral actions. Further, Kavussanu and Boardley  
17 (2009) use prosocial behavior as a proactive and positive form of behavior in developing the  
18 PABSS.

19 The model presented here includes some dimensions not previously used in  
20 conceptualizations of sportspersonship. Specifically, we present the legitimacy of injurious  
21 acts, principled game value, and principled game perspective. The legitimacy of injurious  
22 acts is a topic that has been studied thoroughly in the past (e.g., Bredemeier & Shields, 1985;  
23 Shields & Bredemeier, 1989; Williams et al., 2004), but has yet to have been included in a  
24 model of sportspersonship. The inclusion of this in the compliant and principled model has  
25 been supported by the factorial validity assessments in Study 1 and Study 2. In particular, this

1 constitutes a prime example of compliant behavior in most sports, excluding some combat  
2 sports. It is normally a minimum expectation to not endanger the opponent and therefore, to  
3 adhere to this expectation is compliance. This is somewhat different from proactively going  
4 above expectation to help an opponent, which would be a principled approach to  
5 sportspersonship. Principled game value is a measure of the extent to which a performer  
6 prioritizes the integrity of the sport they participate in. While principled game value and  
7 adhering to social conventions would be a compliant-based approach to sportspersonship,  
8 game value requires a more principled view because requires the performer to make a valued  
9 decision on the extent to which they are prepared to act in for the good of the game. Perhaps  
10 the most significant addition to the literature is principled game perspective. This dimension  
11 has one major assumption. Namely, that if an individual considers winning as everything, this  
12 will always transcend any selected behavior that may compromise winning. Conversely, if  
13 one's perspective of the game is broader, perceiving a sporting event as ultimately, just a  
14 game, he or she is more likely to prioritize other values higher than winning. For example,  
15 maintaining one's integrity could be seen to transcend the importance of winning. Therefore,  
16 behaviors that are likely to enhance the chances of winning at the cost of personal stature or  
17 grace are less likely to be adopted for performers scoring highly in this dimension.

18         The findings from Studies 2 and 3 are encouraging and provide a new measure  
19 suitable for future research. However, there are still several limitations and uncertainties that  
20 require further examination. Firstly, the samples used are restricted to the UK. To account for  
21 potential cultural differences, future research outside of the UK could examine the  
22 psychometric properties of CAPSS before it's used outside of the UK. Secondly, the  
23 principled game value factor has poor reliability. While this could be removed to resolve this  
24 issue, we believe it is an important theoretical component of sportspersonship and removing  
25 it from the model could hinder future developments. Instead, this could be refined and items

1 added to re-examine the psychometric properties again. The validation of a measure should  
2 be seen as a continuing process. Consequently, we are presenting the CAPSS here, not as a  
3 perfect model, but an important development in our ability to define and measure  
4 sportspersonship. Future research should examine the test-retest reliability of the scale and the  
5 criterion validity. To do so, studies examining the predictive ability of the CAPSS on moral  
6 behavior are encouraged. An interesting future development of the model would be to  
7 identify whether a clear, hierarchical structure enabling a conflated score for compliant  
8 sportspersonship and principled sportspersonship could be adequately supported. The  
9 validation of a measurement tool is an ongoing process and criterion-related validity should  
10 be assessed. Researchers should aim to establish the predictive power of CAPSS on actual  
11 behavior. It would also be of interest to examine more closely how moral reasoning, perhaps  
12 through qualitative methods and moral dilemmas, relates to concepts of principled  
13 sportspersonship. One important unanswered question remains about the benefits of being  
14 high in sportspersonship. This would be a very interesting avenue of research using the  
15 compliant and principled model. While behaviors resultant of a principled approach may in  
16 themselves be detrimental to performance, to be able to make value judgments and be  
17 prepared to follow through on them when many would not is a sign of mental strength and  
18 requires many positive psychological attributes. Further research should investigate the  
19 potential benefits developing a principled approach could have on areas like mental  
20 toughness, emotional intelligence, coping, and leadership.

21 In sum, we have developed here a 6-factor model and measure of compliant and  
22 principled sportspersonship, and presented initial evidence of its validity. This model was  
23 largely informed by the social-psychological approach of Vallerand and colleagues (1996,  
24 1997) but considered the earlier moral development research by Kohlberg (1976), Rest et al.  
25 (1999, 2000) and Haan et al. (1985). Overall, the scale represents a useful tool for researchers

- 1 wishing to investigate sportspersonship.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24

## References

- Arthur-Banning, S., Paisley, K., & Wells, M. S. (2007). Promoting sportsmanship in youth basketball players: The effect of referee's prosocial behavior techniques. *Journal of Park and Recreation Administration*, 25, 96-114.
- Bandura, A. (1991). Social cognitive theory of moral thought and action. In W. M. Kurtines & J.L. Gewirtz (Eds.) *Handbook of moral behavior and development, Vol. 1: Theory; Vol. 2: Research; Vol. 3: Application*, (pp. 45-103). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, 3, 193-209. doi:10.1207/s15327957pspr0303\_3
- Bentler, P.M. (2006). *EQS 6 Structural Equations Program Manual*. Encino, CA: Multivariate Software, Inc.
- Blair, S. (1985). Professionalization of attitude toward play in children and adults. *Research Quarterly for Exercise and Sport*, 56, 82-83.
- Bredemeier, B., & Shields, D. (1986). Moral growth among athletes and nonathletes: Comparative analysis. *Journal of Genetic Psychology*, 147, 7-18. doi:10.1080/00221325.1986.9914475
- Boardley, I. D., & Kavussanu, M. (2007). Development and validation of the moral disengagement in sport scale. *Journal of Sport and Exercise Psychology*, 29, 608-628.
- Boorsboom, D., Mellen, G.J., & Van Heerden, J. (2004). The concept of validity. *Psychological Review*, 111, 1061-1071. doi:10.1037/0033-295X.111.4.1061
- Chang, L. (1993). Using confirmatory factor analysis of multitrait-multimethod data to assess the psychometrical equivalence of 4-point and 6-point likert-type scales. Proceedings

- 1 from National Council on Measurement in Education. *Annual Meeting of NCME*.  
2 Atlanta, GA: ERIC.
- 3 Duda, J. L., Olson, L. K., & Templin, T. J. (1991). The relationship of task and ego  
4 orientation to sportsmanship attitudes and the perceived legitimacy of injurious acts.  
5 *Research Quarterly for Exercise and Sport*, 62, 79-87.
- 6 Dunn, J. G. H., & Causgrove-Dunn, J. (1999). Goal orientations, perceptions of aggression,  
7 and sportpersonship in elite male youth ice hockey players. *The Sport Psychologist*, 13,  
8 183-200.
- 9 Gano-Overway, L. A., Guivernau, M., Magyar, M., Waldron, J. J., & Ewing, M. E. (2005).  
10 Achievement goal perspectives, perceptions of the motivational climate, and  
11 sportpersonship: Individual and team effects. *Psychology of Sport and Exercise*, 6, 215-  
12 232. doi:10.1016/j.psychsport.2003.11.001
- 13 Haan, N. (1977). *Coping and defending: Processes of self-environment organization*. New  
14 York: Academic Press.
- 15 Haan, N. (1978). Two moralities in action contexts. *Journal of Personality and Social*  
16 *Psychology*, 36, 286-305. doi:10.1037//0022-3514.36.3.286
- 17 Haan, N. (1983). An interactional morality of everyday life. In N. Haan, R.N. Bellah, P.  
18 Rabinow, & W.M. Sullivan (Eds.) *Social science as moral inquiry*, (pp.218-250). New  
19 York: Columbia University Press.
- 20 Haan, N., Aerts, E., & Cooper, B.A.B. (1985). *On moral grounds: The search for practical*  
21 *morality*. New York: New York University Press.
- 22 Hopwood, C.J., & Donnellan, M.B. (2010). How should the internal structure of personality  
23 inventories be evaluated? *Personality and Social Psychology Review*, 14, 332-  
24 346. doi:10.1177/1088868310361240



- 1 Kavussanu, M. (2008). Moral behavior in sport: a critical review of the literature,  
2 *International Review of Sport and Exercise Psychology, 1*, 124-  
3 138.doi:10.1080/17509840802277417
- 4 Kavussanu, M., & Boardley, I. D. (2009).The prosocial and antisocial behavior in sport scale.  
5 *Journal of Sport and Exercise Psychology, 31*, 97-117.
- 6 Kavussanu, M., & Boardley, I. D. (2012).Moral behavior. In G. Tenenbaum, R.C. Eklund, &  
7 A. Kamata (Eds.) *Measurement in sport and exercise psychology*. (pp.443-454).  
8 Champaign, IL: Human Kinetics.
- 9 Kavussanu, M., & Ntoumanis, N. (2003). Participation in sport and moral functioning: The  
10 mediating role of ego orientation.In *International Society of Sport Psychology (ISSP) Xth*  
11 *world congress of sport psychology, Skiathos, Greece, 5*, 155–157.
- 12 Kavussanu, M., & Roberts, G.C. (2001). Moral functioning in sport: an achievement goal  
13 perspective. *Journal of Sport and Exercise Psychology, 23*, 37–54.
- 14 Kline, R. (2005). *Principles and practice of structural equation modeling* (2nd Ed.). New  
15 York: The Guilford Press.
- 16 Kohlberg, L. (1969). Stage and sequence: the cognitive developmental approach to  
17 socialization. In D.A. Goslin (Ed.) *Handbook of socialization theory*, (pp. 347–480).  
18 Chicago: Rand McNally.
- 19 Kohlberg, L. (1976). Moral stages and moralization.In T. Lickona (Ed.) *Moral development*  
20 *and behavior*, (pp. 31-53). New York: Holt, Rinehart and Winston.
- 21 Kohlberg, L. (1981). *Essays on moral development, Vol. 1: The philosophy of moral*  
22 *development*. New York: Harper & Row.
- 23 Kohlberg, L. (1984). *Essays on moral development: Vol. 2: The psychology of moral*  
24 *development*. San Francisco: Harper & Row.

- 1 Kohlberg, L. (1986). A current statement on some theoretical issues. In S. Modgil & C.  
2 Modgil (Eds.) *Lawrence Kohlberg: consensus and controversy*, (pp. 485–546).  
3 Philadelphia: Falmer Press.
- 4 Kohlberg, L., & Candee, D. (1984). The relation of moral judgment to moral action. In W.  
5 Kurtines & J.L. Gewirtz (Eds.) *Morality, moral behavior and moral development: Basic*  
6 *issues in theory and research*, (pp.52-73). New York: Wiley Interscience.
- 7 Lemyre, P.N., Roberts, G.C., & Ommundsen, Y. (2002). Achievement goal orientations,  
8 perceived ability, and sportspersonship in youth soccer. *Journal of Applied Sport*  
9 *Psychology, 14*, 120–136. doi:10.1080/10413200252907789
- 10 McCutcheon, L. E. (1999). The multidimensional sportspersonship orientations scale has  
11 psychometric problems. *Journal of Social Behavior and Personality, 14*, 439-444.
- 12 Marsh, H. W., Hau, K.-T., & Wen, Z. (2004). In search of golden rules: Comment on  
13 hypothesis testing approaches to setting cutoff values for fit indexes and dangers in  
14 overgeneralising Hu & Bentler's (1999) findings. *Structural Equation Modeling, 11*,  
15 320–341. doi:10.1207/s15328007sem1103\_2
- 16 Marsh, H. W., Hau, K.-T., & Grayson, D. (2005). Goodness of fit evaluation in structural  
17 equation modeling. In A. Maydeu-Olivares & J. McArdle (Eds.), *Contemporary*  
18 *psychometrics: A festschrift for Roderick P. McDonald* (pp. 275–340). Oxon:  
19 Psychology Press.
- 20 Marsh, H. W., Muthén, B., Asparouhov, T., Lüdtke, O., Robitzsch, A., Morin, A. J. S., &  
21 Trautwein, U. (2009). Exploratory structural equation modeling, integrating CFA and  
22 EFA: Application to students' evaluations of university teaching. *Structural Equation*  
23 *Modeling, 16*, 439–476. doi:10.1080/10705510903008220
- 24 Marsh, H. W., Liem, G. A. D., Martin, A. J., Morin, A. J. S., & Nagengast, B. (2011).  
25 Methodological measurement fruitfulness of exploratory structural equation modeling

- 1 (ESEM): New approaches to key substantive issues in motivation and engagement.  
2 *Journal of Psychoeducational Assessment*, 29, 322–346. doi:10.1177/0734282911406657
- 3 Meyer, J. M., Jorn, L., & Mayhew, J. L. (2007). Sportsmanship attitude differences between  
4 English and American collegiate rugby players. *Missouri Journal of Health, Physical*  
5 *Education, Recreation and Dance*, 17, 60-65.
- 6 Miller, B. W., Roberts, G. C., & Ommundsen, Y. (2004). Effect of motivational climate on  
7 sportpersonship among competitive youth male and female football players.  
8 *Scandinavian Journal of Medicine and Science in Sports*, 14, 193-202.  
9 doi:10.1111/j.1600-0838.2003.00320.x
- 10 Ommundsen, Y., Roberts, G. C., Lemyre, P. N., & Treasure, D. (2003). Perceived  
11 motivational climate in male youth soccer: Relations to social-moral functioning,  
12 sportpersonship and team norm perceptions. *Psychology of Sport and Exercise*, 4, 397-  
13 413. doi:10.1016/S1469-0292(02)00038-9
- 14 Papaioannou, A. (1997). Perception of motivational climate beliefs about the causes of  
15 success and sportsmanship behaviors of elite Greek basketball athletes. In R. Lidor & M.  
16 Bar-Eli (Eds.), *Innovations in sport psychology: Linking theory and practice:*  
17 *proceedings*, (pp. 534-536). Netanya (Israel), The Zinman College of Physical Education  
18 and Sport Sciences, The Wingate Institute for Physical Education and Sport, pt.II.
- 19 Priest, R. F., Krause, J. V., & Beach, J. (1999). Four-year changes in college athletes' ethical  
20 value choices in sports situations. *Research Quarterly for Exercise and Sport*, 70, 170-  
21 178.
- 22 Rainey, D.W., Santilli, N.R., & Fallon, K. (1992). Development of athlete's conceptions of  
23 sport officials' authority. *Journal of Sport and Exercise Psychology*, 14, 392-404.
- 24 Rest, J.R. (1979). *Revised manual for the defining issues test*. Minneapolis: Moral Research  
25 Projects.

- 1 Rest, J.R. (1984). The major components of morality. In W. Kurtines & J. Gewirtz (Eds.)  
2 *Morality, moral behavior and moral development* (pp.24-40). New York: Wiley.
- 3 Rest, J.R., Cooper, D., Coder, R., Masanz, J., & Anderson, D. (1974). Judging the important  
4 issues in moral dilemmas: An objective measure of development. *Developmental*  
5 *Psychology, 10*, 491-501. doi:10.1037/h0036598
- 6 Rest, J.R., Narvaez, D., D., Thoma, S.J., & Bebeau, M.J. (1999a). DIT2: Revising and testing  
7 a revised instrument of moral judgment. *Journal of Educational Psychology, 91*, 644-  
8 659. doi:10.1037//0022-0663.91.4.644
- 9 Rest, J.R., Narvaez, D., Bebeau, M. J., & Thoma, S. J. (1999b). *Postconventional moral*  
10 *thinking: A neo-Kohlbergian approach*. Mahwah, NJ: Erlbaum.
- 11 Rest, J.R., Narvaez, D., D., Thoma, S.J., & Bebeau, M.J. (2000). A Neo-Kohlbergian approach  
12 to morality research. *Journal of Moral Education, 29*, 381-395. doi:10.1080/713679390
- 13 Ryska, T.A. (2003). Sportsmanship in young athletes: The role of competitiveness,  
14 motivational orientation, and perceived purposes of sport. *The Journal of Psychology,*  
15 *137*, 273-293. doi:10.1080/00223980309600614
- 16 Sage, L., & Kavussanu, M. (2007a). Multiple goal orientations as predictors of moral behavior  
17 in youth soccer. *The Sport Psychologist, 21*, 417-437.
- 18 Sage, L., & Kavussanu, M. (2007b). The effects of goal involvement on moral behavior in an  
19 experimentally manipulated competitive setting. *Journal of Sport and Exercise*  
20 *Psychology, 29*, 190-207.
- 21 Sage, L., Kavussanu, M., & Duda, J. (2006). Goal orientations and moral identity as  
22 predictors of prosocial and antisocial functioning in male association football players.  
23 *Journal of Sport Sciences, 24*, 455-466. doi:10.1080/02640410500244531

- 1 Shields, D.L., & Bredemeier, B.L. (2007). Advances in sport morality research. In G.  
2 Tenenbaum & R.C. Eklund (Eds.), *Handbook of sport psychology (3<sup>rd</sup> ed.)*, (pp.662-684).  
3 New York: Wiley.
- 4 Stornes, T., & Bru, E. (2002). Sportpersonship and perceptions of leadership: An  
5 investigation of adolescent handball players' perceptions of sportpersonship and  
6 associations with perceived leadership. *European Journal of Sport Science*, 2, 1-15.  
7 doi:10.1080/17461391.2002.10142577
- 8 Stornes, T., & Ommundsen, Y. (2004). Achievement goals, motivational climate and  
9 sportpersonship: A study of young handball players. *Scandinavian Journal of*  
10 *Educational Research*, 48, 205-221. doi:10.1080/0031383042000198512
- 11 Tsai, E., & Fung, L. (2005). Sportpersonship in Youth Basketball and Volleyball Players.  
12 *Athletic Insight*, 7. Retrieved 25 October 2012, www.athleticinsight.com.
- 13 Treasure, D. C., & Roberts, G. C. (2002). Predicting sportpersonship: Interaction of  
14 achievement goal orientations and perceptions of motivational climate. *International*  
15 *Journal of Sport Psychology*, 29, 211-230.
- 16 Vallerand, R. J., Briere, N. M., Blanchard, C., & Provencher, P. (1997). Development and  
17 validation of the multidimensional sportpersonship orientations scale. *Journal of Sport*  
18 *and Exercise Psychology*, 19, 197-206.
- 19 Vallerand, R. J., Deshaies, P., Cuerrier, J. P., Briere, N. M., & Pelletier, L. G. (1996). Toward  
20 a multidimensional definition of sportsmanship. *Journal of Applied Sport Psychology*, 8,  
21 89-101. doi:10.1080/10413209608406310
- 22 Vallerand, R. J., & Losier, G. F. (1994). Self-determined motivation and sportsmanship  
23 orientations: An assessment of their temporal relationship. *Journal of Sport and Exercise*  
24 *Psychology*, 16, 229-245.

- 1 Vallerand, R. J., & Losier, G. F. (1999).An integrative analysis of intrinsic and extrinsic
- 2 motivation in sport. *Journal of Applied Sport Psychology, 11*, 142-169.
- 3 doi:10.1080/10413209908402956
- 4 Williams, L., Wisdom, S. A., & Brannon, C. (2004).Motivational climate, goal orientations,
- 5 and the legitimacy of injurious acts. *Research Quarterly for Exercise and Sport, 75*, 95-
- 6 96.



1 *Table 1*

## 2 37-item Factor Structure with Item Means, Standard Deviations and Factor Loadings (FL)

Item	M	SD	Factor	FL
I never argue with a referring decision even if I feel it is wrong	2.30	0.95	COF	.774
I never argue with officials	2.49	0.87	COF	.758
I never vent my frustrations on match officials	2.62	0.96	COF	.735
The official's decision is final and I accept that	2.75	0.86	COF	.676
I listen to the officials	2.94	0.77	COF	.674
I respect the official's decision even when it is wrong	2.42	0.74	COF	.667
I do not swear at officials	2.89	1.06	COF	.664
I abide by all of the rules in my sport	2.77	0.77	CRu	.715
I never break the rules of my sport	2.65	0.77	CRu	.709
I would never cheat in order to win	2.92	0.92	CRu	.694
I always obey the rules of my sport	2.77	0.79	CRu	.651
I would never cheat even if I thought it would help me win	2.87	0.90	CRu	.651
I would not bend the rules to win	2.68	0.85	CRu	.572
It is wrong to test the boundaries to see what I can get away with	2.54	0.83	CRu	.536
It is wrong to intimidate an opponent	2.26	0.84	COP	.728
It is wrong to wind up an opponent to inhibit their performance	2.18	0.89	COP	.720
It is wrong to distract an opponent to gain an advantage	2.38	0.81	COP	.652
I would not intentionally intimidate an opponent through fouling	2.74	0.98	COP	.482
I play hard but make sure that I do not injure my opponent	3.03	0.86	IA	.760
I would not intentionally injure an opponent to gain advantage	3.28	0.84	IA	.706
I refrain from tactics that could injure my opponent	2.91	0.89	IA	.594
I would never intentionally foul an opponent	2.78	0.91	IA	.470
Winning is not always the most important part of sport	2.55	0.88	GP	.672
I would rather be respected for my actions than merely winning	2.85	0.80	GP	.632
It is more important to play fair than to win	2.70	0.79	GP	.629
I do not believe in winning at all costs	2.51	0.94	GP	.621
It is more important to do what is right than to win	2.63	0.77	GP	.589
I consider myself a good loser	2.59	0.97	GP	.521
I would rather lose with grace than win with dishonesty	2.84	0.90	GP	.451
I would go out of my way to congratulate an opponent	2.72	0.89	POp	.687
I will always congratulate my opponent on his or her victory	3.10	0.87	POp	.679
I truly respect a worthy opponent	3.28	0.68	POp	.603
I would go out of my way to help an injured opponent	3.08	0.77	POp	.588
At times I will acknowledge my opponents good play	3.09	0.79	POp	.566
I respect the social conventions of my sport	3.15	0.68	GV	.662
I do things for the good of the game	2.94	0.67	GV	.584
I play to the 'spirit of the law' not the 'letter of the law'	2.92	0.68	GV	.509

3 *Note.* COF = Compliant Officials; CRu = Compliant Rules; COP = Compliant Opponent; IA

4 = Injurious Acts, GP = Game Perspective; POp = Principled Opponent; GV = Game Value





1 *Table 2*

## 2 Summary of Fit Indices for all CFA Models

Model	<i>df</i>	$\chi^2$	$\chi^2/df$	CFI	TLI	RMSEA	SRMR	AIC
1. M1, 37 items	608	1247.7	2.05	.89	.88	.05	.05	39542.4
2. M1, 33 items	474	952.1	2.01	.90	.89	.05	.05	35619.4
3. M2, 30 items	390	765.0	1.96	.91	.90	.04	.05	32265.4
4. M2, 28 items	335	631.0	1.88	.92	.91	.04	.05	30081.4
5. M3, 28 items	404	1614.8	4.00	.72	.70	.08	.08	33228.9
6. M4, 28 items	405	1794.2	4.43	.68	.65	.08	.08	33443.5

3 *Note.* *df* = degrees of freedom;  $\chi^2$  = chi-square; CFI = comparative fit index; TLI = Tucker-  
4 Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root  
5 mean square residual; AIC = Akaike's Information Criterion. M1 = 7-factor model, M2 = 6-  
6 factor model, M3 = two-factor model, M4 = single-factor model.

7

1 *Table 3*

## 2 Standardized parameter estimates for CFA and ESEM for final 28-item CAPSS

Item	Factor 1 (Compliant Officials)		Factor 2 (Compliant Rules)		Factor 3 (Legitimacy of Injurious Acts)		Factor 4 (Principled Game Value)		Factor 5 (Principled Opponent)		Factor 6 (Principled Game Perspective)		CFA (R <sup>2</sup> )	ESEM (R <sup>2</sup> )
	CFA	ESEM	CFA	ESEM	CFA	ESEM	CFA	ESEM	CFA	ESEM	CFA	ESEM		
2	.79*	<b>.83*</b>											.63*	.66*
5	.78*	<b>.80*</b>											.60*	.66*
12	.75*	<b>.67*</b>											.56*	.54*
15	.66*	<b>.55*</b>											.44*	.46*
34	.61*	<b>.51*</b>											.37*	.39*
4		.26*	.67*	<b>.59*</b>									.45*	.49*
11		-.05	.68*	<b>.58*</b>									.46*	.46*
18		.09	.73*	<b>.67*</b>									.53*	.56*
22		.03	.75*	<b>.64*</b>									.57*	.56*
30		-.04	.59*	<b>.67*</b>									.35*	.44*
14		.05		.06	.68*	<b>.57*</b>							.46*	.46*
20		-.02		.12	.68*	<b>.61*</b>							.46*	.48*
28		-.03		-.00	.69*	<b>.77*</b>							.47*	.60*
31		.09		.34*	.61*	<b>.26*</b>							.37*	.41*
8		.02		.00		.02	.53*	<b>.30*</b>					.28*	.25*
17		.02		.07		.07	.53*	<b>.67*</b>					.28*	.51*
24		-.09		.25*		-.01	.48*	<b>.21*</b>					.22*	.21*
6		-.03		-.08		.26*		-.05	.35*	<b>.34*</b>			.12*	.17*
21		.02		.16		-.12		.03	.70*	<b>.72*</b>			.49*	.59*
23		.02		-.03		.05		.17	.57*	<b>.48*</b>			.32*	.34*
26		.02		-.06		.18*		.04	.49*	<b>.45*</b>			.24*	.25*
32		.02		.09		.04		-.07	.68*	<b>.60*</b>			.47*	.44*
3		.07		.03		.06		-.12		-.04	.47*	<b>.45*</b>	.22*	.25*
13		.08		-.08		.08		.08		.05	.57*	<b>.52*</b>	.32*	.35*
19		.00		.07		.08		.03		.07	.72*	<b>.61*</b>	.52*	.52*
33		.03		.34*		-.08		.03		.12	.68*	<b>.41*</b>	.46*	.48*
35		-.08		-.02		-.07		-.01		-.00	.60*	<b>.75*</b>	.36*	.47*
36		.03		.18*		.02		-.04		-.06	.77*	<b>.67*</b>	.59*	.61*

3 *Note.* Target loadings from CFA in the ESEM data are presented in bold.\*statistically  
4 significant at  $p < .05$ .

5

1

2 *Table 4*

3 CFA Factor Correlations for 6-factor Model

Factor	1	2	3	4	5	6
1. Officials	-	.47	.33	.47	.25	.39
2. Rules	.58	-	.50	.35	.26	.44
3. Injurious Acts	.35	.70	-	.43	.36	.29
4. Game Value	.50	.67	.58	-	.41	.30
5. Game Perspective	.53	.73	.63	.66	-	.40
6. Opponent	.38	.44	.39	.62	.47	-
Study 2 CR	.84	.82	.76	.51	.81	.70
Study 3 CR	.80	.67	.63	.55	.77	.66

4 *Note.* Correlations below the diagonal are from Study 2; Correlations above the diagonal are  
5 from Study 3. CR = Composite Reliability. For all correlations  $p < .01$ .

1 *Table 5*

## 2 Factor correlations between CAPSS, TEOSQ and PABSS subscales

Factor	Mean	SD	Task	Ego	Prosocial Teammate	Prosocial Opponent	Antisocial Teammate	Antisocial Opponent
1. Compliant Officials	2.60	.64	.30**	.03	.04	.11	-.17*	-.22**
2. Compliant Rules	2.80	.54	.18*	.10	.09	.25**	-.25**	-.51**
3. Legitimacy of Injurious Acts	3.08	.54	.23**	.01	.06	.26**	-.02	-.42**
4. Principled Game Value	3.13	.43	.31**	-.07	.07	.17*	.02	-.13
5. Principled Opponent	2.87	.54	.31**	-.18*	.13	.39**	.04	-.19*
6. Principled Game Perspective	3.18	.43	.30**	-.08	.19*	.37**	.06	-.12
7. Compliant Sportspersonship	8.47	1.35	.31**	.06	.08	.41**	-.19*	-.47**
8. Principled Sportspersonship	9.17	1.07	.40**	-.15*	.17*	.36**	.05	-.20**
9. Overall Sportspersonship	8.82	1.08	.39**	-.04	.13	.42**	-.09	-.39**

3 \*correlation significant at  $p < .05$ ; \*\* $p < .01$ .