

Teammate Prosocial and Antisocial Behaviors Predict Task Cohesion and Burnout

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DOI:

[10.1123/jsep.2016-0336](https://doi.org/10.1123/jsep.2016-0336)

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Document Version

Peer reviewed version

Citation for published version (Harvard):

Al-yaaribi, ASA & Kavussanu, M 2017, 'Teammate Prosocial and Antisocial Behaviors Predict Task Cohesion and Burnout: The Mediating Role of Affect', *Journal of Sport and Exercise Psychology*, vol. 39, no. 3, pp. 199-208. <https://doi.org/10.1123/jsep.2016-0336>

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1 Teammate Prosocial and Antisocial Behaviors Predict Task Cohesion and Burnout: The
2 Mediating Role of Affect

3 Over the last two decades, there has been a growing literature on moral behavior in
4 sport (see Kavussanu, 2012). Sport is a social context, where athletes are likely to participate
5 in, as well as be exposed to, prosocial behaviors (e.g., helping players off the floor) and
6 antisocial behaviors (e.g., verbally abusing a player). While the majority of previous research
7 has investigated primarily antecedents of these behaviors (e.g., Bruner, Boardley, & Côté,
8 2014; Kavussanu, Stanger, & Ring, 2015; Sage, Kavussanu, & Duda, 2006), the potential
9 consequences of these behaviors for the recipient have received scant research attention. The
10 present study sought to fill this gap in the literature, by investigating consequences of
11 prosocial and antisocial behaviors for the recipient.

12 Our study was grounded on social cognitive theory of moral thought and action
13 (Bandura, 1991) which proposes that personal factors, behavior, and environmental factors,
14 operate as interacting determinants of each other. In this theory, the social environment (e.g.,
15 significant others) plays an important role in shaping the individual's behavior. Bandura
16 (1991) emphasized the importance of the consequences of one's behavior for the recipient,
17 which are important in characterizing a behavior as moral. In the context of sport, behaviors
18 such as supporting or verbally abusing another player can have positive or negative
19 psychological consequences for the recipient (Kavussanu, 2012). Bandura (1999) has also
20 distinguished between proactive and inhibitive morality, which pertain to the power to
21 behave humanely and refrain from behaving inhumanely, respectively.

22 In sport research, these two aspects of morality have been investigated as prosocial and
23 (absence of) antisocial behaviors (Kavussanu & Boardley, 2009). Prosocial behavior is
24 voluntary behavior intended to help or benefit another individual or group of individuals
25 (Eisenberg & Fabes, 1998), while antisocial behavior is behavior intended to harm or

1 disadvantage others (Sage et al., 2006). These behaviors can be directed at opponents (e.g.,
2 helping or arguing with an opponent) and teammates (e.g., encouraging or criticizing a
3 teammate). Given the amount of athletes' potential exposure to these behaviors within their
4 team, teammate behaviors could have lasting consequences for the recipient. Prosocial
5 behaviors could enhance the recipient's motivation and subsequent performance (see
6 Kavussanu & Boardley, 2009), while antisocial teammate behaviors could have negative
7 psychological consequences for the recipient. In the present study, we focused only on
8 teammate behaviors, because these behaviors are more likely to have achievement-related
9 psychological consequences for the recipient, and we investigated their direct and indirect
10 relationships (through affect) with two important outcomes: task cohesion and burnout.

11 **Prosocial Behavior**

12 Although much research has examined antecedents of prosocial teammate behavior in
13 sport, to date, only one study has investigated the consequences of this type of behavior for
14 the recipient. Specifically, Al-Yaaribi, Kavussanu, and Ring (2016) asked soccer and
15 basketball players, after a match they had just played, to complete questionnaires about their
16 experiences during the match. They found that players' perceptions of prosocial teammate
17 behaviors were positively related to their effort, perceived performance, and commitment. In
18 addition, the relationship between prosocial teammate behaviors and effort and performance
19 was mediated by enjoyment: Players who perceived their teammates behaving prosocially
20 toward them, reported more enjoyment, which in turn was positively associated with both
21 effort and performance.

22 Another potential consequence of prosocial teammate behaviors is task cohesion, which
23 reflects the degree of unity possessed by team members to work together toward achieving
24 team goals (Eys, Loughhead, Bray, & Carron, 2009a, 2009b). It has been suggested that
25 perceptions of positive interaction, encouragement, and constructive comments may lead

1 sport participants to perceive mutual interdependence in pursuing task-relevant goals and a
2 high-task cohesive team (Carron, Eys, & Martin, 2012). The conceptual model of team
3 building (Carron & Spink 1993) identified that teammate task interaction and communication
4 are key aspects of group processes to promote team cohesion. Eys et al. (2009b) found that
5 task support among teammates, for example cheering on teammates and saying they're doing
6 a good job, which is similar to the manner prosocial teammate behavior as measured, was a
7 major factor in developing task cohesion in youths. The recipients of prosocial teammate
8 behaviors (e.g., encouragement, constructive feedback, etc) may gradually form a stronger
9 bond with teammates and feel more united in the pursuit of the team goals, thereby
10 perceiving a higher level of task cohesion¹.

11 Bandura (2001) identified affective states as psychological mechanisms through which
12 the social environment influences the individual's behavior. Prosocial teammate behavior
13 could impact task cohesion through its effects on the recipient's positive affect, defined as the
14 degree to which one feels enthusiastic, active, and alert, and has high energy, full
15 concentration, and pleasurable engagement (Watson, Clark, & Tellegen, 1988). It is
16 reasonable to expect that athletes would experience more positive affect when their
17 teammates act in a prosocial manner toward them, for example by giving them positive and
18 constructive feedback and encouraging them after a mistake. In past research, perceptions of
19 positive peer interactions were associated with positive affect and enjoyment (Smith, 2007;
20 Ullrich-French & Smith, 2006), while prosocial teammate behaviors positively predicted
21 enjoyment (Al-Yaaribi et al, 2016). Satisfaction of athletes' affective needs can enhance their
22 willingness to remain united and work together toward attaining the team goals (Eys et al.,
23 2009a, 2009b). Indeed, in-group affect which is the positive feeling derived from being a
24 team member, was positively related to task cohesion (Bruner et al., 2014).

1 Prosocial teammate behaviors could also help prevent burnout, which has been
2 conceptualized as a multidimensional cognitive-affective syndrome that has three dimensions
3 (e.g., Raedeke, 1997; Raedeke & Smith, 2009): emotional and physical exhaustion, resulting
4 from the physical and psychosocial demands of training and competition; reduced athletic
5 accomplishment, which pertains to feeling of inefficacy and the tendency for a negative
6 evaluation of one's performance; and sport devaluation, which refers to a negative, detached
7 attitude toward sport involvement reflected in a lack of concern for sport and performance.
8 Although most researchers consider emotional and physical exhaustion as the core dimension
9 of burnout (e.g., Cresswell & Eklund, 2007; Shirom, 2005), others view the multi-
10 dimensional nature of the construct as essential for its comprehensive understanding (e.g.,
11 Eklund & DeFreese, 2015; Gustafsson, Hassmén, Kenttä, & Johansson, 2008; Raedeke &
12 Smith, 2009). In the present research, we adopted the multi-dimensional conceptualization of
13 burnout.

14 Burnout is viewed as a reaction to chronic stress resulting from the demands made on a
15 person's resources (Smith, 1986). It has been suggested that teammates can play a role in
16 both the development and the prevention of burnout (Gustafsson et al., 2008; Smith,
17 Gustafsson, & Hassmen, 2010). Positive social behaviors from one's teammates, such as
18 offering positive feedback, congratulating the athlete for good play, and encouraging him or
19 her after a mistake, should buffer the stress experienced in sport and reduce one's
20 vulnerability to burnout. These behaviors may enhance the recipients' ability to deal with
21 stress of training and competition because they may be perceived as indicators that one's
22 teammates are concerned and care about the recipient of the behaviors. One of the variables
23 that have been inversely associated with burnout is team social interaction in the form of
24 social support (DeFreese & Smith, 2013, 2014; Raedeke & Smith, 2004); social support

1 resembles prosocial behavior, in that it involves positive social interaction that can have
2 positive consequences for the recipient.

3 The relationship between prosocial teammate behaviors and burnout could be mediated
4 by positive affect. Research has consistently revealed negative correlations between the three
5 dimensions of burnout and positive affective variables, such as enjoyment (Price & Weiss,
6 2000; Raedeke & Smith, 2001). In addition, positive affect has been inversely associated with
7 burnout in elite soccer players and individual sport athletes (Gustafsson, Skoog, Davis,
8 Kenttä, & Haberl, 2015; Gustafsson, Skoog, Podlog, Lundqvist, & Wagnsson, 2013). Finally,
9 teammate prosocial behaviors have been positively associated with enjoyment (Al-Yaaribi et
10 al., 2016). Taken together, these findings suggest that prosocial teammate behaviors should
11 lead to more positive affect, which in turn should reduce burnout.

12 **Antisocial Behavior**

13 Antisocial behavior is behavior that violates others' rights and has consequences for
14 physical or psychological well-being (Kavussanu & Boardley, 2009) and could interfere with
15 the development of task cohesion. For example, expressing frustration at a teammate's (bad)
16 performance could lead the recipient to think that he or she is unable to contribute to team
17 goals, leading him or her to experience a reduced sense of team unity. In past research
18 (McLaren, Newland, Eys, & Newton, 2016), task cohesion was inversely associated with
19 intra-team conflict (e.g., criticizing their teammates when they make mistakes), which refers
20 to negative behaviors expected to undermine interpersonal relationships (Ntoumanis &
21 Vazou, 2005). Sullivan and Feltz (2001) reported similar findings between task cohesion and
22 destructive intra-team conflict (i.e., showing anger at a teammate).

23 The proposed diminishing effect of antisocial teammate behaviors on task cohesion
24 may occur in part via negative affect, defined as "a general dimension of subjective distress
25 and unpleasurable engagement that subsumes a variety of aversive mood states, including

1 anger, contempt, disgust, guilt, fear, and nervousness” (Watson et al., 1988, p. 1063). In
2 previous research, soccer and basketball players who perceived their teammates behaving
3 antisocially toward them during a match, reported more anger (Al-Yaaribi et al., 2016), while
4 athletes’ perceptions of negative social interactions have been positively associated with
5 anxiety (DeFreese & Smith, 2014). Both anger and anxiety have been inversely associated
6 with task cohesion (e.g., Borrego, Cid, & Silva, 2012; Bosselut, Heuzé, Eys, & Bouthier,
7 2010; Eys et al., 2003). Thus, there is some evidence to suggest negative affect may mediate
8 the relationship between antisocial teammate behaviors and task cohesion.

9 Antisocial teammate behaviors, such as receiving criticism from one’s teammates about
10 performance could be a source of stress, which is an antecedent of burnout (e.g., Gustafsson,
11 Kenttä, & Hassmén, 2011; Raedeke & Smith, 2004), thus it could make the recipients more
12 susceptible to burnout. Indeed, negative social interactions (e.g., act angry or upset with you)
13 and teammate conflicts have been linked to athlete burnout (e.g., DeFreese & Smith, 2014;
14 Gustafsson et al., 2008). This relationship could be mediated by negative affect, which has
15 been consistently associated with athlete burnout (e.g., Gustafsson et al., 2013, 2015). Anger
16 has been proposed as an affective response that could lead to burnout (Smith, 1986), and this
17 emotion has been positively associated with antisocial teammate behaviors (Al-Yaaribi et al.,
18 2016). Taken together, these findings suggest that negative affect may mediate the positive
19 relationship between antisocial behavior and burnout.

20 **The Present Study**

21 In sum, the findings described above suggest that prosocial and antisocial teammate
22 behaviors could have important psychological consequences for the recipient, and affective
23 states may play an important role in this process. In the present research we examined: (a)
24 whether prosocial and antisocial teammate behaviors (hereafter referred to as prosocial and
25 antisocial behaviors) are related to task cohesion and burnout; and (b) whether positive and

1 Having obtained ethical approval from the University Ethics Committee, head coaches
2 of sports teams were contacted via email for permission of their athletes' participation in the
3 study. Before signing consent forms, participants were informed about the research purpose,
4 their right to withdraw at any time, that participation was voluntary, and their responses
5 would be used only for research purposes and would be kept confidential. Then, they
6 completed questionnaires either prior or after regular training sessions. Participants were
7 asked to think about their general training and competition experiences with their team during
8 the season. Upon questionnaire completion, participants were fully debriefed and thanked for
9 their participation. Data collection took place five months after the season had started. The
10 questionnaires were counterbalanced to prevent order effects.

11 **Measures**

12 **Teammate behavior.** Teammate behavior was measured using adapted versions of the
13 teammate behavior subscales of the Prosocial and Antisocial Behavior in Sport Scale
14 (PABSS; Kavussanu & Boardley, 2009). The original subscales consist of nine items that
15 measure behaviors toward teammates: prosocial (four items; e.g., encouraging a teammate,
16 giving positive feedback to a teammate) and antisocial behavior (five items; e.g., arguing
17 with a teammate, verbally abusing a teammate). However, in line with Bolter and Weiss
18 (2013), an additional item (supported me) was included to improve the internal reliability of
19 the prosocial teammate behavior subscale. The adapted version has been used in a previous
20 study (Al-Yaaribi et al., 2016). Participants were asked to rate how often their teammates
21 engaged in each behavior toward them during the season on a 5-point scale, anchored by 1
22 (*never*) to 5 (*very often*). The stem "This season, my teammates" was followed by items
23 measuring prosocial (e.g., supported me) and antisocial (e.g., criticized me) behaviors. Using
24 confirmatory factor analysis, the adapted version had shown a very good fit to the data, χ^2/df :
25 52.27/34, RCFI: .971, SRMR: .057, RMSEA: .044, with acceptable internal consistency of

1 .82 and .71 for prosocial and antisocial teammate behavior subscales, respectively (Al-
2 Yaaribi et al., 2016).

3 **Task cohesion.** Task cohesion was assessed using the task cohesion subscale of the
4 Youth Sport Environment Questionnaire (YSEQ; Eys et al., 2009a). This subscale contains
5 eight items and one spurious negative item to detect invalid responses. Example items are “I
6 like the way we work together as a team” and “As a team, we are all on the same page”.
7 Participants responded on a 9-point Likert-type scale ranging from 1 (*strongly disagree*) to 9
8 (*strongly agree*). The subscale has shown very good internal consistency ($\alpha = .89$) in youth
9 athletes (Eys et al., 2009a).

10 **Athlete burnout.** The Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001)
11 was used to measure athletes’ burnout. The ABQ consists of three 5-item subscales
12 measuring: perceived emotional and physical exhaustion (e.g., “I’m exhausted by the mental
13 and physical demands of my sport”); reduced sense of accomplishment (e.g., “I’m not
14 performing up to my ability in my sport”); and sport devaluation (e.g., “I’m not into my sport
15 like I used to be”). Participants reported the frequency of experiencing burnout on a scale of 1
16 (*almost never*) to 5 (*almost always*). The burnout dimensions have shown very good levels of
17 internal consistency, with alpha coefficient above .89 (e.g., DeFreese & Smith, 2014). In
18 previous research, both scores of the three dimensions of burnout as well as the total score
19 have been used (e.g., DeFreese & Smith, 2013; Raedeke & Smith, 2004). In our main
20 analysis, we investigated burnout as a higher-order factor with three sub-dimensions because:
21 (a) this is a more parsimonious approach to model testing; (b) is line with previous research
22 (e.g., Raedeke & Smith, 2004) and (c) scores on the three dimensions had large correlations
23 with each other (see Table 1). However, it is worth mentioning that other researchers have
24 used only the individual dimensions of burnout in their main analyses (e.g., Gustafsson et al.,
25 2015).

1 Descriptive statistics and Cronbach's alpha coefficients for all study variables can be
2 seen in Table 1. On average, participants reported that their teammates displayed sometimes-
3 to-often prosocial behavior and never-to-sometimes antisocial behavior toward them. They
4 also reported a moderate-to-high level of positive affect and task cohesion and a low-to-
5 moderate level of negative affect and all burnout dimensions. Most correlations were in the
6 expected direction. Coefficients of .10, .30, and .50, correspond to small, medium, and large
7 effect sizes, respectively (Cohen, 1992). Prosocial behavior was strongly and positively
8 associated with positive affect and task cohesion and inversely associated with negative affect
9 and burnout dimensions, whereas the reverse relationships were observed for antisocial
10 behavior. All scales showed very good-to-excellent internal consistency (alpha range = .87 -
11 .95). Values greater than .90, .80, and .70 indicate excellent, very good, and good reliability,
12 respectively (Kline, 2010).

13 **Main Analyses**

14 The purpose of this study was to examine whether prosocial and antisocial behaviors
15 are associated with task cohesion and burnout, and whether these relationships are mediated
16 by positive and negative affect. This purpose was investigated using Structural Equation
17 Modelling (EQS 6.1; Bentler, 2003). The Mardia's normalized coefficient estimate was
18 43.07, indicating significant non-normality in the present sample. Therefore, the Robust
19 Maximum Likelihood method was used to test the hypothesized structural model. The model
20 fit was assessed with multiple fit indices: the Satorra-Bentler chi square (S-B χ^2), the Robust
21 Comparative Fit Index (R-CFI), the Bentler-Bonett Non-Normed Fit Index (R-NNFI), the
22 Standardized Root Mean Square Residual (SRMR), the Robust Root Mean Square Error of
23 Approximation (R-RMSEA) and its associated 90% Confidence Interval (CI). A good-fitting
24 model is when values of the CFI and NNFI are close to or above .95, values of the SRMR

1 and RMSEA are close to or below .08 and .06, respectively, and the lower end of 90% CI of
2 the RMSEA contains the value of .05 (Hu & Bentler, 1999).

3 To test mediation, we conducted a bootstrapping analysis, a non-parametric resampling
4 that constructs Confidence Intervals (CIs) for indirect effects. Bootstrapping has been found
5 to have superior statistical power, minimizes Type I error for mediation testing, and does not
6 make any assumptions about the distribution of the population (Preacher & Hayes, 2008). In
7 this study, the standardized indirect effects were obtained from 1,000 bootstrapped resamples
8 with 95% CI. When the CI of an indirect effect does not contain zero, the effect is considered
9 significant (Preacher & Hayes, 2008). As per Preacher and Kelley's (2011) recommendation,
10 effect size of the mediating effects is reported as the Completely Standardized Indirect Effect
11 (ab_{cs}), which can be interpreted with Cohen's (1992) effect size guidelines for squared
12 correlation coefficients, as small, medium, and large size effect with values of .01, .09, and
13 .25, respectively.

14 **Testing the Measurement and Structural Models**

15 Initially, CFA was conducted on each measure, separately, to assess the factor
16 structure of the instruments used in this study. A second order CFA was conducted for
17 burnout with the three dimensions of exhaustion, reduced accomplishment, and sport
18 devaluation as first-order factors, and burnout as second-order factor. Specifically,
19 exhaustion, reduced accomplishment, and devaluation subscale scores were used as
20 indicators of the global burnout latent variable (see Raedeke & Smith, 2004). Item scores
21 served as observed indicators for analyses examining specific burnout dimensions.

22 These results are presented in Table 2, where it can be seen that all instruments
23 showed good factor structure. As recommended by Anderson and Gerbing (1988), a full
24 measurement model was first assessed and reported an adequate fit to the data: $S-B\chi^2(874) =$
25 $1459.54, p < .001$; R-CFI = .92; R-NNFI = .91; SRMR = .13; R-RMSEA = .05 (90% CI of

1 the R-RMSEA = .04, .05) with factor loadings ranging from .67 to .94 and a median factor
2 loading = .68. Therefore, we proceeded to test the hypothesized structural model, which
3 showed a good fit to the data: $S-B\chi^2(865) = 1396.76, p < .001$; R-CFI = .94; R-NNFI = .94;
4 SRMR = .05; R-RMSEA = .04 (90% CI of the R-RMSEA = .03, .04). The R-squared
5 indicated that prosocial behavior and antisocial behavior accounted for 19% and 21% of the
6 variance in positive and negative affect, respectively. Teammate behavior and positive and
7 negative affect accounted for 68% and 65%, of the variance in task cohesion and burnout,
8 respectively.

9 As can be seen in Figure 1, all standardized path coefficients were significant. Prosocial
10 behavior positively predicted positive affect and task cohesion and negatively predicted
11 burnout. Positive affect positively predicted task cohesion and negatively predicted burnout.
12 Antisocial behavior positively predicted negative affect and burnout and negatively predicted
13 task cohesion. Negative affect positively predicted burnout and negatively predicted task
14 cohesion. The results of the bootstrapping analysis showed that positive affect mediated the
15 effects of prosocial behavior on task cohesion ($\beta = .13$; 95% CI = .16, .26; $ab_{cs} = .12$; 95% CI
16 = .07, .25) and burnout ($\beta = -.14$; 95% CI = -.23, -.07; $ab_{cs} = -.11$; 95% CI = -.19, -.03).
17 Finally, negative affect mediated the effects of antisocial behavior on burnout as indicated by
18 the size of indirect effects and their associated CSIE ($\beta = .15$; 95% CI = .06, .10; $ab_{cs} = .09$;
19 95% CI = .06, .16) and task cohesion ($\beta = -.11$; 95% CI = -.11, -.02; $ab_{cs} = -.07$; 95% CI = -
20 .14, -.01).

21 Discussion

22 Over the last two decades, a large body of literature has investigated antecedents of
23 prosocial and antisocial behaviors in sport (see Kavussanu, 2012 for a review). However, to
24 date, only one study has examined the potential consequences of these behaviors for the
25 recipient (Al-Yaaribi et al., 2016). The present study attempted to fill this gap in the literature

1 by examining whether prosocial and antisocial *teammate* behaviors predict task cohesion and
2 burnout and whether positive and negative affect mediate these relationships.

3 **Teammate Behavior, Task Cohesion, and Burnout**

4 In line with our hypothesis, our findings showed that players who perceived that their
5 teammates displayed prosocial behaviors toward them during the sport season, for example,
6 encouraged them after a mistake and gave them constructive feedback, also perceived higher
7 task cohesion in their team. These findings support Carron and Spink's (1993) model by
8 underlining the importance of positive interaction such as mutual support and encouragement
9 among teammates in team processes to develop task cohesion. In the same vein, the findings
10 are consistent with research examining teammate support and task cohesion (Carron et al.,
11 2012; Eys et al., 2009b). The recipient of prosocial behaviors may have felt accepted by
12 teammates and integrated within the team toward achieving the shared objective.

13 We also found that prosocial behaviors negatively predicted burnout. This finding is in
14 line with the view that the social context contributes to athlete burnout (e.g., Cresswell &
15 Eklund, 2007; Gustafsson et al., 2011) driven from Smith's (1986) model. Prosocial
16 teammate behaviors, may promote caring and supportive relationships among teammates,
17 which may buffer perceived stress associated with training or competition and prevent
18 athletes from developing burnout. This finding is consistent with previous research (e.g.,
19 DeFreese & Smith, 2013, 2014) which has shown that positive social interaction was
20 negatively related to burnout. Our findings extend this work to prosocial teammate behavior,
21 which is behavior occurring in the specific context of sport and includes a variety of
22 behaviors by one's teammates that could have positive consequences for the recipient.

23 Consistent with our hypothesis, the more players perceived antisocial behaviors from
24 their teammates, such as verbally abusing, criticizing them, and expressing frustration at their
25 poor play during the season, the lower the task cohesion perceived in the team. Perhaps the

1 recipients of antisocial behaviors felt that their roles and responsibilities with the team were
2 not important, or their teammates may not have worked together to achieve the team goals.
3 Antisocial teammate behaviors may be the outcome intra-team conflict, which has been
4 negatively related to task cohesion in previous research (e.g., McLaren et al., 2016; Sullivan
5 & Feltz, 2001). Taken collectively, these findings have implications for the conceptual model
6 of team building (Carron & Spink, 1993) as they suggest that the psychosocial context of a
7 team as reflected in teammate behaviors may be an important antecedent of task cohesion.

8 As hypothesized, antisocial behaviors positively predicted burnout. The psychosocial
9 perspective taken by burnout research (e.g., Cresswell & Eklund, 2007; Gustafsson et al.,
10 2008; Gould, Tuffey, Udry, & Loehr, 1996) was supported in the present study. Previous
11 research has also found that negative social interactions and intra-team conflict increased
12 burnout (e.g., DeFreese & Smith, 2014; Gustafsson et al., 2008). Verbally abusing, arguing,
13 and criticizing a teammate are patterns of negative social interactions, which could also lead
14 to burnout. Our findings contribute to the knowledge based on the relationship between
15 personal and situational factors and burnout (Smith 1986), by highlighting the importance of
16 antisocial teammate behaviors on burnout (e.g., Gustafsson et al., 2008, 2011). Such
17 behaviors could lead to increased perceptions of unsupportive interaction and conflict, which
18 may increase burnout susceptibility. Taken as a whole, the findings of the present study are
19 aligned with the predictions of Bandura's (1991) theory that significant others in one's social
20 environment play an important role on behavior. They also extended previous work by (Al-
21 Yaaribi et al., 2016) by identifying task cohesion and burnout as additional potential
22 consequences of prosocial and antisocial behaviors in sport.

23 **The Role of Positive and Negative Affect**

24 Positive affect mediated the relationship between teammate behaviors and task
25 cohesion, such that, the more prosocial behaviors exhibited by one's teammates during the

1 sport season, the higher the positive affect experienced by the recipients, and in turn the
2 higher their perceptions of task cohesion. This is in line with the social cognitive theory
3 (Bandura, 2001), which suggests that affective states mediate the effects of the social
4 environment on individuals' behavior. Previous work (e.g., Al-Yaaribi et al., 2016) has also
5 revealed a link between prosocial teammate behaviors during matches and enjoyment, a
6 positive affective state, while positive affect has been related to task cohesion (Bruner et al.,
7 2014; Eys et al., 2003, 2009a). Our findings suggest that the mechanism through which
8 prosocial teammate behaviors influences task cohesion, may be through enhancing positive
9 affect. These findings provide further support to the assumption that athletes' affective
10 responses to the athletic environment could have profound effects on cohesion (Carron et al.,
11 2012; Eys et al., 2003).

12 Positive affect also mediated the relationship between prosocial behaviors and burnout,
13 with players who experienced higher positive affect reporting lower levels of burnout. Thus,
14 the relationship between prosocial behaviors and burnout could be partly explained by
15 positive affect. This is consistent with previous research (Gustafsson et al., 2013, 2015),
16 which has shown that positive affect was negatively associated with burnout. Several studies
17 have pointed out that psychological well-being could lead to effective coping strategies and
18 prevention of burnout (e.g., Eklund & Defreese, 2015; DeFreese & Smith, 2013; Raedeke &
19 Smith, 2001). Our findings suggest that teammate prosocial behaviors could decrease burnout
20 indirectly by increasing positive affect. That is, the recipients of prosocial teammate
21 behaviors would experience increased positive affect which should reduce burnout during the
22 sport season. This study provided the first evidence consistent with a mediational model.

23 As expected, negative affect mediated the relationship between antisocial behaviors and
24 task cohesion, such that antisocial behaviors predicted negative affect which in turn was a
25 negative predictor of task cohesion. This is in line with previous research showing that

1 antisocial teammate behaviors and negative social interactions have been positively
2 associated with anger and anxiety (e.g., Al-Yaaribi et al., 2016; DeFreese & Smith, 2014),
3 both of which interfere with task cohesion (e.g., Bosselut et al., 2010; Eys et al., 2003). Our
4 findings provide support for the process through which antisocial behaviors could diminish
5 task cohesion. In addition, negative affect mediated the relationship between antisocial
6 behaviors and burnout. This is not surprising given previous research linking negative affect
7 to burnout (e.g., Gustafsson et al., 2013, 2015). Altogether, our study supports the role of
8 affective responses proposed in Smith's (1986) model of burnout.

9 **Practical Implications**

10 The identified relationships between teammate behaviors and affect, task cohesion, and
11 burnout have important practical implications. The findings enhance our understanding of the
12 mechanisms through which prosocial and antisocial teammate behaviors may influence task
13 cohesion and burnout. Coaches should try to promote positive social interactions among
14 teammates by rewarding prosocial and discouraging antisocial conducts within the team as
15 these conducts could influence task cohesion, burnout, and affect. Therefore, coaches as well
16 as players should be aware of the possible beneficial and detrimental consequences of
17 teammate behaviors for the recipient and for the team as a whole. Finally, this study proposes
18 effective strategies for enhancing intra-team interaction and communication on developing
19 cohesion (Carron & Spink, 1993) and coping resources to deal with psychosocial stress
20 (Smith, 1986).

21 **Limitations and Future Directions**

22 Although our study revealed some interesting findings, it also has some limitations.
23 First, our data are cross-sectional, thus the causality of the proposed model pathways cannot
24 be established. Longitudinal or experimental research is needed to clarify the direction of
25 causality of our model pathways. For example, it is possible that task cohesion is an

1 antecedent of teammate behaviors as teammates with high perceptions of task cohesion may
2 act more prosocially toward each other. Athletes with high level of burnout may engage in
3 more antisocial behaviors toward their teammates. It is also possible that this relationship is
4 bidirectional, in line with the tenets of social cognitive theory (Bandura, 1986, 2001) that the
5 social environment and one's behavior influence each other. A third limitation pertains to the
6 generalizability of our findings, which is limited to adult athletes from team sports.
7 Investigating prosocial and antisocial behaviors in individual sports or in younger populations
8 is warranted.

9 **Conclusion**

10 In conclusion, our findings join the existing literature body of moral behavior in sport
11 by providing further support for Kavussanu and Boardley's (2009) assertions that prosocial
12 and antisocial behaviors have achievement-related consequences. Moreover, they extend
13 earlier findings of Al-Yaaribi et al. (2016) by identifying relationships between prosocial and
14 antisocial behaviors and the recipient's affect, task cohesion, and burnout. Lastly, the present
15 study makes a significant contribution to the recent body of literature highlighting teammate
16 as a crucial social agent in sport (e.g., DeFreese & Smith, 2014; McLaren et al, 2016 Smith,
17 2007).

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1 Table 1

2 *Descriptive Statistics, Alpha Coefficients, and Zero-Order Correlations (N = 272)*

Variable	1	2	3	4	5	6	7	8
1. Prosocial behavior	(.89)							
2. Antisocial behavior	-.40**	(.84)						
3. Positive affect	.38**	-.26**	(.86)					
4. Negative affect	-.40**	.37**	-.32**	(.74)				
5. Task cohesion	.41**	-.36**	.55**	-.53**	(.91)			
6. Exhaustion	-.23**	.31**	-.26**	.46**	-.14*	(.90)		
7. Reduced accomplishment	-.27**	.29*	-.36**	.31**	-.21**	.54**	(.83)	
8. Devaluation	-.40**	.37**	-.39**	.42**	-.30**	.44**	.65**	(.85)
<i>M</i>	3.93	2.00	3.97	2.10	6.59	2.24	2.40	1.83
<i>SD</i>	0.94	0.77	0.96	1.10	2.22	0.84	0.87	0.90

3 *Note.* Alpha coefficients are presented on the diagonal. Possible scale ranges: 1-5 for all

4 variables except (1-9) for task cohesion.

5 * $p < .05$; ** $p < .01$

6

1 Table 2

2 *Fit Indices of Models of Individual Measures*

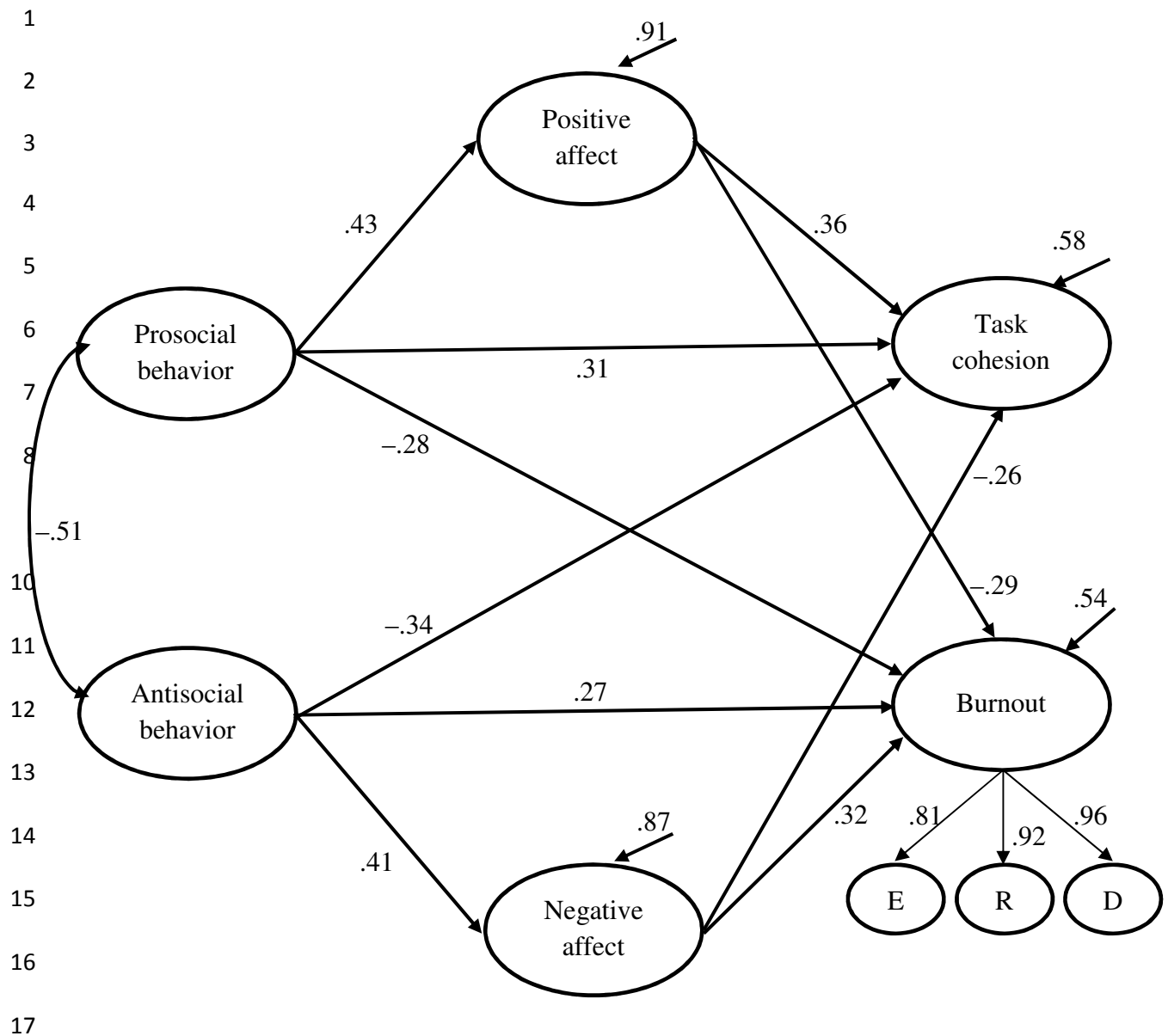
Latent factor	S-B χ^2	df	R-CFI	SRMR	R-RMSEA (90% CI)
Teammate behavior	47.65**	34	.98	.03	.03 (.00, .06)
Positive and negative affect	72.11**	34	.96	.03	.06 (.04, .08)
Task cohesion	45.31**	27	.97	.01	.05 (.02, .07)
Burnout	157.81**	86	.98	.02	.05 (.03, .06)

3 *Note.* S-B χ^2 = Satorra–Bentler chi square statistic; R-CFI = robust comparative fit index; R-

4 NNFI = Bentler-Bonett non-normed fit index; SRMR = standardized root mean residual; R-

5 RMSEA = robust root mean square error of approximation; CI = 95% confidence interval.

6 ** $p < .01$



18 *Figure 1.* Structural model showing the effects of prosocial and antisocial teammate
 19 behaviors on task cohesion and burnout and the mediating role of positive and negative
 20 affect.

21 *Note:* all path coefficients are standardized and significant ($p < .05$). For visual simplicity, the
 22 factor loadings and the correlation of error terms between positive and negative affect ($r = -$
 23 .22) are not shown in the model. E = exhaustion; R = reduced accomplishment; D = sport
 24 devaluation.

PERCEIVED PROSOCIAL AND ANTISOCIAL BEHAVIOR

1 Endnote

2 ¹We focused only on task cohesion because: (a) this aspect of cohesion could be
3 influenced by the type of teammate behaviors we examined which were highly relevant to the
4 task at hand (e.g., encourage a teammate, give positive feedback to a teammate); and (b) all
5 variables pertained to the specific sport context (i.e., perceived teammate behavior and
6 emotions during training and matches), whereas social cohesion is reflected in the bond
7 among team members that exists outside the sport context (e.g., Carron et al, 2012; Eys et al,
8 2009b).