Title: Young athletes’ perceptions of coach behaviors and their implications on their well- and ill-being over time

Preferred Running Head: Coach behaviors and athletes’ well-ill-being

Authors name: Lorena González¹, Marisa García-Merita², Isabel Castillo¹, and Isabel Balaguer¹

1 Department of Social Psychology, Faculty of Psychology, Universitat de València (Valencia, Spain)

2 Department of Personality, Assessment and Psychological Treatments, Faculty of Psychology, Universitat de València (València, Spain)

Corresponding author: Dr. Lorena González

Corresponding address: Department of Social Psychology, Faculty of Psychology, Universitat de València, Avenida Blasco Ibáñez 21, 46010 Valencia, Spain

Telephone: +34 96 398 39 40

Fax number: +34 96 386 46 68

E-mail: lorena.gonzalez@uv.es

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ABSTRACT

Grounded on basic psychological needs theory (18) the purpose of this study was twofold: 1) to test the mediational role of basic psychological needs (satisfaction and thwarting), and 2) to test the model invariance over two consecutive seasons. 360 young male athletes completed a questionnaire package tapping the variables of interest at four time points during two consecutive seasons. Results of the path analyses revealed that in both seasons, changes in perceived coach autonomy supportive style positively predicted changes in needs satisfaction which, in turn, positively predicted changes in self-esteem; changes in perceived coach autonomy supportive and controlling style negatively and positively - respectively - predicted changes in needs thwarting which, in turn, positively predicted changes in burnout and negatively in self-esteem. Only in the first season, changes in needs satisfaction emerged as a negative predictor of changes in burnout. The mediational role of basic psychological needs and the invariance of the aforementioned relationships over the two seasons were supported. Results emphasize the importance of having coaches promoting autonomy supportive atmospheres and avoiding controlling styles to facilitate athletes’ well-being and to prevent their ill-being.

Key words: Coach interpersonal style; basic psychological needs; self-esteem; burnout; young soccer players
INTRODUCTION

Sport participation is considered to be an inherently rewarding activity that contributes to well-being of participants (36), however sometimes this participation results in athletes’ experiences of ill-being (7). Previous research in the sport domain (20) has indicated that sport participation is not positive or negative by itself, rather it is defended that the social context influences how athletes experience their participation, suggesting that positive experiences will result in the promotion of well-being, whereas negative experiences will result in higher ill-being. In this sense, the main objective of the present study was to explore a theoretical model based on the basic psychological needs theory (BPNT) (18), which allows us to determine the antecedents of young athletes’ well- and ill-being.

Since well- and ill-being are distinct domains and not the two poles of a continuum, the knowledge about the causes and correlates of one of them does not necessarily extrapolate to the other (21). Thus, in order to promote healthy sport participation, it is important to understand the factors that contribute to optimal well-being, as well as to compromised functioning. Earlier research based on BPNT, has found coaches to be a significant figure with the potential to influence athletes’ psychological well- and ill-being (1).

BPNT postulates that features of the social environment are related to individual’s well- and ill-being and that this relationship is mediated by the satisfaction or thwarting of the three basic psychological needs for autonomy, competence and relatedness. These needs, considered innate, universal and developmentally persistent, are viewed as nutriments essential to growth, integrity and well-being (18, 35). The need for autonomy is defined as the experience of choice and feeling like the initiator of one’s
own actions (16), the need for competence is considered as the experience that one can effectively bring about desired effects and outcomes (39), and the need for relatedness is described as the feeling that one is securely connected to and understood by others (10).

According to BPNT, satisfaction of the basic psychological needs constitutes the central psychological process through which well-being is promoted, while ill-being increases when needs thwarting rises (35). Research conducted in the sport domain under BPNT has predominantly used needs satisfaction as the mediational mechanism in the relation between the social context and indicators of well- and ill-being (1, 25), whereas basic psychological needs thwarting has been introduced only recently (6, 8). Results have showed small negative correlations between needs satisfaction and thwarting suggesting that these variables are not polar ends of the same continuum, but different variables with the potential to predict unique variance in the outcome indicators.

BPNT also postulates that people function and develop more or less successfully as a consequence of the social environmental support or thwart for their basic psychological needs (35). Centering on the social context of young soccer players, coaches’ behaviors can play a major role in nurturing or undermining their psychological needs for autonomy, competence and relatedness (27). Research conducted in the sport domain based on BPNT has mainly emphasized two coaching interpersonal styles that may impact on the satisfaction or thwarting of the athletes’ three basic psychological needs. These two styles are the autonomy supportive and the controlling coaching interpersonal style, and probably a coach could be more autonomy supportive or controlling depending on the external or internal situations.
According to previous research based on the BPNT, when a coach behaves in an autonomy supportive manner his or her athletes are more likely to experience satisfaction of their basic psychological needs (3, 6, 7, 17, 25, 31). Whereas on the other hand, research indicates that when a coach behaves in a controlling way his athletes are more likely to experience needs thwarting (6, 7, 35). Autonomy supportive coaches encourage initiative and autonomous self-regulation, allow participation in decision making, offer choices relevant to athletes’ goals and values, provide rationale for task engagement, acknowledge the athletes’ feelings, are non-judgmental, and attempt to understand athletes’ perspective (26). On the other hand, a coach who is controlling behaves in a coercive, pressuring, and authoritarian way in order to impose a specific and preconceived way of thinking and behaving upon their athletes (9).

In order to extend previous studies that have analysed the positive side of BPNT from a cross-sectional (25) or a longitudinal approach (1, 2), and to extend the works that have concurrently assessed the positive and the negative side of the theory from a cross-sectional (7) or a longitudinal approach at the daily level (7) or over a sport season (6), the aim of the present study was to test both sides of BPNT from a longitudinal approach in four time points over two consecutive seasons and to analyse the model invariance over the two seasons. To this end, we study whether young soccer players experience well- or ill-being as a consequence of the social environmental support or thwart for their basic psychological needs and whether the athletes’ basic psychological needs satisfaction and thwarting acted as total or partial mediators in the relation between the social context and the resulting well- and ill-being (see Figure 1). To control any possible change in the targeted variables of our study from the beginning to the end of the season we measured the answers of the players in these two different time points of each soccer season. Then we analyze the relations between the targeted
variables at the end of the season, taking into account the values of the same variables at
the beginning of the season. Further information is presented in the Statistical Analyses
section. Thus, in addition to previous studies, one important contribution of the present
work is having the opportunity of analysing the invariance of these relations across four
time points over two seasons exploring the assumptions of developmental persistence of
BPNT. Despite previous scientific works may conduct us to expect that the relations
embedded in a BPNT sequence would maintain invariant over time, a construct
comparability across groups or time should never be naively assumed unless scientific
evidence is demonstrated through the use of a proper empirical method (40).

To achieve the aforementioned aims we hypothesized that: (1) changes in athletes’ basic
psychological needs satisfaction and thwarting will totally mediate the relationship
between the changes in perceived coaching interpersonal style (i.e., autonomy
supportive and controlling style) and the changes in athletes’ well- and ill-being; and (2)
that these relations will maintain invariant across time.

METHODS

Experimental Approach

We assessed the two coaching interpersonal styles: Perceived coach autonomy
supportive and controlling style. The Sport Climate Questionnaire (38) in its Spanish
version (4) was used to assess players’ perceptions of autonomy support provided by
their coaches. This scale is composed by 15 items, each one starting with the phrase:
“On my soccer team…” and the responses are rated on a 7-point Likert scale ranging
from 1 (not at all true) to 7 (very true). An example item is “my coach answers my
questions fully and carefully”. Evidence for the reliability and predictive validity of this instrument has been provided in previous sport based research (4). On the other hand, the Spanish version (12) of the Controlling Coach Behaviors Scale (CCBS) (9) was used to assess players’ perceptions of the coach controlling style. This scale has 15 items divided into four sub-dimensions (controlling use of rewards, conditional regard, intimidation, and excessive personal control). Each item starts with the phrase: “On my soccer team…” and the responses are rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). An example item is “my coach tries to motivate me by promising to reward me if I do well”. For the present study, a composite scale score of the perceived coach controlling interpersonal style was created. Recent sport research has shown internal consistency and predictive validity of this scale (6, 7).

Basic psychological needs satisfaction was measured via three different questionnaires. The Perceived Autonomy Scale (33) translated into Spanish (3) was used to assess players’ perceptions of satisfaction of the need for autonomy. It is a 10 item scale with a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Each item starts with the phrase “When I play soccer…” and an example item is “I feel free to express my ideas and opinions”. The Spanish version (3) of the Subscale of Perceived Competence from the Intrinsic Motivation Inventory (IMI) (30) was used to assess perceptions of the players’ satisfaction of the need for competence. It is a 5 item scale answering in a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) and with items such as “I think I am pretty good at soccer”. The Acceptance subscale of the Need for Relatedness Scale (NRS) (34) in its Spanish version (3) measured the extent to which players perceived their need for relatedness to be satisfied in the team. It is a 5 item scale answering in a 5-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree). Each item starts with the phrase “When I play
soccer I feel…” and includes items such as “supported”. Aligned with previous works where the instruments’ reliability and validity have been confirmed (7), the three needs satisfaction subscales were used as indicators of a general needs satisfaction variable.

The degree to which players experienced their psychological needs to be thwarted was measured via the Spanish version (5) of the Psychological Need Thwarting Scale (PNTS) (8). It is a 12 item scale answering in a 7-point Likert scale ranging from 1 (totally disagree) to 7 (totally agree) that includes three sub-scales (thwarting of autonomy, competence and relatedness) in the soccer setting. An example item is: “I feel pushed to behave in certain ways in soccer”. This scale internal reliability and predictive validity have been confirmed by recent studies in the sport context (6, 7).

To measure athletes’ well-being we assessed self-esteem, defined as an overall evaluation of oneself and considered as a widely studied indicator of psychological well-being in the literature (28). To this end we used the Spanish version (3) of the Self-esteem Subscale of Self-Description Questionnaire 3 (SDQ-III) (29)-esteem. It is a 12 item scale with a 6-point Likert scale ranging from 1 (completely false) to 6 (completely right). An example item is “Overall, I do lots of things that are important”. Previous research studies in the context of sport have confirmed this instrument’s reliability and validity (3).

On the other side, to evaluate ill-being, we measured athletes’ burnout, defined as a psychosocial syndrome reflecting emotional and physical exhaustion, a reduced sense of accomplishment and an uncaring and cynical attitude towards sport participation (32). Specifically, we used the Spanish version (6) of the Athlete Burnout Questionnaire (32) modified for the soccer population. The scale has 15 items corresponding to three sub-dimensions (emotional and physical exhaustion, soccer devaluation and reduced sense...
of accomplishment). Responses are provided in a 5-point scale ranging from 1 (almost never) to 5 (almost always). An example item is “I feel overly tired from my soccer participation”. For this study, we used a composite scale score reflecting global burnout. Evidence for the reliability and validity of this questionnaire has been previously provided in the sport context (6, 31).

Subjects

The participants of this study were 360 young male grassroots soccer players who completed the questionnaires package during four data collections over two consecutive seasons. In the first season, Time 1 data collection (October 2009) was completed by 725 players and in Time 2 (May 2010) 597 from the initial players completed the questionnaires. In the second season, Time 3 data collection (October 2010) was completed by 422 from the initial players and in Time 4 (May 2011) by 360 players. It represented a dropout rate of 50.34%. The 360 players who participated in the study were between 11 and 13 years old ($M = 12.6 \pm 0.53$ years) at Time 1 and they represented 24 soccer schools from the Valencian Community Soccer Federation in Spain.

Procedures

The institutional review board approved the study procedures (Ethical Committee of the University of Valencia, Spain). A sample of grassroots clubs of Valencia (Spain) and surroundings towns was randomly selected. After the selection, information letters were sent to all clubs, and a member of the research group spoke to their directors or representatives. After the clubs’ directors had expressed interest in participating in the study, the players and their parents were provided with verbal information about the goals of the study and they gave informed consent before the start of the data collection.
The players who accepted to participate completed a multi-section inventory containing variables related to this study and other non-related ones. They did it anonymously with the rest of their team, normally in the club offices or in the changing-rooms during approximately 30-45 minutes. Athletes were asked to answer the questionnaire thinking about what generally happened to them during their sport participation.

6 Statistical Analyses

In order to examine the hypothesized model (see Figure 1) a two-step approach was followed. First, we tested the factorial structure of each scale in the four different time points analyzed via confirmatory factor analyses with LISREL Version 8.8 (24) to determine whether the indicators were related to the latent factors in a satisfactory manner. Second, once satisfactory fit was achieved for the measurement of the latent factors, we tested the fit of the hypothesized model. To determine the fit of the model, we considered different indices of fit that included chi-square, the non-normative fit index (NNFI), the comparative fit index (CFI), the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR). Values of CFI and NNFI higher than 0.90 indicate an acceptable fit (23). For RMSEA and SRMR, values between 0.05 and 0.10 are considered acceptable, equal to or lower than 0.08 is optimal (15).

On account of the number of parameters in the proposed model (see Figure 1), mean scores were used as indicators of the targeted variables and a path model was tested. As with the factor structure of each scale, the examination of goodness of the fit of the model was done considering several indices. Six observable variables were included in the model: (a) perceived coach autonomy supportive style, (b) perceived coach controlling style, (c) psychological needs satisfaction, (d) psychological needs
thwarting, (e) self-esteem, and (f) burnout. Our main goal was to determine whether the
association between changes in coaches’ interpersonal style and self-esteem and
burnout were mediated by changes in psychological needs satisfaction and thwarting
over the course of the season. Accordingly, the procedural recommendations of
Holmbeck (22) were employed to test the total mediating effect of the needs
(satisfaction and thwarting). Differences not larger than .01 between NNFI and CFI
values are considered an indication of negligible practical differences (14). Chen (13)
suggests that when the RMSEA increases by less than .015, one can also claim support
for the more constrained (parsimonious) model. By replicating the approach of others
(31), we have controlled Time 1 values for each variable in Time 2, and Time 3 values
for each variable in Time 4 of our hypothesized model. More specifically, we modelled
Time 2 data as depicted in Figure 1 including paths between Time 2 variables and their
corresponding Time 1 measures. Equally, we modelled Time 4 data including paths of
the corresponding Time 3 values in a separate model.

Testing for model invariance encompassed two hierarchically ordered steps addressed
to test the invariance of the models across the two consecutive seasons. First, the a
priori factor structure was separately fitted for each season in order to determine the
extent to which the Baseline Model fitted the data for each season individually. Second,
the Configural Invariance Model tested the invariance of the hypothesized relations of
the model across seasons, but no invariance constraint was imposed in any parameters.
This model was used as a baseline for fit comparisons against the later, more restricted
model. Finally, a Total Invariance Model addressed the equality of all the parameters
across the seasons. Thus, this model tested whether all the relationships between the
variables in the model held invariant across the two seasons. With the aim of assessing
the fit for the models, the same modeling rationale we employed to test mediation effect of the needs was used.

RESULTS

Score reliability, validity and descriptive statistics

The proposed factorial structure adequately fitted the data for perceived coach autonomy supportive style at the four different time points (RMSEA = .03-.05; SRMR = .02-.06; NNFI = .92-.99; CFI = .93-.99), perceived coach controlling style (RMSEA = .04-.06; SRMR = .04-.07; NNFI = .95-.99; CFI = .95-.99), athletes’ needs satisfaction (RMSEA = .05-.08; SRMR = .04-.07; NNFI = .91-.98; CFI = .92-.98), needs thwarting (RMSEA = .06-.08; SRMR = .05-.08; NNFI = .93-.98; CFI = .94-.98), self-esteem (RMSEA = .07-.09; SRMR = .06-.09; NNFI = .91-.93; CFI = .93-.95), and burnout (RMSEA = .06-.08; SRMR = .05-.08; NNFI = .94-.98; CFI = .95-.98). The Cronbach internal reliability coefficients of all scales were satisfactory (α range = 0.79-0.91) (see Table 1).

Responses of the players over the two consecutive seasons showed that values on perceived autonomy support provided by the coach, and players’ needs satisfaction and self-esteem were above the mean value of the questionnaire, while perceptions of a controlling style of the coach, and players’ needs thwarting and burnout were under the mean value (see Table 1).

Insert Table 1

Relationships between the study variables
In both seasons all the study variables were significantly correlated in the expected direction, except for the relation between perceptions of a controlling style provided by the coach and the need satisfaction in Time 1 that was not significant. With this exception, perceived coach autonomy supportive style, need satisfaction and self-esteem were positively correlated between each other while they were negatively correlated with perceived coach controlling style, need thwarting and burnout. Furthermore, the perceived controlling interpersonal style of the coach, players’ need thwarting and burnout were positively correlated between each other. In order not to extend the length of the article, the results of the correlations are not presented, but they are available upon request to the first author.

Path analyses

The hypothesized model for the first season in Time 2 controlling for Time 1 values ($\chi^2(27) = 98.26; p < .01; \text{RMSEA} = .086; \text{SRMR} = .085; \text{NNFI} = .949; \text{CFI} = .979$) and the hypothesized model for the second season in Time 4 controlling for Time 3 values ($\chi^2(27) = 92.99; p < .01; \text{RMSEA} = .082; \text{SRMR} = .080; \text{NNFI} = .949; \text{CFI} = .979$) presented an adequate fit to the data. The results showed that changes in perceived coach autonomy supportive interpersonal style positively predicted changes in needs satisfaction and negatively predicted changes in needs thwarting in both seasons. During the same period, changes in the perceived coach controlling interpersonal style positively predicted changes in needs thwarting. In turn, these changes in needs satisfaction positively predicted changes in self-esteem in both seasons and negatively predicted changes in burnout in the first season only, while changes in needs thwarting positively predicted changes in burnout and negatively predicted changes in self-esteem in both seasons. Finally, the negative relation between the perceived coach controlling
interpersonal style and players’ needs satisfaction (see Figure 2) was not significant in any season.

Mediational role of basic psychological needs satisfaction and thwarting

To examine the mediational role of basic psychological needs satisfaction and thwarting, we tested a model including a direct path from perceived coach autonomy supportive and controlling style to self-esteem and burnout. The fit of the unconstrained model was good in the first season ($\chi^2 (23) = 92.14, p < 0.01; \text{CFI} = 0.980; \text{NNFI} = 0.942; \text{RMSEA} = 0.092, \text{SMRM} = .084$), as well as in the second season ($\chi^2 (23) = 74.03, p < 0.01; \text{CFI} = 0.983; \text{NNFI} = 0.952; \text{RMSEA} = 0.079, \text{SMRM} = .077$). It should be noted that in the unconstrained model, the paths from perceived coach autonomy supportive style to self-esteem and to burnout were non-significant ($\beta = -0.04$ and $\beta = 0.03, p > 0.05$ respectively in the first season, and $\beta = -0.04$ and $\beta = 0.07, p > 0.05$ respectively in the second season). However, different results occurred with the observed paths from perceived coach controlling style to self-esteem and to burnout. In the first season, the path was non-significant between perceived coach controlling style and self-esteem ($\beta = -0.02, p > 0.05$) and significant between perceived coach controlling style and burnout ($\beta = 0.11, p < 0.05$). In the second season, the paths from perceived coach controlling style to self-esteem and to burnout were significant ($\beta = -0.15$ and $\beta = 0.18, p < 0.01$ respectively). However, the RMSEA, CFI and NNFI differences non larger than .01 indicated that the unconstrained model did not offer a superior representation of the data to the mediation model. These results provided evidence of a total mediation effect of needs satisfaction and needs thwarting in the relationship between coach interpersonal style and indicators of well and ill-being.
Invariance of the model over the first and the second season

With regard to the multi-sample baseline model, the results showed that the fit was satisfactory ($\chi^2 (60) = 201.47; p < .01; \text{RMSEA} = .044; \text{SRMR} = .044; \text{NNFI} = .986; \text{CFI} = .994$). Thus, it can be concluded that the same pattern of relationships between variables was able to fit the data from each season. Consequently, this model was used as a baseline model to test the fit of the Total Invariance Model. The Total Invariance Model had an adequate fit ($\chi^2 (68) = 109.20; p < .01; \text{RMSEA} = .041; \text{SRMR} = .042; \text{NNFI} = .988; \text{CFI} = .994$) and supported the total invariance of all hypothesized relationships across the two seasons, except for the hypothesized negative relation between perceptions of the perceived coach controlling interpersonal style and the players’ needs satisfaction that was not significant in the baseline models (see Figure 3).

DISCUSSION

Based on BPNT, the aim of the present study was to examine the mediational role of the needs satisfaction and thwarting in the relation between the perceived coaching interpersonal style and the well-being, and to examine the invariance of the sequence defended by BPNT over two consecutive soccer seasons. Following these objectives, our findings provided a general support to the BPNT in both seasons and its invariance over time.

The results obtained in our study supported the mediation of basic psychological needs satisfaction in the relation between perceived coach autonomy supportive style and athletes’ self-esteem and burnout, as well as the mediational role of basic psychological needs thwarting in the relation between perceived coach autonomy supportive and

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controlling style and the athletes’ self-esteem and burnout. Regarding needs satisfaction, previous studies examining different indices of well- and ill-being have shown similar results, supporting the mediation of needs satisfaction between perceived coach autonomy supportive style and athletes’ life satisfaction and subjective vitality (1, 6, 25) and athletes’ and dancers’ burnout (6, 31). On other hand, our results about the mediational role of needs thwarting were in line with the results presented by Balaguer and colleagues (6), which supported the mediation of needs thwarting between perceived coach autonomy supportive and controlling style and athletes’ burnout.

In congruence with the theory, these results provide support to the important role of basic psychological needs and emphasize that the satisfaction of basic psychological needs for competence, autonomy and relatedness constitutes the central psychological process through which well-being is more likely to enhance and ill-being to decrease, whereas the opposite occurs with needs thwarting. In this sense, our results suggest that the young soccer players will have a higher self-esteem and will experience less emotional and physical exhaustion from their sport participation when their coaches present an autonomy supportive interpersonal style, which helps satisfying the athletes’ needs and avoids thwarting them.

Finally, this study provides evidence for the generalization of BPNT supporting the sequence social context – basic psychological needs – well-ill-being over four time points in two consecutive seasons in a youth soccer context. Our results confirmed the invariance over time of the relation between perceived coach autonomy supportive style and athletes’ needs satisfaction (positively) and thwarting (negatively), and between perceived coach controlling style and athletes’ needs thwarting (positively). As well as the invariance of the relation between athletes’ needs satisfaction and self-esteem.
(positively) and burnout (negatively), and between needs thwarting and self-esteem (negatively) and burnout (positively).

Overall, these results extend the existent sport-scientific literature by testing the invariance of a BPNT-based model within a young soccer players’ sample over two competitive seasons. Although the universality and persistence of this BPNT sequence may have been expected by taking into account previous cross-sectional and longitudinal studies (6, 7) conducted in the sport domain, we are aware that if the assumption of longitudinal invariance is not confirmed by a solid analytic strategy, the validity of any conclusion steaming from comparisons of manifest scale scores over time is compromised (37).

Future studies could explore the lack of a negative relation between the perceived coach controlling interpersonal style and the needs satisfaction, and analyze why the perceived coach autonomy supportive interpersonal style may affect on the satisfaction and thwarting of basic psychological needs, whereas the perceived coach controlling style only intervenes on the thwarting of basic psychological needs. Further studies on these mechanisms are required to know if these patterns of relationships maintain similar.

Taking into consideration that the only study where a significant relation was found presented a within-person level longitudinal approach (7), researches could incorporate the use of this methodology as well as the use of a qualitative approach to go into detail about the implications of controlling behaviors in sport. It is also important to consider that players participate in teams or are involved in sport clubs with a concrete coaching philosophy that influences on the athletes’ experiences in sport. This clustering effect could be tested using a multi-level methodology, considering team and individual level variables, to better understand the way in which all socio- and psychological variables interact in the real context.
In terms of the limitations of this study, attention has to be given to the fact that the sample is made up only of young male grassroots soccer players and it would be worthy that future sport psychology studies confirm the maintenance of these relationships in both genders, in a wider sample of ages and also within different sports. In addition to this, all the information of the study is obtained through self-reported measures. So, future sport psychology studies could try to include the use of some objective measures, as it could be the case of observational measures of the coach interpersonal style.

PRACTICAL APPLICATIONS

From an applied perspective the results of the present study show that coach behaviors hold important implications to facilitate athletes’ optimal psychological functioning and emphasize the importance of promoting autonomy supportive atmospheres and avoid controlling styles. Specifically, the findings underline that when coaches adopt an autonomy supportive style they are more likely to enhance their athletes’ self-esteem and reduce their burnout through the support of their feelings of competence, autonomy, and relatedness. Thus, we found strong empirical evidence showing that it is important that athletes feel understood and valued by their coaches, and that they are provided with choices and options that are enjoyable and significant for them. Coaches are also encourage to support the development of players’ confidence in their ability to do things well in training and matches, encouraging the athletes to ask questions regarding the activities in which they participate and trying to answer these questions fully and carefully. It also seems essential that coaches make the effort to understand how athletes feel about soccer and that they try to make sure that athletes understand the goals of the activities in which they participate.

On the other hand, results also emphasize that it is important that coaches avoid using
controlling behaviors, as these behaviors actively frustrate athletes’ psychological needs and they consequently experience lower self-esteem and higher burnout. To prevent being controlling it is essential that coaches avoid using rewards in a controlling way, as for example motivating their athletes by promising rewards if they do well, or giving rewards only to make them train harder. Coaches should neither use regards in a negative conditional way, this is, they should try to avoid withholding their love, their attention and their affection when the athletes do not behave in the desired way. Similarly, coaches are encouraged to avoid becoming less friendly with the athletes when they don’t make the effort to see things in the way the coach sees them, or being less supportive when the athletes are not training or playing well. It is also essential that the coaches avoid intimidating and exerting an excessive personal control on their athletes. They can achieve this if they avoid shouting at them in front of others or threatening them with the aim of forcing them to do certain things, inside or outside the pitches.

The use of these autonomy supportive behaviors and the avoidance of the mentioned controlling behaviors offer a greater scope of strategies to sport and conditioning training programs which may facilitate the athletes’ implication in their training sessions and matches as well as in their performance (11). Therefore, coaches could profit assisting to specific training or educational programs based on key principles of BPNT, where they can learn more practical examples of what coaches can do or say to promote more autonomy supportive environments and to avoid controlling atmospheres (19).

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Table and Figures Legends

Table 1. Descriptive statistics and differences between times in all the study variables.

Figure 1. Hypothesized structural model of the associations between perceived autonomy supportive and controlling style, needs satisfaction and thwarting, self-esteem and burnout.

Figure 2. Structural equation model of the associations between perceived autonomy supportive and controlling style, needs satisfaction and thwarting, self-esteem and burnout in the first season with Time 2 values (end of season) controlling for corresponding Time 1 values (beginning season), and in the second season with Time 4 values (end of season) controlling for corresponding Time 3 values (beginning season).

Figure 3. Structural model of the model invariance of the associations between perceived autonomy supportive and controlling style, needs satisfaction and thwarting, self-esteem and burnout over the two consecutive soccer seasons.
Table 1

*Descriptive statistics and differences between times in all the study variables*

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Figure 1. Hypothesized structural model of the associations between perceived autonomy supportive and controlling style, needs satisfaction and thwarting, self-esteem and burnout.
Figure 2. Structural equation model of the associations between perceived autonomy supportive and controlling style, needs satisfaction and thwarting, self-esteem and burnout in the first season with Time 2 values (end of season) controlling for corresponding Time 1 values (beginning season), and in the second season with Time 4 values (end of season) controlling for corresponding Time 3 values (beginning season).

Note: **p < .01; * p < .05. Values before the slash correspond to the first season and after it correspond to the second season.
Figure 3. Structural model of the model invariance of the associations between perceived autonomy supportive and controlling style, needs satisfaction and thwarting, self-esteem and burnout over the two consecutive soccer seasons. Note: ** p < .01; * p < .05