



# Can personal values moderate players' affective states?

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## Abstract

Based on self-determination theory and Schwartz's refined theory of basic individual values, the aim of the study was to examine whether adolescents' personal values might be moderating the relationship between coaches' perceptions of interpersonal styles, and the affect they experience in relation to their basketball practice. A sample of 233 Spanish male basketball players between 13 and 14 years of age ( $M = 13.97$ ,  $SD = 0.18$ ) who were participating in a national competition were assessed. The Spanish versions of the Sport Climate Questionnaire (SCQ), the Controlling Coach Behaviors Scale (CCBS), the Portrait Values Questionnaire-Revised (PVQ-R) and the Positive and Negative Affect Scale (PANAS) were used to measure the variables of interest. Results reveal that for players who prioritize self-enhancement values, perceiving their coach as autonomy-supportive significantly reduces their negative affect. Moreover, prioritizing self-transcendence values neutralizes the positive effect of a controlling style on negative affect. This study highlights the relevance of identifying personal values in order to enhance positive affective states. Furthermore, it emphasizes the importance for coaches to work using more autonomy-supportive strategies and avoid working with the use of controlling behaviors to promote positive affect and to prevent negative affect in order to avoid possible dropout from the sport.

**Keywords** Coach interpersonal style · Values · Affective states · Adolescence · Male

## Introduction

There is no doubt about the important role that sport plays in the physical and psychosocial development of young people, both in providing opportunities to be physically active, with the repercussions that the practice of physical activity has on health and in transmitting personal values that can be extrapolated to other areas of life beyond sport (Bean & Forneris, 2016; Whitehead et al., 2013). The latest survey on the sporting habits of Spaniards in the population over 15 years of age (Ministry of Culture and Sport, 2021) shows

that 80.1% of the total population surveyed between 15 and 24 years of age played sport in the last year, which points to sport and physical exercise as one of the favorite activities for leisure time, both recreational and educational.

However, it is known that the experience of sport practice can be lived in a positive or negative manner. That is, sport contexts entail positive or negative experiences, which will affect the perception that the young player has of sport. Among these factors, the figure of the coach and the way he or she interacts with the athletes will condition the young players' sports experience, affecting their mood, as well as promoting or undermining the quality of motivation and well-being (Ryan & Deci, 2017). In sum, it is postulated that the social context surrounding the athletes has an important influence on the way in which they experience their sport participation. A positive experience will contribute to their well-being but a negative experience will favor their ill-being (e.g., Álvarez et al., 2021; González et al., 2017). A question to be answered would be: Could personal values be influencing how the sport is experienced?

In this vein, this paper aims to examine some antecedents of athletes' well-being vs. ill-being, focusing on the role of the athletes' personal values, considering whether they can

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mitigate the effects that the relationship with the coach may have on athletes' affective states.

The balance between positive and negative affect (Watson et al., 1988) has been one of the most frequently used indicators in research with young athletes to assess well-being versus ill-being (e.g., Adell et al., 2019b; Mars et al., 2017). In this study, we will use positive affect as an indicator of well-being and negative affect as an indicator of ill-being. Positive affect reflects the degree to which a person feels excited, active and alert, whereas negative affect reflects the degree to which a person experiences a variety of aversive emotional states such as feeling distressed, irritated or nervous (Watson et al., 1988).

## Theoretical background

One theoretical framework that explains the factors that make it easier or harder for an athlete to experience well-being is the self-determination theory (Ryan & Deci, 2017). The self-determination theory framework defends that in the social context, behaviors of significant others (e.g., coaches, parents, peers) can be either autonomy-supportive or controlling (Vallerand & Losier, 1999). In the sport context, in an autonomy-supportive interpersonal style, the coach attends to and supports his/her athletes' initiatives, creates the environment for the athlete to experience volition, choice and personal development, and explains to his/her athletes why he/she asks them to do certain things (Mageau & Vallerand, 2003). In contrast, in a controlling interpersonal style, the coach acts in a coercive and authoritarian manner, imposing his/her way of thinking, intimidating and humiliating his/her athletes (Bartholomew et al., 2010). Scientific evidence points towards coaches who exhibit autonomy-supportive interpersonal styles promoting their athletes' well-being (e.g., Balaguer et al., 2012; González et al., 2015), and coaches who exhibit controlling interpersonal styles promoting athletes' experiences of ill-being (e.g., Álvarez et al., 2021; Balaguer et al., 2012; Bartholomew et al., 2011; Mars et al., 2017).

Regarding the specific relationship between interpersonal styles and the affective states used in this study (i.e. positive and negative affect), we found previous empirical evidence indicating that the perception of an autonomy-supportive interpersonal style is positively related to athletes' positive affect (e.g., Cronin & Allen, 2018). In contrast, a controlling interpersonal style is associated with a significant increase in negative affect in young athletes (e.g., Mars et al., 2017). It would be interesting to understand possible moderating mechanisms that could explain these relationships in order to further promote optimal experiences in sport.

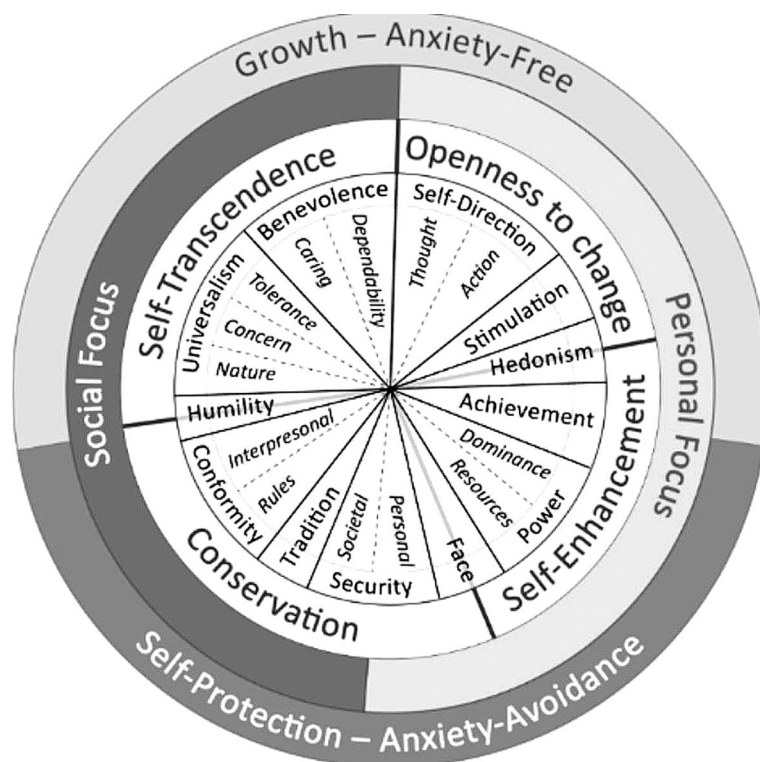
An important variable that relates to an individual's well-being is his/her personal values (Boer, 2017; Schwartz & Sortheix, 2018; Sortheix & Schwartz, 2017). Schwartz (1992) defines personal values as abstract, desirable goals that are relatively stable across time and different situations, and that serve as guiding principles for people's lives. In the refined basic values theory (Schwartz, 2017) it is proposed that there are 19 types of basic values, which are common to all cultures and which are organized in a circular structure (see Fig. 1).

The basic values proposed are related to each other in such a way that values close in the structure are compatible with each other (e.g., power and hedonism) while values further away in the structure (e.g., power and universalism) are in conflict (Schwartz, 1992). Furthermore, the theory proposes that core values are organized in two bipolar higher-order dimensions: openness to change vs. conservation and self-transcendence vs. self-enhancement. People who prioritize openness to change values in their lives are interested in independence in their own decisions and in the search for new experiences and sensations, while those who prioritize conservation values are interested in ensuring that security and stability prevail in their lives. On the other hand, people who prioritize self-transcendence values prioritize the well-being of the people around them over their own, while people who prioritize self-enhancement values are interested in personal achievement and in having control over other people and resources (Schwartz, 1992).

A priori, one would expect personal values to be positively related to well-being in a direct way, as people make efforts to satisfy the goals implied by their personal values, and this would lead to affective experiences that increase well-being (Boer, 2017). In general, studies show a positive relationship between the dimensions of openness to change and self-transcendence with well-being (Bobowik et al., 2011; Haslam et al., 2009), although there are also studies that relate the values of self-enhancement and conservation to well-being in samples with certain cultural or environmental characteristics. For example, Joshanloo and Ghaedi (2009) with a sample of Iranian subjects found a positive relationship between the core values of achievement (value belonging to self-enhancement) and tradition (value belonging to conservation) and well-being, whereas the values of openness to change were not significantly related to well-being, as would be expected with samples of subjects from Western countries (e.g., Bobowik et al., 2011).

For Sortheix and Schwartz (2017), the very dynamic organization of values in the circular structure (Schwartz, 2010, 2017) must be considered to generate hypotheses about the relationship between personal values and well-being, with the characteristics social focus vs. personal focus, and growth anxiety-free vs. self-protection-anxiety

**Fig. 1** The circular motivational continuum of 19 values in the refined basic values theory (from Schwartz, 2017)



avoidance, influencing the relationship between values and well-being. The personal focus (self-enhancement and openness to change) regulates how the individual's personal characteristics and interests are expressed, while the social focus (self-transcendence and conservation) regulates how the person relates socially to others and how it affects them. Growth values (self-transcendence and openness to change) express anxiety-free values, self-expansion and intrinsic motivation, while self-protection values (self-enhancement and conservation) express values based on anxiety, self-protection against threats, and extrinsic motivation (Schwartz, 2010). Sortheix and Schwartz (2017) suggested that values with a growth orientation (self-transcendence and openness to change) may promote well-being, while values with a self-protection orientation (self-enhancement and conservation) may be linked to poorer well-being. Nevertheless, if we considered the characteristics social focus vs. personal focus, conservation (social focus and self-protection) would be linked to poorer well-being and openness to change (personal focus and self-growth) to higher well-being. However, self-transcendence (social focus and self-growth) and self-enhancement (personal focus and self-protection) may show more complex patterns. This may be because people's striving towards the fulfilment of their personal values leads to affective experiences that have an impact on well-being (Boer, 2017).

In the face of such evidence, researchers propose different alternatives in the relationship between personal values

and well-being. For example, Boer (2017) suggests that culture and environmental context someone is situated in may be influencing the relationship between values and well-being. Similarly, Schwartz and Sortheix (2018) propose that the relationship between personal values and well-being can be posited from three different approaches: (1) There might be a direct relationship between the content of prioritized values and well-being (e.g., Sagiv & Schwartz, 2000; Sortheix & Schwartz, 2017); (2) there is congruence between the values of the context and the personal values prioritized by the subject, which would favor well-being (e.g., Boer, 2017; Sagiv & Schwartz, 2000; Sortheix & Lönnqvist, 2015); and (3) the goals achieved are related to the person's values and motivations for achieving them, which would enhance well-being (e.g., Oishi et al., 1999). In this paper, we are interested in the second approach which proposes that it will be the interaction between context and values that will influence well-being.

Self-transcendence vs. self-enhancement has been shown, in previous studies conducted with athletes during formative years, to be an antecedent of adaptive and maladaptive (respectively) consequences to a greater extent than the dimension openness to change vs. conservation, where no significant results were found (e.g., Adell et al., 2019a, b; Balaguer et al., 2013; Castillo et al., 2018). Specifically, with basketball players, and in line with studies conducted in other contexts (Bobowik et al., 2011; Boer & Fischer, 2013; Danioni & Barni, 2017), the dimensions of

self-transcendence and conservation were healthier values due to the effects they have on more adaptive responses and the opposite occurred with self-enhancement and openness to change (Adell et al., 2019a, b). For example, Adell et al. (2019a) found that self-transcendence values were associated with more adaptive motivational and personal patterns, whereas self-enhancement values were associated with less adaptive psychosocial patterns. Similarly, Adell et al. (2019b) reported that basketball players who prioritize self-enhancement values report less adaptive responses (e.g., less intention to continue playing basketball, lower vitality), whereas those who prioritize conservation values reported feeling more vital.

Regarding the relationship of personal values with positive and negative affect, Haslam et al. (2009) reported that while the value of tradition (belonging to conservation) was positively related to negative affect, the values of conformity and security (also belonging to conservation) were positively related to positive affect. The values of achievement (belonging to self-enhancement), benevolence and universalism (belonging to self-transcendence) were positively related to positive affect. Sagiv and Schwartz (2000) reported a positive relationship between openness to change values and positive affect. However, Sortheix and Lönnqvist (2015) found no direct relations between higher order value priorities and affective states (negative and positive affect). These authors suggested the importance of considering the social context when studying the relationship between personal values and well-being. Thus, one could hypothesize a possible interaction between social context and personal values in the prediction of well-being and ill-being.

According to Roccas and Sagiv (2010), the meaning of the behaviors (i.e., coaches' interpersonal styles) may differ considering the association between personal values and these behaviors. This leads us to consider the possible moderation of personal values when athletes interpret the coach autonomy-supportive or controlling interpersonal style behaviors and their possible effects on well-being and ill-being. That is, the interpersonal style used by the coach may be interpreted differently by the athlete based on his/her own personal values. Following Boer (2017), this is

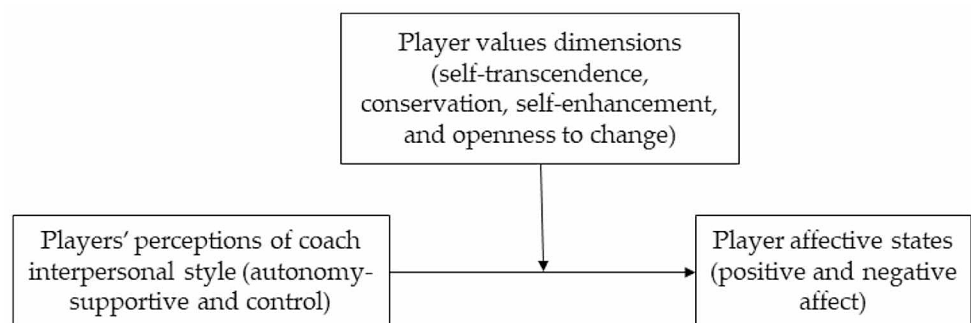
due to personal motivational forces that help people feel good within a given environment. That is, depending on the environment in which we are, different values will make us happy or lead us to take actions that make us feel positive about ourselves. Or vice versa, depending on the context, other values will make us feel uncomfortable or lead us to take actions that give us less positive feelings. In the statistical sense of “moderation”, this study wants to examine whether the association between the coach's interpersonal style and affective states changes as a function of the player's personal values. To our knowledge, no previous studies have examined this association.

## Purpose of the present study

Based on the self-determination theory (Ryan & Deci, 2017) and the Schwartz's refined basic values theory (Schwartz et al., 2012), considering that values are expressions of goals and derive from the subject's needs, and that environmental characteristics influence the experience of well-being, the aim of this study was to examine whether the personal values of basketball players moderate the relationship between the players' perceived interpersonal style of interacting with their coach, and the affect (positive and negative) they experience in relation to their basketball practice (see Fig. 2). In order to achieve this, the present work tested the following moderation model: perception of the coach interpersonal style (autonomy support and controlling style) as the independent variables, positive and negative affect as the outcomes and the four dimensions of values as the moderators. Therefore, 16 models were run, considering the combination of each coach interpersonal style, dimension of values, and affective state. For each model, the other coach interpersonal style and the other dimensions of values were introduced as control variables.

According to the literature, we hypothesize that, H1: the presence of self-transcendence and conservation dimensions (values with a social focus) will increase both the positive effect of autonomy-supportive interpersonal styles on positive affect, and the negative effect of autonomy-supportive

**Fig. 2** Study model: relationship between players' perception of coach interpersonal style and affective states moderated by player value dimensions



interpersonal styles on negative affect. H2: the presence of self-transcendence and conservation dimensions will reduce both the negative effect of controlling styles on positive affect, and the positive effect of controlling styles on negative affect. H3: the presence of self-enhancement and openness to change dimensions (values with a personal focus) will reduce both the positive effect of autonomy-supportive styles on positive affect, and the negative effect of autonomy-supportive styles on negative affect. And finally, H4: the presence of self-enhancement and openness to change dimensions will increase both the negative effect of controlling style on positive affect, and the positive effect of controlling style on negative affect.

## Method

### Participants

This cross-sectional study involved all basketball players ( $n=233$  male) aged between 13 and 14 years old ( $M=13.97$ ;  $SD=0.18$ ), that were participating in a national competition and all agreed to participate. The players trained between 3 and 6 days a week ( $M=3.80$ ;  $SD=0.58$ ), they spend between 5 and 18 h a week ( $M=10.53$ ;  $SD=2.59$ ) with their team, and they had a mean of 6.33 years of experience playing basketball ( $SD=2.19$ ). The only inclusion criterion for the study was participation in the competition, and all participants met this criterion without any exclusions.

### Instruments

Players' perceived coach's autonomy support was assessed with the short Spanish version (Balaguer et al., 2009) of the Sport Climate Questionnaire (SCQ; [www.selfdeterminationtheory.org](http://www.selfdeterminationtheory.org)). This scale is composed of 6 items starting with the stem "On my basketball team...", and rated on a 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 (e.g., Adie et al., 2008; González et al., 2017).

Players' perceived coach's controlling style was measured with the Spanish version (Castillo et al., 2014) of the Controlling Coach Behaviors Scale (CCBS; Bartholomew et al., 2010). The scale has 15 items into four sub-dimensions: controlling use of rewards (4 items), conditional regard (4 items), intimidation (4 items), and excessive personal control (3 items). Items start with the phrase "On my basketball team..." and are rated on a 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 this study, a composite measure of the coach controlling interpersonal style was created. Previous sport research has shown the internal consistency and predictive validity of this scale (e.g., Bartholomew et al., 2011; González et al., 2017).

The Spanish version (Castillo et al., 2018) of the 57-item Portrait Values Questionnaire-Revised (PVQ-R; Schwartz et al., 2012) was used to measure 19 human values of players. The items described a person in terms of what is important to him/her (gender-matched). The players were asked to answer the question "How much is this person like you... on a scale ranging from 1 (not like me at all) to 6 (very much like me). We combined the 19 values into four higher-order values (see Fig. 1). Self-transcendence combines universalism-nature, universalism-concern, universalism-tolerance, benevolence-care, and benevolence-dependability. Self-enhancement combines achievement, power-dominance, and power-resources. Openness to change combines self-direction-thought, self-direction-action, stimulation, and hedonism. Conservation combines security-personal, security-societal, tradition, conformity-rules, conformity-interpersonal, face and humility. Reliability and validity of this questionnaire have been provided previously (Castillo et al., 2018; Schwartz et al., 2012).

Players' affective states were assessed with the Spanish version (González et al., 2015; Mars et al., 2017) of the Positive and Negative Affect Scale (PANAS; Watson et al., 1988). The scale has 20 items tapping positive (10 items, e.g., active) and negative (10 items, e.g., distressed) affect. The items are preceded by the stem "In general, during the past few weeks, I have felt..." and rated on a Likert-type response scale ranging from 1 (not at all) to 5 (extremely). The validity and reliability of this scale has been provided in previous sport-based studies (e.g., González et al., 2015; Mars et al., 2017).

### Procedure

This study was approved by the ethical committee board (reference H1523110229495) of the University of Valencia, and was conducted in accordance with international ethical standards aligned with the guidelines of the American Psychological Association and the Declaration of Helsinki.

Once informed of the purpose of the study, the basketball players who wished to participate completed and returned consent forms, including paternal consent. Players were informed of their ethical rights, that their participation was anonymous and voluntary, and were reminded that they were not obliged to answer any uncomfortable questions, and that they could stop their participation in the study at any point. All instruments were administered in hotel rooms equipped

with tables and chairs and prior to a training session within 15–20 min in the absence of a coach, and always supervised by research assistants under non-distracting conditions.

## Data analysis

Descriptive, normality and reliability analyses were performed for the scales using the SPSS V.24.0 statistical software. Data distribution will be considered normal when the skewness and kurtosis indices range between  $-1$  and  $1$ . The internal consistency was evaluated using Cronbach's alpha, with values greater than  $0.70$  indicating good and acceptable reliability.

Confirmatory factor analyses (CFA) of the study instruments were performed using the LISREL 8.80 software (Jöreskog & Sörbom, 2006). We estimated parameters using the maximum likelihood estimator. Because the observed variables are of the ordinal type, the polychoric correlation matrix and the asymptotic covariance matrix were used as input for the CFA. The following fit indices were considered: Root Mean Square Error of Approximation (RMSEA); Comparative Fit Index (CFI); and Non-Normed Fit Index (NNFI). RMSEA values  $<0.08$ , CFI and NNFI values  $>0.90$ , indicate a reasonable model fit. A unidimensional factorial structure was established for the Sport Climate Questionnaire and for the Controlling Coach Behaviors Scale. Following the procedure proposed by Cieciuch and Schwartz (2012), four different CFA were carried out for each of the four types of categories of values, in order to evaluate the degree of distinction of the 19 values and their fit indices. Finally, a two-factor model was tested for Positive and Negative Affect Scale.

To determine whether the associations between perceptions of coaches' interpersonal style and the affective states was moderated by the value dimensions (see Fig. 2), we used the macro PROCESS (Hayes, 2013) selecting the model 1 for simple moderation and controlling the other coach's interpersonal style and the other three value dimensions. 16 models were run considering the combination of each dimension of values, coach's interpersonal style and affective state. To further interpret the interaction effects that showed to be statistically significant, we computed simple slopes for high and low values of the moderator (i.e., one *SD* above and below the sample mean) and plotted the corresponding regression lines.

According to Schwartz et al. (2012), we used value priorities to calculate descriptive statistics (means, standard deviations, and correlations) and regression analyses. This involved determining the significance of each value to each individual by centering their responses based on their personal mean. By doing so, we were able to account for individual response tendencies and the interrelation of values

within the circular structure, which reflects the expected compensation of opposing values. For all other analyses including CFA and internal consistency coefficients, we used uncentered responses.

## Results

### Confirmatory factor analysis, reliability, and descriptive statistics

The results of the one-factor model solution adequately fit the data for perceived coach autonomy supportive style (NNFI =  $0.95$ , CFI =  $0.96$ , RMSEA =  $0.05$ ), perceived coach controlling style (NNFI =  $0.96$ , CFI =  $0.97$ , RMSEA =  $0.05$ ), self-transcendence value (NNFI =  $0.95$ , CFI =  $0.96$ , RMSEA =  $0.08$ ), conservation value (NNFI =  $0.94$ , CFI =  $0.95$ , RMSEA =  $0.07$ ), self-enhancement value (NNFI =  $0.92$ , CFI =  $0.94$ , RMSEA =  $0.08$ ), and openness to change value (NNFI =  $0.95$ , CFI =  $0.96$ , RMSEA =  $0.05$ ). The two-factor model tested for the affective states scale show satisfactory goodness-of-fit-indices (NNFI =  $0.94$ , CFI =  $0.95$ , RMSEA =  $0.07$ ). The internal reliability coefficient for all the study variables are satisfactory (Cronbach's Alpha range =  $0.75$ – $0.87$ ) (see Table 1).

Table 1 shows means, standard deviations, skewness, kurtosis and reliabilities of the study variables. Players' responses show that perceptions of the coach's autonomy support, players' value dimensions (self-transcendence, conservation and openness to change), and positive affect are above the mean value of the questionnaire, while perceptions of the coach's controlling style, self-enhancement value dimension and negative affect are under the mean value. All the study variables follow a normal distribution, with skewness and kurtosis indices ranging from  $-0.68$  to  $0.96$  (see Table 1).

### Correlation analysis

The perception of coach's autonomy support is positively correlated with the conservation value and with positive affect, whereas this interpersonal style is negatively associated with self-enhancement value and with negative affect. Conversely, the perception of coach's controlling style is positively associated with self-enhancement value and negative affect, whereas this interpersonal style is negatively associated with self-transcendence value and positive affect. Conservation value is negatively associated with negative affect, whereas self-enhancement value is positively associated with negative affect (see Table 2).

**Table 1** Descriptive statistics and reliability of all the study variables (perceived coach interpersonal styles, value dimensions, and affective states) (N = 233 players)

|                         | Range | Mean | SD   | Alpha | Skewness | Kurtosis |
|-------------------------|-------|------|------|-------|----------|----------|
| Coach autonomy support  | 1–7   | 4.99 | 1.25 | 0.87  | –0.68    | –0.32    |
| Coach controlling style | 1–7   | 2.48 | 0.87 | 0.81  | 0.60     | 0.02     |
| Self-transcendence      | 1–6   | 4.78 | 0.59 | 0.81  | –0.41    | –0.28    |
| Conservation            | 1–6   | 4.30 | 0.67 | 0.85  | –0.21    | –0.14    |
| Self-enhancement        | 1–6   | 3.33 | 0.95 | 0.81  | –0.04    | –0.54    |
| Openness to change      | 1–6   | 4.97 | 0.53 | 0.75  | –0.51    | –0.39    |
| Positive affect         | 1–5   | 3.86 | 0.59 | 0.82  | –0.56    | 0.70     |
| Negative affect         | 1–5   | 1.92 | 0.62 | 0.81  | 0.96     | 0.92     |

Note: Means and SD for values reflect value priorities and are based on centring each player's responses around his/her mean for all 57 items and then adding the overall mean (4.4247) for all respondents to the same scale to restore the original scale. Alphas were computed using not centered responses

**Table 2** Correlations between the study variables (N = 233 players)

| Variable                   | 1       | 2      | 3       | 4       | 5      | 6     | 7     |
|----------------------------|---------|--------|---------|---------|--------|-------|-------|
| 1. Coach autonomy support  | –       |        |         |         |        |       |       |
| 2. Coach controlling style | –0.36** | –      |         |         |        |       |       |
| 3. Self-transcendence      | 0.11    | –0.15* | –       |         |        |       |       |
| 4. Conservation            | 0.15*   | –0.12  | –0.23** | –       |        |       |       |
| 5. Self-enhancement        | –0.19** | 0.24** | –0.59** | –0.45** | –      |       |       |
| 6. Openness to change      | –0.09   | 0.01   | –0.02   | –0.58** | –0.07  | –     |       |
| 7. Positive affect         | 0.26**  | –0.15* | –0.01   | 0.12    | –0.10  | –0.02 | –     |
| 8. Negative affect         | –0.18** | 0.27** | –0.12   | –0.13*  | 0.21** | 0.05  | –0.08 |

Note: \* $p < .05$ , \*\* $p < .01$ . Centered responses for each value dimension were used

**Table 3** Results testing moderation effects of value dimensions on the relationship between perceived coach autonomy support and affective states (N = 233 players)

|   | Positive affect | Negative affect |
|---|-----------------|-----------------|
| Coach autonomy support                      | 0.09**          | –0.03           |
| Self-transcendence                          | 0.05            | –0.10           |
| Coach autonomy support × self-transcendence | –0.05           | –0.02           |
| $R^2$                                       | 0.15**          | 0.12**          |
| Coach autonomy support                      | 0.09**          | –0.03           |
| Conservation                                | 0.16            | –0.09           |
| Coach autonomy support × conservation       | 0.03            | 0.01            |
| $R^2$                                       | 0.15**          | 0.12**          |
| Coach autonomy support                      | 0.09**          | –0.03           |
| Self-enhancement                            | –0.01           | 0.07            |
| Coach autonomy support × self-enhancement   | –0.05           | –0.07*          |
| $R^2$                                       | 0.16**          | 0.14**          |
| Coach autonomy support                      | 0.09**          | –0.03           |
| Openness to change                          | 0.20*           | –0.02           |
| Coach autonomy support × openness to change | –0.09           | 0.03            |
| $R^2$                                       | 0.16**          | 0.12**          |

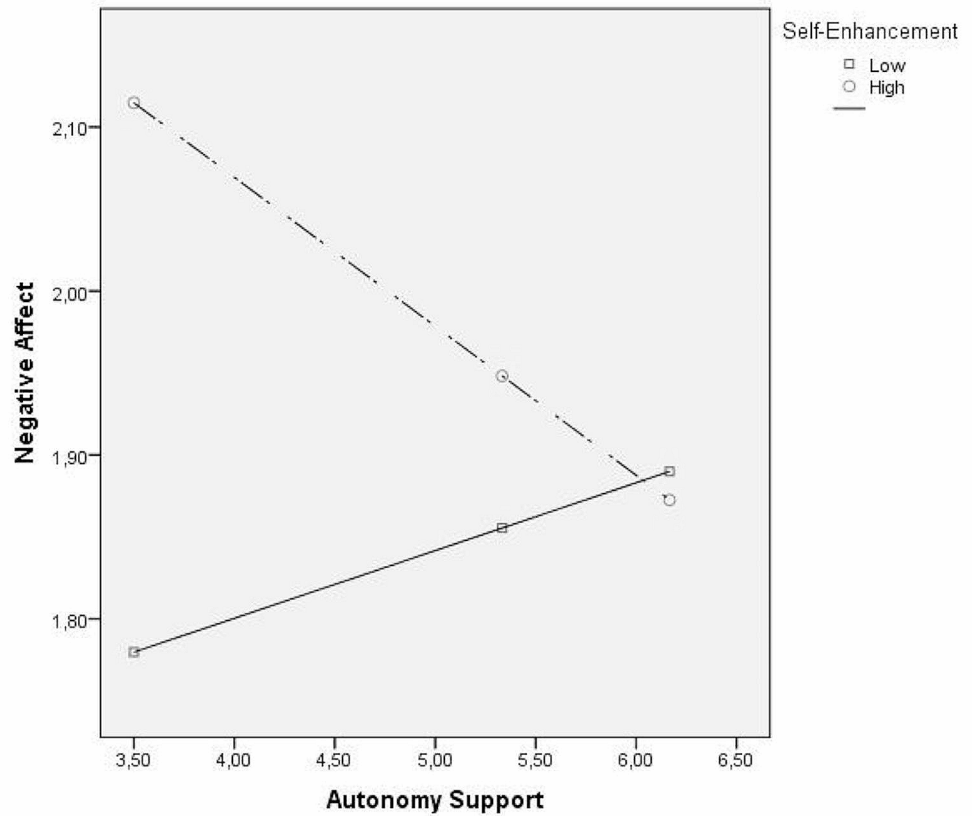
Note: Score-centered responses for each value dimension were used. \* $p < .05$ , \*\* $p < .01$

## Moderation effect

Table 3 shows the results of the moderation models when value dimensions act as moderators in the relationship between perception of the coach's autonomy support and affective states. Results indicate that both, perception of coach's autonomy support and openness to change value have a significant and positive association with positive affect. However, none of the value dimensions shows a moderator role in the relationship between perceptions of an autonomy supportive interpersonal style and positive affect. Regarding negative affect, only self-enhancement value shows to have a moderator role in the relationship between perceptions of coach's autonomy support and negative affect (see Table 3). Figure 3 shows that when self-enhancement value is low ( $-1 SD$ ) the relationship between perceptions of autonomy support and negative affect is not statistically significant (Effect = 0.04,  $p = .39$ ; LLCI =  $-0.05$ , ULCI = 0.14). However, when self-enhancement is high ( $+1 SD$ ) the aforementioned relationship is negative and statistically significant (Effect =  $-0.09$ ,  $p < .05$ ; LLCI =  $-0.18$ , ULCI =  $-0.01$ ).

Table 4 shows the results of the moderation model when the value dimensions act as moderators in the relationship between the perception of the coach's controlling interpersonal style and affective states. Results show that the perception of coach's controlling style has a significant and

**Fig. 3** Associations between autonomy support and negative affect as a function of self-enhancement value. *Note:* When self-enhancement value is low the relationship between autonomy-supportive style and negative affects is not significant ( $p = .39$ )



**Table 4** Results testing the moderation effects of value dimensions on the relationship between perceived coach controlling style and affective states (N=233 players)

|  | Positive affect | Negative affect |
|--|-----------------|-----------------|
| Coach controlling style                      | -0.02           | 0.16**          |
| Self-transcendence                           | 0.05            | -0.09           |
| Coach controlling style × self-transcendence | 0.01            | -0.15*          |
| $R^2$  | 0.15**          | 0.14**          |
| Coach controlling style                      | -0.02           | 0.16**          |
| Conservation                                 | 0.11            | -0.09           |
| Coach controlling style × conservation       | 0.01            | -0.11           |
| $R^2$  | 0.15**          | 0.13**          |
| Coach controlling style                      | -0.02           | 0.15**          |
| Self-enhancement                             | -0.01           | 0.07            |
| Coach controlling style × self-enhancement   | -0.02           | 0.01            |
| $R^2$  | 0.15**          | 0.12**          |
| Coach controlling style                      | -0.02           | 0.15**          |
| Openness to change                           | 0.19*           | -0.02           |
| Coach controlling style × openness to change | 0.13            | 0.01            |
| $R^2$  | 0.16**          | 0.12**          |

*Note:* Score-centered responses for each value dimension were used. \* $p < .05$ , \*\* $p < .01$

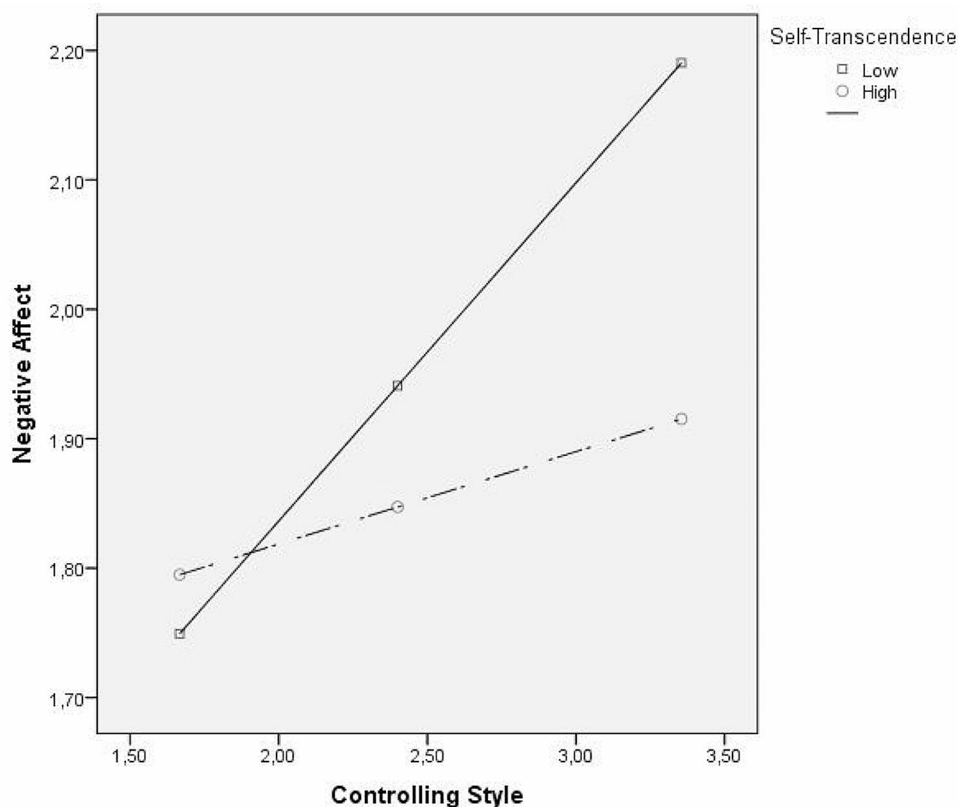
positive association with negative affect, whereas openness to change value has a significant and positive association with positive affect. Results indicate that none of the value dimensions moderates the relationship between perception of controlling interpersonal style provided by the coach and positive affect. Regarding the relationship between perceptions of controlling interpersonal style and negative affect, only self-transcendence value plays a significant moderator role (see Table 4). Figure 4 shows that when self-transcendence value is low ( $-1 SD$ ) the relationship between coach controlling style and negative affect is positive and statistically significant (Effect = 0.26,  $p < .01$ ; LLCI = 0.12, ULCI = 0.40). However, when self-transcendence is high ( $+1 SD$ ) the aforementioned relationship is not significant (Effect = 0.07,  $p = .26$ ; LLCI = -0.05, ULCI = 0.19).

### Discussion

Based on the self-determination theory (Ryan & Deci, 2017) and the refined theory of basic individual values (Schwartz et al., 2012), and considering that the interaction between environmental characteristics and values will influence the experience of well-being, this study examines in a sample of 233 male basketball players whether the personal values might be moderating the relationship between the players'



**Fig. 4** Associations between coach controlling style and negative affect as a function of self-transcendence value. *Note:* When self-transcendence value is high the relationship between controlling style and negative affects is not significant ( $p = .26$ )



perceived interpersonal style of their coach (autonomy support and controlling style) and the affect (positive and negative) they experience in relation to their basketball practice.

Results indicate that perception of coach's autonomy support is positively associated with positive affect. Moreover, the growth and personal focus value openness to change has a significant and positive association with positive affect. However, only self-enhancement value (a self-protective and personal focus value) plays a moderator role in the relationship between perceptions of coach autonomy supportive interpersonal style and negative affect. Results show that for players with a high value of self-enhancement, the perception of a high style of autonomy support provided by their coach significantly reduces their negative affect. Specifically, players who held a high value on self-enhancement show high values on negative affect when they have a low perception of autonomy support from their coach. However, if they perceive a high autonomy-supportive style, their negative affect is lower. Conversely, when the value of self-enhancement is low, the relationship between autonomy support and negative affect is not significant. These results suggest that although the modulating effect of self-promotion is significant, the relationship established is not the one hypothesized, and therefore H3 is not supported.

Self-enhancement values (i.e., power and achievement) emphasize authority and control over people and resources.

Sortheix and Schwartz (2017) characterize these values as personally oriented, and to self-protection. Self-enhancement values could be facilitators of well-being if the context facilitates the achievement of personal goals. This is precisely what might be happening with the players in this study. If the autonomy-supportive context facilitates the achievement of players with a high value of self-enhancement, the negative relationship between autonomy support and negative affect will be reinforced. Although the scientific literature provides evidence that the more people prioritize material aspects (i.e., power, image, and status) in their lives, the lower their well-being is going to be (Adell et al., 2019b; Wang et al., 2017), an autonomy-supportive context could facilitate the well-being of players with high self-enhancement values as long as this context satisfies the achievement of their personal goals.

Results also show that the perception of coach's controlling style has a significant and positive association with negative affect, whereas the value openness to change (a healthy value) has a significant and positive association with positive affect. We obtain partial support for H2, as the relationship between perception of controlling interpersonal style provided by the coach and negative affect is significantly moderated by self-transcendence value (a healthy value). Specifically, self-transcendence value is a protective factor as it buffered the positive relationship between coach

controlling style and negative affect. Players who held a low value on self-transcendence show a positive relationship between perceived coach controlling style and negative affect. However, for those who held a high value on self-transcendence, the perception of coach controlling style is not associated with negative affect. Self-transcendence values (universalism and benevolence) have been associated with more adaptive motivational and personal patterns, being one of the most endorsed and most adaptive values in adolescence (e.g., Ungvary et al., 2017). In addition, this study provides some evidence about how values relate to emotions in adolescents.

There are previous studies that have explained the associations between values and well-being (e.g., Bobowik et al., 2011; Haslam et al., 2009; Sorthaix & Schwartz, 2017), and between players' perceptions of the coaches' interpersonal style (autonomy supportive and controlling) and well-being in the sport context (e.g., Álvarez et al., 2021; Balaguer et al., 2012; González et al., 2015; Mars et al., 2017). However, as far as we know, this is the first study that examines the moderator role of values dimensions in the relationship between players' perceptions of the coaches' interpersonal style (autonomy supportive and controlling) and affective states (positive and negative affect).

This study extends previous findings on the associations between values and well-being by suggesting that this association is also evident in young basketball players. Holding high values that promote the welfare and acceptance of close and distant others (i.e., self-transcendence values) neutralizes the effect that a controlling style (i.e., an unfavorable interpersonal style) can have on negative affect. Moreover, holding high self-enhancement values such as power dominance and power resources reinforces the effect that an autonomy-supportive style (i.e., a favorable interpersonal style) could have on negative affect. That is, the higher the player's value of self-enhancement the more likely they are to have negative affect, but the opposite will be true if they perceive their coach as using an autonomy-supportive style. This reinforces the importance of this interpersonal style widely noted in the literature (e.g., Álvarez et al., 2021; González et al., 2015).

The present study suggests some practical implications for coaches and educators. First, since personal values can moderate players' experiences of well- and ill-being, it is important to identify which values are important to players. Second, training programs for coaches should consider the recognition of their interpersonal style and the consequences that perception of this interpersonal style may have on their players' experiences in the sport setting.

Some limitations must be considered when interpreting the results. We cannot establish any causal relationships based on our data because of the cross-sectional design.

Instead, the results should be considered as evidence of potential pathways that require longitudinal investigation. The sample was unbalanced in terms of gender and sport because it was limited to basketball and males so females were not represented. Further research is needed to extend the generalizability of these results to other sport and to both genders. Moreover, further studies are needed to investigate other potential moderators, in addition to personal values, when examining the associations between environmental characteristics and the players' experience of well/ill-being. For example, the grit personality defined as perseverance and passion for long-term (Duckworth et al., 2007). For example, grit has been linked to higher well-being and healthy behaviors (e.g., Marentes-Castillo et al., 2022).

Despite the limitations, the results of this study contribute to the literature by providing information on the critical role of values in the relationship between the interpersonal style that the coach used in the relationship with his/her players and affective states using a sample of basketball players, thus extending previous research suggesting that personal values can be considered an important influence on how the sport is experienced, underlining the relevant role of coaches in their relationship with their adolescent athletes.

**Author contributions** I. C. and F.L.A. conducted material preparation and data collection, while all authors were involved in the design and analysis of the study data. The initial draft of the manuscript was written by I.C. and I.T., with comments and revisions provided by all authors. Finally, the final version of the manuscript was read and approved by all authors.

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**Data availability** The data that support the findings of this study are available on request from the corresponding author.

## Declarations

**Ethics approval** This study was approved by the ethical committee board (reference H1523110229495) of the University of Valencia (Spain), and was conducted in accordance with international ethical standards aligned with the guidelines of the American Psychological Association and the Declaration of Helsinki.

**Consent to participate** Written informed consent was obtained from all subjects involved in the study, and parental consent was obtained for players under 16 years of age, in accordance with current Spanish legislation.

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