

## What could explain the psychological well-being and performance of young athletes? The role of social safeness and self-criticism

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**Abstract:** Literature has highlighted that it is important to explore factors that may contribute to athletes' well-being and also to sports performance, especially in young athletes. This study aimed to test a model that hypothesized that athlete-related social safeness (feelings of belonging to the team) has an effect on the psychological well-being and performance through self-criticism.

This study sample comprised 164 Portuguese adolescent athletes of both genders, who practiced different sports.

The path analysis results confirmed the proposed model's adequacy, which explained 52% and 28% of the variance of the psychological well-being and performance, respectively. Results demonstrated that athletes who presented higher social safeness levels tend to reveal higher levels of psychological well-being and perceived performance through lower levels of self-criticism.

These novel findings suggest the importance of adopting supportive and safe relationships between teammates due to their positive association with athletes' mental health and performance.

**Keywords:** Psychological well-being, Sports performance, Self-criticism, Social safeness, Young athletes.

### Introduction

Despite the fact that athletes are, by designation, sport performers, they are basically human beings whose physical, mental, and social health is mirrored in their well-being and ill-health (Giles et al., 2020). Well-being and mental health are a key component of the development and performance of athletes (Schinke et al., 2018). In fact, athletes' mental health and well-being has received increased attention in the sports community (Chang et al., 2020; Giles et al., 2020; Oliveira et al., 2022; Rice et al., 2016), and literature has highlighted that it is important to explore factors that may influence their mental health, well-being and performance (Poucher et al., 2019; Walton et al., 2019, especially in young athletes (Gama et al., 2021; Swan et al., 2018). When it comes to the psychological benefits of sports involvement, athletes often gain a variety of psychological abilities that contribute to increased self-esteem, motivation, and resilience, which assist not only their performance but also other aspects of their lives (Weinberg & Gould, 2019).

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Organized sports activities provide a social medium for athletes to interact, create relationships and teamwork, and foster a sense of belonging (e.g., Beauchamp & Eys, 2014). Sport participation, in contrast to these advantages, can undermine well-being of the athletes. For example, unsupportive environment, underperformance, and the emergence of maladaptive psychological symptoms and illnesses can all have a negative impact on mental health and well-being (Rice et al., 2016).

Therefore, a factor that has been identified as crucial for athletes' well-being and sports performance is the relationship with their teammates (e.g., Gavrilova et al., 2017). A study conducted by Gavrilova et al. (2017) demonstrated that support from teammates influences improvements in sports performance. Simultaneously, there is evidence that teammate's relationship is a crucial factor in an athletes' psychological adjustment (Donohue et al., 2007). For example, teammates' approval promotes the appropriate expression of emotions, global self-worth, and motivation to perform pro-social behaviours (Harter, 1999). According to the evolutionary perspective, these positive social interactions seem to stimulate the affiliation system, promoting feelings of connectedness, sense of soothing, and social safeness (e.g., Depue & Morrone-Strupinsky, 2005; Gilbert, 2010).

Social safeness is considered an emotional experience characterized by feelings of warmth, connectedness, and acceptance within interpersonal relations (Gilbert et al., 2009). In this sense, when someone perceives their social world as safe, warm, and soothing, they tend to manage problems and challenging events more effectively and act more adaptively (Gilbert, 2005; Gilbert et al., 2009). In contrast, individuals who do not feel safe in their social contexts and perceive others as unsafe or threatening need to stay vigilant and be ready to engage in defensive responses (Gilbert, 2005). Indeed, social safeness has been negatively associated with several psychopathological indicators, such as self-criticism (Kelly et al., 2012).

Self-criticism is an emotional regulation process regarding how people relate to themselves when they fail or make mistakes (Gilbert et al., 2004). Self-criticism is defined as a type of negative self-judgment and self-scrutiny, where one displays a punitive response in face of one's errors, faults, or attributes that may origin rejection or social disapproval (Gilbert et al., 2004). Indeed, self-criticism may be understood as a strategy to cope with the shortcomings of an inferior or inadequate perceived self (Gilbert et al., 2004). In the sport context, it is common that athletes use self-scrutiny and self-criticism when they are faced with difficulties (Kowalski & Duckham, 2014). However, this constant and cruel self-to-self harassment has been linked to psychopathology (e.g., Gilbert et al., 2008). For example, a recent study conducted by Walton et al. (2020) revealed that self-criticism was a strong predictor of athletes' psychological distress. Self-criticism has empirical evidence of being associated with psychopathological indicators, such as anxiety and depression (e.g., Oliveira, Cunha et al., 2021), and lower levels of well-being in athletes (e.g., Oliveira, Rosado et al., 2021; Oliveira, Trindade et al., 2021).

Given the importance of quality of relationships between peers during adolescence (e.g., Crosnoe & Johnson, 2011), it may be essential to explore the effect of the relationship that athletes maintain with their teammates has on their mental health. Also, despite the fact that athletes tend to believe that self-criticism is necessary for success in sport (Ferguson et al., 2014), researchers have suggested that this response to failure can be counter-productive (Ferguson et al., 2015). This study adds to the existing literature by highlighting the associations among athletes' feelings of acceptance and connectedness in the relationship with their teammates (social safeness), self-criticism, psychological well-being, and perceived performance.

The current study aimed to test a comprehensive model that explores the effect of athletes' feelings of acceptance and connectedness in their relationship with their teammates (social safeness) on their psychological well-being and perceived performance. Additionally, it sought to analyze whether self-criticism significantly acts in these associations while controlling the effect

of the age of adolescent athletes. It was hypothesized that athletes' feelings of acceptance and connectedness in the relationship with their teammates (social safeness) might be associated with higher levels of psychological well-being and perceived performance through lower levels of self-criticism.

## Material and methods

### *Participants*

The sample of this study comprised 164 young athletes of both genders (94 males and 70 females) aged from 12 to 17 ( $M=14.39$ ;  $SD=1.29$ ), who presented a mean of years of education of 9.35 ( $SD=1.22$ ), and competed in different sports: volleyball (32.3%), basketball (22.6%), football (22.0%), rugby (12.2%), hockey (7.3%), futsal (2.4%), and handball (1.2%). In order to calculate the minimum sample size required for conducting test analyses, we followed the guidelines of Bentler and Chou (1987). Regarding competitive level, 34.1% of athletes competed at a district level, 32.9% at regional levels, and 32.9% at a national level. Athletes presented a mean of 5.25 ( $SD=1.43$ ) hours of training per week, and a mean of 5.23 ( $SD=3.30$ ) years of practice of the respective sport. No significant gender differences were found concerning age [ $t_{(162)}=1.14$ ,  $p=.255$ ], years of education [ $t_{(162)}=-.47$ ,  $p=.637$ ], and hours of training per week [ $t_{(162)}=-.97$ ,  $p=.334$ ]. However, gender differences were found concerning years of practice of the respective sport [ $t_{(162)}=6.85$ ,  $p<.001$ ], where boys presented more years of practice in comparison to girls.

### *Measures*

Participants reported demographic (gender, age, years of education) and sports data (the type of sport, level of competition, the number of hours of practice per week, years of practice of the respective sport), and completed the Portuguese validated versions of the following instruments:

*Social Safeness and Pleasure Scale – Athletes Version* (SSPS; Gilbert et al., 2009; Pinto-Gouveia et al., 2008); An adapted athlete version of the Social Safeness and Pleasure Scale (SSPS-AV) was used to measure participants' social safeness in the context of sport – athlete-related social safeness (sense of belonging, acceptance, and connectedness in their teammates' relationships). Regarding this version, only the instructions of the original scale were changed. The original SSPS is a self-report measure composed of 11 items designed to measure social safeness, i.e., the extent to which individuals feel a sense of acceptance and connectedness in their relationships. The response options are rated on a 5-point scale (1="Almost never" to 5="Almost all the time"). SSPS-AV has shown good internal consistency in the original and Portuguese versions ( $\alpha=.92$ ,  $\alpha=.91$ , respectively). In the presented study, the scale presented high internal consistency ( $\alpha=.93$ ).

*Forms of Self-Criticizing & Self-Reassuring Scale – Athletes version* (FSCRS-AV; Castilho et al., 2015; Gilbert et al., 2004). An adapted athletes version of the Forms of Self-Criticizing & Self-Reassuring Scale (FSCRS) was used to assess participants' critical and self-reassuring responses when confronted with failures or setbacks in the context of sport. Regarding the original version, only initial instructions were changed. FSCRS is a 22-item scale that comprises three subscales which measure: (1) inadequate-self, focused on feelings of inferiority and inadequacy; (2) hated-self, characterized by feelings of disgust and self-punishment; and (3) self-reassurance,

to assess the ability to self-reassure. Participants were asked to answer all items following the statement “When things go wrong for me...” on a 5-point scale (0=“Not at all like me” to 4=“Extremely like me”). All subscales presented good psychometric properties in the original version (Cronbach’s alphas ranged between .86 and .90) and the Portuguese version (Cronbach’s alphas ranged between .86 and .96). For the purpose of this study, only the self-criticism dimension (calculated from the sum of inadequate-self and hated-self subscales) was used, which presented a high internal consistency ( $\alpha=.91$ ).

*The KIDSCREEN-27* (Gaspar & Matos, 2008; The KIDSCREEN Group Europe, 2006). KIDSCREEN-27 is a self-reported instrument that evaluates the quality of life-related to health and chronic disease in children and adolescents aged 8-18. This scale comprised 27 items organized into five domains: (i) physical well-being; (ii) psychological well-being; (iii) autonomy and relationship with parents; (iv) social support and peer group; and (v) the school environment. Higher scores indicate better quality of life and well-being of children and adolescents in the respective dimension. Participants were asked to answer all items on a 5-point scale (1=“Never/not at all” to 5=“Always”), in respect to the last week. In the original and Portuguese versions, the scale presented adequate Cronbach alphas (values above .70). For this study, only the psychological well-being domain dimension was used, which presented an adequate internal consistency ( $\alpha=.79$ ).

*Sports Performance Perception Questionnaire* (QPRD; Lourenço et al., 2018). QPRD is a self-reported measure composed of 5 items that assess the perception that athletes made of their sports performance. Using a 5-point Likert scale (1=“Do not agree”; 5=“Totally agree”), participants rated which items are applied to them, indicating that higher scores designate a higher perception of performance. This measure revealed a good internal consistency in the original ( $\alpha=.88$ ) and in the present study ( $\alpha=.93$ ).

### *Procedures*

The current study respected all ethical and deontological requirements inherent to scientific research, therefore, the study was approved by the Ethical Board of the Faculty of Psychology and Education Sciences of the University of Coimbra.

The sample was recruited mainly by contacting a wide range of sports clubs. The first step was to contact, by e-mail or telephone, the clubs’ managers to inform them about the aims and procedures of the study and ascertain the possibility of data collection with their athletes. Each club provided interested participants and their legal tutors’ detailed information regarding this study (aims, procedures, and voluntary and confidential nature). Subsequently, written informed consent was obtained from all athletes’ legal tutors, and all athletes enrolled in the present study. The legal tutors of the young athletes provided an e-mail in order for the researcher to be able to send a link which would allow access to an online platform (*GoogleForms*) with the self-report questionnaires that would be answered by the young athletes. According to the aims of this study, the inclusion criteria were: (i) to practice a competitive sport; (ii) to be aged between 12 to 18; (iii) to have a Portuguese nationality. The self-report measures were completed by 171 athletes. However, four participants were excluded following the inclusion criteria.

### *Data analyses*

The software IBM SPSS Statistics 22.0 was used to conduct descriptive and correlation analyses. The values of Skewness (*Sk*) and kurtosis (*Ku*) were analyzed to test the normality of

the distribution of the study variables (Kline, 2005). The multivariate normality of the items was assessed by the Mahalanobis distance ( $D^2$ ) and statistically by Mardia's normalized estimate of multivariate kurtosis in the form of critical ratio of kurtosis in Amos. Critical ratio of kurtosis  $<5.0$  indicates multivariate normality (Byrne, 2010).

Student's  $t$ -tests were used to identify differences across gender in demographic variables. Pearson correlation coefficient analyses were performed to examine the associations between age, social safeness, self-criticism, psychological well-being, and perceived performance. These coefficients were interpreted in accordance with the guidelines of Cohen et al. (2003).

Therefore, AMOS software was used to examine the proposed theoretical model (Figure 1). In order to examine this model, we performed an SEM analysis. Since all instruments were properly validated, the total scores of all the instruments were used to represent each of the variables in the study. Therefore, we used Bentler and Chou's (1987) recommendations regarding the minimum sample size, and only considered latent variables. In accordance with Bentler and Chou's (1987) recommendations, the minimum sample size to conduct an SEM analysis will be calculated by multiplying the number of parameters of the theoretical model by five, if the data are perfectly well-behaved (i.e., normally distributed, no missing data or outlying cases). Taking into account that in our theoretical and saturated model we will obtain 20 parameters, in accordance with these authors we only need 100 subjects (20x5).

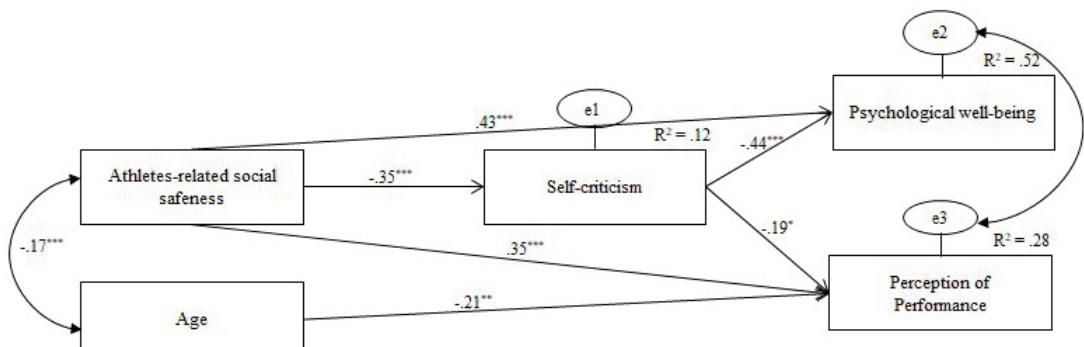


Figure 1. Final path model

Note. \*\*\* $p<.001$ ; \*\* $p<.005$ ; \* $p<.05$ .

This model tested the hypothesis that athlete-related social safeness (exogenous, independent variable) would present a significant effect on the psychological well-being and perceived performance (endogenous, dependent variables), through the mediational effects of self-criticism (endogenous, mediator variable). The effect of age was controlled. The maximum likelihood method was used for the estimation of the regression coefficients and fit statistics in the path model. The adequacy of the model was examined considering the following goodness of fit indices: Chi-square ( $\chi^2$ ), that when nonsignificant indicates a very good model fit; the normed Chi-square (CMIN/df), that indicates an acceptable fit when  $<5$ ; the Comparative Fit Index (CFI) and Tucker Lewis Index (TLI), which indicate a very good fit with values above .95; and the Root Mean Square Error of Approximation index (RMSEA), which indicates an adequate fit when values are  $<.08$  (Kline, 2005). The bootstrap procedure (with 5000 samples) was used to create 95% bias-corrected confidence intervals around the standardized estimates of the significance of total, direct, and indirect effects. The effect is statistically significant ( $p<.05$ ) if zero is not included between the lower and the upper bound of the 95 % bias-corrected confidence interval (Kline, 2005).

## Results

### Preliminary data analyses

The values of Skewness (*Sk*) and kurtosis (*Ku*) were analyzed to test the normality of the distribution of the study variables (Kline, 2005). The Skewness values ranged from -.75 to 1.00 (in the variable of psychological well-being and in the variable of self-criticism, respectively). At the same time, Kurtosis presented values ranged from -.62 to 1.11 (in Sports Performance Perception Questionnaire and in self-criticism dimension of Forms of Self-Criticizing & Self-Reassuring Scale, respectively), which indicates that data presented a normal distribution (Kline, 2005). Also, multivariate outliers were not detected, and the Mardia's coefficient of multivariate kurtosis in the sample was 4.26 showing multivariate normality.

### Descriptive analyses

The descriptive and correlations between the study variables are reported in Table 1.

Table 1

Means (*M*), Standard Deviations (*SD*), and correlations between the study variables (*N*=164)

	<i>M</i>	<i>SD</i>	1.	2.	3.	4.
1. Athlete-related Social safeness	45.99	7.44	-	-	-	-
2. Self-criticism	7.51	5.42	-.35***	-	-	-
3. Psychological well-being	4.14	.63	.59***	-.59***	-	-
4. Perceived Performance	3.33	.99	.45***	-.35***	.36***	-
5. Age	14.39	1.29	-.17*	.18*	-.16*	-.31***

Note. Athlete-related Social Safeness=Social Safeness and Pleasure Scale; Self-criticism=dimension of self-criticism of Forms of Self-Criticizing & Self-Reassuring Scale; Psychological well-being=psychological dimension of WHOQOL-bref; Perceived Performance=Sports Performance Perception Questionnaire.\**p*<.05; \*\*\**p*<.001.

### Correlations analyses

Results from correlation analyses are presented in Table 1 and showed that social safeness was negatively associated with self-criticism (with moderated magnitude) and positively associated with psychological well-being and perceived performance (with strong and moderated magnitudes, respectively). Self-criticism presented negative correlations with psychological quality of life and with perceived performance (with strong and moderated magnitudes, respectively). In turn, between the psychological well-being and perceived performance, a positive and moderated correlation was found. Age was negatively associated with social safeness, psychological well-being, and perceived performance, and positively associated with self-criticism.

### Path analyses

Path analyses were performed to explore the effect of athlete-related social safeness (SSPS\_AV) on psychological well-being and perceived performance (QPRD), through self-criticism (FSCRS\_self-criticism) while controlling the effect of age.

Firstly, the path model was tested through a saturated model (i.e., zero degrees of freedom), comprising 20 parameters. Therefore, in accordance with recommendations of Bentler and Chou (1987), the minimum sample size was 100 subjects (20x5).

Results indicated that two paths were not significant: the direct effect of age on psychological well-being ( $b_{age}=-.00$ ;  $SE_b=.03$ ;  $Z=-.11$ ;  $p=.911$ ), and the direct effect of age on self-criticism ( $b_{age}=.51$ ;  $SE_b=.31$ ;  $Z=1.65$ ;  $p=.098$ ). These paths were progressively eliminated and the model was readjusted.

The final model presented an excellent fit to the empirical data, as indicated by the analysis of well-known and recommended goodness of fit indices [ $\chi^2(3)=2.72$ ,  $p=.257$ , CMIN/DF=1.360; TLI=.981; CFI=.996; RMSEA=.047,  $p=.389$ ; 95% CI=.00 to .17] (Kline, 2005). This model, in which all path coefficients were statistically significant ( $p<.05$ ), explained 12%, 52%, and 28% of the variance of self-criticism, psychological well-being, and perceived performance, respectively.

Athlete-related social safeness had a significant direct effect of -.35 on self-criticism ( $b_{SSPS\_AV}=-.26$ ;  $SE_b=.05$ ;  $Z=-4.79$ ;  $p<.001$ ), of .43 on psychological well-being ( $b_{SSPS\_AV}=.04$ ;  $SE_b=.01$ ;  $Z=7.41$ ;  $p<.001$ ), and of .35 on perceived performance ( $b_{SSPS\_AV}=.05$ ;  $SE_b=.01$ ;  $Z=4.96$ ;  $p<.001$ ). Self-criticism had a significant direct effect of -.44 on psychological well-being ( $b_{FSCRS\_self-criticism}=-.05$ ;  $SE_b=.01$ ;  $Z=-7.60$ ;  $p<.001$ ), and of -.19 on perceived performance ( $b_{FSCRS\_self-criticism}=-.03$ ;  $SE_b=.01$ ;  $Z=-2.59$ ;  $p=.010$ ). Results also showed that age had a direct effect of -.21 on perceived performance ( $b_{age}=-.16$ ;  $SE_b=.05$ ;  $Z=-3.14$ ;  $p=.002$ ).

The analyses of indirect effects showed that athlete-related social safeness presented indirect effects through self-criticism on psychological well-being ( $\beta=-.16$ ; 95% CI=.08/.25) and on perceived performance ( $\beta=.07$ ; 95% CI=.01/.15).

Overall, this model accounted for 52% and for 28% of the variance of psychological well-being and perceived performance, respectively, and revealed that self-criticism mediates the effect of athlete-related social safeness on psychological well-being and perceived performance (see Figure 1).

## Discussion

Mental health, defined as a state of well-being in which people realize their capacities, can cope with the usual stresses of life, can work productively, and is able to make a contribution to their community (World Health Organization [WHO], 2004), is one of the most important aspects of an individual's well-being. As a result, it's important to remember that mental health isn't only the absence of mental illness; it's a continuum that extends from languishing to flourishing in life (Keyes, 2002, 2005). This important part of mental health and well-being has been recognized in the sporting world, which is increasingly encouraging mental wellness rather than just treating mental disease in athletes. Therefore, recent studies have highlighted the importance of exploring factors that may contribute to athletes' mental health, well-being, and performance (Giles et al., 2020; Poucher et al., 2019; Walton et al., 2019). Also, more emphasis in literature is necessary for youth sport where the potential of supporting mental health at an earlier age could have important effects later in life (Swan et al., 2018). This study is in accordance with these needs, exploring the relationship between social safeness (feelings of belonging and connecting to the team), self-criticism, performance, and psychological well-being in young athletes. Specifically, the current study's main aim was to test an integrative model that explored the effect of athletes' feelings of acceptance and connectedness in the relationship with their teammates (social safeness) on psychological well-being and perceived performance, as well as the mediating role of self-criticism in this association, while controlling the effect of age of adolescent athletes.

Correlational results demonstrated that feelings of belonging and connecting to the team (athlete-related social safeness) were negatively associated with self-criticism and positively linked with psychological well-being and perceived performance. These results are in accordance with

previous studies in other contexts. Feelings of affiliation (social safeness) have been positively linked with indicators of well-being (e.g., Gilbert et al., 2009; Kelly & Dupasquier, 2016) and negatively associated with psychopathological indicators (e.g., Gilbert et al., 2008; Kelly & Dupasquier, 2016). Moreover, in the current study, self-criticism presented a negative correlation with psychological well-being. This result follows a recent study conducted in adult athletes that demonstrated a negative association between self-criticism and well-being (Oliveira, Cunha et al., 2021). Thus, these data confirm the same relationship in a sample of adolescent athletes. In the present study, self-criticism also revealed a negative association with perceived performance, which is contrary to the findings found by Killham et al. (2018) that reported that self-criticism was not significantly related to athletes' perceived sport performance. There is the possibility that self-criticism was linked to perceived sport performance due to specificity differences in the measures and sample used in this study.

Self-criticism is a maladaptive emotional process where one displays a punitive response in face of one's errors, faults, or attributes that can be a source of rejection or social disapproval (Gilbert et al., 2004). In the context of sport, it is common that athletes use self-criticism when they are faced with troubles and difficulties (Kowalski & Duckham, 2014). However, this process revealed to be a strong predictor of psychological distress in athletes in other studies (e.g., Walton et al., 2020). Taking into account that literature has strongly associated psychological distress and perceived performance (Moen et al., 2019), it was expected for self-criticism to also present a negative association with perceived performance. Therefore, this study corroborated previous research and added new data to clinical sport psychology literature.

These relationships were further examined in the path analysis that hypothesized that athlete-related social safeness would have an effect on psychological health and perceived performance through lower levels of self-criticism. The proposed theoretical model explained 52% and 28% of the variance of athletes' psychological quality of life and perceived performance, respectively. This model suggests that young athletes who present higher levels of feelings of belonging and connecting to the team tend to present higher levels of psychological well-being and perception of better performance through lower levels of self-criticism. These results seem to contribute to explaining athletes' psychological well-being, since athletes' well-being has received special attention in literature (e.g., Chang et al., 2020), especially young athletes. Athletes deal with difficult events and experiences, such as injuries, getting benched, balancing commitments, losing a game (e.g., Galli & Vealey, 2008), and feeling accepted and connected to their teammates may contribute to dealing with these negative experiences. In fact, a recent study conducted by Frentz et al. (2020) demonstrated that support from teammates helped athletes to deal with difficult experiences in a more adaptive way, specifically, setbacks or injuries. In particular, this recent study explored how self-critical athletes have shifted to practically apply and integrate a more kind and understanding attitude toward themselves within competitive environments. It showed that support from teammates helped them in this shift (Frentz et al., 2020). In this sense, the current study corroborates previous data showing that feelings of acceptance and belonging in relationships with teammates have an effect on levels of self-criticism, but added new data to the literature exploring the relationship between these variables and psychological well-being and perceived performance, especially among young athletes. In fact, a direct effect of feelings of acceptance and belonging in the relationship with teammates on psychological well-being and perceived performance was found.

Nonetheless, these findings need to be interpreted taking into consideration some limitations. Although these data were supported by robust statistical analysis, its cross-sectional design does not allow for establishing causal conclusions. In this sense, longitudinal studies should be conducted to better understand the causal associations between the athlete-related social safeness, psychological well-being, and perceived performance, and how self-criticism may mediate these

associations. Moreover, the questionnaire protocol was exclusively composed of self-report instruments, which may present some bias (e.g., social desirability) that may compromise the data's validity. Future studies should combine self-reported data with data obtained in a more objective manner. In addition, the sample size of the current study is considered a limitation of this study. Therefore, future researches are needed to evaluate if these findings are replicable in higher samples in order to be able to carry out a full SEM. Finally, though this study's main objective was to specifically address the athlete-related social safeness effect on their psychological well-being and perceived performance, the parsimonious model examined in the present study is considered incomplete and could be explored in a different way. More precisely, the role of other potentially significant emotional processes (e.g., acceptance, attention to the present moment, and self-compassion) should be explored. On the other hand, it would be relevant to test the bidirectional relationship of athlete-related social safeness and self-criticism. This would mean testing an alternative model that hypothesizes self-criticism as an independent variable and athletes-related social safeness as a mediating variable, aiming to test the effect of self-criticism on feelings of acceptance and belonging in the relationship with teammates and their effects on psychological well-being and perceived performance. Furthermore, the sample size of this study does not allow testing an invariance model between boys ( $n=94$ ) and girls ( $n=70$ ), however in future studies it would be interesting to test this theoretical model exploring gender differences.

On the other hand, it is necessary to take into account that the sample of this study comprises only athletes who practice team sports, where the group factor is predominant in the study variables. Thus, it would be pertinent to test this model in a sample with athletes from individual and direct opposition sports. Thus, the generalization of the results in the sports context is limited to the characteristics of this sample. In fact, in team sports, interactions between players on the same side or team are crucial to the game's outcome (e.g., soccer, basketball, volleyball). In contrast, individual sports (e.g., swimming, running, and cycling) do not involve such interaction (Jones, 2013). Individual versus team sport participants have been studied to see if there are any changes in different aspects related to well-being and mental health. For example, in accordance with Pluhar et al. (2019) team sport athletes had positive experiences with coaching, skill development, and peer support which contribute to feelings of social acceptance and fewer negative outcomes among adolescents. This may have to do with the fact that in team sports, athletes are surrounded by other people to rely on and help pick you up after a mistake, while people in an individual sport only have themselves and may cause greater internal attribution (Pluhar et al., 2019). One of the ways to deal with the errors, mistakes, defeats, is through self-criticism, which is a maladaptive psychological process, which may explain these data. Therefore, it would be pertinent to test these differences between sports. However, the current study did not allow us to explore this, so future studies will be able to make this comparison.

The current study indicated that an athlete's psychological well-being and perceived performance can be explained by athlete-related social safeness, and that self-criticism is an important mediator in this association. Given the salience of peer relationships during adolescence (e.g., Long et al., 2020), this study offers new empirical data that may be relevant for clinical and sport psychology practitioners.

In fact, the present study offers important insights by suggesting that feelings of acceptance and connectedness in team relationships may be at the root of young athletes' well-being and perceived performance. Indeed, these novel findings seem to suggest the importance of the adoption of supportive, warm, and safeness relationships between teammates on athletes' well-being and perceived performance. Therefore, this study seems to suggest the pertinence of developing interventions directed towards young athletes based on the promotion of affiliative skills. Furthermore, self-criticism seems to be an important emotional regulation process that has an impact on athletes' well-being and performance. Many athletes believe that this way of relating to themselves

is crucial to their success in competitive sport. However, this study seems to demonstrate that self-criticism is associated with lower levels of well-being and performance. Therefore, it seems to be important to address self-criticism in young athletes. Since self-compassion has demonstrated to be an emotional regulation process which is more adaptive in dealing with failures and mistakes in sport (e.g., Frentz et al., 2020; Killham et al., 2018), psychologists could implement interventions focused on self-compassion.

### **Declaration of conflicting of interests**

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### **Authors contribution**

Study design (SO, MC, AR, CF); Sample recruitment (SO, BG); Writing – Original draft preparation (SO); Supervision (MC, AR, CF); Writing – Review and editing (SO, MC, AR, BG, CF).

All the authors read and approved the final manuscript.

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### **O que poderá explicar o bem-estar psicológico e o desempenho desportivo dos atletas adolescentes? O papel do autocriticismo e de sentimentos de proximidade e ligação à equipa**

**Resumo:** A literatura tem enfatizado a importância de explorar fatores que possam contribuir para o bem-estar e desempenho desportivo dos atletas, especialmente dos adolescentes. Este estudo teve como principal objetivo testar um modelo que hipotetizou que sentimentos de proximidade, segurança e de ligação aos colegas de equipa tem um efeito no bem-estar psicológico e desempenho desportivo dos atletas através do autocriticismo.

A amostra do presente estudo foi composta por 164 atletas portugueses adolescentes de ambos os géneros, que praticavam diferentes modalidades desportivas.

Os resultados da análise de vias confirmaram a plausibilidade do modelo proposto que explicou 52% e 28% da variância do bem-estar psicológico e do desempenho desportivo, respetivamente. Os resultados demonstraram que atletas que apresentam mais sentimentos de proximidade, segurança, e proximidade aos seus colegas de equipa tendem a revelar maiores níveis de bem-estar psicológico e de percepção de desempenho desportivo, através de menores níveis de autocriticismo.

Estes dados sugerem a importância de adotar relações de proximidade, de suporte e de segurança entre colegas de equipa devido à sua associação positiva com indicadores de saúde mental e desempenho desportivo.

**Palavras-chave:** Atletas adolescentes, Autocriticismo, Bem-estar psicológico, Desempenho desportivo, Sentimentos de proximidade e ligação.

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