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## **Are the athletes' perceptions of the coach's autonomy support, age and practice time associated with the development of life skills among young athletes?**

**¿Las percepciones de los atletas sobre el apoyo a la autonomía del entrenador, la edad y el tiempo de práctica están asociadas con el desarrollo de habilidades para la vida entre los atletas jóvenes?**

**A percepção sobre o suporte à autonomia do treinador, a idade e o tempo de prática estão associadas ao desenvolvimento de habilidades para a vida em jovens atletas?**

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### **ABSTRACT**

This cross-sectional study investigated if the coach's autonomy support, age and time of practice are associated with the development of life skills among 461 young Brazilians athletes (325 boys and 136 girls) aged between 10–17 years (Mage=15.12, SD=1.44). Data collection was conducted via the Life Skills Scale for Sport (P-LSSS) and Perceived Autonomy Support: Exercise Climate Questionnaire (PASECQ). Data analysis was conducted through independent t test, Pearson's correlation, and Multiple Regression ( $p < .05$ ). Main results showed that coach's autonomy support made the largest positive contribution to all eight dimensions ( $\beta_{range} = .07-.19$ ,  $p < .05$ ) and total life skill ( $\beta = .18$ ;  $p < .001$ ). Age made the largest positive contribution to the dimensions of teamwork, goal setting, leadership and communication ( $\beta_{range} = .11-.19$ ,  $p < .05$ ) and total life skills ( $\beta = .13$ ;  $p < .01$ ). However, practice time showed no contribution to life skills. This study revealed that coach's autonomy support and age are associated positively with life skills development among youth athletes.

**Keywords:** Positive youth development; Life skills; interpersonal relationships; Young sport.

## RESUMEN

Este estudio transversal investigó el asociación del apoyo a la autonomía del entrenador, la edad y el tiempo de práctica en el desarrollo de habilidades para la vida entre 461 jóvenes atletas brasileños (325 niños y 136 niñas) de entre 10 y 17 años ( $M = 15,12$ ,  $SD = 1,44$ ). La recopilación de datos se realizó mediante la Escala de habilidades para la vida para el deporte (P-LSSS) y el Apoyo a la autonomía percibida: Cuestionario de clima de ejercicio (PASECQ). El análisis de los datos se realizó mediante prueba t independiente, correlación de Pearson y regresión múltiple ( $p < .05$ ). Los resultados principales mostraron que el apoyo a la autonomía del entrenador hizo la mayor contribución positiva a las ocho dimensiones ( $\beta$  rango =  $.07-.19$ ,  $p < .05$ ) y la habilidad para la vida total ( $\beta = .18$ ;  $p < .001$ ). La edad hizo la mayor contribución positiva a las dimensiones de trabajo en equipo, establecimiento de metas, liderazgo y comunicación ( $\beta$  rango =  $.11-.19$ ,  $p < .05$ ) y habilidades para la vida total ( $\beta = .13$ ;  $p < .01$ ). Sin embargo, el tiempo de práctica no mostró ninguna contribución a las habilidades para la vida. Este estudio reveló que el apoyo a la autonomía del entrenador y la edad son asociados positivos del desarrollo de habilidades para la vida entre los atletas jóvenes.

**Palabras clave:** Desarrollo juvenil positivo; Habilidades para la vida; Relaciones interpersonales; Deporte joven.

## RESUMO

Este estudo transversal investigou se o suporte de autonomia do treinador, idade e tempo de prática estão associados ao desenvolvimento de habilidades de vida entre 461 jovens atletas brasileiros (325 meninos e 136 meninas) com idade entre 10-17 anos ( $M = 15,12$ ,  $DP = 1,44$ ). A coleta de dados foi realizada por meio da Escala de Habilidades de Vida para o Esporte (P-LSSS) e Suporte à Autonomia Percebida: Questionário de Clima de Exercício (PASECQ). A análise dos dados foi realizada por meio de teste t independente, correlação de Pearson e regressão múltipla ( $p < 0,05$ ). Os principais resultados mostraram que o suporte à autonomia do treinador deu a maior contribuição positiva para todas as oito dimensões (faixa  $\beta = .07-.19$ ,  $p < .05$ ) e habilidade de vida total ( $\beta = .18$ ;  $p < .001$ ). A idade deu a maior contribuição positiva para as dimensões de trabalho em equipe, estabelecimento de metas, liderança e comunicação ( $\beta$  rango =  $.11-.19$ ,  $p < .05$ ) e habilidades de vida totais ( $\beta = .13$ ;  $p < .01$ ). No entanto, o tempo de prática não mostrou nenhuma contribuição para as habilidades de vida. Este estudo revelou que o suporte à autonomia do treinador e a idade estão associados positivamente ao desenvolvimento de habilidades para a vida entre jovens atletas.

**Palavras chave:** Desenvolvimento positivo de Jovens; Habilidade de vida; Relações Interpessoais; Esporte.

## INTRODUCTION

Modern theories that investigate the role of motivation in the sports context ensure that the coach's interpersonal style has an expressive influence on athletes' positive experiences (Rigby & Ryan, 2018; Ryan, Bradshaw, & Deci, 2019; Ryan & Deci, 2017). Mageau and Vallerand (2003) observed that the actions exercised by the coaches can be one of the greatest motivational influences within the sports environment. Some motivational mechanisms can explain how coach's behavior can influence the motivation of young athletes and, consequently, other positive outcomes (e.g., motivation, team cohesion, hope, basic needs satisfaction, resilience) (Contreira, Caruzzo, Aizava, Passos, & Fiorese, 2020; Nascimento Junior et al., 2020; Jowett, 2017; Jowett et al., 2017; Vieira et al., 2015).

According to the Self-Determination Theory (Rigby & Ryan, 2018; Ryan & Deci, 2017), one of these mechanisms is the coach's autonomy support,

which refers to the way the coach structures sports practices by providing athletes with choices, recognizing their feelings, goals and perspectives, and affording initiative and independence. In this process, the feedbacks provided by the coach act as essential tools that contribute to the life skills development (e.g. teamwork, goal setting, leadership, and social skills) and, consequently, to the positive youth development (Mallett & Hanrahan, 2004). This process becomes even more important for younger and less experienced athletes, since they require more attention than older and more experienced athletes who are more autonomous to perform tasks (Gomes & Paiva, 2010; Jowett et al., 2017). Gomes and Paiva (2010) conducted a study with handball players, verifying that younger athletes carry the need to get closer to the coach, in order to stimulate and encourage them during sports practice. Further, time of practice is crucial to the increase of affective ties, intentions to maintain the relationship for longer, adjust behaviors for building

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friendly relationships and life skills development (Gomes & Paiva, 2010; Jowett et al., 2017; Mallett & Hanrahan, 2004). Hodge and Danish (1999) state that life skills are defined as skills necessary to deal with the demands and challenges of everyday life. Thus, these behavioral, cognitive, physical and social skills can be learned, developed and refined within sports practice (Cronin & Allen, 2018; Freire et al., 2021; Freire et al., 2020; Mossman & Cronin, 2019). Sport Psychology researchers have paid great attention to the key role that coaches have in ensuring the life skills development of youth people through sport (Cronin & Allen, 2018; Cronin & Allen, 2015; Trotter & Robitaille, 2014).

Some research indicates that coach's autonomy support is essential for the of physical and psychological development as well as for the life skills development during childhood and adolescence (Balaguer, Castillo, Cuevas, & Atienza, 2018; Cronin & Allen, 2018; Cronin & Allen, 2015; Taylor & Bruner, 2012). The past studies (Coatsworth & Conroy, 2009; Taylor & Bruner, 2012) have found a positive association between coach's autonomy support and life skills development (e.g. goal setting, leadership, social and emotional skills) among young swimmers and football players. A qualitative study with young British practicing different sports showed that coach's autonomy support showed positive association with the development of personal and social skills (Cronin & Allen, 2015). Another qualitative study found that coaches of young American athletes were effective in using autonomy support to promote the life skills development for athletes (Flett, Gould, Griffes, & Lauer, 2013).

### The present study

When considering the aspects presented, it very important the evaluation of coach's autonomy support, age and time of practices in developing of life skills, but it is also necessary to understand the relationship between these variables among Brazilian youth players. Freire et al. (2020) conducted a cross-sectional study with Brazilian adolescents' practitioners of individual sports and verified that time of practice was positively associated with the life skills development. Nevertheless, Freire et al. (2021) investigated the predicting role of age and time of practice in the life skills development among Brazilian futsal practitioners, verifying that only age was a positive predictor of life skills development. However,

the association of age and time of practice with the life skills development has not been explored with other variables (e.g. coach's autonomy support) in Brazil, being the gap that the present study aims to explore. Although the investigations presented are relevant, there is a concentration of studies investigating the association between coach's autonomy support and the life skills development in youth athletes in European countries (Cronin & Allen, 2018; Cronin & Allen, 2015; Mossman & Cronin, 2019). Thus, Brazil is one of the countries whose research groups are still emerging in the focus of these investigations (Freire et al., 2021; Freire et al., 2020) which, despite being recent, have focused on the identification, for subsequent investment, in the construction of relational environments during sports practice.

In this way, relating coach's autonomy support and developing of life skills in sports context is something of extreme relevance, mainly due to the fact that these constructs are of great importance for this specific population and no studies in Brazil have yet been found investigating the association between coach's autonomy support and developing of life skills in youth players. Thus, this study intends to explore this gap, providing new evidence about the association of coach's autonomy support, age and time of practice with life skills development in Brazilian youth players context. From a practical standpoint, this study becomes relevant to the extent that it aims to increase knowledge about the subject in question and helps to guide the work of coaches and sports psychologists who are involved in the development of youth athletes. The results presented here may enable the creation of strategies for the empowerment of the development of athletes' autonomy and, consequently, the life skills development. In this sense, this study investigated the association of coach's autonomy support, age and practice time with the life skills development among youth Brazilian athletes. The proposed hypothesis is that coach's autonomy support (H1) will present higher positive associations with the life skills development than age (H2) and practice time (H3).

## METHODS

### *Study Design and Procedures*

This is a descriptive study with transversal delineation and methodological research (Ato, Lopez, & Benavente, 2013). The study was developed through the guidelines of the Strengthening the Reporting of

Observational Studies in Epidemiology (STROBE) (Malta, Cardoso, Bastos, Magnanini, & Silva, 2010).

Ethical approval was granted by the lead researcher's university ethics and human research committee. Before any data was collected, permission was obtained from the organizing committee of the sports tournament where the data collection took place and the coaches of the participating teams. The data collection commenced after participants completed an informed consent form. Before completing the study survey, brief instructions were provided to participants about the purpose of the research and what was required when completing the survey. The survey took roughly 40 minutes to complete and the order of the measures used in the survey was randomized to avoid order effects.

### *Participants*

Participants included a convenience sample of 461 Brazilian youth athletes from all regions who trained and participated with club and school teams on a weekly basis. The sample included 325 boys and 136 girls aged between 10–17 years ( $M_{age} = 15.12$ ,  $SD = 1.44$ ). Participants represented the following sports: athletics ( $n = 63$ ), basketball ( $n = 20$ ), combat sports ( $n = 19$ ), football ( $n = 144$ ), futsal ( $n = 28$ ), handball ( $n = 123$ ), swimming ( $n = 34$ ), and volleyball ( $n = 133$ ). The adolescents had participated in their sport for 5.40 years ( $SD = 2.78$ ), been coached by their present coach for 2.50 years ( $SD = 1.22$ ), and were with their current team for 3.55 years ( $SD = 5.90$ ).

### *Measures*

**Autonomy Support.** Autonomy support was assessed using the Perceived Autonomy Support: Exercise Climate Questionnaire (PASECQ) (Edmunds, Ntoumanis, & Duda, 2006) which has been adapted and validated for the Portuguese sports context by Moutão et al. (2012). This questionnaire consists of 6 items which evaluate perceptions of autonomy support provided by a coach/instructor (e.g. “tries to understand my point of view before suggesting something new”). Participants respond on a scale ranging from 1 (totally disagree) to 7 (totally agree). Past research has supported the factorial validity, test-retest reliability, and internal consistency reliability of this scale with youth sport participant (Moreno-Murcia et al., 2020; Pedro & Martins, 2017). The alpha

value of the scale for the present study was .89, indicating adequate internal consistency reliability (Hair, Risher, Sarstedt, & Ringle, 2019).

**Life skills development.** The Portuguese version Nascimento-Junior et al. (2019) of the Life Skills Scale for Sport Cronin and Allen (2017) was used to measure participants' life skills development in their sport. This 43-item scale uses the stem “This sport has taught me to...” and is followed by items assessing: teamwork (7 items; “work well within a team/group”), goal setting (7 items; “set challenging goals”), time management (4 items; “manage my time well”), emotional skills (4 items; “use my emotions to stay focused”), interpersonal communication (4 items; “speak clearly to others”), social skills (5 items; “get involved in group activities”), leadership (8 items; “organize team/group members to work together”), and problem solving and decision making (4 items; “think carefully about a problem”). Participants respond to items on a scale ranging from 1 (not at all) to 5 (very much). Like previous research (Cronin & Allen, 2018), a total life skills score was also calculated for the present study. Past research has supported the factorial validity, test-retest reliability, and internal consistency reliability of this scale with youth sport participants (Freire et al., 2021; Mossman & Cronin, 2019). In the present study, the alpha values for the eight subscales ranged from .70 to .89, indicating adequate internal consistency reliability (Hair et al., 2019).

### *Data analysis*

Preliminary data analyses, descriptive statistics, correlations, and standard multiple regression were conducted using SPSS version 23 (IBM Corporation, 2015). All major assumptions of the statistical tests conducted were met. Multiple regression analysis was used to determine if the autonomy support, age and time of practice influence players' eight life skills and total life skills. For this analysis, there were no sufficiently strong correlations between variables that indicated problems with multicollinearity (VIF range = 1.20 to 1.84). Specifically, these VIF values were below the 5 or 10 deemed acceptable by Hair, Sarstedt, Hopkins and Kuppelwieser (2014). Independent t test was used for the comparison of the coach's autonomy support, eight subscales and the overall score of life skills according to sex (male and female).

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### RESULTS

#### *Preliminary analyses*

The data was firstly screened for missing values. There were no missing values as the lead researcher had ensured all surveys were fully completed during the data collection. The data were then screened for univariate and multivariate outliers, with no outliers found within the sample. Finally, the data were screened for normality. The skewness values ranged from -.09 to -.90 and the kurtosis values ranged from -0.21 to .79, indicating reasonable normality (Tabachnick & Fidell, 2013).

#### *Descriptive analysis, intercorrelation and intergroup comparison*

Table 1 presents the means, standard deviations, scale ranges, reliability coefficients, and correlations for all variables. From Table 1, we can see that the mean scores on the 1–5 response scale of the LSSS revealed that players perceived they were developing their life skills through sports. Based on these scores and the total life skills score ( $M = 3.98$ ,  $SD = .48$ ), players perceived they were learning “a lot” (word label corresponding to 4 on the response scale) of life skills through sports. In relationship a coach's autonomy support the mean score on the 1–7 response scale of the PASECQ revealed that participants perceived a relatively high level of coach autonomy support ( $M = 4.73$ ;  $SD = 1.33$ ). The demographic variables demonstrate that young players had ( $M = 15.11$ ;  $SD = 1.43$ ) of age and time of practices had ( $M = 5.40$ ;  $SD = 2.78$ ).

From Table 1, we can see the statistically significant correlations ( $p < .05$ ) between the study variables which are presented below. Coach's autonomy support presented significant, weak and positive correlation with age ( $r = .19$ ), time of practice ( $r = .17$ ) and all dimensions of life skills ( $r$  range = .09 to .22). Goal setting, Teamwork, leadership, communications and total life skills showed positive and weak correlation with age ( $r$  range = .14 to .22).

In the comparison of the perception of the coach's autonomy support, eight subscales and the overall score of life skills between boys and girls, it was not

possible to observe a significant difference ( $p > .05$ ), demonstrating that boys and girls presented similar perceptions of coach's autonomy support and life skills development within sports practice.

#### *Multiple Regression Analyses*

From table 2, we can see that standard multiple regression analyses revealed that our model which included coach's autonomy support, age and time of practice explained a significant amount of the variance of all eight life skills and total life skills ( $R^2$  range = .01 to .06,  $p < .05$ ). Coach's autonomy support made the largest positive contribution to all eight dimensions of life skills ( $\beta$  range = .07 to .19,  $p < .05$ ) and the total life skills ( $\beta = .18$ ;  $p < .001$ ). Age made the largest positive contribution to the dimensions of teamwork, goal setting, leadership and communication ( $\beta$  range = .11 to .19,  $p < .05$ ) and total life skills ( $\beta = .13$ ;  $p < .01$ ). However, practice time showed no contribution to any dimension or total life skills.

### DISCUSSION

The results presented in this investigation may provide new information for future studies involving the coach's autonomy support and the development of life skills within the Brazilian sports context. The main results revealed that only coach's autonomy support and age showed association with the life skills development (see table 2). In addition, boys and girls had similar perceptions of coach's autonomy support and life skills development.

Specifically, the findings of this investigation corroborate international studies (Cronin & Allen, 2018; Mossman & Cronin, 2019) and national (Freire et al., 2021; Freire et al., 2020), that young Brazilian athletes realize that they are developing life skills through sports practice (e.g. teamwork, goal setting, time management, emotional skills, interpersonal communication, social skills, leadership, problem solving and decision making). When compared to research with physical education practitioners (Cronin et al., 2020), it seems that young sports participants realize that they develop life skills to a greater extent than physical education students. The same is true of the perception of coach's autonomy support.

Table 1. Correlation between age, time of practice, coach's autonomy support and life skills subscales among Brazilian youth athletes.

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1.Age	-	<b>.19**</b>	<b>.22**</b>	<b>.17**</b>	<b>.21**</b>	.07	.08	.07	<b>.14**</b>	.07	<b>.18**</b>	<b>.17**</b>
2. Time of Practice		-	<b>.17**</b>	.01	.02	.03	.02	.08	.10*	.06	.09	.07
3. Coach's autonomy support			-	<b>.16**</b>	<b>.17**</b>	<b>.09*</b>	<b>.16**</b>	<b>.11**</b>	<b>.15**</b>	<b>.22**</b>	<b>.17**</b>	<b>.22**</b>
4. Teamwork				-	<b>.55**</b>	<b>.38**</b>	<b>.52**</b>	<b>.30**</b>	<b>.60**</b>	<b>.26**</b>	<b>.54**</b>	<b>.70**</b>
5.Goal Setting					-	<b>.36**</b>	<b>.44**</b>	<b>.38**</b>	<b>.45**</b>	<b>.40**</b>	<b>.42**</b>	<b>.69**</b>
6.Social Skills						-	<b>.48**</b>	<b>.34**</b>	<b>.40**</b>	<b>.30**</b>	<b>.54**</b>	<b>.67**</b>
7.Problema Solving							-	<b>.46**</b>	<b>.55**</b>	<b>.37**</b>	<b>.46**</b>	<b>.76**</b>
8.Emotional Skills								-	<b>.43**</b>	<b>.45**</b>	<b>.38**</b>	<b>.68**</b>
9.Leadership									-	<b>.32**</b>	<b>.64**</b>	<b>.76**</b>
10.Time Control										-	<b>.38**</b>	<b>.64**</b>
11.Communication											-	<b>.76**</b>
12.Total Life Skill												-
Mean	15.11	5.40	4.73	4.21	4.16	3.85	3.90	3.88	3.99	3.76	4.10	3.98
Standard Deviation	1.43	2.78	1.33	.50	.58	.65	.76	.76	.65	.82	.70	.48

Significant correlation: \*\*  $p < .01$ ; \*  $p < .05$ . Pearson correlation.

Table 2. Coach's Autonomy support, age and time of practice as predictors of life skills development among Brazilian youth athletes.

Predictors	Teamwork	Goal Setting	Social Skills	Problem Solving <sup>a</sup>	Emotional Skills	Leadership	Time management	Communication <sup>b</sup>	Total Life Skills
	$\beta$ (CI)	$\beta$ (CI)	$\beta$ (CI)	$\beta$ (CI)	$\beta$ (CI)	$\beta$ (CI)	$\beta$ (CI)	$\beta$ (CI)	$\beta$ (CI)
CAS	<b>.13</b> <b>(.01; .09)**</b>	<b>.15</b> <b>(.02; .10)***</b>	<b>.07</b> <b>(-.01; .08)*</b>	<b>.15</b> <b>(.03; .14)**</b>	<b>.08</b> <b>(-.01; .10)*</b>	<b>.11</b> <b>(.01; .10)*</b>	<b>.19</b> <b>(.06; .18)***</b>	<b>.12</b> <b>(.01; .11)**</b>	<b>.18</b> <b>(.03; .10)***</b>
Age	<b>.15</b> <b>(.02; .09)**</b>	<b>.19</b> <b>(.04; .11)***</b>	.05 (-.01;.07)	.05 (-.02;.08)	.04 (-.02;.07)	<b>.11</b> <b>(.01; .09)*</b>	.03 (-.03;.07)	<b>.15</b> <b>(.03; .12)**</b>	<b>.13</b> <b>(.01; .07)**</b>
TP	-.05 (-.02;.01)	-.06 (-.03;.01)	.01 (-.02;.02)	-.02 (-.03;.02)	.05 (-.01;.04)	.03 (-.01;.03)	.06 (-.01;.04)	.01 (-.02;.03)	.01 (-.01;.02)
R <sup>2</sup>	.04	.06	.01	.02	.01	.03	.04	.04	.05
F	7.918***	10.935***	3.543*	4.228**	2.349*	5.469**	7.931***	8.003***	9.904***
DW	1.734	1.835	1.892	1.832	1.853	1.805	1.877	2.047	1.805

Note. Only the unstandardized regression coefficients which were less than our significance level of .05 are highlighted in bold.  $\beta$  = Standardized regression coefficient; CI = 95% confidence interval; DW = Durbin-Watson; <sup>a</sup>problem solving and decision making, <sup>b</sup>interpersonal communication skills; CAS = Coach's autonomy support; TP = Time of practice. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

The main finding of this study refers to the positive association of coach's autonomy support and the perception of young athletes regarding the life skills development (Table 2). This result confirms the first hypothesis (H1) that the relationship with the coach and the support given for making decision plays a fundamental role for young athletes to develop life skills through sport (Cronin & Allen, 2018; Cronin & Allen, 2015). Specifically, this means that coaches must provide choices within training, recognize athletes' feelings and perspectives, provide a

justification for tasks, provide opportunities for decision making, and provide life skills feedback to athletes (Mageau & Vallerand, 2003; Mallett & Hanrahan, 2004).

Similar findings were found by Cronin and Allen (2018) evidenced in a cross-sectional study among young British practitioners of various sports that support the coach's autonomy is essential for the development of life skills. Balaguer et al. (2018) observed in a longitudinal study with young soccer

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athletes that support for autonomy offered by the coach is of paramount importance in promoting the quality of leisure experience, its benefits for your well-being and in the development of various life skills. In this sense, it is normal during youth that coaches become mirrors of athletes' behaviors, especially when these social peers provide autonomy support for the young (Balaguer et al., 2018; Lorcan D Cronin & Allen, 2018; Cronin & Allen, 2015; Jowett et al., 2017). With this, affective ties and cognitive attachment with the coach lead the adolescent to develop pleasure in sports practice and, consequently, a greater development of life skills through sports practice (Cronin & Allen, 2018; Cronin & Allen, 2015).

Regarding the second hypothesis (H2) of the study, the findings demonstrated that age showed positive association with the life skills development in young athletes (see Table 2). These findings show that specific skills such as leadership, time management, communication, teamwork and goal setting seem to be enhanced according to which the age of young athletes increases. Pierce, Gould and Camiré (2017) demonstrated that the biological maturation of the adolescent is a factor that helps in the development of several life skills. Freire et al. (2021) evidenced in a cross-sectional study among young Brazilian futsal players that as age progresses, the perception of the development of these life skills tend to increase.

On the other hand, it was observed that time of practice (H3) within young athletes did not show association with the life skills development (Table 2), indicating that the practice of the sport alone does not lead to the development of such skills. Such findings do not agree with the positive youth development theory, which postulates that the experience of positive experiences during sports practice favors the development of personal, social, cognitive skills, leadership, empathy, companionship, creativity and long-term intelligence (Bruner et al., 2017; Cronin & Allen, 2018; Cronin & Allen, 2015). Although, sports experiences should be permeated by a pleasant climate, pleasure in practice and good interpersonal relationships (e.g. coach, colleagues) (Camiré, Rathwell, Turgeon<sup>3</sup>, & Kendellen, 2019; Cronin & Allen, 2018).

Analyzing the life skills of adolescents as a function of sex, the findings showed that boys and girls presented similar perception in the life skills development. This

result seems to reveal that sports practice has the same importance for the life skills development for both boys and girls. Ciocanel, Power, Eriksen and Gillings (2017) demonstrated in a meta-analysis who observed the effects of sports interventions on positive youth development, that gender is not considered factor that interfere with positive youth development. The authors add that factors such as the quality of the program in which young people are inserted and the support of parents and coaches are considered more relevant factors for the development of life skills. Freire et al. (2020) observed in a cross-sectional study with Brazilian young people practicing individual sports that sex did not influence the development of life skills. Thus, the findings are in line with the present literature, demonstrating that gender are not intervening factors in the development of life skills in young sports practitioners (Ciocanel et al., 2017; Freire et al., 2020).

### *Limitations and future recommendations*

Despite the promising findings of the present study, it is important to highlight some limitations. The first, refers to the cross-sectional design used in the research, which does not allow inferences from the causality between variables. However, the effects of the above concerns were held to a minimum through assurances of anonymity and requests for honesty when responding. The second point was the small number of girl's participants included in the study. In this regard, future research should recruit a greater number of girls and compare with boy's on life skills development. Further, the number of participants did not allow some comparisons, such as performance levels. However, the wide range of the age group and time of practice of the participants are factors that can limit the findings of this study. Thus, future investigations should carry out longitudinal design, which could make several measurements of life skills development at different competitive levels and moments. Further, correlations with other instruments (group cohesion, relationship with coach; parental support), and the conduction of multi-level analysis should help to understand the relationships between these variables in different groups and moments.

## CONCLUSION

It can be concluded that coach's autonomy support and age can be considered as associated factors with the

life skills development among Brazilian youth athletes. However, time of practice did not seem to be an intervention factor for the life skills development of the adolescents investigated. Such conclusions provided some practical implications for professionals working with in youth athletes. First, these findings suggest that coaches and others seeking to help young people develop life skills through sport should create a sports environment that positively addresses these autonomy support.

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