Positive Sporting Experience and Life Purpose: Is the Association Explained by Motivation?

Experiencia deportiva positiva y propósito de vida: ¿La asociación se explica por la motivación?

Experiências esportivas positivas e propósito de vida: a associação é explicada pela motivação?

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Abstract

This cross-sectional study examined motivation's mediating role in the association between positive sporting experience and life purpose. The sample comprised 473 Brazilian young athletes who participated in the Youth School Games. Data were collected using the Purpose in Life Test, Youth Experience Survey for Sport, and Sports Motivation Scale. Structural Equation Modeling indicated adequate data fit for the final model (χ^2/df = 2.96; CFI = 0.95; RMSEA = 0.06; SRMR = 0.05) and explained 27% of the variance in existential realization and 15% of the variance in existential emptiness. Intrinsic motivation was positively associated

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with existential realization and negatively associated with existential emptiness. The findings indicate that intrinsic motivation mediates the association between positive sporting experience and life purpose among young Brazilian athletes and is related to stronger feelings of existential realization. Because of the cross-sectional design, these findings should be interpreted as associations rather than causal effects. In practice, the results suggest that coaches and parents should promote environments that foster positive sporting experience and support self-determined motivation for practice.

Keywords: sporting experience; life purpose; motivation; positive youth development

Resumen

Este estudio transversal tuvo como objetivo investigar el papel mediador de la motivación en la asociación entre las experiencias deportivas positivas y el propósito de vida. Participaron 473 jóvenes atletas brasileños que participaron de los Juegos Escolares de la Juventud. Los datos fueron obtenidos utilizando los siguientes instrumentos: Test de Propósito en la Vida, Encuesta de Experiencia Juvenil para el Deporte y Escala de Motivación Deportiva. Utilizando el Modelo de Ecuaciones Estructurales, el modelo final presentó un ajuste adecuado a los datos ($\chi^2/gl = 2.96$; CFI = 0.95; RMSEA = 0.06; SRMR = 0.05) y explicó el 27% de la varianza de la realización existencial y el 15% de la varianza del vacío existencial. La motivación intrínseca se asoció positivamente con la realización existencial y negativamente con el vacío existencial. Se concluyó que la motivación intrínseca media la asociación entre experiencias deportivas positivas y propósito de vida entre jóvenes atletas brasileños, estando relacionada con mayores sentimientos de realización existencial. Debido al diseño transversal, los hallazgos deben interpretarse como asociaciones y no como efectos causales. En la práctica, los resultados sugieren que los entrenadores y los padres deben promover entornos que favorezcan experiencias positivas a través del deporte y apoyen la motivación autodeterminada para la práctica.

Palabras clave: experiencia deportiva; propósito de vida; motivación; desarrollo positivo de la juventud

Resumo

Este estudo transversal teve como objetivo investigar o papel mediador da motivação na associação entre experiências esportivas positivas e propósito de vida. Participaram 473 jovens atletas brasileiros que participaram dos Jogos Escolares da Juventude. Os dados foram obtidos por meio dos seguintes instrumentos: Teste de Propósito de Vida, Pesquisa de Experiência Juvenil para o Esporte e Escala de Motivação Esportiva. Utilizando a modelagem de equações estruturais, o modelo final apresentou ajuste adequado aos dados ($\chi^2/gl = 2.96$; CFI = 0.95; RMSEA = 0.06; SRMR = 0.05) e explicou 27 % da variância da realização existencial e 15 % da variância do vazio existencial. A motivação intrínseca associou-se positivamente à realização existencial e negativamente ao vazio existencial. Concluiu-se que a motivação intrínseca medeia a associação entre experiências esportivas positivas e propósito de vida entre jovens atletas brasileiros, estando relacionada a maiores sentimentos de realização existencial. Em razão do delineamento transversal, os achados devem ser interpretados como associações, e não como relações causais. Na prática, os resultados sugerem que treinadores e pais promovam ambientes que favoreçam experiências positivas por meio do esporte e apoiem a motivação autodeterminada para sua prática.

Palavras-chave: experiências desportivas; propósito de vida; motivação; desenvolvimento positivo da juventude

Sport is an important part of millions of teenagers' lives worldwide. Young people spend much of their time outside school on voluntary, enjoyable activities, such as sport, that provide diverse experiences that support their development (Whitley et al., 2019). Despite the large number of young people who practice sports, only a small proportion become professional athletes. Therefore, it is essential to design sporting experiences that build personal and social assets and skills that contribute to a successful life in several contexts, such as school, work, and interpersonal relationships (Benson & Bruner, 2018; Gledhill et al., 2017).

One of the less investigated areas in positive youth development is the spiritual dimension (Benson & Roehlkepartain, 2008; Benson et al., 2012; King et al., 2011; Shek, 2012), which has been linked to the adoption of more positive and healthy behaviors (Kub & Solari-Twadell, 2013; Shek, 2012). Adolescence is undoubtedly a critical period for developing the spiritual dimension (Benson & Roehlkepartain, 2008; Benson et al., 2012; King et al., 2011; Shek, 2012). However, fewer than one percent of studies on children and adolescents have examined spirituality (Kub & Solari-Twadell, 2013), and this gap persists today (Shek, 2012).

The spiritual dimension is characterized by belief in a higher power, the development of a sense of meaning/purpose in life, and values that guide life choices (Qi et al., 2020). This study will specifically analyze life purpose, using Frankl's (2011) Meaning of Life theory as the theoretical framework. Life purpose can be defined as the presence of clear, positive ideals to pursue; individuals with a life purpose have a reason to live and feel that life is worth living (Benson et al., 2012; King et al., 2011; Kub & Solari-Twadell, 2013; Shek, 2012). When an individual reaches a life purpose, they experience existential fulfillment, a sense that life is a constant source of pleasure and satisfaction (Frankl, 2011). Studies on life purpose typically focus on adults experiencing painful events or difficulties, such as women with cancer (Casellas-Grau et al., 2016), patients on hemodialysis (Girmenia et al., 2014), and family members of individuals in critical condition (Lima & Machado, 2018). According to Shek (2012), studies typically assess the benefits that life purpose can confer on people going through a life crisis. Nevertheless, few studies have examined how developmental experiences (e. g., sporting experiences) affect life purpose.

Although sports may provide various positive experiences for young people (Côté et al., 2020), no studies have investigated the benefits associated with life purpose. Sporting experiences may teach important lessons that can be transferred to other areas of a young person's life (Bean et al., 2018; Holt et al., 2017; Pierce et al., 2017), contributing to the achievement of a life purpose. Recent studies argue that sport involves asceticism because it allows the realization of something that requires renunciation, and it is important to humans because it creates tension that makes a person seek objectives (Bean et al., 2018; Holt et al., 2017; Pierce et al., 2017). This suggests that sporting experiences may help young people find meaningful excitement and enjoyment and provide a context in which achievement and goal setting are stimulated (Weinberg, 2013). Furthermore, becoming a successful athlete often requires overcoming several obstacles that help integrate the interrelated issues that define life purpose. However, practitioners must be motivated to adhere to sports practice and its consequent long-term results (Côté et al., 2020; Holt et al., 2017).

Motivation is considered one of the main determinants of successful experiences in sports, both in sports initiation and in high performance (Rigby & Ryan, 2018; Ryan & Deci, 2017). In addition, it is one of the psychological variables that best explains why people are more determined than others in some activities, and it is essential for long-term adherence to a practice, further illustrating what motivates them to start, continue, or even give up on an activity, whether it is sporting or not (Rigby & Ryan, 2018; Ryan & Deci, 2017). This consideration highlights the importance of sports motivation as a mediating factor in the association between sporting experience and life purpose (Rodrigues et al., 2021). Past studies have emphasized the importance of intrinsic motivation, understood as motivation concerning energy, direction, and persistence of activation and intention (Rigby & Ryan, 2018; Ryan & Deci, 2017), and extrinsic motivation, "which refers to doing something because it leads to a separable outcome" (Rigby & Ryan, 2018; Ryan & Deci, 2017). Motivation has been a central theme in psychology, as it lies at the core of biological, cognitive, and social regulation. Thus, only athletes who are intrinsically motivated to practice sport and seek to improve themselves (Standage & Ryan, 2020) will find a sense of life through sport and experience feelings of existential realization. However, some athletes practice sport for extrinsic reasons, in which sport is a means to achieve goals, avoid punishment, or gain rewards (Rigby & Ryan, 2018; Ryan & Deci, 2017).

The present study's mediational rationale is grounded in the organismic integration theory within self-determination theory (SDT), which posits that social-contextual experiences do not act directly on developmental outcomes but are internalized as motivational regulations that, in turn, shape well-being outcomes (Ryan & Deci, 2017; Standage & Ryan, 2020). Empirical evidence supports this sequence: recent syntheses of youth sport research show that contextual features are related to psychosocial outcomes primarily through athletes' internal motivational states rather than directly (Gu & Cheng, 2025), and studies with Brazilian youth athletes have shown that positive sporting experiences are associated with more self-determined forms of motivation (Nascimento Junior et al., 2021).

In parallel, recent evidence from adolescents indicates that purpose in life is more strongly linked to internal, self-referenced resources than to external circumstances (Barcaccia et al., 2023; Ratner et al., 2024). Motivation is therefore expected to function as an intervening variable rather than a mere correlate. This study aimed to investigate motivation's mediating role, grounded in SDT, in the association between positive sporting experience and life purpose among young Brazilian athletes. Regarding SDT-related variables (Rigby & Ryan, 2018; Ryan & Deci, 2017), we hypothesized that positive sporting experiences would be positively associated with existential realization when mediated by intrinsic motivation (H1), and that, when mediated by extrinsic motivation, positive sporting experiences would be positively associated with feelings of existential emptiness and despair (H2).

Methods

Participants

The study participants consisted of 473 male (n = 244) and female (n = 229) youth athletes, aged 15 (n = 122), 16 (n = 161), and 17 (n = 185) years, who competed in the Brazilian Youth School Games in the following sports: athletics (n = 61), basketball (n = 69), cycling (n = 12), futsal (n = 72), rhythmic gymnastics (n = 05), handball (n = 102), judo (n = 28), wrestling (n = 10), swimming (n = 36), table tennis (n = 08), beach volleyball (n = 13), volleyball (n = 50), and chess (n = 07). All athletes had already participated in national (n = 379) and international (n = 94) competitions. Participants were selected via convenience sampling, and the inclusion criteria were as follows: 1) to have practiced their respective sport for at least one year; and 2) to have been part of the team for at least three months. Only participants whose parents and coaches (responsible for the adolescents at the event) signed the consent form were included in the study.

Instruments

Life Purpose. We used the Purpose in Life Test (PIL), which was adapted and validated for the Brazilian context (Aquino et al., 2015). The scale comprises 12 items organized into three subscales: Existential Despair (ED), Existential Emptiness (EE), and Existential Realization (ER). Responses are rated on a seven-point Likert scale from "strongly disagree" (1) to "strongly agree" (7). In this study, the three subscales (ED, EE, and ER) served as observed variables in the structural model. Confirmatory Factor Analysis (CFA) indicated acceptable model fit: $X^2(34) = 62.03$; $p = 0.002$; $X^2/df = 1.82$; Comparative Fit Index (CFI) = 0.94; Goodness-of-Fit Index (GFI) = 0.97; Tucker-Lewis Index (TLI) = 0.92; Root Mean Square Error of Approximation (RMSEA) = 0.04; p (RMSEA < 0.05) = 0.78. Composite Reliability (CR) for internal consistency was satisfactory for all subscales (> 0.70), except for ED (0.64).

Youth Positive Experience in Sports. To assess young people's positive experience in sports, we used the Youth Experience Survey for Sport (YES-S), adapted and validated for the Brazilian context (Rigoni et al., 2018). The Brazilian scale consists of 18 items that assess a second-order factor called positive experience of youth in sports, along with four subscales (Personal and Social Skills, Cognitive Skills, Goal Setting, and Initiative). Responses are rated on a four-point Likert scale from "not at all" to "yes, definitely." In this study, the four subscales served as observed variables and were combined to form the latent variable Youth Positive Experience in Sports (YPES). CFA indicated satisfactory model fit: $X^2(129) = 224.86$; $p = 0.001$; $X^2/df = 1.74$; CFI = 0.93; GFI = 0.95; TLI = 0.92; Normed Fit Index (NFI) = 0.87; RMSEA = 0.04; p (RMSEA < 0.05) = 0.097; CR for internal consistency was satisfactory for all subscales (> 0.70).

Motivation. To assess motivation, we used the Sports Motivation Scale (SMS), adapted and validated for the Brazilian context (Bara Filho et al., 2011). The instrument comprises 28 items across seven subscales: amotivation, external regulation, introjected regulation, identified regulation, intrinsic motivation to experience stimulation, intrinsic motivation to accomplish, and intrinsic motivation

to know. Responses are rated on a seven-point Likert scale from "corresponds completely" (1) to "does not correspond at all" (7). In this study, the seven subscales served as observed variables and were combined to form two latent variables in the structural model: Intrinsic Motivation (IM) and Extrinsic Motivation (EM). Deci and Ryan (2012) note that this procedure aligns with the elements of SDT (Rigby & Ryan, 2018; Ryan & Deci, 2017). We did not use the Amotivation subscale because the structural model does not assess this construct. CFA indicated that the model achieved satisfactory fit: $X^2(254) = 881.82$; $p = 0.001$; $X^2/df = 3.47$; CFI = 0.92; GFI = 0.87; TLI = 0.91; NFI = 0.90; RMSEA = 0.07; p (RMSEA < 0.05) = 0.001; CR for internal consistency was satisfactory for all subscales (> 0.70).

Procedures

This study was submitted to and approved by the Ethics Committee for Human Research. Initially, we contacted the Brazilian Olympic Committee board to obtain permission to collect data during the Youth School Games and to outline the research procedures. After receiving permission, we explained the study's purpose to the coaches and parents, who provided written consent for the research to proceed. Data collection occurred before the team's first match at the competition, and participants provided written consent prior to completing the questionnaires. Before completing the questionnaires, participants received brief instructions about the research purpose and what was required. We informed participants that all information obtained in the survey would be kept confidential and that they could withdraw from the research at any time. We also emphasized that there were no right or wrong answers and that they should respond based on their perception at that moment. To minimize bias, the questionnaires were randomized among participants.

Data Analysis

We conducted exploratory data analysis, followed by the Kolmogorov-Smirnov normality test, which indicated that the data did not follow a normal distribution. Nevertheless, we reported descriptive statistics as means and Standard Deviations (SD), and the structural analyses addressed the departure from normality using the Bollen-Stine bootstrap procedure described below. These analyses were performed in SPSS 18.0. We did not conduct an a priori power analysis, as the sample size was determined by the number of athletes available at the competition. Nevertheless, the final sample ($N = 473$) exceeded the thresholds usually recommended for Structural Equation Modeling (SEM) in terms of absolute size ($N > 200$) and the ratio between cases and estimated parameters. Given the degrees of freedom of the tested models, the analyses provided statistical power above 0.80 for the close-fit test (MacCallum et al., 1996).

The main analyses used SEM in the software AMOS 18.0 to test the hypotheses in the conceptual model by assessing whether intrinsic and extrinsic motivation mediate the relationship between positive sport experiences and young athletes' life purpose. We theorized the existence of three latent variables (YPES, IM, and EM), formed from the dimensions of the respective questionnaires and

treated as observed variables in the model. Several sport psychology studies (Bean et al., 2018; Côté et al., 2020; Pierce et al., 2017) have used a similar procedure, treating questionnaire dimensions as observed variables to form new latent variables.

SEM was tested using a two-step approach: 1) Specify and identify the causal model by conducting a CFA of the measurement model; and 2) Specify and identify the structural model by determining paths and disturbances for the endogenous latent variables (Marôco, 2010). Accordingly, we assessed a three-factor measurement model via CFA, including the following latent variables: Youth Positive Experience in Sports, Intrinsic Motivation, and Extrinsic Motivation (Byrne, 2013; Kline, 2015).

We evaluated the measurement model's fitness using goodness-of-fit indicators and assessed local adjustment using factor loadings and item reliability. We assessed outliers using the squared Mahalanobis distance (D^2), since the absence of such cases is a prerequisite for this analysis (Byrne, 2013). Normality was also verified, a requirement for SEM, by examining univariate distributions using skewness (Sk) and kurtosis (Ku) and the multivariate distribution (Mardia's coefficient for multivariate kurtosis) (IskI < 3.0 and IKuI < 10.0) (Kline, 2015).

Because our data did not meet normality assumptions, we used a Bollen-Stine bootstrap procedure (with bias-corrected standard errors) to obtain corrected Chi-square values for the estimated coefficients under the maximum likelihood estimator (MacCallum et al., 1996). Model fit indicators (absolute, incremental, and parsimonious adjustment) were: Chi-square (X^2 and p-value), Goodness-of-Fit-Index (GFI > 0.95-0.90), Root Mean Square Error of Approximation (RMSEA < 0.08, 90% CI), Normalized Fit Index (NFI > 0.95-0.90), Tucker-Lewis Index (TLI > 0.95-0.90), Adjusted Goodness-of-Fit Index (AGFI > 0.90), Normalized Chi-square (X^2/degrees of freedom, recommended between 1.0 and 3.0), Comparative Fit Index (CFI > 0.95-0.90), and Standardized Root Mean Square Residuals (SRMR < 0.08). We used these indices to assess model fit, as proposed in the literature (Byrne, 2013; Hair et al., 2019; Hair et al., 2014; Kline, 2015).

We estimated indirect effects using bias-corrected bootstrap confidence intervals. Ninety percent intervals are reported to remain consistent with the interval convention adopted for RMSEA in the same output and with the directional hypotheses specified a priori (H1 and H2). However, we note that the 95% level is the more usual convention, and that the substantive conclusions reported below are unchanged at that level, since all significant indirect effects excluded zero by a wide margin. Regarding model trimming, only the path from extrinsic motivation to existential realization was removed from the initial model. This decision was theoretically driven—SDT does not predict a positive contribution of controlled regulation to eudaimonic outcomes (Ryan & Deci, 2017)—and was supported by its non-significance ($p > 0.05$); no path was added or removed based on modification indices.

After validating the measurement model, we tested the structural model to examine the mediating roles of IM and EM in the relationship between YPES and life purpose, and to assess the structural model's adjustment and goodness-of-fit using the same criteria as for the measurement model.

Following Kline's (2015) recommendations, path interpretation used the following reference criteria: Small effect for factor loadings < 0.20; medium effect for factor loadings 0.21-0.49; and large effect for factor loadings > 0.50, with a 5% significance level ($p < 0.05$). We also assessed the

significance of the model's mediation effect using a Bias-Corrected (BC) bootstrap method to estimate 90% Confidence Intervals (90% CI) for the mediation effect (Cheung & Lau, 2008). This procedure reduces bias caused by non-normality in the sampling distribution of indirect effects.

Results

Descriptive Statistics and Correlation

First, we conducted descriptive analyses and examined correlations among the variables of interest. Means, standard deviations, and Cronbach's alpha for the variables used in this study are reported in Table 1. Overall, the variables related to positive experience, life purpose, and motivation showed significant correlations ($p < 0.05$). This indicates that all variables are associated, which is an important step for SEM. Notably, the dimensions of IM showed positive and moderate correlations ($r > 0.40$) with the dimensions of EM. We found that most variables showed strong ($\alpha > 0.70$) or moderate ($\alpha > 0.40$) reliability.

Nevertheless, Existential Despair (ED) showed low internal consistency ($\alpha < 0.40$), and CR was also low (0.64). Thus, we decided not to include it in the structural model, as it could affect model fit and path estimates (Hair et al., 2019). Two aspects of this result merit comment. First, the ED subscale of the PIL includes a few negatively worded items that address highly abstract content (e. g., suffering, despair in the face of existence). In a sample of adolescents engaged in competitive sport, responses to these items were infrequent and heterogeneous, which restricted item covariance and depressed internal consistency.

Second, cultural and developmental factors may also be involved: the expression of ED is socially undesirable in the Brazilian youth sports context, and the construct may not yet be fully differentiated at this age, so the subscale may be tapping a construct that is not yet sufficiently crystallized in this population. Consequently, the exclusion of this dimension is a measurement decision, not a substantive one, and no conclusions about existential despair should be drawn from the present study; the reliability of this subscale in Brazilian adolescents warrants specific psychometric investigation. The same caution applies to the interpretation of the other coefficients below 0.50 reported in Table 1, which are based on short subscales with few items and should be read as a limitation of the measurement model rather than as evidence against the constructs themselves.

Table 1.
Summary of Intercorrelations, Means, Standard Deviations, and Reliability

Variables	Age	PT	Life purpose				Motivation						Positive sporting experience			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Age (years)	-	**0.12***	0.08	**-0.09***	-0.02	-0.03	0.06	0.08	0.03	0.04	0.05	0.07	**0.17****	-0.01	**0.12***	0.05
PT		-	0.02	0.03	-0.02	-0.08	-0.02	-0.02	-0.07	-0.07	-0.07	0.04	**0.12***	-0.03	**0.12***	0.04
ER			-	**-0.53****	**-0.24****	**0.33****	**0.34****	**0.39****	**0.18****	**0.16****	**0.26****	**-0.24****	**0.28****	**0.24****	**0.30****	**0.25****
ED				-	**0.51****	**-0.16****	**-0.25****	**-0.35****	-0.06	-0.01	**-0.20****	**0.34****	**-0.25****	**-0.15****	**-0.23****	**-0.15****
EE					-	-0.05	**-0.12****	**-0.18****	**0.17****	**0.11***	-0.03	**0.42****	**-0.19****	-0.05	**-0.17****	-0.08
IMK						-	**0.70****	**0.67****	**0.47****	**0.50****	**0.53****	**-0.12****	**0.23****	**0.31****	**0.14****	**0.19****
IMAG							-	**0.68****	**0.45****	**0.49****	**0.57****	**-0.14****	**0.25****	**0.23****	**0.22****	**0.18****
IMSE								-	**0.38****	**0.39****	**0.51****	**-0.22****	**0.30****	**0.27****	**0.27****	**0.22****
EMER									-	**0.60****	**0.58****	**0.24****	**0.09***	**0.22****	-0.01	0.04
EMIR										-	**0.60****	**0.17****	**0.06**	**0.21****	0.08	0.07
EMIDR											-	0.07	**0.21****	**0.31****	**0.13****	**0.14****
AM												-	**-0.10***	-0.05	**-0.20****	**-0.19****
PSS													-	**0.37****	**0.41****	**0.31****
CS														-	**0.30****	**0.27****
GS															-	**0.41****
IN																-
	16.10	62.10	5.56	1.98	1.90	5.45	5.35	5.77	4.09	4.47	4.87	2.22	3.33	2.02	2.57	2.91
SD	0.80	36.73	0.96	0.87	0.85	1.32	1.35	1.15	1.40	1.44	1.39	1.35	0.35	0.31	0.25	0.33
M	-	-	0.52	0.36	0.64	0.78	0.77	0.73	0.65	0.67	0.70	0.70	0.56	0.70	0.59	0.60

Note: PT: Practice Time (months); ER: Existential Realization; ED: Existential Despair; EE: Existential Emptiness; IMK: Intrinsic Motivation to Know; IMAG: Intrinsic Motivation to Achieve Goals; IMSE: Intrinsic Motivation for Stimulating Experiences; EMER: Extrinsic Motivation of External Regulation; EMIR: Extrinsic Motivation of Introjected Regulation; EMIDR: Extrinsic Motivation of Identified Regulation; AM: Amotivation; PSS: Personal and Social Skills; CS: Cognitive Skills; GS: Goal Setting; IN: Initiative; SD: Standard Deviation; M: Mean.

Source: Own elaboration.

Measurement Model

To define the latent models for the SEM analysis, it was necessary to validate (Step 1) the latent variables (IM, EM, YPES). We tested the latent variables using CFA, yielding satisfactory fit indicators: $X^2(32) = 97.00$; $p = 0.001$; $X^2/df = 3.03$; CFI = 0.96; GFI = 0.96; TLI = 0.95; NFI = 0.95; RMSEA = 0.06; p (RMSEA < 0.05) = 0.041; SRMR = 0.06. This evidence supported including the latent models IM, EM, and YPES in the SEM analysis. The observed variables of life purpose (ER and EE) that were part of the SEM were not included in the measurement model because the measurement model assessed how manifest variables relate to their latent factors, and these variables were not combined into a latent factor in the SEM.

Structural Equation Modeling (SEM)

We first tested Model A, with direct and indirect paths from YPES to sport and indirect paths (mediated by EM and IM) toward ER and EE. We found evidence of the mediating role of intrinsic and extrinsic motivation. We verified that the model demonstrated acceptable fit indicators: $X^2(47) = 150.27$; $p = 0.001$; $X^2/df = 2.985$; RMSEA = 0.07; p (RMSEA < 0.05) = 0.024; GFI = 0.95; AGFI = 0.91; CFI = 0.95; TLI = 0.93; NFI = 0.93; SRMR = 0.05; Akaike Information Criteria (AIC) = 202.27; Bayes Information Criteria (BIC) = 331.20; Modified Expected Cross-Validation Index (MECVI) = 0.43 (Table 2). The paths from YPES toward IM (β = 0.46) and EM (β = 0.28), as well as those for ER (IM: β = 0.39) and EE (IM: β = -43; EM: β = 0.47) were significant ($p < 0.05$). Nevertheless, the path from EM toward ER (β = -0.13) was not significant ($p > 0.05$) and was thus excluded from the model, in line with the theoretical expectation that controlled regulations do not contribute to eudaimonic outcomes (Ryan & Deci, 2017); no modification index was used to guide this decision.

Table 2.
Comparison of Fit Indicators of SEM Tested Models

Comparison between models	X^2	GI	p-value	X^2 normalized (X^2/df)	GFI	RMSEA	[90% CI]	TLI	AGFI	CFI	SRMR	AIC	BIC	MECVI
Model A	150.27	47	0.001	2.98	0.95	0.07	[0.06-0.08]	0.93	0.91	0.95	0.05	202.27	331.20	0.43
Model B*	142.53	47	0.001	2.96	0.95	0.06	[0.05-0.08]	0.93	0.92	0.95	0.05	200.53	327.53	0.43

Note: X^2: Chi-square; *df*: Degree of Freedom; RMSEA: Root Mean Square Error of Approximation; TLI: Tucker-Lewis Index; NFI: Normed Fit Index; AGFI: Adjusted Goodness-of-Fit Index; CFI: Comparative Fit Index; AIC: Akaike Information Criteria; BIC: Bayes Information Criteria; MECVI: Modified Expected Cross-Validation Index. *Adopted model with best fit in the study.
Source: Own elaboration.

After excluding the path from EM to ER, we retested Model B and found a correlation between the residuals of the latent mediating variables (IM and EM), indicating that the model overestimated the regression coefficients from these variables toward the dependent variables (ER and EE). Model B demonstrated significant paths and better fit: $X^2(47) = 142.53$; $p = 0.001$; $X^2/df = 2.97$; RMSEA = 0.06; p (RMSEA < 0.05) = 0.02; GFI = 0.95; AGFI = 0.92; CFI = 0.95; TLI = 0.93; NFI = 0.93; SRMR = 0.05; AIC = 200.53; BIC = 327.31; MECVI = 0.43 (Table 2). It was therefore adopted in the study. All direct and indirect effects showed significant paths (Figure 1).

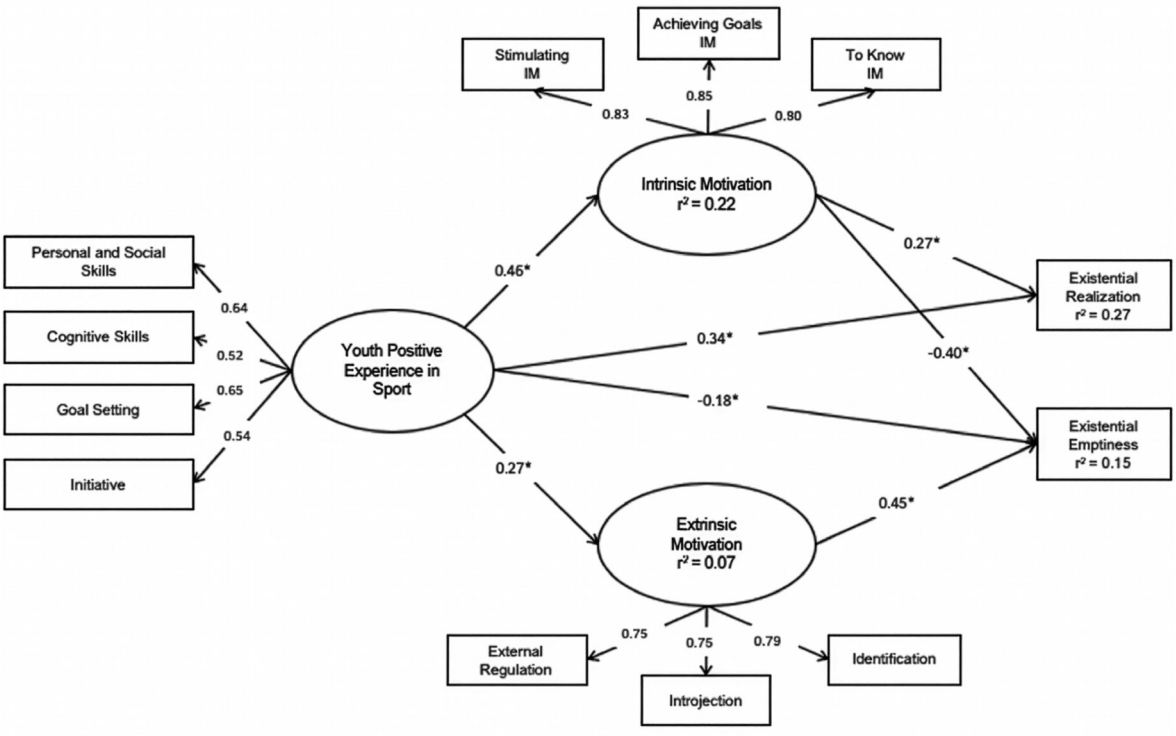


Figure 1. Final Model (B) of the Mediating Role of IM and EM in the Relationship Between Positive Sporting Experience and Life Purpose Among Brazilian Youth Athletes

Source: Own elaboration.

Regarding the direct effects of Model B, we observed that YPES was significantly and moderately associated with motivation (Table 3). This association was stronger for IM than for EM (each SD difference in YPES corresponded to a 0.46 SD difference in IM and 0.27 in EM). Furthermore, YPES showed a positive, moderate direct association with ER (each SD difference in YPES corresponded to a 0.34 SD difference in ER) and a negative direct association with EE (-0.18). These results indicate that higher YPES levels are associated with higher ER and lower EE. Because the design is cross-sectional, the standardized coefficients reflect differences between athletes rather than within-athlete change over time.

Table 3.
Direct, Indirect, and Total Standardized Effects of the Final Model (Model B)

Dependent variable	Independent variable	Standardized effects		
		Direct	Indirect	Total
Intrinsic motivation ($r^2 = 0.22$)	Youth positive sporting experience	0.46*		0.46
Extrinsic motivation ($r^2 = 0.07$)	Youth positive sporting experience	0.27*		0.27
Existential emptiness ($r^2 = 0.15$)	Intrinsic motivation	-0.40*		-0.40
	Extrinsic motivation	0.45*		0.45
	Youth positive sporting experience	-0.18*	-0.07	-0.19
Existential realization ($r^2 = 0.27$)	Intrinsic motivation	0.27*		0.27
	Youth positive sporting experience	0.34*	0.12*	0.46

Note: *$p < 0.05$.
Source: Own elaboration.

Regarding the direct effects of IM and EM on EE and ER (Table 3), IM showed a positive effect on ER (for each one SD increase in IM, ER increased by 0.27 SD) and a negative effect on EE (for each one SD increase in IM, EE decreased by 0.40 SD). Moreover, EM demonstrated a moderate impact on EE (for each one SD increase in EM, EE increased by 0.45 SD). These findings indicate that the direct effects of IM (-0.40*) and EM (0.45) on EE are larger than those of YPES (-0.18*). This pattern was not observed for ER, for which the direct effect of YPES (0.34) is as large as the direct effect of IM (0.27).

Another important aim of our study was to examine whether IM and EM would mediate the associations between YPES and ER and EE. Consistent with the best-fitting model (Figure 1), the bootstrap-generated bias-corrected (BC) CI revealed significant mediating effects of IM and EM. The estimate for the IM mediating effect was 0.23 toward ER ($p < 0.01$; 90% CI: 0.16 to 0.36) and -0.31 toward EE ($p < 0.01$; 90% CI: -0.58 to -0.23). The estimate for the EM mediating effect was 0.34 ($p < 0.01$; 90% CI: 0.22 to 0.49) toward ER and EE, respectively. These findings support the mediating effects of IM and EM when ER and EE are predicted by YPES.

By analyzing the mediation effects (Table 3), we found that YPES had a significant effect ($p < 0.05$) on ER (0.12); however, it had no significant indirect effect on EE ($p > 0.05$) (-0.07). This indicates that, when mediated by IM and EM, YPES can be considered an intervening element only for ER. Thus, the final model (Model B) revealed that IM and EM mediate the relationship between YPES and the athletes' life purpose, with the mediation model explaining 27% of ER variability and 15% of EE variability.

Invariance of Gender, Type of Sport, and Competitive Level

Regarding gender, the structural model demonstrated configural invariance [$X^2(96) = 205.15$; $X^2/df = 2.14$; CFI = 0.95; GFI = 0.93; AGFI = 0.90; TLI = 0.92; NFI = 0.90; RMSEA = 0.049; p (RMSEA < 0.05) = 0.55] and metric invariance of the factor weights [$X^2_{diff}(12) = 1813$; $p = 0.12$]. However, we did not find structural invariance [$X^2_{diff}(14) = 25.31$; $p = 0.03$]. These findings indicate that the structure of the proposed model and its factor weights remained stable for females and males; however, the level of correlations among the factors differed. This means that the indirect impact of both intrinsic and extrinsic motivation was higher for girls, while the direct impact of positive experience in sport was higher for boys.

For the type of sport, the structural model showed configural [$X^2(96) = 203.64$; $X^2/df = 2.12$; CFI = 0.95; GFI = 0.93; AGFI = 0.89; TLI = 0.93; NFI = 0.90; RMSEA = 0.049; p (RMSEA < 0.05) = 0.57], metric [$X^2_{diff}(12) = 12.90$; $p = 0.38$], and structural invariance [$X^2_{diff}(14) = 12.95$; $p = 0.53$]. These results indicate that the model structure, factor weights, and correlation levels among the structural factors were the same for athletes in individual and team sports.

When analyzing invariance at the competitive level, we observed only configurational invariance: $X^2(96) = 227.01$; $X^2/df = 2.365$; *CFI = 0.94; GFI = 0.93; AGFI = 0.88; TLI = 0.91; NFI = 0.90; RMSEA* = 0.054; p (RMSEA < 0.05) = 0.23. We did not find metric [$X^2_{diff}(12) = 22.75$; $p = 0.03$] or structural invariance [$X^2_{diff}(26) = 46.59$; $p = 0.008$]. These findings indicate that, although the model structure was invariant, the direct effect of positive experience on ER was significant and moderate for national-level athletes ($\beta = 0.41$*). This effect was not significant for international-level athletes ($\beta = 0.02$), demonstrating that the direct importance of positive sporting experience for existential realization is limited to national-level athletes.

Discussion

This study explored the mechanisms underlying the association between life purpose and positive sporting experience. We hypothesized that the IM and EM of athletes would explain how YPES is associated with life purpose in a sample of Brazilian young athletes. The findings provided evidence that YPES was positively associated with ER through IM (H1). Nevertheless, when mediated by EM, the effect was not significant, with motivational orientation (IM decreases EE while EM increases it) being more important than own experience (contrary to H2).

Notably, the athletes felt more existentially fulfilled than empty or in existential despair (Table 3). This result indicates that these individuals are excited about their lives, view each day as a new experience, have clear goals, and find a source of pleasure and satisfaction in daily tasks (Aquino et al., 2015). If adolescence is a period when many teenagers may feel hopeless or unsure about the future (Aquino et al., 2015; Benson & Roehlkepartain, 2008; Benson et al., 2012; Shek, 2012), this is not the case for the young athletes in the present study, suggesting that sport may contribute to increased life purpose among these young people.

The mediation model (Figure 1) explained 27% of the variance in ER among young athletes, indicating that a more positive sporting experience, both directly and through intrinsic motivation, is associated with greater ER. However, extrinsic motivation was not significantly associated with ER among these athletes. This finding confirms hypothesis one (H1), as young people need more intrinsic goals in sports to feel a sense of self-achievement and purpose in life.

Studies have shown that intrinsic motivation plays a fundamental role in helping athletes remain in the sports they practice (Rigby & Ryan, 2018; Ryan & Deci, 2017; Standage & Ryan, 2020). Athletes' motivation is influenced by several factors, including self-esteem, perceived competence, goal setting, coaches' behavior, the autonomy coaches offer, and the development of life skills (Cronin et al., 2019; Nascimento Junior et al., 2021; Standage & Ryan, 2020). Cronin et al. (2019) observed in young British athletes that support for coach autonomy was associated with a range of life skills (e. g., communication, goal setting, social skills) and positive psychological outcomes. Nascimento Junior et al. (2021) observed in young Brazilian athletes that high levels of positive experiences through sports for life skills were associated with higher self-determined motivation. Appleton and Duda (2016) found that coaches should be trained to foster a motivational climate for athletes through programs that provide optimal training environments and address broader issues in young athletes' lives, such as life purpose. Thus, the importance of intrinsic motivation for young athletes is evident not only for sport-specific issues but also for aspects inherent in general well-being, quality of life, and self-esteem.

Notably, the 27% explained variance, although substantial for a single contextual antecedent, still leaves most of the variability in life purpose unaccounted for, consistent with the multidetermined nature of this construct. Purpose in life during adolescence has consistently been associated with variables not measured here, such as family support and parental involvement, religiosity and spirituality, personality traits, perceived social support, and the motivational climate created by coaches and peers (Barcaccia et al., 2023; Gu & Cheng, 2025; Ratner et al., 2024). Sport is therefore best understood as one of several developmental contexts associated with life purpose, and future studies should model these variables jointly, ideally using longitudinal designs.

We observed that higher extrinsic motivation was associated with greater existential emptiness (H2), whereas intrinsic motivation was associated with lower levels of this feeling of emptiness (Table 3). This finding is consistent with Frankl's (2011) theory, which holds that when an individual does not see any sense or purpose in their life, they focus on finding the means, such as money, power, or influential friends. Therefore, when young people do not see intrinsic reasons for sports, they feel more existential emptiness. According to the organismic integration theory of SDT, to internalize extrinsic motivation and turn it more into self-determination, social peers (e. g., parents, coaches, partners) must act directly on the values, beliefs, and objectives of the individuals, since social context is extremely important for the behavioral action exercised by individuals in the different contexts of life (Rigby & Ryan, 2018; Standage & Ryan, 2020). Thus, we noted that developing personal and social skills, cognitive skills, goal setting, and initiative is as important as fostering an intrinsic orientation in sport to help young people become more fully realized existentially. Furthermore, to prevent extrinsic motivation, it is necessary not only to promote positive sporting experience but also to be guided by intrinsic rather than extrinsic practice.

These relationships are reinforced by the observation that young people exhibited more self-determined motivation (Rigby & Ryan, 2018; Ryan & Deci, 2017; Standage & Ryan, 2020), mainly linked to stimulating experiences, while motivation for external regulation was less important (Table 3). We noted that these athletes play sports for reasons that indicate greater autonomy (Cronin et al., 2019; Nascimento Junior et al., 2021). This result may be related to internal control, such as the pleasure of practicing, living stimulating experiences, and learning about the sport. Moreover, when young athletes gain benefits for themselves from the sport (identified motivation), this reason matters more than those that indicate greater obligation or controlled motivation (Ryan & Deci, 2017), whether by themselves (introjection of motivation) or by others (external regulation).

Our findings also indicate that the capacity for choice in the face of life's constraints is a fundamental characteristic of human beings, even in the search for a life purpose. According to Frankl (2011), human beings are self-determining and always decide what will make their existence meaningful or what will happen in the next moment. Therefore, finding meaning in life is an inner decision and cannot come from external reasons. According to Frankl (2011), each individual has a specific vocation or mission in life. Thus, these athletes seem to have found sport to be a meaningful activity that helped them find purpose in life and, therefore, feel existentially realized. Positive sporting experiences may have helped these young athletes cope better with the wins and losses arising from practice, and greater intrinsic motivation may have given more meaning to overcoming obstacles, making sport a purpose in their lives. It is worth noting, however, that even though the sense of life never ceases to exist, it always changes (Frankl, 2011). Perhaps that is why it is so difficult for some athletes to end their athletic careers when they experience sadness (Monteiro et al., 2020), and why seeking a new sense of life beyond sport can be challenging.

Conclusion

In conclusion, this study advances understanding of the psychological processes linking positive youth sport experiences to life purpose by demonstrating the determining role of intrinsic motivation. The findings suggest that positive sporting experiences contribute to greater existential fulfillment primarily when they foster self-determined reasons for sport participation, whereas greater reliance on extrinsic motives is associated with increased existential emptiness. These results reinforce the importance of creating sport environments that promote autonomy, enjoyment, personal growth, and meaningful engagement, enabling young athletes to derive broader developmental benefits beyond athletic performance. From a practical perspective, coaches, parents, and sport organizations should prioritize motivational climates that cultivate intrinsic motivation, as this may not only enhance athletes' sporting experiences but also support the development of a stronger sense of purpose during adolescence.

Limitations and Future Research Directions

First, our study focused solely on young people's positive experiences in sport, even though negative experiences can also occur and may influence life purpose. Second, the impact on existential despair could not be verified because this dimension of life purpose showed low reliability in the study. Third, and most importantly, the study used a cross-sectional design, so the paths estimated in the model reflect statistical associations and do not support causal or temporal inferences; the direction of the reported relations should be tested in longitudinal or experimental designs. Fourth, participants were recruited by convenience at a single national competition, so the sample is not representative of Brazilian youth athletes as a whole, and the results should not be generalized to athletes at other competitive levels, from other regions, or in non-competitive settings. Fifth, all variables were assessed via self-report and collected in a single session, which raises the possibility of common method variance and social desirability bias, particularly for the negatively worded dimensions of life purpose. Finally, although the results align with the study's hypotheses and are grounded in theory, the relationships observed in the model are statistical and therefore limited by this type of analysis. Thus, future studies could examine how motivation and contextual factors may contribute to greater existential realization. We believe our findings can help encourage parents, coaches, and sports organizers to create and foster positive experiences for young athletes, including the development of personal and social skills, cognitive skills, goal setting, and initiative. In addition, an intrinsic motivational orientation must be consistently encouraged for all athletes, which is especially important for female teams and athletes at the international competition level.

Authors' contributions

Patrícia Aparecida Gaion: conceptualization, data curation, formal analysis, investigation (research process), methodology (development), visualization (data presentation), and writing – original draft preparation and review & editing.

José Roberto de Andrade do Nascimento Junior: conceptualization, formal analysis, methodology (development), visualization (data presentation), project administration (planning), and writing – review & editing.

Gabriel Lucas Morais Freire: conceptualization, data curation, formal analysis, investigation (research process), methodology (development), visualization (data presentation), and writing – original draft preparation and review & editing.

Sidónio Serpa: conceptualization, formal analysis, methodology (development), visualization (data presentation), project administration (planning), and writing – review & editing.

Lenamar Fiorese: conceptualization, formal analysis, methodology (development), visualization (data presentation), project administration (planning), and writing – review & editing.

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Conflict of interest

The authors declare no conflicts of interest.

Ethical considerations

This study was submitted to and approved by the Ethics Committee for Research Involving Human Subjects at Universidade Estadual de Maringá (Ruling No. 054/2013).

Data availability

Research data and other resources from the study are available upon request from the research team.

References

Appleton, P. R., & Duda, J. L. (2016). Examining the interactive effects of coach-created empowering and disempowering climate dimensions on athletes' health and functioning. *Psychology of Sport and Exercise, 26*, 61–70. http://doi.org/10.1016/j.psychsport.2016.06.007

Aquino, T. A. A. d., Veloso, V. G., Aguiar, A. A. d., Serafim, T. D. B., Pontes, A. d. M., Pereira, G. d. A., & Fernandes, A. S. (2015). Questionário de Sentido de Vida: evidências de sua validade fatorial e consistência interna. *Psicologia: Ciência e Profissão, 35*(1), 4–19. https://doi.org/10.1590/1982-3703001332012

Bara Filho, M., Andrade, D., Miranda, R., Núñez, J. L., Martín-Albó, J., & Ribas, P. R. (2011). Preliminary validation of a brazilian version of the Sport Motivation Scale. *Universitas Psychologica, 10*(2), 557–566. https://doi.org/10.11144/Javeriana.upsy10-2.pvbv

Barcaccia, B., Couyoumdjian, A., Di Consiglio, M., Papa, C., Ganucci Cancellieri, U., & Cervin, M. (2023). Purpose in life as an asset for well-being and a protective factor against depression in adolescents. *Frontiers in Psychology*, *14*, Article 1250279. https://doi.org/10.3389/fpsyg.2023.1250279

Bean, C., Kramers, S., Forneris, T., & Camiré, M. (2018). The implicit/explicit continuum of life skills development and transfer. *Quest, 70*(4), 456–470. https://doi.org/10.1080/00336297.2018.1451348

Benson, A. J., & Bruner, M. W. (2018). How teammate behaviors relate to athlete affect, cognition, and behaviors: A daily diary approach within youth sport. *Psychology of Sport and Exercise, 34*, 119–127. https://doi.org/10.1016/j.psychsport.2017.10.008

Benson, P. L., & Roehlkepartain, E. C. (2008). Spiritual development: A missing priority in youth development. *New Directions for Youth Development, 2008*(118), 13–28. https://doi.org/10.1002/yd.253

Benson, P. L., Scales, P. C., Syvertsen, A. K., & Roehlkepartain, E. C. (2012). Is youth spiritual development a universal developmental process? An international exploration. *The Journal of Positive Psychology, 7*(6), 453–470. https://doi.org/10.1080/17439760.2012.732102

Byrne, B. M. (2013). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. Routledge.

Casellas-Grau, A., Vives, J., Font, A., & Ochoa, C. (2016). Positive psychological functioning in breast cancer: An integrative review. *The Breast, 27*, 136–168. https://doi.org/10.1016/j.breast.2016.04.001

Cheung, G. W., & Lau, R. S. (2008). Testing mediation and suppression effects of latent variables: Bootstrapping with Structural Equation Models. *Organizational Research Methods, 11*(2), 296–325. https://doi.org/10.1177/1094428107300343

Côté, J., Turnnidge, J., Murata, A., McGuire, C., & Martin, L. (2020). Youth sport research: Describing the integrated dynamics elements of the personal assets framework. *International Journal of Sport Psychology*, *51*(6), 562–578. https://doi.org/10.7352/IJSP.2020.51.562

Cronin, L., Marchant, D., Allen, J., Mulvenna, C., Cullen, D., Williams, G., & Ellison, P. (2019). Students' perceptions of autonomy-supportive versus controlling teaching and basic need satisfaction versus frustration in relation to life skills development in PE. *Psychology of Sport and Exercise, 44*, 79–89. https://doi.org/10.1016/j.psychsport.2019.05.003

Frankl, V.E. (2011). *Em busca de sentido*. 30. ed. São Leopoldo: Sinodal; Petrópolis: Vozes.

Girmenia, E., Andrissi, L., & Tambone, V. (2014). Sulle applicazioni cliniche della logoterapia: una rassegna sull'eredità di Victor Emil Frankl. *La Clinica Terapeutica, 165*(4), e330–335. https://doi.org/10.7417/CT.2014.1751

Gledhill, A., Harwood, C., & Forsdyke, D. (2017). Psychosocial factors associated with talent development in football: A systematic review. *Psychology of Sport and Exercise, 31*, 93–112. https://doi.org/10.1016/j.psychsport.2017.04.002

Gu, Y., & Cheng, L. (2025). A systematic review and meta-analysis of motivational climate and youth sport outcomes: Examining a hierarchical effects model. *Frontiers in Psychology*, *16*, Article 1716745. https://doi.org/10.3389/fpsyg.2025.1716745

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review, 26*(2),106–121. https://doi.org/10.1108/EBR-10-2013-0128

Holt, N. L., Neely, K. C., Slater, L. G., Camiré, M., Côté, J., Fraser-Thomas, J., MacDonald, D., Strachan, L., & Tamminen, K. A. (2017). A grounded theory of positive youth development through sport based on results from a qualitative meta-study. *International Review of Sport and Exercise Psychology, 10*(1), 1–49. https://doi.org/10.1080/1750984X.2016.1180704

King, P. E., Carr, D., & Boitor, C. (2011). Religion, spirituality, positive youth development, and thriving. *Advances in Child Development and Behavior, 41*, 161–195. https://doi.org/10.1016/B978-0-12-386492-5.00007-5

Kline, R. B. (2015). *Principles and Practice of Structural Equation Modeling*. Guilford Publications.

Kub, J., & Solari-Twadell, P. A. (2013). Religiosity/spirituality and substance use in adolescence as related to positive development: A literature review. *Journal of Addictions Nursing, 24*(4), 247–262. https://doi.org/10.1097/JAN.0000000000000006

Lima, C. P. D., & Machado, M. D. A. (2018). Cuidadores principais ante a experiência da morte: seus sentidos e significados. *Psicologia: Ciência e Profissão*, *38*(1), 88–101. https://doi.org/10.1590/1982-3703002642015

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*(2), 130–149. https://doi.org/10.1037/1082-989X.1.2.130

Marôco, J. (2010). *Análise de equações estruturais: fundamentos teóricos, software & aplicações*. ReportNumber, Lda.

Monteiro, R., Monteiro, D., Nunes, C., Torregrossa, M., & Travassos, B. (2020). Identification of key career indicators in portuguese football players. *International Journal of Sports Science & Coaching, 15*(4), 533–541. https://doi.org/10.1177/1747954120923198

Nascimento Junior, J. R. A. d., Freire, G. L. M., Quinaud, R. T., Oliveira, D. V. d., & Cronin, L. D. (2021). Life skills development through sport in Brazil: A study based on self-determination theory. *Perceptual and Motor Skills*, *128*(3), 1017–1036. https://doi.org/10.1177/00315125211000860

Pierce, S., Gould, D., & Camiré, M. (2017). Definition and model of life skills transfer. *International Review of Sport and Exercise Psychology, 10*(1), 186–211. https://doi.org/10.1080/1750984X.2016.1199727

Qi, S., Hua, F., Zhou, Z., & Shek, D. T. (2020). Trends of positive youth development publications (1995–2020): A Scientometric Review. *Applied Research in Quality of Life*, *17*(1), 421–446. https://doi.org/10.1007/s11482-020-09878-3

Ratner, K., Xie, H., Zhu, G., Estevez, M., & Burrow, A. L. (2024). Trajectories and predictors of adolescent purpose development in self-driven learning. *Child Development*, *96*(2), 691–704. https://doi.org/10.1111/cdev.14201

Rigby, C. S., & Ryan, R. M. (2018). Self-determination theory in human resource development: New directions and practical considerations. *Advances in Developing Human Resources, 20*(2), 133–147. https://doi.org/10.1177/1523422318756954

Rigoni, P. A. G., Nascimento Junior, J. R. A., Belem, I. C., Vieira, L. F., & MacDonald, D. J. (2018). Cross-cultural adaptation and psychometric properties of the portuguese version of the Youth Experience Survey for Sport (P-YES-S). *Measurement in Physical Education and Exercise Science, 22*(4), 310–321. https://doi.org/10.1080/1091367X.2018.1446961

Rodrigues, F., Mageau, G. A., Lemelin, E., Teixeira, D., Vitorino, A., Cid, L., & Monteiro, D. (2021). Life Satisfaction of paralympians: The role of needs satisfaction and passion. *International Journal of Sports Science & Coaching*, *17*(3), 510–518. https://doi.org/10.1177/17479541211036224

Ryan, R. M., & Deci, E. L. (2021). Self-determination theory: Basic psychological needs in motivation, development, and wellness. *Rajagiri Management Journal, 15*(1), 88-90. Guilford Publications.

Shek, D. T. (2012). Spirituality as a positive youth development construct: A conceptual review. *The Scientific World Journal, 2012*(1), Article 458953. https://doi.org/10.1100/2012/458953

Standage, M., & Ryan, R. M. (2020). Self-determination theory in sport and exercise. (Eds. G. Tenenbaum and R.C. Eklund). *Handbook of Sport Psychology*, 37-56. https://doi.org/10.1002/9781119568124.ch3

Weinberg, R. S. (2013). Goal setting in sport and exercise: Research and practical applications. *Revista da Educação Física/UEM, 24*(2), 171–179. https://doi.org/10.4025/reveducfis.v24.2.17524

Whitley, M. A., Massey, W. V., Camiré, M., Boutet, M., & Borbee, A. (2019). Sport-based youth development interventions in the United States: A systematic review. *BMC Public Health, 19*(1), 1–20. https://doi.org/10.1186/s12889-019-6387-z

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