

The Role of Sport Confidence, Imagery Use and social Sport confidence and performance in adolescent athletes

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The aims of this study were to assess the relationship between sport confidence and competitive performance, determine whether imagery has a mediating influence on the relationship, and explore the potential mediating role of sport confidence between confidence sources and sport performance. 519 adolescent athletes aged 14 to 19 years responded to sport confidence, social support, sport imagery and subjective social status instruments. For the analysis of mediation and estimation of the effects between the variables, structural equation modelling was performed. Through structural equation modelling were verified significant direct effects between sport confidence and social support ($\beta=-0.45$; $p < 0.001$), age ($\beta=-0.12$; $p=0.021$), sport experience ($\beta=-0.22$; $p<0.001$), performance ($\beta=-0.26$; $p<0.001$), subjective social status ($\beta=-0.49$; $p<0.001$) and sport imagery ($\beta=-0.64$; $p<0.001$). Sport performance suffered significant direct effects from imagery ($\beta=0.18$; $p=0.013$) and sport experience ($\beta=-0.24$; $p<0.001$). Furthermore, it was verified sport imagery mediating influence on the relationship between sport confidence and athletes' performance ($\beta=-0.115$; $p=0.002$) and sport confidence mediating influence on the relationship between social support ($\beta=-0.07$; $p<0.05$) and sport experience ($\beta=-0.031$; $p<0.05$) with performance. We conclude that the proposed model can be useful in explaining the role of sport confidence for performance in sports.

KEY WORDS: Athletic performance, Confidence, Social support, imagery, Adolescent.

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Introduction

Research on the performance variables of athletes has gained prominence in recent decades. Sport performance is understood to depend not solely on the physical capabilities and movement skills of athletes, as even elite, well-trained athletes and teams often fail to achieve high performance in competitions (Bandura, 1990). Sports competitions are, by definition, pressure situations; therefore, it can be inferred that psychological skills like emotional intelligence also contribute to the success of athletic performance (Crombie et al., 2009).

Bandura (1990) highlighted that, in environments where everyone is highly skilled, small variations in execution proficiency can mean the difference between victory and defeat in a sport context. Moritz, Feltz, and Mack (2000), in a meta-analytical review, found that about 16% of the variance in athletic performance can be attributed to perceived self-efficacy. Self-efficacy beliefs consist of the personal judgments that individuals have about their abilities to organize and execute courses of action necessary to achieve certain types of performance (Bandura, 1990). On the one hand, self-efficacy in the exercise of thought control is a crucial determinant of athletic performance, and experienced athletes have remarkable efficacy in ignoring distractions and controlling disruptive thinking. On the other hand, low self-efficacy may drive a vicious cycle of insecurity and performance deterioration.

In addition to the important role of perceived self-efficacy in sport performance, self-confidence has been shown to be the most important psychological ability defining the mental vigor of successful elite athletes (Vealey, 2009). Feltz and Oncu (2014) argue that self-efficacy is more like state self-confidence and less like Vealey's trait dimension. In this sense, self-confidence can be defined as an athlete's degree of certainty in their ability to be successful in sports, contributing to optimism in overall performance (Vealey, 1986; 2003).

As a way of understanding more deeply the role of athletes' self-confidence, Vealey (2001) built a theoretical model of sport confidence. In this model, organizational culture (competitive level, motivational climate, and specific objectives of sports programs) and personal characteristics (attitudes, values, personality, gender, age, and ethnicity) influence the sources and levels of sport confidence. According to the model, sources of self-confidence include mastery, physical and mental preparation, self-regulation, vicarious experience, coach leadership, environmental comfort, situational favorableness, and social support. Social support (positive feedback and encouragement from coaches, teammates, and/or friends) is pointed out as one of the main sources of confidence by elite athletes (Hays et al., 2009).

Freeman and Rees (2010) found that social support among teammates is a positive predictor of self-confidence and can lead to a series of positive cognitive, emotional, behavioral, and physiological states, thereby contributing to competitive performance (Cohen, Underwood & Gottlieb, 2000).

Self-confidence is associated not only with social support (Freeman, Rees, 2010; Rees, Freeman, 2007) but also with imagery use (Munroe-Chandler, Hall & Fishburne, 2008; Hall et al., 2009; Slimani et al., 2016; Marshall & Gibson, 2017) and performance (Gagnon-Dolbec, McKelvie & Eastwood, 2022; Pardilla et al., 2021; Besharat, Pourbohloul, 2011; Woodman, Hardy, 2003; Martin, Gill, 1991). A crucial aspect of Vealey's integrated model of sport confidence (1998; 2001) is the reciprocal nature of affective, behavioral, and cognitive factors (associated with intrapersonal characteristics of athletes). According to the model, such factors have the potential to mediate the relationship between sport confidence and performance.

Imagery, one of the behavioral factors influencing the association between sport confidence and performance, can be broadly defined as the ability to represent, rehearse, and mentally perform a task (Gregg, Hall & Nederhof, 2005; Kizildag & Tityaki, 2012). The mediating role of imagery was observed between self-efficacy and performance in golf athletes (Beauchamp, Bray & Aalbinson, 2002) and between sport confidence and subjective performance in athletes from different sports (Levy et al., 2015; Levy et al., 2011). These findings support the observation of Bandura (1999) that a high sense of personal effectiveness promotes the use of mental visualization, which in turn improves performance.

Furthermore, Nicholls et al. (2015), for instance, found that athletes who build their confidence from their achievements and who reported using imagery more frequently were likely to increase their sport confidence and subsequent performance. Koehn, Pearce, and Morris (2013), in assessing the mediator role of sport confidence in the relationship between confidence sources (achievements, self-regulation, and social atmosphere) and dispositional flow, observed that sport confidence partially mediated the relationship between achievements (lower limit = 0.056, upper limit = 0.304, $p = 0.014$), self-regulation (lower limit = 0.065, upper limit = 0.281, $p = 0.018$), and the flow dimensions challenge-skills balance, clear goals, and concentration on the task at hand.

Vealey (2001) recommended that researchers investigate the processes or mechanisms that explain the relationship between sport confidence and performance. An important starting point is to identify relevant mediating and/or moderating variables. We highlight two studies that sought to carry out this analysis. Levy, Nicholls, and Polman (2011) investigated the mediating effect of coping techniques (among them, mental imagery) on the relationship between

sport confidence and subsequent performance. However, the outcome variable was subjective performance, which does not objectively reflect the actual performance of athletes, and the mediating variable was coping, not the construct of imagery. In another study, Besharat and Pourbohlool (2011), verified that self-confidence and sport self-efficacy moderated the relationship between competitive anxiety and sport performance in a sample of Iranian athletes.

In addition, Andrade (2015) examined the relevance of self-confidence models (Vealey's sport confidence concept, Bandura's self-efficacy theory, and Harter's perceived competence model) to sport performance and found that, although there is an association between self-confidence and sports performance, it is not particularly clear whether this association is causal in nature. The current study is based on Vealey's model of sport confidence (2001), which considers that sport confidence is influenced by social support and can predict imagery use and, therefore, competitive performance. In this case, it is assumed that sport confidence is the mediator between social support and performance, and imagery use is the mediator between sport confidence and performance. The objectives of this study were to assess the relationship between sport confidence and competitive performance, determine whether imagery has a mediating influence on the relationship, and explore the potential mediating role of sport confidence between confidence sources and performance.

Method

STUDY PARTICIPANTS

In total, 519 adolescent athletes (268 boys and 251 girls) aged 14 to 19 years (16.32 ± 1.15 years) participated in the study, including engage on team (66.9%) and individual (33.1%) sports who competed at the state (53.0%), national (29.9%), and international (17.1%) levels. Athletes were invited to participate voluntarily in the study. Individuals older than 18 years who agreed to participate signed an informed consent form before taking part in the study. For adolescents aged less than 18 years, informed consent was obtained from themselves and their parents or guardians, in accordance with human research ethics guidelines and Brazilian National Health Council Resolution no. 466/12. This study was approved by the Human Research Ethics Committee of the Santa Catarina State University, Brazil (protocol n°. 2,776,501).

VARIABLES AND INSTRUMENTS

Sport experience. Information on sport experience was obtained using the open-ended question "How long have you been practicing the sport?" Responses were recorded in years and months. Athletes were also asked about the type of sport they practiced (individual or team) and their highest competitive level (state, national, or international).

Competitive experience. The level of competitive experience of athletes was surveyed by the following question: “How many times did you compete in the Santa Catarina Open Championship?” Answers were categorized as “never,” “once,” “twice,” “three times,” “four times,” or “five times.”

Sport confidence. The level of sport confidence of athletes, defined as self-confidence or degree of certainty in their ability to be successful in sport (Vealey, 1986), was assessed using a translated version of the Sport Confidence Inventory (SCI-BR). The instrument, developed by Vealey and Knight (2003), comprises 14 items grouped into three dimensions: physical skills and training (items 1, 4, 7, 10, and 13), cognitive efficiency (items 2, 5, 8, and 11), and resilience (items 3, 6, 9, 12, and 14). The original version was translated, culturally adapted, and validated in a sample of Brazilian athletes aged 14 to 19 years by Barbosa et al (2021). SCI-BR preserves the multidimensional character of the original instrument, with a two-dimensional factor structure divided into i) physical skills and training and ii) cognitive efficiency and resilience. The validation study also reported good reproducibility (intraclass correlation coefficient, ICC = 0.870) and content and construct validities (root mean square error of approximation, RMSEA = 0.078; comparative fit index, CFI = 0.90; Tucker–Lewis index, TLI = 0.86; standardized root mean residual, SRMR = 0.062).

Participants were asked to report how they felt about their ability to be successful in different sports situations shortly before a competition. Answers were rated on a scale of 1 to 7, where 1 indicates “I can’t do it” and 7 indicates “I am completely sure I can do it.”

Sport imagery. The Sport Imagery Questionnaire for Children (SIQ-C) (Hall et al., 2009) is a self-report assessment tool that measures the frequency of use of motivational and cognitive imagery in children and adolescents. The instrument consists of 21 items rated on a 5-point Likert scale ranging from never/rarely (1) to frequently (5). Imagery functions are divided into five domains: cognitive general (CG), cognitive specific (CS), motivational general-arousal (MG-A), motivational general-mastery (MG-M), and motivational specific (MS).

In the current study, we used a translated, culturally adapted, and validated version of the questionnaire (SIQ-C-BR). In a validation study conducted with Brazilian adolescent athletes by Barbosa, Hall, and Felden (2022), SIQ-C-BR showed good construct validity for the five functions (RMSEA = 0.060, CFI = 0.90, TLI = 0.88, SRMR = 0.047) as well as high internal consistency ($\alpha = 0.870$), reproducibility (ICC = 0.824), and content validity.

Perceived available support. The Perceived Available Support in Sport Questionnaire (PASS-Q), developed by Freeman, Coffee, and Rees (2011), is a specific instrument to assess perceived available support among athletes. The questionnaire contains 16 items grouped into four dimensions: emotional support (items 1, 8, 11, and 14), esteem support (items 2, 4, 9, and 12), informational support (items 5, 7, 13, and 15), and tangible aid (items 3, 6, 10, and 16) (Cutrona, Russel, 1990; Rees, Hardy, 2000). Responses are provided on a Likert scale ranging from 0 (not at all) to 4 (extremely so). High scores indicate a high level of perceived available support, a format that is congruent with perceived available support measures used in general social psychology studies (Wills, Shinar, 2000).

In the present study, we used PASS-Q-BR, a Brazilian Portuguese version of the instrument that was translated, culturally adapted, and validated with 14–19-year-old athletes by Barbosa, Freeman, and Felden (2020). PASS-Q-BR showed high internal consistency ($\alpha=0.861$), reproducibility (ICC = 0.899), and content validity. Confirmatory factor analysis revealed that absolute fit indices were satisfactory for the four support dimensions (RMSEA = 0.075, CFI = 0.92, TLI = 0.91, SRMR = 0.042).

Subjective social status. A modified version of the MacArthur Scale of Subjective Social Status – Youth Version was used to measure the subjective social status of athletes within their sports com-

munity (sports club) (Goodman et al., 2001). In this instrument, the social scale is represented by a picture of a "social ladder." From a sports perspective, it is considered that the most skilled, respected, and wanted athletes are at the top of the social ladder, whereas the unskilled, unpopular, and least respected are at the bottom. Respondents are instructed to indicate their position on the social scale with an "X." The measure is scored as 1 if the "X" is marked on the lowest rung or the space above it, as 2 if the "X" is marked on the second rung or the space above, until the last rung, which is scored as 10. Thus, the higher the score, the higher the athlete's subjective social status in sport.

Sport performance. Data on sport performance were obtained from official documents made available by a sports event organization. The variable was recorded as the athletes' ranking at the end of the competition, with values varying from 1 (first place) to 24 (last place recorded for the sample).

DATA COLLECTION

Participants were recruited on-site during a sports event. After agreeing to participate, the athletes received and signed an informed consent form. Before participants competed in the first match, a trained researcher administered the questionnaire, explaining each item and answering any questions that were raised.

Statistical analysis

The Statistical Package for the Social Sciences (SPSS) version 20.0 and Stata version 13.1 were used for data analysis. Nonparametric tests were performed, as the data did not meet normality assumptions. Descriptive analyses of central tendency and dispersion were performed for numerical variables, and the chi-square (χ^2) test was applied to categorical variables. Spearman's correlation test was used to examine the relationship between sport confidence and performance and between imagery use, social support, subjective social status, age, sport experience, and competitive experience.

A structural equation model was fitted to the data to assess structural relationships (direct and indirect effects) between the variables. Imagery use was treated as a mediating variable in the relationship between sport confidence and performance, and sport confidence as a potential mediator between perceived available social support and sport performance, sport experience, competitive experience, and age. Variables that correlated significantly ($p < 0.05$) with sport confidence, performance, or both were included in the model. The percentage contribution of the mediator variable to the total effect of the relationship between sport confidence and performance was calculated by dividing the indirect effect by the total effect (sum of direct and indirect effects).

Absolute fit indices (χ^2 , CFI, TLI, SRMR, and RMSEA) were used to assess the validity of the structural equation model. CFI and TLI values greater

than 0.90 (Bentler, 1990) and SRMR and RMSEA values lower than 0.08 (Bentler, 1990; Browne & Cudeck, 1992) were considered adequate. For all statistical analyses, the significance level was set at $p < 0.05$.

Results

The study sample comprised 519 adolescent athletes, with a mean age of 16.32 ± 1.15 years, most of which were male (51.6%), middle class (54.4%), practitioners of team sports (66.7%), who competed at the state level (53.0%). The mean ranking of athletes in the competition was 5.63 ± 4.16 , and the mean subjective social status score within their sports club was 7.19 ± 1.93 , as shown in Table I. Information on sports and competitive experiences is also presented in Table I.

Descriptive analysis of instrument data showed that the overall mean SCI-BR score was 76.27 ± 8.99 , the overall mean SIQ-C-BR score was 77.43 ± 10.61 , and the overall mean PASS-Q-BR score was 46.39 ± 9.65 (Table I). In SCI-BR, the mean dimension scores were 6.05 ± 0.79 for physical skills and training and 5.66 ± 0.80 for cognitive efficiency and resilience. SIQ-C-BR function scores were 4.09 ± 0.65 for MG-M, 4.09 ± 0.71 for MS, 3.77 ± 0.72 for MG-A, 3.96 ± 0.70 for CS, and 3.44 ± 0.66 for CG. In PASS-Q-BR, mean dimension scores for emotional support, esteem support, informational support, and tangible aid were 3.11 ± 0.75 , 3.08 ± 0.74 , 3.26 ± 0.72 , and 2.87 ± 0.75 , respectively.

TABLE I
Descriptive data from the sample ($n=519$)

Variables	Indexes*
Age, years	16.32 (1.15)
Sex	
Male	268 (51.6%)
Female	251 (48.4%)
Sport experience, months	62.01 (35.20)
Competitive experience, n° of participations	1.35 (1.34)
SCI-BR, points	76.27 (8.99)
SIQ-C (BR), points	77.43 (10.61)
PASS-Q (BR), points	46.39 (9.65)
SSS in the team no clube, points	7.19 (1.93)
Performance, ranking	5.63 (4.16)

Significant correlations were observed between sport confidence, performance, imagery use, social support, subjective social status, age, sport experience, and competitive experience (Table II). There was a negative correlation between sport confidence scores and performance ($r_{ho} = -0.244$, $p < 0.001$), even after stratification by gender (boys, $r_{ho} = -0.320$ and $p < 0.001$; girls, $r_{ho} = -0.180$ and $p = 0.004$) and type of sport, (individual sports, $r_{ho} = -0.159$ and $p = 0.047$; team sports, $r_{ho} = -0.287$ and $p < 0.001$). Sport confidence showed positive correlations ($p < 0.001$) with total and dimension scores of imagery use and perceived available social support. Sport experience, competitive experience, and subjective social status were positively correlated with sport confidence ($p < 0.05$).

No correlations were observed between competitive performance and imagery use, perceived available social support, or subjective social status (p

TABLE II
Spearman linear correlation between study variables.

Variables	SCI-BR	p-value	Performance	p-value
	rho		rho	
SIQ-C				
CG, points	0.314	<0.001	-0.046	0.302
CS, points	0.377	<0.001	0.030	0.507
MG-M, points	0.451	<0.001	-0.062	0.167
MG-A, points	0.311	<0.001	-0.026	0.561
MS, points	0.330	<0.001	-0.027	0.548
Total, points	0.458	<0.001	-0.037	0.408
PASS-Q (BR)				
Emotional, points	0.290	<0.001	-0.034	0.450
Esteem, points	0.336	<0.001	-0.034	0.445
Informational, points	0.274	<0.001	-0.056	0.212
Tangible, points	0.283	<0.001	-0.017	0.698
Total, points	0.339	<0.001	-0.045	0.311
SSS in the team, points	0.351	<0.001	-0.074	0.096
Age	0.127	0.004	-0.173	<0.001
Sport experience	0.224	<0.001	-0.334	<0.001
Competitive experience	0.091	0.039	-0.114	0.010
SCI-BR, points	-	-	-0.244	<0.001
Performance, ranking	-0.244	<0.001	-	-

*CG: Cognitive General; CS: Cognitive Specific; MG-M: Motivational General Mastery; MG-A: Motivational General Arousal; MS: Motivational Specific; SSS: Social Subjective Status.

> 0.05). However, we observed that older athletes ($rbo = -0.173, p < 0.001$), athletes with more sport experience ($rbo = -0.334, p < 0.001$), and athletes with more experience in competitions/matches ($rbo = -0.114, p = 0.010$) had a better competitive performance.

Model analysis revealed an indirect effect of sport confidence on performance ($\beta = -0.115, SE = 0.139, z = -3.17, p = 0.002$). Imagery use mediated 73% of the total effect of the relationship between sport confidence and performance. Social support had a significant indirect effect on performance ($\beta = -0.07$; standard error, $SE = -0.436; z = -2.55; p = 0.011$), as did sport experience ($\beta = -0.031, SE = 0.004, z = -2.27, p = 0.0023$). Sport confidence mediated 11% of the total effect of the relationship between sport experience and performance. No direct or indirect effects of age and competitive experience on confidence-mediated performance were observed (Table III).

Figure 1 shows the coefficients of direct effects between model variables. We observed significant direct effects of sport confidence on social support ($\beta = -0.45, z = -9.54, p < 0.001$), age ($\beta = -0.12, z = -2.30, p = 0.021$), sport experience ($\beta = -0.22, z = -4.43, p < 0.001$), performance ($\beta = -0.26, z = -5.78, p < 0.001$), social status ($\beta = -0.49, z = -11.87, p < 0.001$), and imagery use ($\beta = -0.64, z = -16.47, p < 0.001$). Sport performance had significant effects on imagery use ($\beta = 0.18, z = 2.47, p = 0.013$) and sport experience ($\beta = -0.24, z = -5.24, p < 0.001$). The model provided a satisfactory fit to the data, with an RMSEA of 0.060, a CFI of 0.938, a TLI of 0.923, and an SRMR of 0.057 (Table IV). This result demonstrates the validity of the full structural equation model for the relationship of sport confidence, social support, and sport experience with performance, mediated by imagery and sport confidence.

TABLE III

Standardized direct, indirect and total effects of sport confidence, social support and sport experience on performance from the full structural model in the sample.

Exposure → Mediator → Outcome	Direct effect	Indirect effect	Total effect
Sport confidence → imagery → performance	0.26***	-0.11**	0.15***
Social support → sport confidence → performance	-	-0.07*	-0.07**
Sport experience → sport confidence → performance	-0.24***	-0.03*	-0.27***
Age → sport confidence → performance	-0.09 ^{ns}	-0.02 ^{ns}	0.08*
Competitive experience → sport confidence → performance	0.02 ^{ns}	0.00 ^{ns}	0.01 ^{ns}

^{ns} not significant

* $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$

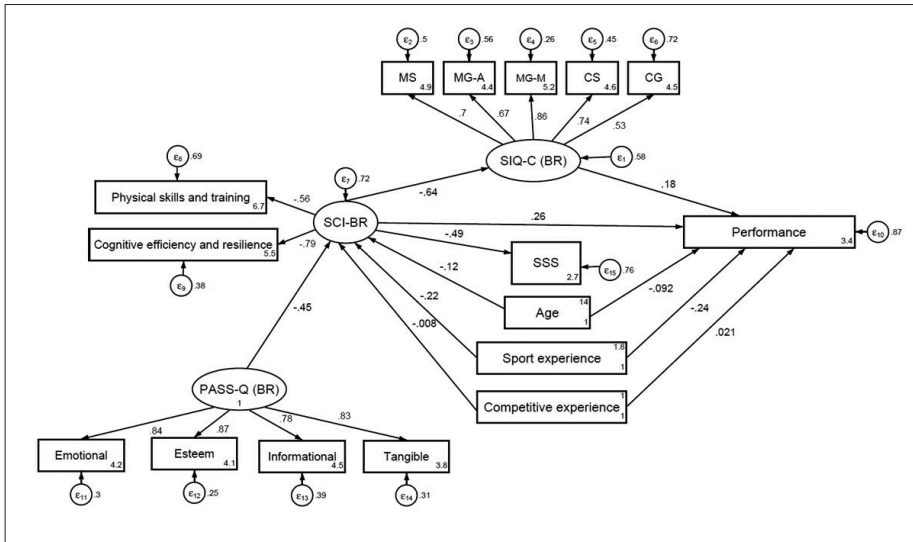


Fig. 1. - Modeling structural equations of sport confidence associated with social support - PASS-Q (BR), imagery - SIQ-C (BR), subjective social status (SSS) in the team and performance. The variables age, sport experience and competition experience were included in the model.

TABLE IV
Global adjustment indicators of the full model.

Variables*	Indexes
X ²	266.881
RMSEA	0.060 (90%CI 0.052-0.069)
CFI	0.938
TLI	0.923
SRMR	0.057

*RMSEA: Root Mean Square Error of Approximation; CFI = Comparative fit index; TLI = Tucker-Lewis index; SRMR: Standardized Root Mean Square Residual.

Discussion

Because sport performance variables, their relationships, and their mediators have been little investigated, in this study, we assessed the association between sport confidence and competitive performance, determined the mediating influence of imagery use on this relationship, and explored the potential mediating role of sport confidence between confidence sources and

performance. A negative correlation was found between sport confidence scores and performance ($r_{ho} = -0.244, p < 0.001$), showing that the higher the confidence, the better the competitive performance. The correlation was maintained even after stratifying by gender, for both boys ($r_{ho} = -0.320, p < 0.001$) and girls ($r_{ho} = -0.180, p = 0.004$), and by type of sport, for both individual sports ($r_{ho} = -0.159, p = 0.047$) and team sports ($r_{ho} = -0.287, p < 0.001$). In addition, a stronger correlation was found between sport confidence and performance in international level athletes ($r_{ho} = -0.302, p = 0.004$) than in national level athletes ($r_{ho} = -0.204, p = 0.013$), corroborating the findings of Hays et al. (2009) and Woodman and Hardy (2003), who observed that the correlation between these variables is stronger for elite than non-elite athletes.

Previous studies reported significant relationships between sport confidence and performance (Mowlaie et al., 2011; Cox et al., 2010; Craft et al., 2003; Gayton & Nickless, 1987; Hays et al., 2009; Martin & Gill, 1991; Modroño, Guillén, 2011) and between self-efficacy and performance (Mowlaie et al., 2011; Beattie et al., 2014; Hayslip et al., 2010; Moritz et al., 2000; Schmidt & Deshon 2010). However, because the relationship of sport confidence and athletic performance is not well established, few studies have found significant correlations (Gagnon-Dolbec, McKelvie & Eastwood, 2022; Beattie et al., 2004; Heazlewood & Burke, 2011). In an experimental study by Gagnon-Dolbec, McKelvie and Eastwood (2022), performance feedback was manipulated to investigate the effect of sport confidence on performance. The authors found that confidence was influenced by feedback, whether negative or positive, but athletic performance remained stable, indicating that confidence may have no influence over performance. However, the authors argued that, although experimental manipulation is a powerful tool to investigate causal relationships, variations in confidence as a result of artificial feedback may not be the same as natural variations based on actual performance or feedback.

In the present study, in addition to being associated with performance, sport confidence showed positive correlations with the constructs of imagery use and perceived available social support. Thus, the more confident the athletes felt, the more often they used imagery functions and the higher their perception of available social support. Regarding imagery use, in studies by Callow, Hardy and Hall (2001) and Vadoa, Hall, and Moritz (1997), improvements in self-confidence were observed in elite adult badminton athletes (Callow, Hardy & Hall, 2001) and elite skaters aged 12 to 18 years (Vadoa, Hall & Moritz, 1997) following an intervention program on imagery use. Mills, Munroe, and Hall (2000) and Moritz et al. (1996) found that

athletes with high levels of self-confidence in competitive situations had a greater tendency to use imagery than peers with low self-confidence. Social support has been shown to be an important source of self-confidence (Hays et al., 2009; Vealey et al., 1998) and a positive predictor of self-confidence among teammates (Freeman & Rees, 2010).

In the present study, confident athletes had higher perceived social support and indices of subjective social status ($r = 0.351$, $p < 0.001$), indicating greater perception of belonging and social recognition by peers. Low subjective social status among young athletes has been associated with player selection, salary (Da Silva et al., 2018), and gender schema (Medeiros, Ferrari & Cardoso, 2014). Freitas et al. (2016) investigated the relationship between socioeconomic status and subjective and sociodemographic indicators (age, level of education, marital status, and economic level) of 593 Brazilian athletes and found that male, younger, less educated, and single athletes had a higher chance of being dissatisfied with their social status in sports environments compared with female, more educated, older, and married individuals. According to the structural model proposed in the current study, subjective social status is directly affected by sport confidence ($\beta = -0.490$, $p = 0.002$). This result shows that the importance of subjective social status goes beyond that of its relationship with sociodemographic variables; it may also be predicted by psychological variables, such as sport confidence.

Although sport confidence was correlated with subjective social status, social support, and imagery use, no correlations were observed between these variables and actual competitive performance. Age, sport experience, and competitive experience were positively correlated with both sport confidence and competitive performance. Bandura (1999) and Vealey et al. (1986) argued that sport experience influences competitive performance, indicating that experience and mastery of a skill set are one of the major sources of self-efficacy and sport confidence, respectively. In a sample of adventure athletes, Lavoura and Machado (2008) observed that individuals with more sport experience considered themselves more capable of performing specific actions in canoe slalom than those with less experience in the sport.

Given the complex nature of the potential relationship between social (social support and subjective social status), psychological (self-confidence and self-efficacy), behavioral (sport experience, and competition) and cognitive-emotive process (imagery use) variables to explain the actual performance of young athletes, in the present study, a structural model was proposed in which sport confidence played both a predictive and a mediator role in its relationship with performance. This is supported by the integrated

model of sport confidence proposed by Vealey (2001), who considered that sport performance is too complex to be predicted solely by sport confidence or psychological variables. Vealey (2001) suggested investigating potential mediators that influence the confidence-performance relationship. The results of the present study show that imagery use is a partial mediator of this relationship ($\beta = -0.115$, $p = 0.002$), as it mediated 73% of the total effect. The findings allow inferring those athletes with high sport confidence have superior performance because they use tools that allow them to mentally visualize actions and/or sports situations. Similar results were obtained by Levy, Nicholls, and Polman (2011), who observed, in a sample of 414 young English athletes from different sports, that the use of mental imagery has the potential to increase not only confidence but also subsequent performance.

Sport confidence, as shown in the present study, can function as a predictor and a mediator. There was a significant contribution of perceived available social support (indirect effect = 0.07, $p < 0.05$) and sport experience (total effect = 0.27, $p < 0.001$), mediated by sport confidence, in explaining competitive performance. This is in agreement with another key hypothesis proposed by Vealey's integrated model (2001): confidence sources (among them, social support and sport experience) have an indirect effect on performance through the mediating influence of sport confidence.

The results demonstrated a clear, positive association of social support and sport experience with sport confidence, confirming the predictive power of these variables for sport confidence and competitive performance. Athletes with a high perception of available social support and high sport experience have superior competitive performance because of their high levels of sport confidence. Because of the complex, dynamic, and multiple nature of the relationship between confidence and performance, confidence was considered both as a predictor and as a mediator in explaining the competitive performance of young Brazilian athletes.

To the best of our knowledge, this is the first study to investigate multiple, simultaneous roles and effects of sport confidence on the performance of young athletes. The variables used in the study were derived from instruments that were adapted to Brazilian Portuguese and validated, and the study sample comprised adolescent athletes from different sports and levels of competition.

The cross-sectional nature of the study precludes drawing conclusions regarding causality. To establish causal relations, experimental studies should assess whether improvements in sport confidence, resulting from enhanced perceived available social support and sport experience, lead to improvements in competitive performance, as well as whether the relationship of

sport confidence and performance can be mediated by imagery use. Assessment of sport confidence over various competitions or competitive situations can be a major informative tool to test the relative contribution of self-confidence, performance, and other potential mediator variables. We suggest that further studies explore the causal relationships of performance variables throughout a competitive season to increase the understanding of the topic.

Conclusion

The proposed model may help explain the role of sport confidence in actual competitive performance and guide the development of psychodiagnosics assessments and individualized psychological preparation programs for young athletes. Because sport confidence can act as a mediator (indirect effect) and predictor (direct effect) of competitive performance, intervention programs should focus on increasing the confidence of athletes in their physical skills, training, cognitive efficiency, and resilience.

Data availability statement

The data that support the findings of this study are available from the corresponding author, [D.G.B.], upon reasonable request activity.

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