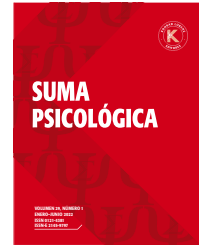




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Psychological aspects of soccer and futsal players: A systematic review

Mylena Aparecida Rodrigues Alves *, Amanda dos Santos Oliveira,
Mayara Juliana Paes, Joice Mara Facco Stefanello

Federal University of Paraná, Brazil

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Abstract Introduction: The present systematic review aimed to compile the information available in the literature having to do with sport psychology regarding futsal and soccer players, in order to identify which psychological constructs are being investigated in these athletes and by means of which instruments and analysis techniques. **Method:** The search was carried out in the APA (PsycINFO), EBSCO (SportDiscus), PubMed, Web of Science, Scielo, Science Direct, Scopus, BVS and EMBASE databases, with the following descriptors: psychological construct; psychological factor; psychological variable; psychological phenomenon; soccer; futsal and athlete, in English, Spanish and Portuguese. **Results:** Initially, 66 studies met the established eligibility criteria. Of these, 46 studies were conducted with soccer players, 19 with futsal players and one with athletes who participate in both sports. The psychological constructs most studied in the soccer modality were anxiety, stress, motivation, coping, motivational climate, depression, self-efficacy and group cohesion. With regard to the futsal modality, the most studied psychological constructs were group cohesion, perfectionism, motivation, athlete satisfaction, leadership style, perceived parenting styles and burnout. **Conclusions:** Group cohesion was associated with several other psychological aspects of an individual nature, with cohesion being the construct of both modalities which is of the greatest interest to researchers possibly because it is a collective modality. It can be established that important psychological factors have not been studied in soccer and futsal modalities, especially among female athletes. Therefore, it is recommended that the research carried out with male athletes be extended to include female populations.

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* Corresponding author.
Email: mylena_cg@hotmail.com

Aspectos psicológicos em jogadores de futebol e futsal: Uma revisão sistemática**PALAVRAS-CHAVE:**

Psicologia do esporte, aspectos psicológicos, instrumentos psicométricos, jogadores, modalidades coletivas

Resumo **Introdução:** O presente estudo de revisão sistemática procurou compilar informações disponibilizadas na literatura quanto aos estudos da psicologia do esporte em jogadores de futsal e futebol, com a finalidade de identificar quais construtos psicológicos estão sendo estudados nesse público e por quais instrumentos e técnicas de análise. **Método:** A busca foi realizada nas bases de dados APA (PsycINFO), EBSCO (SportDiscus), PubMed, Web of Science, Scielo, Science Direct, Scopus, BVS e EMBASE, com os seguintes descritores: construto psicológico; fator psicológico; variável psicológica; fenômeno psicológico; futebol; futsal e atleta, nos idiomas inglês, espanhol e português. **Resultados:** Foram selecionados 66 estudos por meio dos critérios de elegibilidade estabelecidos. Destes, 46 estudos foram conduzidos com jogadores de futebol, 19 com jogadores de futsal e um com atletas de ambas as modalidades. Os construtos psicológicos mais estudados na modalidade de futebol foram ansiedade, estresse, motivação, coping, clima motivacional, depressão, autoeficácia e coesão grupal. Os construtos psicológicos mais estudados na modalidade de futsal foram coesão de grupo, perfeccionismo, motivação, satisfação do atleta, estilo de liderança, estilos parentais percebidos e burnout. **Conclusão:** A coesão grupal foi associada a diversos outros aspectos psicológicos de natureza individual, sendo a coesão o construto de maior interesse dos pesquisadores de ambas as modalidades, possivelmente, por serem modalidades coletivas. Pode-se identificar que fatores psicológicos importantes não foram estudados nas modalidades de futebol e futsal, em especial junto a atletas do sexo feminino. Recomenda-se, assim, que pesquisas realizadas com atletas do sexo masculino sejam também conduzidas com a população feminina.

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The growing demand for better sports performance has directed the attention of researchers toward understanding the psychological factors that influence activity level and performance, since advancement exclusively in the physical, technical and tactical aspects of training has fallen short of ensuring consistently successful results (Fiorese et al., 2019; Stefanello, 2007).

Sport psychology as a scientific field aims to evaluate the mental and behavioural aspects that interfere in collective and individual sports performance (Stefanello, 2007), in order to elucidate, insofar as it is possible, how psychological factors are able to promote greater regularity and effectiveness in teams in pursuit of good performance and sporting excellence. In seeking to understand how psychological factors affect a person's motor performance and how participation in physical activities affects psychological development, sport psychology aims to develop and apply scientifically-based intervention programmes, taking ethical principles into account.

The scientific literature having to do with understanding emotions and behaviours in the sports environment has made headway in recent years by virtue of systematic review studies (Andrade et al., 2015; Dominski et al., 2018; Fiorese et al., 2019; Trevelin & Alves, 2018; Vilarino et al., 2017). Systematic reviews examine trends in psychological factors related to athletic performance and assist in the development of appropriate psychological skills training programmes (Krane & Williams, 2006). However, in specific modalities, including soccer (Freitas et al., 2013) and futsal (Yeemin et al., 2016), studies focusing on sport psychology are still scarce, and their development is of interest to the area of sport science (Andrade et al., 2015). Vilarino et al. (2017) have shown that, of the 29 research groups focused on sport psychology in Brazil, 12 investigated soccer and

only two analysed futsal. This difference may come about because futsal develops several athletes for high performance soccer (Cavichioli et al., 2011), thus leaving futsal in the background and not receiving equitable attention in the academic environment, despite its growing popularity.

With regard to the soccer modality, studies consider self-confidence, burnout syndrome, resilience, anxiety control, concentration and the leadership role of the coach, in addition to stress and motivation, as important psychological aspects to be developed for improved performance (Abdullah et al., 2016; Bicalho & Cunha, 2018; Pujals & Vieira, 2002). In futsal, the most notable psychological aspects studied include decision making, coach behaviour, competitive anxiety, burnout syndrome, imagination and personality, both at the individual and team levels (Yeemin et al., 2016). Nevertheless, there is still a need for more aspects to be addressed within a group dynamic (Abdullah et al., 2016).

Besides improving the performance and personal growth of players, and distinguishing more successful players from less successful ones, it is noteworthy that a greater understanding of psychological factors can assist in better preparation of the athlete and in the development of more productive intervention programmes (Krane & Williams, 2006; Yeemin et al., 2016). Critical evaluation of the strengths and weaknesses of different measurement methodologies is also essential for promoting a greater awareness of various aspects related to the behaviours of athletes and sports teams, thereby assisting researchers and professionals working in the area (Clancy et al., 2017).

Thus, the aim of this systematic review is to assess which psychological aspects have been evaluated in the modalities of soccer and futsal and which instruments and/or methods of analysis have been implemented for this purpose.

Method

This systematic review was registered with PROSPERO (CRD42020184446), to avoid duplication and reduce biased reporting, and followed the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher et al., 2009). The electronic databases consulted were determined according to the thematic areas that encompass them: APA (PsychINFO) in the field of psychology; SPORTDiscus in the area of Physical Education; and Science Direct, VHL (Virtual Health Library), Web of Science, Scopus, PubMed, Scielo (Scientific Electronic Library Online) and EMBASE, in the area of Health Sciences. Additionally, searches were performed in the grey literature (Google and Google Academic) and in the reference lists of the selected articles, contemplating only papers that were not reflected in the present systematic search, but that fulfilled all the established eligibility criteria. The objective of using alternative sources in systematic reviews is to find important results associated with channels outside of common academic publication (electronic databases), because the more extensive the search, the more complete the systematic review will be (Honório & Santiago, 2018).

Search strategy and eligibility criteria

The study selection was carried out by two independent researchers beginning on April 8, 2020 and ending on January 14, 2021. The research was conducted from the year 2010, considering that in previous systematic reviews, in this time frame, a considerable increase in the number of publications on sport psychology in the scientific literature was identified (Andrade et al., 2015; Dominski et al., 2018). The electronic search strategies were developed using the following keywords: psychological construct, psychological factor, psychological variable, psychological phenomenon, athlete, soccer and futsal, combined by means of the Boolean operators AND and OR, and using quotation marks (“ ”) for compound words, in English, Spanish and Portuguese.

The search equations were as follows: in the English language [(“psychological construct” OR “psychological factor” OR “psychological variable” OR “psychological phenomena”) AND athlete AND (football OR soccer OR futsal OR “indoor soccer”)]; in the Spanish language [(“construcción* psicológica” OR “factor* psicológico” OR “variable* psicológica” OR “fenómeno* psicológico”) AND atleta AND (fútbol OR “futbol sala”)]; and in the Portuguese language [(“construto* psicológico” OR “fator* psicológico” OR “variável* psicológica” OR “fenômeno* psicológico”) AND atleta AND (futebol OR futsal)].

The inclusion criteria for scientific articles, from reading the title, were: (1) peer-reviewed articles (not including literature reviews, conference abstracts and books); (2) studies conducted in the sports context; and (3) studies performed regarding soccer or futsal. After reading the abstracts, the following criteria were applied: (1) studies that evaluated psychological constructs; and (2) studies carried out with soccer or futsal teams. The exclusion criteria

adopted after full-text assessment considered: (1) the insertion of other sports besides soccer and futsal; (2) the non-evaluation of athletes; (3) construction articles and/or instrument validation; (4) articles not found in full text; (5) studies with methodological quality lower than 20, according to the methodological quality criteria proposed by Hawker et al. (2002).

The quality of the studies was assessed using the critical assessment tool developed by Hawker et al. (2002), with four response options (good, fair, poor and very poor). The articles were evaluated based on nine items: (1) abstract and title; (2) introduction and objective; (3) methodology and data; (4) sampling; (5) data analysis; (6) ethics and bias; (7) findings/results; (8) transferability/generalisation; and (9) implications and usefulness. The items were evaluated based on the protocol set forth by Hawker et al. (2002), in order to assist in the scoring criterion. In this sense, it was possible to obtain a minimum sum of 9 points (*very poor*) and a maximum of 36 points (*good*), which indicate the methodological quality of each study.

Two independent reviewers selected the scientific articles, according to the established inclusion and exclusion criteria. The divergences were compared and resolved with the participation of a third author in order to reach a consensus. Thus, all final decisions resulted from a joint decision-making process. The initial searches in the databases yielded 621 papers. After applying the inclusion and exclusion criteria, 67 articles were maintained for the subsequent stages. Studies with low methodological quality (score below 20 points) were withdrawn due to the lack of information provided to the present review study. Finally, 66 scientific articles were included for analysis. Figure 1 depicts the flow diagram of the study, with the steps followed to undertake the research.

Results

In order to assess the results of each study, the following variables were identified: year of publication, sex, total number of participants, age of the athletes, methodological approach, type of study, quality of studies, psychometric instruments and/or analysis techniques and psychological aspects evaluated. The studies were separated by modalities (soccer and futsal) and stored using Microsoft Excel®. The articles were numbered as follows: numbers from 1 to 46 are studies performed with soccer athletes (69.7%); numbers from 48 to 66 are studies carried out with futsal athletes (28.8%); and study number 47 was carried out with athletes from both modalities (soccer and futsal) (1.5%).

Of the total of 66 selected studies, 71.2% were developed exclusively with male athletes, 13.6% with female athletes only and 15.2% with a sample composed of athletes of both sexes. It is noteworthy that studies regarding the futsal modality and those with a sample composed of female athletes had the lowest return following the searches. Six studies (9.1%) were conducted with female futsal athletes, 16 with male futsal athletes (24.2%) and 42 with male soccer athletes (63.6%). In the soccer modality, studies performed exclusively with female athletes were fewer (7.6%) when compared to studies with athletes of both sexes (71.2%) or with male athletes only (50%).

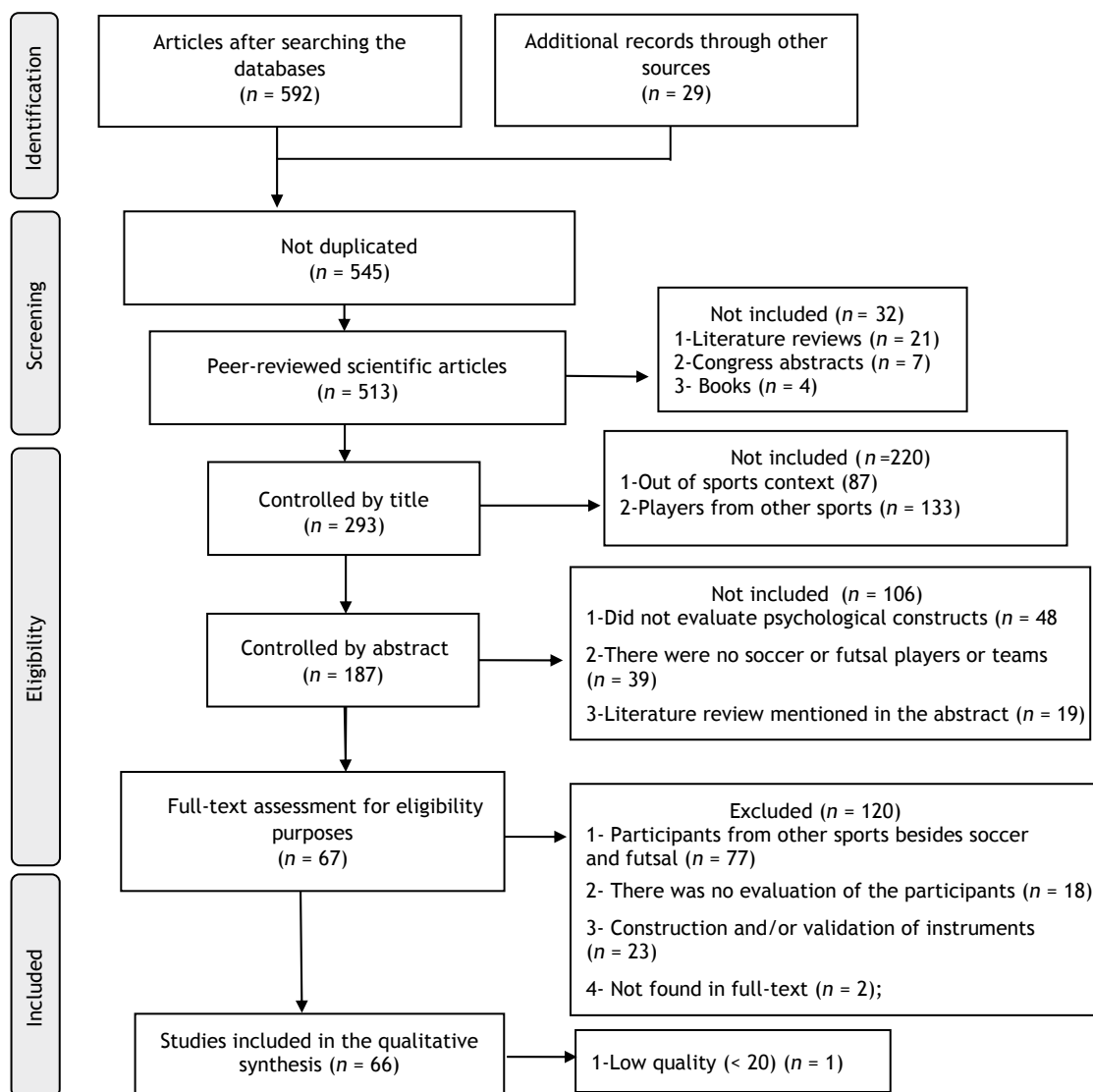


Figure 1. Flow Diagram Showing the Selection of Studies. Note. The authors.

Soccer

The 47 scientific articles having to do with soccer athletes (71.2% of the studies included in this systematic re-

view) that evaluated psychological aspects are described on Table 1.

Table 1. Characteristics of Studies Carried out with Soccer Players

Id	Citation	Sex	Sample (players)	Age in years	Methodological Approach	Type of study	Points obtained by the established quality criteria
1	Ivarsson and Johnson (2010)	Male	48	16 to 36	Quantitative	Cross-sectional	32
2	Cano et al. (2010)	Male	253	$\bar{X} = 17.76 \pm 0.92$	Quantitative	Cross-sectional	28
3	Johnson and Ivarsson (2011)	Male Female	85 23	17 to 19	Quantitative	Cross-sectional	34
4	Jooste et al. (2012)	Male	149	$\bar{X} = 16.2 \pm 1.13$	Quantitative	Cross-sectional	30

(Continued)

Id	Citation	Sex	Sample (players)	Age in years	Methodological Approach	Type of study	Points obtained by the established quality criteria
5	Ciocan and Ciocan (2013)	Male	29	18 to 27	Quantitative	Cross-sectional	22
6	Ivarsson et al. (2013)	Male Female	38 18	$\bar{X} = 25.05 \pm 5.46$	Quantitative	Cross-sectional	32
7	Ivarsson et al. (2014)	Male Female	67 34	$\bar{X} = 16.7 \pm 0.9$	Combination	Longitudinal	31
8	Campos et al. (2014)	Male	25	17 to 24	Quantitative	Cross-sectional	27
9	Tjomsland et al. (2016)	Male Female	34 39	12 to 14	Qualitative	Experimental Interview	35
10	Fernández et al. (2015)	Male	277	$\bar{X} = 14 \pm 2.58$	Quantitative	Cross-sectional	32
11	Turksoy et al. (2015)	Male	125	12 to 16	Quantitative	Cross-sectional	22
12	Leo et al. (2015)	Male Female	202 199	15 to 39	Quantitative	Longitudinal	32
13	Fuster-Parra et al. (2015)	Male	377	18 to 39	Quantitative	Cross-sectional	32
14	Ivarsson et al. (2015)	Male	195	$\bar{X} = 14.4 \pm 1.04$	Quantitative	Longitudinal	35
15	Zoltán et al. (2015)	Male	72	Under-21	Quantitative	Cross-sectional	32
16	Honer and Feichtinger (2016)	Male	2677	$\bar{X} = 11.4 \pm 0.28$ □ = 11.9 ± 0.28	Quantitative	Cross-sectional	36
17	Norlin et al. (2016)	Male Female	4 4	14 to 25	Qualitative	Cross-sectional Interview	34
18	Gomes et al. (2016)	Male	13	$\bar{X} = 20.1 \pm 1.6$	Quantitative	Longitudinal	25
19	Albuquerque et al. (2016)	Male	59	X	Quantitative	Cross-sectional	27
20	Campos et al. (2017)	Male	100	$\bar{X} = 20.9$	Quantitative	Cross-sectional	26
21	Danielsen et al. (2017)	Female	298	$\bar{X} = 20.7 \pm 0.57$	Quantitative	Cross-sectional	33
22	Middlemas and Harwood (2018)	Male	12	$\bar{X} = 17.1$	Qualitative	Cross-sectional Interview	33
23	Feorese et al. (2017)	Male	141	$\bar{X} = 20.01 \pm 2.29$	Quantitative	Cross-sectional	34
24	Notari et al. (2018)	Male	85	11 to 14	Quantitative	Cross-sectional	28
25	Amaral and Cruz (2013)	Male	103	$\bar{X} = 15.77 \pm 1.48$	Quanti-qualitative	Cross-sectional	25
26	Selmi et al. (2018)	Male	30	$\bar{X} = 17.8 \pm 0.9$	Quantitative	Experimental	34
27	Kiliç et al. (2018)	Male	262	$\bar{X} = 27 \pm 5$	Quantitative	Longitudinal	36
28	Setic (2018)	Male	165	21 to 23	Quantitative	Experimental	25
29	Jensen et al. (2018)	Male	323	$\bar{X} = 22.08 \pm 5.15$	Quantitative	Cross-sectional	35
30	Musculus et al. (2018)	Male	97	Under-11 Under-14	Quantitative	Cross-sectional	33
31	Saby et al. (2020)	Male	40	$\bar{X} = 15.8 \pm 1.04$	Combination	Longitudinal	33
32	Kristianssen et al. (2019)	Male	27	$\bar{X} = 22.26 \pm 4.21$	Quanti-qualitative	Longitudinal Interview	34

(Continued)

Id	Citation	Sex	Sample (players)	Age in years	Methodological Approach	Type of study	Points obtained by the established quality criteria
33	Van Den Bery et al. (2019)	Male	149	$\bar{X} = 16.24 \pm 1.1$	Quantitative	Cross-sectional	30
34	Vaz et al. (2019)	Male	15	X	Quantitative	Cross-sectional	30
35	Middlemas and Harwood (2020)	Male	4	$\bar{X} = 16.8$	Combination	Experimental	33
36	Castro-Sánchez et al. (2019)	Male	154	$\bar{X} = 16.96 \pm 0.77$	Quantitative	Cross-sectional	33
37	Kristjansdottr et al. (2019)	Female	142	$\bar{X} = 23.5 \pm 3.5$	Quantitative	Cross-sectional	34
38	Morão et al. (2019)	Male	162	$\bar{X} = 17.95 \pm 0.97$	Quantitative	Cross-sectional	25
39	Gantois et al. (2020)	Male	20	$\bar{X} = 22.6 \pm 3.3$	Quantitative	Experimental	36
40	Kavussanu et al. (2020)	Male Female	766 729	$\bar{X} = 20.4 \pm 4.4$	Quantitative	Cross-sectional	36
41	Arvinen-Brarrow et al. (2020)	Female	2	21 to 19	Quanti-qualitative	Experimental	31
42	Garcia-Ângulo et al. (2020)	Male	48	$\bar{X} = 11.73 \pm 0.4$	Quantitative	Experimental	34
43	Martins, Filho and Pedroso (2020)	Female	53	X	Quantitative	Cross-sectional	27
44	Mon-Lopes et al. (2020)	Male Female	25 150	$\bar{X} = 25.89 \pm 5.23$ $\bar{X} = 24.32 \pm 4.55$	Quantitative	Cross-sectional	34
45	Ruiz-Esteban et al. (2020)	Female	134	$\bar{X} = 18.28 \pm 4.05$	Quantitative	Cross-sectional	32
46	Naderi et al. (2020)	Male	160	$\bar{X} = 17.1 \pm 1.1$	Quantitative	Experimental	36
47*	Olmedilla et al. (2018)	Male Female	154	$\bar{X} = 22.07 \pm 4.7$	Quantitative	Cross-sectional	30

Note. The authors. * Study that contemplated the two modalities (futsal and soccer).

The studies reviewed focused on a sample of 101 to 150 athletes (19.1%), 70.2% being predominantly male. The age range of the participants varied from 15 to 23 years of age. Only one study included athletes with an average age of 27 years. The highest number of publications regarding psychological aspects in soccer was recorded between the years 2018 and 2020, corresponding to 51.1% of all studies.

Based on the methodological approach, 78.2% of the studies were quantitative, 14.9% quanti-qualitative and 6.9% qualitative. The majority (68.1%) followed a cross-sectional design, while 17% were longitudinal and 14.9% were experimental.

With regard to the quality of the studies, the majority (61.7%) scored between 32 and 36, considered studies with high scientific rigour, with emphasis on studies numbers 16, 27, 39, 40 and 46 (Table 1) which obtained the maximum score (36 points). The other studies achieved between 28 and 31 points (19.1%), 24 and 27 points (14.9%) and 20 and 23 points (4.2%).

Table 2 exhibits the psychological aspects, instruments and measurement techniques adopted in studies performed with soccer athletes, in decreasing order.

Table 2. Psychological Aspects, Instruments and Techniques for Data Collection in Studies Conducted with Soccer Players

Numerical reference	Psychological aspects	Tools and Analysis Techniques
22, 17, 9	Feedback, Psychological perception of injury and Satisfaction	Interview
25, 15, 6, 3, 16, 26, 4, 36, 29, 10, 37, 46	Anxiety	Sport Anxiety Scale-2 (SAS-2) Competitive State Anxiety Inventory-2 (CSAI-2) Sport Anxiety Scale (SAS) Competition Anxiety Inventory Trait (CAI-T) State Trait Anxiety Inventory (STAI)

(Continued)

Numerical reference	Psychological aspects	Tools and Analysis Techniques
32,1, 6, 3, 34, 28, 18, 46, 14	Stress	Life Events Survey for Collegiate Athletes (LESCA) Kessler Psychological Distress Scale (K-10) Media Stressors in Football Questionnaire (MSFQ) Daily Analyses of Life Demands for Athletes (DALDA) Recovery-stress questionnaire for athletes (RESTQ) Coach Athlete Stressors in Football Questionnaire (CASFQ)
15, 1, 33, 6, 3, 5, 4	Coping	Coping Skills Inventory-28 (ACSI-28) Brief COPE
24, 25, 15, 16, 23, 11	Motivation	Sport Motivation Scale (SMS) Sport Motivation Scale - II (SMS-II) Achievement Goal Scale for Youth Sports (AGSYS) Escala de Motivos para Prática Esportiva (EMPE) Achievement Motives Scale-Sport (AMS-S) Task and Ego Orientation in Sport Questionnaire (TEOSQ) Sport Orientation Questionnaire (SOQ)
23, 12, 13, 38, 45	Group cohesion	Group Environment Questionnaire (GEQ)
40, 15, 36, 13	Motivational climate	Perceived Motivational Climate in Sport Questionnaire-2 (PMCQS-2) Peer motivational climate in youth sport questionnaire (PeerMCYSQ)
27, 29, 14, 47	Depression	General Health Questionnaire (GHQ-12) Center for Epidemiologic Studies Depression Scale (CES-D) Depression Anxiety and Stress Scales-21 (DASS)
34, 18, 41, 44	Mood	Profile of Mood States (POMS) Brunel Mood Scale (BRUMS)
20, 8, 2	Psychological characteristics of performance	Características Psicológicas relacionadas con el Rendimiento Deportivo (CPRD)
1, 6, 3	Personality	Swedish universities Scales of Personality (SSP) NEO-PIR
16, 30, 42	Self-efficacy	Self-Efficacy in Soccer (SES) Physical self-efficacy scale (PSES) Questionnaire of specific self-efficacy and collective self-efficacy in football (QSSE-CSE)
12, 13, 42	Collective efficacy	Football Collective Efficacy Questionnaire (FCEQ) Questionnaire of specific self-efficacy and collective self-efficacy in football (QSSE-CSE)
6, 7	Hassle levels	Hassles and Uplifts Scale (HUS)
25, 29	Perfectionism	Multidimensional Perfectionism Scale - Sport (MPS-S) Sport Multidimensional Perfectionism Scale (SMPS)
21, 37	Mental toughness	Sport Mental Toughness Questionnaire (SMTQ)
27	Anguish	4-dimensional symptom questionnaire (4DSQ)
23	Coach-Athlete Relationship	Coach-Athlete Relationship Questionnaire (CART-Q)
46	Attention trait	Comprehensive Inventory of Mindfulness Experiences (CHIME)
11	Optimal performance state	Dispositional Flow Scale-2 (DFS-2)
1	Hassle	Daily Hassles Scale (DHS)
25	Self-control	Escala de autocontrole (EAC)
25	Cognitive State	Escala de Avaliação Cognitiva da Competição - Percepção de Ameaça (EACC-PA)
25	Emotional regulation	Emotional Regulation during Test (ERT)
1	Worry	Football Worry Scale (FWS)
13	Leadership	Leader Sport Scale (LSS)
4	Imagination	Mental Skills Questionnaire (MSQ)
35	Feelings and emotions	Positive and Negative Affect Schedule-Situational (PANAS)
32	Perception of success	Perception of Success Questionnaire (POSQ)
16	Physical self-concept	Physical Self-Concept Scales (PSC)
12	Role ambiguity	Role ambiguity (RA-12)

(Continued)

Numerical reference	Psychological aspects	Tools and Analysis Techniques
12	Role Conflict	Role Conflict (RC-6)
19	Life quality	Short Form-36 (SF-36)
12	Team conflict	Team Conflict (TC-6)
46	Attention status	Toronto Mindfulness Scale (TMS)
37	Skills and strategies	Test of Performance Strategies Questionnaire (TOPS)
16	Volitional skills	Volitional Components in Sport (VCS)
43	Athlete satisfaction	Questionário de Satisfação do Atleta - Liderança (QSA-L)
44	Emotional intelligence	Wong Law Emotional Intelligence Scale Short form (WLEIS-S)
45	Decision-making	Game Performance Assessment Instrument (GPAI)

Note. The authors.

The psychological aspects most studied in soccer players were anxiety (12), stress (9), coping (7), motivation (6), group cohesion (5), motivational climate (4), depression (4) and mood (4).

The Coping Skills Inventory-28 (ACSI-28) was the most used instrument in the studies undertaken with soccer athletes, followed by the Perceived Motivational Climate in Sport Questionnaire-2 (PMCQS-2) and the Sport Anxiety Scale-2 (SAS-2). The original validation process for these instruments included internal consistency (Cronbach's alpha), factor analysis and evidence based on the relationship with external variables, whereas evidence based on content was reported only in PMCQS-2 and test-retest only in ACSI-28 and SAS-2.

In general, Cronbach's Alpha was the most presented psychometric property among the studies included in the present review (69.2%), which considered evidence based on internal structure. Evidence based on the relationship with external variables showed the least validity. The citation of the original study regarding the construction of the instrument was shown in 92.3%. In 23.1% of the studies, no evidence of validity was shown.

The interview was used as a data collection tool in 8.5% of the studies carried out with soccer, aiming to investigate the role of feedback (Middlemas & Harwood, 2018), player perception regarding media stressors (Kristiansse et al., 2019), young player satisfaction with practice (Tjomslan et al., 2015) and injured player perception (Norlin et al., 2016).

Futsal

With regards to the futsal modality, 20 scientific articles (30.3% of the studies included in this systematic review) that dealt with psychological aspects were found. Table 3 displays the descriptive analysis of the characteristics of the studies reviewed.

With regard to the number and sex of the participants, the studies concentrated on a sample composed of between 101 and 150 athletes (30%), 70% of them being predominantly male. Most studies were carried out with athletes from 24 to 27 years of age (45%). The highest number of publications regarding psychological aspects of futsal was recorded between the years 2016 and 2020 (60%).

Table 3. Characteristics of Studies Carried out with Futsal Players

Id	Citation	Sex	Sample (players)	Age in years	Methodological Approach	Type of Study	Points obtained by the established quality criteria
47*	Olmedilla et al. (2018)	Male Female	33	$\bar{X} = 22.07 \pm 4.7$	Quantitative	Cross-sectional	30
48	Nascimento Júnior et al. (2011)	Male	58	X	Quantitative	Cross-sectional	30
49	Nascimento Júnior and Vieira (2012)	Male	122	$\bar{X} = 25$	Quantitative	Cross-sectional	33
50	Nascimento Júnior and Vieira (2013)	Male	122	X	Combination	Cross-sectional	32
51	Vissoci et al. (2013)	Female	10	$\bar{X} = 18 \pm 1.23$ $\bar{X} = 15.71 \pm 0.74$	Qualitative	Case study/interview	29

(Continued)

Id	Citation	Sex	Sample (players)	Age in years	Methodological Approach	Type of Study	Points obtained by the established quality criteria
52	Balbin and Nascimento Jr. (2013)	Male	58	$\bar{X} = 24.68 \pm 6.32$	Quantitative	Cross-sectional	28
53	Cusin and Navarro (2013)	Female	110	X	Quantitative	Cross-sectional	25
54	Bim et al. (2014)	Male	58	$\bar{X} = 25.2 \pm 3.9$	Quantitative	Cross-sectional	32
55	Kocak (2015)	Male Female	96 119	$\bar{X} = 21.57 \pm 2.20$	Quantitative	Cross-sectional	30
56	Nascimento Júnior, Pizzo et al. (2017)	Male	11	$\bar{X} = 26.4 \pm 3.20$	Quantitative	Cross-sectional	30
57	Nascimento Júnior, Vissoci et al. (2017)	Male	301	$\bar{X} = 25.49 \pm 4.91$	Quantitative	Cross-sectional	32
58	Nascimento Junior et al. (2018)	Male	301	$\bar{X} = 25.48 \pm 4.9$	Quantitative	Cross-sectional	33
59	Passos et al. (2018)	Male	75	$\bar{X} = 25.31 \pm 5.21$	Quantitative	Cross-sectional	33
60	Costa et al. (2019a)	Male	27	$\bar{X} = 15.4 \pm 1.25$	Quantitative	Cross-sectional	32
61	Nascimento Júnior et al. (2019)	Male	301	$\bar{X} = 25.48 \pm 4.90$	Quantitative	Cross-sectional	35
62	Maleki (2020)	Male	101	$\bar{X} = 14 \pm 1.97$	Quantitative	Cross-sectional	27
63	Cosvoski et al. (2019)	Female	114	20 to 22	Quantitative	Cross-sectional	32
64	Costa et al. (2019b)	Male	27	$\bar{X} = 15.4 \pm 1.25$	Quantitative	Cross-sectional	32
65	Nascimento Júnior et al. (2020)	Male	140	$\bar{X} = 24.8 \pm 4.9$	Quantitative	Cross-sectional	35
66	Marenucci et al. (2020)	Female	12	X	Quantitative	Cross-sectional	30

Note. The authors. * Study that contemplated the two modalities (futsal and soccer).

Based on the methodological approach, 85% of the studies were quantitative, 10% qualitative and 5% considered both approaches (quantitative and qualitative). The majority of the studies regarding psychological aspects in futsal followed a cross-sectional design (95%), 5% corresponding to one case study. It is worth mentioning that no study carried out with futsal athletes used the longitudinal design.

With regards to the quality of the studies, 50% obtained scores ranging between 32 and 36 points and are considered studies with high scientific rigour. The others obtained scores ranging between 28 and 31 points (40%) and between 24 and 27 points (10%).

Table 4 describes the psychological aspects, instruments and analysis techniques that are most used to measure psychological aspects in studies carried out with futsal players, listed in decreasing order (number of studies that used the referred instrument).

The psychological aspects most studied in futsal players were group cohesion (8), perfectionism (4), motivation (4), satisfaction (3), leadership style (2), perceived parenting styles (2) and burnout (2).

The Group Environment Questionnaire (GEQ) was the instrument most used in studies undertaken with futsal athletes, followed by the Athlete Satisfaction Questionnaire (ASQ). The original validation process for these instruments included evidence based on the internal structure (internal consistency, confirmatory factor analysis) and evidence based on the relationship with external variables (convergent and discriminant), whereas evidence based on content was reported only in the GEQ.

In general, Cronbach's Alpha was the psychometric property related to the reliability of the instrument most prevalent in the studies (80%). Evidences based on the relationship with external variables were the least investigated.

Table 4. Psychological Aspects, Instruments and Analysis Techniques of Studies with Futsal Players

Numerical Reference	Psychological aspects	Tools and Analysis Techniques
58, 61, 50, 49, 48, 57, 65, 66	Group cohesion	Group Environment Questionnaire (GEQ)
52, 62, 57, 65	Perfectionism	Multidimensional Perfectionism Scale (MPS) Sport Multidimensional Perfectionism Scale-2 (SMPS-2)
59, 60, 56, 64	Motivation	Escala de Motivação para o Esporte (SMS) Escala de Motivação para o Esporte II (SMS II)
52, 59, 48	Satisfaction	Questionário de Satisfação do Atleta (QSA)
50, 58	Leadership style	Escala de Liderança no Desporto (ELD)
51, 56	Perceived parenting styles	Egna Minnen Beträffande Uppfostran (EMBU)
54, 63	Burnout	Questionário de Burnout para Atletas (QBA)
61, 57	Satisfaction of basic psychological needs	Basic Needs Satisfaction in Sport Scale (BNSSS)
51	Parental support	Interview
54	Coping strategies	Inventário Atlético de Estratégias de Coping (ACSI)
55	Self-esteem	Coopersmith Self-Esteem Inventory (CEI)
47*	Depression, anxiety and stress	Depression Anxiety and Stress Scales-21(DASS)
64	Sports experiences	Youth Experience Survey for Sport (YES-S)
66	Pre-competitive anxiety	Competitive State Anxiety Inventory-2-Revised (CSAI-2R)
66	Resilience	Connor-Davidson Resilience Scale (CD-RISC10)

Note. The authors.

The study developed by Nascimento Júnior et al., (2019) was the one that most reported information regarding the psychometric properties of the applied instrument (GEQ). The citation of the original work of the instrument was described in all studies.

The interview was used as a data collection tool in only one study with futsal players, which aimed to investigate the influence of parental support on the involvement of athletes with women's futsal (Vissoci et al., 2013).

Discussion

The objective of this systematic review was to compile information available in the literature regarding studies of sport psychology carried out with soccer and futsal athletes, in order to identify which psychological constructs have been studied, as well as which instruments and analysis techniques have been used for evaluating these constructs.

There has been a growing interest in this topic in the last decade (Andrade et al., 2015; Dominski et al., 2018; Fiorese et al., 2019; Trevelin & Alves, 2018; Vilarino et al., 2017), thereby indicating a greater rise in the number of publications directed toward the understanding of psychological aspects in soccer and futsal players in the last three and five years, respectively. The heightened attention on studies considering the soccer modality may be associated with the fact that this is a sport that stimulates the economic activity of a country. On a global scale, soccer generates about 250 billion dollars annually (Leoncini & Silva, 2005). The explicit number of publications in recent years may be attributed to the concern of Psychological and Physical Education professionals regarding the investigation of issues relevant to the area, in order to provision the lack of professionals who are still not aware of the benefits of

scientific research as a tool for improving performance (Ucha, 2008). The research conducted by Fiorese et al. (2019) found that the growing demand for improving sports performance directed the researchers' attention to the understanding of psychological factors related to performance and success, with the majority of research topics related to soccer, futsal, volleyball and tennis.

The predominance of quantitative studies with a cross-sectional design, in both modalities, corroborates data from other review articles (Dominski et al., 2018; Yeemin et al., 2016), possibly owing to the shorter time required to perform these studies when compared to the qualitative studies and those with longitudinal design. Besides its practicality, the quantitative methodology using the technique of structural equation modelling is a robust statistical method that has proliferated in recent years in studies on psychological constructs in futsal and soccer players (Albuquerque et al., 2016; Fiorese et al., 2017; Jensen et al., 2018; Nascimento Júnior, Vissoci et al., 2017).

Qualitative studies consider the research methods employed (Norlin et al., 2016; Tjomslan et al., 2015), aiming to provide a greater comprehension of the meaning of an experience for participants in a specific scenario and of how the factors are interconnected to form a whole (Thomas et al., 2012). However, these studies rarely provide detailed information about participants (Yeemin et al., 2016). Therefore, an equity between quantitative and qualitative approaches could be a solution (Arvinen-Barrow et al., 2020).

Considering futsal, no study was conducted with a longitudinal and experimental design, hence revealing a lack of this type of study with athletes of this modality. With regard to the studies performed with soccer athletes, various experimental (Arvinen-Barrow et al., 2020; Middlemas & Harwood, 2020; Naderi et al., 2020; Selmi et al., 2018; Set-

ic, 2018) and longitudinal (Gomes et al., 2016; Ivarsson et al., 2014; Kiliç et al., 2018; Kristianssen et al., 2019; Leo et al., 2015; Naderi et al., 2020; Saby et al., 2020) works were found, probably because soccer is more popular than futsal.

A quanti-qualitative approach was adopted in seven studies concerning soccer (Amaral & Cruz, 2013; Arvinen-Brarrow et al., 2020; Ivarsson et al., 2014; Kristianssen et al., 2019; Middlemas & Harwood, 2020; Saby et al., 2020) and in only one study concerning futsal (Nascimento Júnior & Vieira, 2013). The findings denote the scarcity of this type of study regarding futsal players, which in turn would contribute to the results stemming from other psychological aspects, in order to potentiate player performance.

Psychological aspects

Soccer is a collective and very popular sport, which demands high performance and requires the engagement of several factors for the success of a team, including psychological factors. The psychological aspects most investigated in the studies with soccer players are anxiety, stress, coping, motivation, group cohesion, depression, motivational climate and mood. Remarkably, stress and anxiety are even more prominent in the literature (Fiorese et al., 2019).

Professional soccer players are constantly exposed to anxiety and stress, and their performance may be affected by these conditions, which can lead to mental disorders. The experience of stressful events, responsible for causing anxiety and stress, can provoke physical and/or mental exhaustion, which can lead to decreased energy, low concentration, high tension, low self-esteem and decreased satisfaction, symptoms that are characteristic of a depressive condition, an issue that is affecting this population (Jensen et al., 2018). Depression in the sports context has also been a prominent topic in the media and in the scientific literature, not only among professional players, but also in younger categories, as highlighted in the study by Román and Savoia (2003), in which 75 soccer players in the under-20 category (39%) had symptoms of depression. Jensen et al. (2018) showed a significant positive correlation between depression and perfectionist concerns, competitive anxiety and social phobia. Nevertheless, despite the growing discussion on this topic, further studies are needed to unravel its causes and to develop interventions that prevent depressive behaviours in soccer and futsal players.

Coping strategies correspond to the set of strategies applied in order for athletes to adapt to adverse or stressful circumstances. Several studies related to coping strategies with injured athletes were reported (Jooste et al., 2012; Johnson & Ivarsson, 2011). The authors point out that, besides anxiety, stress and low self-confidence, ineffective coping under adverse circumstances could cause injuries. The investigation regarding the impact of injuries on the mental health of soccer and futsal players is significant in the literature (Albuquerque et al., 2016; Arvinen-Brarrow et al., 2020; Fernández et al., 2015; Ivarsson & Johnson, 2010; Ivarsson et al., 2013; Ivarsson et al., 2014; Jooste et al., 2012; Johnson & Ivarsson, 2011; Kiliç et al., 2018; Naderi et al., 2020; Norlin et al., 2016; Olmedilla et al., 2018). Studies revealed that soccer players with serious or very serious injuries had higher levels of anxiety, less self-confidence and are more likely to develop other negative psychological

characteristics in comparison to other athletes (Cano et al., 2010). On the other hand, athletes who are subject to a psychological follow-up and rehabilitation are at a lower risk of developing psychopathology (Ivarsson & Johnson, 2010). Furthermore, Olmedilla et al. (2018) observed that sports injuries affect mental health, causing anxiety and stress, and dissimilarly between both sexes. Other findings from this systematic review highlight the use of video games to assist the functional and psychological rehabilitation of injured athletes, in which there is a positive change in mood (Arvinen-Brarrow et al., 2020).

Thus, it is recommended that players - injured or not - develop coping skills, due to the decreased level of concern and increased self-efficacy that this competence provides to the players, which can be generated by means of positive feedback and reinforced by the coaches (Jooste et al., 2012). A positive association between the use of adaptive coping strategies and resilience in athletes was also found (Holt & Dunn, 2004; Secades et al., 2016).

Motivation, one of the most studied topics in soccer (Dominski et al., 2018; Vilarino et al., 2017), has been predicated, mainly, based on the Self-Determination Theory (SDT), which serves as a theoretical basis for numerous studies and for the large number of instruments constructed, validated and adapted to different existing cultures (Yamaji & Guedes, 2015).

The relationship between coach and player is a determining factor in the association between controlled motivation and group cohesion in professional soccer (Fiorese et al., 2017), as the coach's attitudes (support, involvement and autonomy) can influence the motivation of athletes. Additionally, the motivational climate created by the coach can promote better group cohesion, particularly when focused on the task and is a better predictor of cohesion than the ego-oriented climate and therefore is essential for team sports, for example, soccer and futsal (Cuenca, 2019). In soccer athletes, this construct has been associated with various others of an individual nature, such as the state of anxiety (Castro-Sánchez et al., 2019; Zoltán et al., 2015), and as well as those of a group nature, including cohesion and collective efficacy (Fiorese et al., 2017; Fuster-Parra et al., 2015).

Regarding futsal players, the most studied psychological aspects were group cohesion (7), perfectionism (4), motivation (3) and athlete satisfaction (3). Preeminently, group cohesion was the most studied psychological aspect among futsal players.

Futsal is a team sport in which exchanges and interpersonal relationships between players take on pivotal roles in order to achieve success in accord with what the team defined as its objective. Thus, exploring aspects that influence the group dynamics of sports teams, such as group cohesion, is important, as they show the degree to which team members work together with a common goal and recognise their responsibility for collective work (Nascimento Júnior, Vissoci et al., 2017). In the findings of this systematic review and considering futsal athletes, different studies aiming to verify the association between group cohesion with variables, including satisfaction (Nascimento Júnior et al., 2011), perfectionism (Nascimento Júnior et al., 2020), motivation (Nascimento Júnior, Pizzo et al., 2017; 2019) and coach leadership (Nascimento Júnior et al., 2012; 2013) were

found, thereby demonstrating the interest of researchers in exploring how aspects of an individual nature (personality characteristics, for example, perfectionism) and of a collective/group nature (such as group cohesion) intervene in the performance of futsal players.

According to Nascimento Júnior et al. (2020), perfectionist efforts can be positive predictors of task cohesion, while perfectionist concerns could negatively foreshadow both social cohesion and task cohesion. In futsal athletes, this construct has been associated with several others, including level of satisfaction (Balbim et al., 2013), performance (Maleki, 2020), group cohesion and motivation (Nascimento Júnior, Pizzo et al., 2017; Nascimento Júnior et al., 2020).

Motivation in futsal, as well as in soccer, exhibited that autonomous motivations are associated with different behaviours, such as involvement with the team, well-being, pleasure and continuity of the sport (Passos et al., 2018). In this context, motivation has been associated with diverse aspects in futsal players, for instance, athletic satisfaction (Passos et al., 2018), parental support (Nascimento Júnior, Pizzo et al., 2017) and sports experiences (Costa et al., 2019a).

Sport psychologists report that burnout and resilience are relevant issues to be addressed by a soccer or futsal team (Bicalho & Cunha, 2018). Consequently, and due to the low yield of these aspects in the present search, further investigations regarding these constructs are required. Recent studies show that burnout syndrome has been related to abandonment of the practice in professional soccer players, for several reasons (Gustafsson et al., 2014; Hill, 2013). The factors that can contribute to the emergence of burnout in athletes and also in coaches are: early specialisation, mental exhaustion, sleep disorder, overtraining, chronic stress, depression, social person (coach and family), negative emotions, injuries, anxiety disorders, excessive competition and demotivation (Bicalho & Cunha, 2018). Effects of burnout in the soccer scenario, and also in futsal, go far beyond withdrawal from the modality, thus justifying the need for more studies. Perhaps the qualitative studies would delve deeper into this topic.

Notably, resilience has been a construct of interest to researchers in the last decade (Bicalho et al., 2020), being one of the four major psychosocial aspects among soccer players who have had successful careers (Holt & Dunn, 2004). Supported by the grounded theory of psychological resilience and optimum sport performance, resilience is a continuous dynamic psychosocial process based on individual characteristics and interactions with the environment (Bicalho et al., 2020). Cevada et al. (2012) reported that ex-athletes showed greater resilience, better emotional aspects and less anxiety when compared to non-athletes. A possible explanation for this fact may be associated with exposure to the difficult situations that professional athletes face daily in their training in order to increase and improve their performance. Only those athletes who are able to face and overcome the uncertainties and anxieties of high-performance sports will be successful (Fontes & Brandão, 2013). Moreover, psychological factors related to resilience protect athletes from the potentially negative effect of stressors (Bicalho & Cunha, 2018). In this context, Fontes and Brandão (2013) contemplate whether elite athletes have become resilient from facing adverse experienc-

es in sport or have managed to face adversity positively because they are resilient people.

The association between resilience and coping strategies in athletes (Holt & Dunn, 2004; Secades et al., 2016) also deserves attention. The more resilient the athletes are, they seem to be better prepared to overcome challenges and stress in the competitive environment (Cevada et al., 2012). Therefore, future studies are needed in order to identify whether resilient athletes, especially those inserted in competitive environments (soccer and professional futsal), are able to use coping strategies more optimally. For this reason, working on and developing resilience in futsal and soccer athletes will be able to contribute not only to their performance, but also to maintaining their mental health. Developing resilient capacity in athletes will ensure that they are better prepared to overcome the challenges and pressures of the competitive environment, as this will increase the likelihood of success in their short sports careers (Bicalho & Cunha, 2018; Cevada et al., 2012).

In summary, the present review established that several important psychological factors in the sports context have been explored very little in soccer and futsal, especially with regard to female athletes (resilience, collective efficacy, coach-athlete relationship, burnout, self-confidence, goal setting, concentration). Moreover, researchers recommend that studies carried out with male athletes be applied to the female audience (Bim et al., 2014; Nascimento Júnior and Vieira, 2013; Nascimento Júnior et al., 2018; Nascimento Júnior et al., 2019), in order to allow viable comparisons between both sexes and, in practical terms, for the recognition and application of specific approaches by professionals, considering the sex of the players.

Psychometric Instruments

The use of psychometric instruments to measure psychological constructs in soccer and futsal players proved to be commonplace, as these tools play an important role in the research, practice and evaluation of different aspects of the population (Souza et al., 2017). Nonetheless, researchers must be aware and up-to-date when choosing an instrument, identifying psychometric properties that make it valid and reliable, in order to ensure the quality of the results (Souza et al., 2017).

In regard to soccer, the three most used psychometric instruments were ACSI-28 (coping strategies), PMCQS-2 (motivational climate) and SAS-2 (cognitive and somatic anxiety trait).

ACSI-28 was developed in the United States (Smith et al., 1990) with 772 female and male university athletes, initially consisting of 87 items to assess vulnerability and resilience in sports injuries. Pursuant to several studies, the authors revealed adaptations to the sporting context, arriving at 28 items distributed in seven dimensions (dealing with adversity, performance under pressure, mental preparation and goal setting, confidence and motivation, concentration, freedom of worries and trainability). Each item has four response options ranging from 0 (*almost never*) to 3 (*almost always*). Furthermore, Pereira et al. (2020) denoted the use of ACSI-28, mainly in studies regarding the constructions of mental resistance, performance and motivational climate. The same authors emphasise the need for expanding the

number of longitudinal and qualitative studies having to do with coping in sport, as well as the development of instruments. This fact corroborates the present results, in which coping strategies were measured by way of studies using quantitative and cross-sectional approaches.

Although presenting good psychometric properties with regard to internal consistency, confirmatory factor analysis, convergent and discriminant validity and test-retest (with the exception of “trainability”, which showed a slightly low correlation - 0.47), the instrument is questionable in its development, since it measures only relatively stable psychological skills and not the skills needed to deal with them (Pereira et al., 2020). While it does not measure coping skills themselves, the instrument is satisfactory, because the psychological skills that are being assessed are important in the sports training of athletes (Pereira et al., 2020). The absence of a group of experts or a theoretical basis in the construction of the instrument’s content that could describe the stages of evidence based on the content was also noted.

The PMCSQ-2 was mentioned as the most widely used psychometric instrument for measuring the perception of the motivational climate in practitioners of physical or sports activities (Harwood et al., 2015) and now in soccer players (Table 2). The PMCSQ was developed by Walling et al. (1993) and updated by Newton et al. (2000). This revision took place due to the need for a hierarchical model, contemplating six new subscales (cooperative learning, effort/improvement, important role, intra-team member rivalry, unequal recognition and punishment for mistakes) encompassed in two dimensions (ego and task), for a better understanding of the construct.

The PMCSQ-2 consists of 33 items that measure the athletes’ perception regarding the motivational climate created by their coach in the context of training and competition, using a 5-point Likert scale, ranging from completely disagree (1) to completely agree (5). In the original validation study (Newton et al., 2000), face validity, concurrent validity and internal consistency were carried out, in addition to exploratory and confirmatory factor analysis. Acceptable adjustments based on the model hypothesised by the authors in the confirmatory factor analysis (GFI = 0.85, CFI = 0.9 and RMSEA = 0.054) were obtained. Internal consistency was considered acceptable for the higher order dimensions and subscales (with the exception of intra-team member rivalry), obtaining Cronbach’s Alpha values between 0.88 - 0.54. With regard to concurrent validity, statistically significant values (> 0.05) were found, with the Intrinsic Motivation Inventory obtaining correlations between -0.26 and 0.52. The authors suggest that the internal consistency and the general adequacy of the subscale “intra-team member rivalry” ($\alpha = 0.54$) can be improved by increasing the number of items in the subscale and refining the vernacular used in the language of the items.

The development of SAS-2 (Smith et al., 2006) was stimulated by the discovery that the 3-factor structure of the original SAS (Smith et al., 1990) could not be reproduced in child samples and that various items on the scale produced conflicting factor loadings in adult samples. The SAS-2 is a multidimensional instrument that measures the trait of cognitive and somatic anxiety in sports performance in adults and children, and consists of 15 items distributed in three

scales (somatic anxiety, worry and concentration disruption) using a 4-point Likert response scale ranging from 1 (*not at all*) to 4 (*very much*).

The exploratory (three factors were responsible for 64% of the variation in the item’s response) and confirmatory (NNFI = 0.96, CFI = 0.97 and RMSEA = 0.05) factor analysis replicated the original structure of the SAS factor for all age levels. The calculations of convergent and discriminant validity indicated a significant satisfactory correlation in all items. Internal consistency (Cronbach’s Alpha) obtained values between 0.84 and 0.91, therefore indicating good reliability, and the test-retest coefficient obtained values between 0.76 and 0.9, exhibiting acceptable stability measures. Scale reliably predicts the pre-competition state anxiety scores and has been shown to be sensitive to anxiety-reduction interventions addressed to coaches and parents of young athletes (Smith et al., 2006). Nevertheless, the authors suggest other assessments in different sports populations. Indeed, the validation of a psychometric instrument is an ongoing process, not an end point, and there is still much to be done to extend the validity of the results (Smith et al., 2006).

With regard to futsal, the two most widely used psychometric instruments were the Group Environment Questionnaire (GEQ), applied in seven studies, and the Athlete Satisfaction Questionnaire (ASQ) used in three studies.

The GEQ was developed by Carron et al. (1985), revised and modified by Eys et al. (2007). The original version presents 18 items divided into four scales (group integration-task, group integration-social, individual attraction to group-task and individual attraction to group-social). Content validity was carried out by five specialists in the area, which required at least 80% agreement among the specialists.

Few instruments contain studies validated for a specific modality, as seen with the GEQ, which obtained validation specifically for soccer and futsal players (Nascimento Júnior et al., 2016), but its validation was carried out only with male players. Data analysis was performed using the following tests: Cronbach’s alpha, which showed satisfactory internal consistency between the scales (0.75-0.85); composite reliability, which also revealed a satisfactory internal consistency (> 0.7); confirmatory factor analysis, which exhibited a model with 16 items with appropriate adjustment for soccer and futsal athletes (GFI = 0.92, CFI = 0.94 and RMSEA = 0.07); and Spearman’s correlation, which showed a positive (>0.5) and statistically significant ($p < 0.5$) correlation, with the Coach-Athlete Relationship Questionnaire in the athlete’s perception. Therefore, studies aimed at verifying more specifically the relationship between group cohesion and the athlete-coach relationship are suggested, since a positive correlation was identified between these two constructs in the study by Nascimento Júnior et al. (2016).

The ASQ was developed by Riemer and Chelladurai (1998) with 786 athletes from different modalities. The original version consists of 56 items divided into 15 subscales (individual performance, team performance, ability utilisation, strategy, personal treatment, training and instruction, team task contribution, team social contribution, team ethics, team integration, personal dedication, budget, medical personnel, academic support services and external agents).

The development process was divided into three stages: (1) construction of the initial questionnaire; (2) scale refinement using confirmatory analysis; and (3) final estimates of the instrument's validity and reliability.

Internal consistency (Cronbach's alpha) was satisfactory between the subscales (0.78-0.95). Factor analysis was confirmed with good adjustments in the model (NNFI = 0.93, RMEA = 0.045, $\chi^2/df = 1.9/ \chi^2 = 2631.47$). With regard to criterion validity, the correlation obtained a negative direction with "desire to leave" (except for the subscales of budget and external agents) and a positive direction with "team commitment" and were statistically significant ($p < 0.05$). According to Riemer and Chelladurai (1998), the subscales presented in the ASQ reflect the most relevant goals in the athletic context (individual and collective performance, leadership, team and individual organisation).

These instruments met the expected validation criteria. The use of properly constructed and validated assessment instruments in sports research allows to evaluate and describe the dynamics of the game and the characteristics of the players. It is worthwhile to note that it is important to master the knowledge of the techniques for obtaining data regarding the investigated phenomena, as the lack of knowledge of the facts causes fragility of the information obtained. Particularly, the researcher's intention should be to explain the phenomena investigated in accord with the literature, without omitting dubious opinions and/or veracity. Furthermore, psychometric properties must be presented in research whenever the researcher needs to use any instrument to measure the study variables (Carretero-Dios & Pérez, 2005).

Concluding remarks

The number of psychological studies applied to soccer and futsal has increased in the last three years and quantitative methodologies with a cross-sectional design are the most widely used. The major aspects found in studies conducted with soccer players and teams and contemplated in this systematic review, were: anxiety, stress, motivation, coping, motivational climate, depression and self-efficacy. With regard to futsal players and teams, the main aspects identified were perfectionism, motivation, satisfaction, leadership and perceived parenting styles. The most studied psychological aspect in both modalities was group cohesion, either in isolation or associated with other psychological aspects, which may be associated with the collective aspect of the modalities.

A greater understanding of psychological factors can assist in improved preparation of the athlete and in the development of more productive intervention programmes. Incidentally, the critical assessment of the strengths and weaknesses of different measurement approaches is also essential to promote greater awareness of various aspects related to the behaviours of athletes and sports teams.

Limitations

The restriction of searches to the context of soccer and futsal, the delimitation of only three languages (English, Portuguese and Spanish), the non-inclusion of the term "indoor football" as a search descriptor and the non-inclusion

of specific terms (anxiety, motivation, stress, etc.) are limitations of the present systematic review. Thus, it is suggested to consider such aspects in future investigations.

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