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Methodological Challenges for Cross-Cultural Research in Sport Psychology: A Review

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ABSTRACT

This review investigates methodological challenges in conducting cross-cultural studies in sports psychology. The number of studies incorporating culture and cultural identities into research and interventions in this subject has increased over the previous few decades. As the sport grows more transnational and multicultural, the need to explore better research methods and the challenges in conducting these cross-cultural sports psychology studies emerges. For this review, we examined studies that were published between January 1985 and July 2021, written in English, and focused on cross-cultural studies in the field of sports psychology. The literature search was conducted in EBSCO (e.g., MEDLINE, APA PsychARTICLES, Academic Search Ultimate, and ERIC), Sciencedirect, Researchgate, Springer link, and Wiley Online library databases. A total of 18 articles matched the inclusion criteria and were selected. The study observed that the quantitative approach was the most often used methodology in the studies due to its popularity and easy administration. Qualitative and mixed (quantitative and qualitative) approaches are now gradually being used by researchers to overcome the cultural insensitivity in quantitative research, although these studies are scarce and need to be highlighted more. We discussed research designs formulated by researchers in their quantitative and qualitative studies and methodological challenges they encountered, such as sample representativeness, small and unequal sample sizes, gender inequality, and comparing different kinds of sports across countries. Therefore, this review addressed the gap in the literature and paved the way for future research studies.

1. Introduction

Cultural inclusion in sports psychology has been highlighted from time to time in four decades of research work in sports psychology (Stambulova et al., 2007, Gee & Leith, 2007, Gao et al., 2008, Alfermann et al., 2013, Yang, Jowett, 2012, Tian et al., 2015, Tshube & Feltz, 2015, Morin et al., 2018, Stamatis et al., 2019, Szabo et al., 2019). Sports psychology that is both culture-inclusive and culture-comparative can only be valid if its theories and methods are suited for the topics and populations being studied. For cross-cultural sports scholars, this

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entails a stronger emphasis on indigenous notions of human nature, spirituality, and motivation, as well as a concern for non-verbal, frequently unnoticed, and cross-culturally confusing signals. (Chelladurai, 1988, Hayashi and Weiss, 1994, Alfermann et al., 2010, Alfermann et al., 2013). One of cross-cultural psychology's goals is to find 'universals,' or 'behaviors' that may be categorized as universals despite differences in cultures, climates, ecology, topography, and levels of income. (Berry, Poortinga, Segall, and Dasen, 1992).

The cross-cultural comparative method had not been recognized in sport and exercise psychology research until recently. Consideration is absent for potential ethnic variance (Duda and Allison, 1990). Cross-cultural studies help to understand the behavior, attitude, thoughts, and feelings of athletes in different cultures. Studies help to understand how cultural identity affects athletes' performance, and further if and which strategies can be developed and implemented for athletes of the respective culture(s). This can prevent blindly following western strategies without checking their efficacy on athletes of different cultures. In this study, we will examine which psychological constructs are examined in cross-cultural studies in sports psychology, what kind of methodology researchers used, and the challenges of conducting these studies.

1.1.Cross-Cultural Studies in Sports Psychology

Kroeber and Kluckhohn reported over 160 alternative definitions of "culture" in 1963. "Culture consists of patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievement of human groups" (Kroeber and Kluckhohn, 1952). Cultural (social, material, symbolic) variables are considered and assessed to be essential in the structuring and regulation of behaviors in cross-cultural psychology. The cross-cultural approach becomes a comparative method or tool rather than the aim of the study by taking universalism into account. Cross-cultural approaches have been used as an essential method to examine the generality of certain concepts, particularly in theory. The potential difficulties associated with integrating "cultural" aspects of sports psychology have long been disregarded by practitioners and academics in sports psychology. The majority of sports psychology's roots, according to former authors, are European (Parham, 2008) and monocultural (Ryba & Wright, 2005), implying that it adheres to White-middle-class, westernized values. The majority of sports psychology studies involved western participants. Due to a lack of information on how to interact with people from various cultures without resorting to sensitive stereotypes, cultural concerns in sports psychology have received little attention (Terry, 2009). Studies and activities related to culture are easily oversimplified to such an extent that generalizations are made about the findings. There were criticisms that ethnic and cultural aspects should be taken into account in future investigations. Si (2000) underlined the importance of cross-cultural studies in confirming the universality of existing theories and exploring differences between cultures to build new ideas that are more adaptable to multiple cultures.

Therefore, now is the time to make a change since there is a chance to expand practitioners' openness to adopting more inclusive and culturally aware practice philosophies and tactics for athletes from all cultures rather than slavishly adhering to western sports psychology strategies.

1.2. Research Methods Used in Cross-Cultural (Sport Psychology) Studies

To venture into cross-cultural psychology is like sailing through uncharted oceans. It requires courage and single-minded determination as one can never predict what one might encounter like ethical, social, religious, economic, familial, gender-related, health-related, linguistic, and so on. (Laungani, 2007) Therefore, for effective results researchers need to apply a research

methodology that serves the researcher's purpose and is also in line with the scientific research protocol.

The classification of theoretical and practical orientations has a long history in cross-cultural comparative studies. Most studies in sport and exercise psychology are theory-driven, with some applied objectives and practical implications. A universalism approach frequently leads to a theoretically focused comparison. Sport and exercise behaviors are frequently used by researchers in theory-oriented studies as a tool, therapy, or condition that offers the exciting promise of gaining a deeper, more fundamental understanding of human psychological processes and traits. This approach can be supported through the following studies on the generality of goal orientation theory and its questionnaire: the TEOSQ, in the sport domain (TEOSQ; Duda & Nicholls, 1992), coach-athlete relationship questionnaire- CART- Q (Yang & Jowett, 2012) and Physical self-description questionnaire-PSDQ (Aşçı et al., 2009). Practice-oriented research, on the other hand, frequently employs cross-cultural comparisons as a means of obtaining more useful references that can help in enhancing performance. Studies on athletic career transition are good examples of this method. (Tshube & Feltz, 2015; Alfermann et al., 2004) These studies help in the development and implementation of new or revised sports career assistance and counseling programs. The final aim of these kinds of studies is to enhance performance in sports.

Another essential strategy is to use different data collection and evaluation procedures to analyze comparative research in sports psychology. Data collection and evaluation are, of course, merely the top layer of this category approach. There are two fundamental approaches i.e., quantitative and qualitative approaches, which are linked to a researcher's opinion on the nature of human behavior. The quantitative approach is largely empirical and positivist from a philosophical standpoint and empirical, reductive, and structurally oriented from an epistemological standpoint. This means that comparative researchers employ quantifiable variables to dis-aggregate the object(s) of study and uncover substantial similarities and differences between groups. A common approach is to conduct a double-direction translation and revision procedure to create equivalence between different language versions. Exploratory Factor Analysis (EFA; Gao et al., 2008; Asci et al.,1999;), Confirmatory Factor Analysis (CFA; Mallia et al., 2016), between-group homo-variation and/or multivariate analysis (ANOVA / MANOVA; Morin et al., 2018; Kavussanu et al., 2015; Tsang et al., 2005; Chelladurai et al.,1-988), and other correlation tests Mann- Whitney U-test, two-factor analysis of variance (Chkhikvadze & Bazan, 2018) and hypergeometric distribution (Blanch, 2016) were used.

Qualitative phenomenological paradigms have been considered a significant and necessary technique for gaining knowledge and information in sports psychology as a result of greater awareness of the importance of players' subjective experiences. The impact of cultural background on the psychological processes would not be considered in a separate, independent manner under this paradigm (by quantified variables). Instead, the comparison emphasizes a contextual, conjunctive approach. The qualitative approach typically employs methods such as life-story interviews, verbal analysis, single case observation, and so on. Similarly, the validity requirements for qualitative research differ from those used in quantitative research (Mallia, et al., 2016; Tian et al., 2015; Tshube & Feltz, 2015). Because of its historical and contextual case-oriented perspective, the qualitative approach has natural relevance in cross-cultural comparative studies. However, this approach is mostly used along with the quantitative approach because the qualitative approach usually includes limited cases which results in limited generalizability of qualitative results. Therefore, using mix approach is trending in recent research studies. (Mallia, et al., 2016; Tian et al., 2015; Tshube & Feltz, 2015)

1.3. Purpose

This study aims to investigate the methodology used by the researchers and the challenges of conducting these cross-cultural studies. A systematic review is conducted to investigate what kind of methodologies are used in finding out the similarities and differences between cultures and what kind of challenges are faced by researchers in conducting these cross-cultural studies. To guide the systematic review, the following main research question was formulated: "Which methodologies are used to investigate psychological constructs in cross-cultural studies of sports psychology?"

We formulate the following sub-questions:

1. What kind of research methodology is applied by researchers in cross-cultural studies of sports psychology?
2. What are the challenges faced by researchers in conducting cross-cultural studies of sports psychology?

2. Methods

The literature search includes electronic databases, review articles, and reports that are published on the topic of cross-cultural studies in sports settings. EBSCO was used to conduct the electronic database search, as well as all available individual databases were chosen for inclusion (e.g., MEDLINE, APA PsychARTICLES, Academic Search Ultimate, and ERIC). Sciencedirect, Researchgate, Springer link, and Wiley Online library databases were also included. The search was conducted using the predefined keywords: cross-cultural study, sports psychology, performance, cross-cultural differences, quantitative approach, and qualitative approach.

The articles were chosen for the systematic review satisfied the following criteria for inclusion:

1. posted between 1985 and 2021; written in English;
2. comparing two or more different cultures in a sports setting;

In the initial literature search, 889 papers were found in total. However, the list was swiftly shortened to 790 studies in record screening, and 305 articles were chosen after full-text analysis. A total of 18 articles were located.

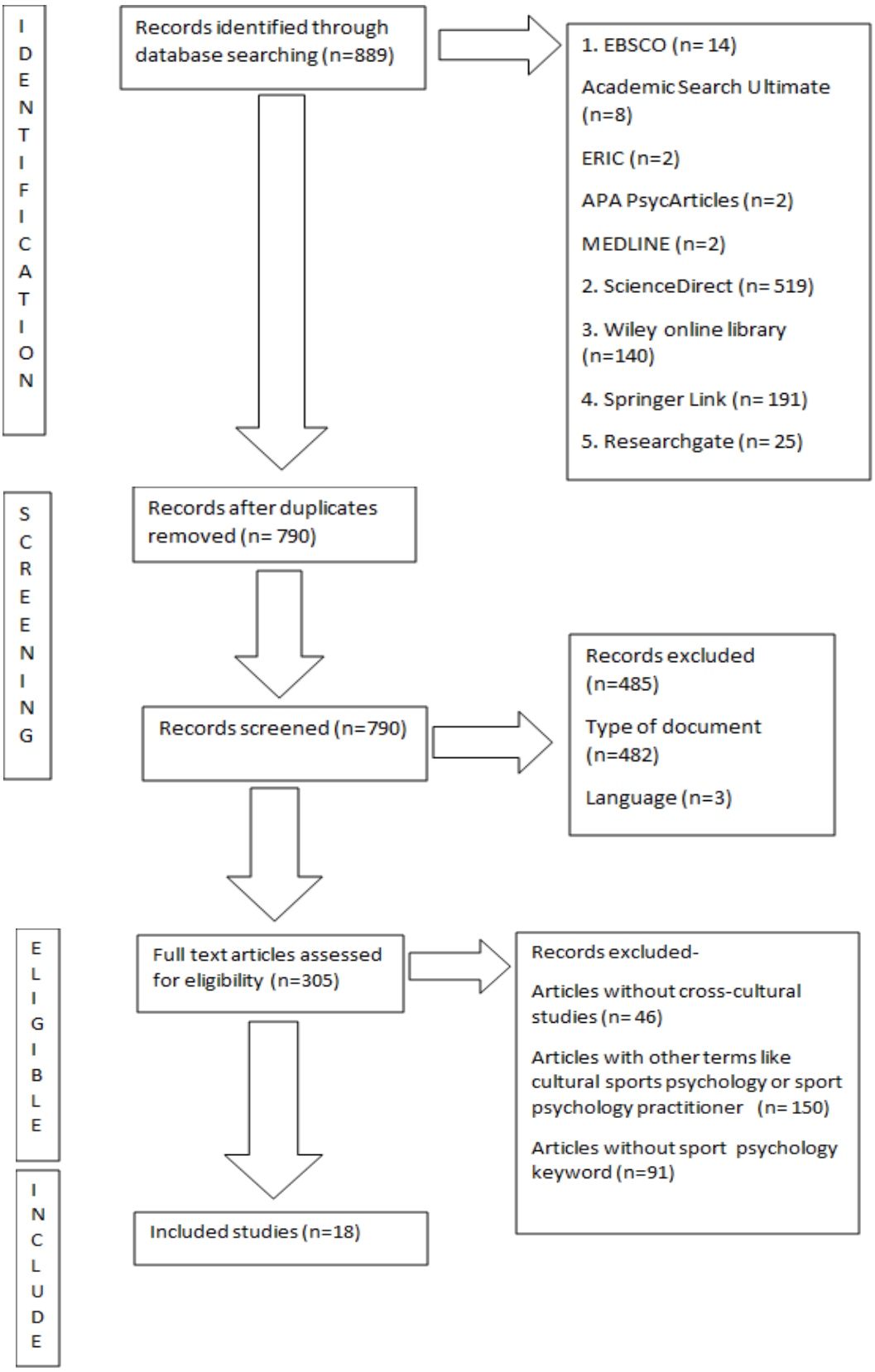

Figure 1. PRISMA flow diagram of the article selection process

Table 1.
Study information, sample, and methodologies used in the review

S. No	Study	Sample	Methodology used
1.	(Gao, Xiang, & Harrison, 2008)	249 American and 298 Chinese college students with physical education classes (M=324, F= 223)	Correlational research Quantitative study: Perception of Success Questionnaire (POSQ) Descriptive statistics
2.	(Quested, et al., 2012)	7769 grassroot players (M= 6641, F=1020) from five countries (France, Greece, Norway, Spain, and England)	Correlational research Quantitative Study- Questionnaires to measure perceptions of coach- provided autonomy support, basic psychological need satisfaction Descriptive statistics- SEM
3.	(Morin, et al., 2018)	4,867 adolescents- P. E. classes (1,173, 598, 1222, 643, 646, 585 adolescents from Belgian Flemish, French, Italian, Turkish, Kuwaiti, and Tunisian nationalities respectively)	Correlational research Quantitative Study- PSI-S questionnaire in French, Dutch, Turkish, Italian, and Arab linguistic versions Descriptive statistics-Mplus7.31
4.	(Tsang, Szabo, & Soos, 2005)	1083 participants- P. E. or sports training classes from Hong Kong, the United Kingdom, Hungary, and Romania	Correlational research Quantitative study- Sports Motivation Scale, Task and Ego orientation in sports questionnaire (TEOSQ), Sport Competition Anxiety Scale in Chinese, Hungarian and Romanian versions Descriptive statistics- MANOVA
5.	(Chkhikvadze & Bazan, 2018)	85 (M=22 and F=20 students from Russia, M=22 and F=21 students from Bulgaria). All are from the university volleyball team	Correlational study Quantitative study- Sports Motivation Scale (SMS) and Motivation in sports performance (MSP) in Russian and Bulgarian version Descriptive statistics- Mann-Whitney U-test, two-factor analysis of variance
6.	(Stamatis, et al., 2019)	99 Greek and 173 US athletes	Correlational research Questionnaire: MTI5 (Mental Toughness Index) English and Greek version Descriptive Statistics: Invariance testing
7.	(Mallia, et al., 2016)	Study 1: 21 team sports professionals Study 2: 414 adolescent athletes Study 3: 749 adolescent team athletes Team sport athletes from Italy, Germany, and Greece were enlisted for the latter two investigations.	Correlational research Mixed approach: Quantitative + qualitative Study 1: Qualitative data analysis Focus group interviews Quantitative study- Questionnaire: Team athletes' Self-regulatory Efficacy (T-SRE), confidence in their teams among athletes (i.e., collective efficacy; T-CE), Team Moral Disengagement (T-MD) in Italian, German and Greek versions Descriptive Statistics: For study 2, Confirmatory factor analyses (CFA) For study 3, structured equation modeling (SEM)
8.	(Kavussanu, Elbe, & Hatzigeorgiadis, 2015)	1495 (729 females) elite football players from 93 teams. UK- 506 football players (251 females) Denmark- 509 elite football players (251 females) Greece- 480 football players (223 females)	Correlational research For Doping Intentions: 7-point Likert scale The State Shame and Guilt Scale's guilt subscale is used to measure anticipated guilt. For moral atmosphere: The moral atmosphere created by the coach, the moral atmosphere created by the teammates. Questions with rating scales followed each of the two doping scenarios. For performance motivational climate- Perceived Motivational Climate in Sport Questionnaire-2

			(PMCSQ-2) For ego orientation- Perception of Success Questionnaire (POSQ) For moral identity- the 5-item internalization subscale of the moral identity scale For moral disengagement- Moral Disengagement in Doping Scale Questionnaires were translated into Danish and Greek Descriptive statistics- MANOVA
9.	(Szabo, et al., 2019)	1002 physically active participants (Hungarian and Spanish adults)	Correlation study Questionnaire: Revised Passion Scale Questionnaire (Hungarian and Spanish) Descriptive Statistics: SPSS, MANOVA, and MANCOVA
10.	(Tian, Li, Li. P., & Bodla, 2015)	Qualitative study- 30 interviews of basketball teams, 15: Collectivist cultures- China (n = 13), Pakistan (n = 2); Individualist cultures- Germany (n = 1), The Netherlands (n = 1), Poland (n = 8), United States (n = 5) Quantitative study- NBA- 30 teams; 29- US, 01- Canada and CBA- 17 teams from China	Correlation research Mixed-method design: Qualitative study- Semi-structured interview Quantitative study- Two leagues' longitudinal data span the seasons of 2003–2004 and 2012–2013. NBA data were gathered from two websites: basketball-reference and the NBA's official website. The information was gathered from three websites: the official CBA website, Sina, and Baidu.
11.	(Alfermann, Geisler, & Okade, 2013)	56 German- 30 female and 26 male swimmers and 117 Japanese- 60 female, 57 male swimmers	Correlation research Quantitative research- Task and Ego Orientation in Sport Questionnaire, Fear of Negative Evaluation scale, Leadership Scale for Sport (LSS)- German and Japanese version Descriptive statistics- MANOVA
12.	(Yang & Jowett, 2012)	1363 athletes from countries - Belgium (N= 200), Britain (N= 382), China (N= 200), Greece (N= 115), Spain (N= 120), Sweden (N= 169) & USA (N=177)	Correlation research Quantitative study- Coach-athlete relationship questionnaire (CART-Q) translated into languages of the respective countries (Belgium, Britain, China, Greece, Spain, Sweden, and the USA) Descriptive statistics- multi-group mean and covariance structure (MACS) analyses
13.	(Blanch, 2016)	Data from 24 countries in Eurasia (N = 112.358; men= 102,774 and women= 9585; men: women= 11:1) chess players	Correlation research Quantitative research- Elo chess rating measure- The Elo chess rating indicates a player's chess strength. Descriptive statistics- Examining genuine Elo rating disparities using a negative hypergeometric distribution.
14.	(Aşçı, Fletcher, & Çağlar, 2009)	740 female and 1016 male high school students from Turkey and New Zealand/ Australia	Correlation research Quantitative study- Physical self-description questionnaire (PSDQ) in English and Turkish versions Data analyses- MDIF for testing an item that has more than one underlying dimension(s). With Poly SIBTEST, each item is subjected to a DIF test utilizing the remaining items as its subset.

15.	(Alfermann, Stambulova, & Zemaityte, 2004)	256 former amateur athletes of Germany (n=88; male=43, female=45), Lithuania (n=65; male=36, female=29), and Russia (n=101; male =51, female= 52)	Correlation research Quantitative study- Athletic Retirement Questionnaire in German, Lithuanian and Russian versions, Rating scales for career termination, a rating scale for emotional reactions, shortened 5-item version of the athletic identity scale, the forced choice scale for adjustment and satisfaction with life after an athletic career Descriptive statistics- ANOVA
16.	(Stambulova, Stephan, & Jäphag, 2007)	157 former international athletes from France (n=69; M= 46 & F= 23) & Sweden (n=88; M= 57 & F= 31)	Correlation research Quantitative study- The Retirement from Sports survey in French and Swedish version Descriptive statistics- ANOVA and MANOVA
17.	(Tshube & Feltz, 2015)	17 retired athletes from different sports in Botswana, Namibia, South Africa, and Zimbabwe (M=12 and F=5).	Correlation research Quantitative study- online survey Qualitative study- semi-structured interviews (online) Descriptive statistics- mean averages For Qualitative data- Grounded theory
18.	(Gee & Leith, 2007)	354 players from 30 teams, data collected from the first 200 games of 2003-2004 NHL regular session	Correlation research Data collected from archives Performance was measured- goals, assists, shots, and total points. Aggression is measured in 16 behaviors (fighting, kneeing, elbowing, checking from behind, etc.) Descriptive statistics- chi-square analyses, Bonferronni adjustments, Mann–Whitney U test

3. Result and Discussion

3.1. Research Methodology Used in Cross-Cultural Research

In light of the above-mentioned overview of cross-cultural sport and exercise psychology categories and studies, we observed that there were more theoretical-oriented studies (Stamatis et al., 2019; Morin et al., 2018; Blanch, 2016; Yang and Jowett, 2012; Aşçı et al., 2009; Gao et al., 2008) than practical-oriented (Chkhikvadze & Bazan, 2018; Mallia et al., 2016; Tian et al., 2015; Alfermann et al., 2013). Researchers used more theory-oriented studies because sports activities have numerous commonalities in physical, biological, and contractual aspects across many cultural backgrounds. Also, at the same time, depending on the cultural context, its social, cultural, and functional characteristics change. As a result, theory-oriented studies provide researchers the opportunity to get a more fundamental grasp of human psychological processes. However, practical-oriented studies have been on the rise recently.

In the data collection and evaluation process, researchers used three kinds of research methods in cross-cultural research i.e., quantitative, qualitative, or mixed approach. In this review, we found that most of the researchers administered the quantitative method in their studies. Quantitative studies are easy to conduct and efficient for the researcher to conduct their research in different cultures. Questionnaires were employed in research to elicit responses from individuals of various cultural backgrounds. Because measures to study psychological constructs are based on instrumentation created in Western cultures, it is vital to establish the cross-cultural validity of these instruments (Van Hemert et al., 2001). As a result, prior to data collection, the instruments must be validated for usage in diverse cultures. To address construct bias, a team was constituted whose members were all experts in multi-cultural and multilingual

settings and who translated the instruments. To detect the item bias, a separate back-translation is also used. (Stamatis et al.,2019; Morin et al., 2018; Gao et al., 2008; Tsang et al., 2005)

In quantitative studies, data were evaluated using descriptive statistics. In order to compare the equivalence of factor structures in various cultural contexts, factorial validity is achieved by running EFAs or CFAs for the relevant cultures. In particular, the application of CFA was utilized to enhance factor structure comparison, test competing models, and enable the study of the multitrait-multimethod matrices when conducting cross-cultural studies (Marsh & Byrne, 1993). Additionally, some researchers offered methods for determining how much the linguistic adaptations will maintain the original questionnaire's characteristics. The Multiple-group MIMIC approach was used to examine all the items and psychological constructs. This approach allows for testing the presence of potential measurement biases (DIF) in item responses as a function of covariates as well as latent mean differences while also allowing for testing the degree to which results are cross-culturally generalizable (Marsh et al., 2013; Aşçı et al. 2009). DIF analysis provided substantially more psychometric details at the item response level regarding how the statements are seen and reacted across cultures.

Recent research advocates for a qualitative and mixed method approach to find out the factors responsible for the difference between the variables of compared cultures, as quantitative methods only quantify the difference as how much, but cannot explain what factors are exactly responsible for the difference. This review found that grounded theory was used in qualitative research which is used for recorded interviews, archiving and saving data sources for future analysis and reanalysis, and examining evidence and research artefacts from the research process (e.g., quotes, transcripts, contextual information, memos or notes detailing the analytic decision-making and interpretation process, etc.) (Mallia et al., 2016; Tian et al., 2015; Tshube & Feltz, 2015). It served as a philosophical framework and direction for the gathering and analysis of data. The process of the grounded theory involves transcribing all recordings in data collection. A blind coding strategy was used for dependability and data quality. Independently listening to all of the interview tapes and reading the transcripts numerous times each was done by the researcher and an academic with experience in qualitative research. In order to prevent research findings from being influenced by the placebo effect or observer bias, the blind method is a scientific technique that is employed as a quality control measure. The researcher has the chance to assess whether the phenomenon of interest has been illuminated from a particular perspective after reading and listening to all audio recordings with an independent colleague who is a specialist in qualitative research and sports psychology. After data transcription, a thorough line-by-line manual open coding process using the participant's own words is conducted by the researcher and a separate collaborator. The researcher and a coworker constantly use a comparison strategy when conducting open coding. Finding key phrases or terms in papers and playing with meanings was how open coding and constant comparison were characterized. Axial coding, which involves the researcher creating subcategories and connecting them to core categories, stated attributes, and dimensions of a category, is followed by open coding. Then, selective coding is the last step in the data analysis process. In order to construct a narrative of theoretical claims, the researcher have to connect all categories and subcategories to the core category in this.

However, the qualitative technique frequently involves a large amount of varied case data, it usually only comprises a few instances. The generalizability of qualitative conclusions is limited when compared to the quantitative technique and its huge sample size which is the reason for the scarcity of comprehensive qualitative investigations in cross-cultural sport and exercise psychology (see Table 1). Therefore, qualitative analysis was used as a supplement to or comment on quantitative results in all of the research assessed. Nonetheless, this type of combination (quantitative and qualitative approaches) is becoming increasingly important.

3.2. Challenges and Future Research Directions

Psychology has never considered studying culture to be a simple task. Cross-cultural psychologists find construct meaning disparities unpleasant because they make it more challenging to quantify equivalent constructs (Triandis, 1996). Since local scale standardization cannot guarantee the cross-cultural validity of measurement dimensions, their study is dependent on these dimensions.

There are various challenges or issues to cross-cultural studies revealed by the review. Like, describing culture as usually individualistic and collectivistic (Markus & Kitayama, 1991) and the majority of persons within the same culture are similar (Triandis, 1996), which has been a prevalent assumption in cross-cultural, sociological, and psychological research, one must consider the representativeness of the sample as a challenge. The data could, however, be influenced by individual variances among the various culture samples. For instance, some cultures are complex, multilingual, and include a variety of religions. Therefore, while examining the cross-cultural disparities, future research needs to take both between- and within-group variances into account.

Also, differences in sample size across countries and small data samples affect the precision and validity of the result. (Stamatis et al., 2019) Some studies reported convenience sampling or lack of random sampling as a limitation in their research. (Szabo et al., 2019; Morin et al., 2018). Establishing the invariance of scales and reliable studies would benefit from further cross-cultural research with comparable and larger sample sizes.

Another insight from this review is that western-developed instruments were adapted for use in many cultural contexts. Even though several research have shown that instruments translated into other languages are valid and reliable, there is no guarantee that the questionnaires will capture the same concept for both groups. It is not easy to create questionnaires with items of the same meaning in different cultures. Only after a scale has been conceptually defined, that is, after it has been determined that the underlying psychological construct's meaning is the same and that the same metric holds true across cultures, can a scale be standardized using statistical methods (Wagner, Hansen, & Kronberger, 2014). Values and beliefs are the important reasons for conceptual ethnocentrism. This problem was examined in a study by Triandis, Bontempo, Leung, and Hui (1990), who found that Illinois undergraduates generally agreed on what the expression "being well adjusted" meant in Illinois English and that undergraduates in Hong Kong generally agreed on what the phrase's Chinese translation meant in Hong Kong. Hence, translation errors do not lead to conceptual ethnocentrism. Even exact translations frequently fail to convey the full significance of an indigenous concept for that particular context and the associated actions. For example, according to Asçı et al. (2009), negatively phrased items might be difficult for people to grasp on a linguistic and cognitive level, which is likely to have an impact on how people interpret them. This can result in inconsistent item responses and low item information. Therefore, the validity of the test may be compromised if the implied meanings in the concept are not understood. Also, they are complex and might be subject to researcher bias and become a matter of intuitive judgment. Involving people from the local culture as investigators and making an effort to highlight local psychological concepts are ways to overcome this bias. Though the applicability of some of these concepts to non-Asian cultures has not yet been established, research work in this area will add factors like social tightness, complexity, activity, honor, and verticality to the theoretical inventory of cross-cultural psychology (Triandis, 1996). Therefore, future research, employing various research methodologies, is required to determine the circumstances under which these language versions will maintain their psychometric features (e.g., conducting qualitative research, using culture-specific measurements).

The use of qualitative studies over quantitative studies might have certain limitations like an increase in operative and behavioral questions and answers will not guarantee the accuracy and validity of the method that is used. Open-ended questions cannot distinguish between unimportant, very obvious, or uniform elements of behavior or attitudes. Therefore, future researchers have to try using a more mixed (quantitative and qualitative) approach or find out a way to evaluate and interpret qualitative data with more reliability and validity. Currently, it is rarely possible to detect the causes of the behavior. It may not be possible to highlight them, except in cases where several different methods and different kinds of questions give consistent results. It is necessary to isolate a very large number of variables in each culture before being able to make satisfactory cultural comparisons. The use of electronic means could facilitate the work.

4. Conclusion

This review summarizes the literature on cross-cultural studies in sports psychology researched over four decades. This review attempted to fill a vacuum in the literature on cross-cultural sports psychology studies. We found that quantitative research was the methodology most frequently used in the studies and also, to make self-report measures more reliable for different cultures, the test needs to rely on a multiple-group MIMIC approach. This approach allows the researcher to test the degree to which the results are generalized across cultures as well as the presence of any potential measurement biases (DIF) in item responses as a function of the covariates. Researchers nowadays are using qualitative and mixed method approaches; however, these studies are few and need to be emphasized more. In this study, we found focus group interviews or semi-structured interviews to collect data and use grounded theory to derive theory from the dataset. At last, possible challenges in conducting cross-cultural studies are discussed, which would help the researchers to frame their cross-cultural study by keeping these challenges in mind and what they can do to solve these challenges. This study has a limitation that it only consists of 18 articles, for next time it could contain more articles and reports. A meta-analysis on this topic can also be conducted for a more analyzed view of the topic. For future research, we need to explore more about the research methodologies in cross-cultural studies, use of more adequate sampling size with gender equality, try to compare the same kind of sports played in compared cultures, and compare their effectiveness for getting better results in the field of sport psychology.

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