

Using Sports Participation as a Lifeline to Promote Psychological Wellbeing and Happiness among Older Individuals in China: Mediating Role of Social Capital Dimensions

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Abstract

There is substantial evidence linked with the positive outcomes of sports-based activities on the health and well-being of individual which natural tends to deteriorate once they reach a certain age. From a positive aging view, the promotion of sports participation for improving the health, physical and mental, and wellbeing outcomes have been used as a key strategy. The present study considers this strategy and formulates a framework to evaluate the impacts imposed by sports participation on the general happiness and wellbeing of the older population. To better understand the role of sports participation among older adults, the role of social capital on the relationship between sport participation and happiness among the older population and the relationship between sport participation and well-being has also been considered. For this purpose, a convenience-based sample of 310 sports-participating older population is studied in China. The results show that sports participation predicts both well-being and general happiness in older individuals. Moreover, two of the sub-dimensions of the social capital, neighborhood connections, and feelings of trust and safety, are found to significantly mediate the associations. The study is novel from the standpoint that the context of the study is set in China and it produces new empirical findings as well. The main limitation of the study is that a convenience sample has been used and the scope is restricted to China. The study lends a number of important contributions to sports psychology and epidemiological perspectives.

Keywords: China, Sports participation, Happiness, Social Capital, Older individuals, Wellbeing.

Introduction

Physical activities are important for the maintenance of a healthy lifestyle prevention of chronic diseases, especially considering the inevitable process of aging. The decrease in physical activity is associated with reduced factors of well-being in the individuals, both old and young (Ayvat, Kilinc, & Kirdi, 2017). Therefore, it is important to consider physical activities for the sake of promoting individual health and maintaining individual well-being. According to the World Health Organization (2019), it is expected that the number of people aged 60 or above will soon outnumber the children in the young and adolescent age, showing that the aging of the world population is getting rapid. From the perspective of successful aging, the promotion of a physically active lifestyle has been emphasized for the maintenance of social, physical, and psychological health of older people (Bartholomaeus, Van Agteren, Iasiello, Jarden, & Kelly, 2019). Andrews et al. (2017) suggest that the positive aging view is associated to being active with continual social interaction of older people with their families and communities to be a way to build a positive support system and coping mechanism. The area of positive aging literature has enthused the promotion of health in the older generation through the

stimulation of physical exercise and sports activities (Henriques, Silva, Severo, Fraga, & Barros, 2020). This line of focus has explores the effects of sports, exercise, recreation and leisure as optimal strategies for boosting and maintaining the psychological, social, and physical health among older people (Sato, Jordan, & Funk, 2016). Chaput et al. (2020) re-emphasize several specific guidelines for physical activities developed by the WHO. These guidelines show that the practice of 150 minutes of exercise per week is necessary for the maintenance of the health of older individuals (Chaput et al., 2020; Organization, 2019). However, there is an increasing number of the older population that doesn't participate in physical activities (Watson et al., 2016).

Sports psychology literature indicates that there is a subsequent relationship between well-being, physical exercise, and general happiness among individuals (McMorris, 2019; Moeijes et al., 2019). The extant literature has found that there is a linkage between aging and happiness and has found a U-shaped relationship among the older adult population, their happiness, and sports participation (Graham & Pozuelo, 2017), showing that happiness tends to decrease once the individual matures and returns once the old age is reached. The underlying process of the U-shaped relationship has been

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explained as the aspiration of higher achievements of young adults in comparison to the older adults and the unmet aspirations are better handled by the older adults (Schwandt, 2016). A substantial body of research suggests that social capital is one of the most important resources for well-being in adults. The general findings from the research indicate that social capital has been a predictor of happiness, life satisfaction, and quality of life among adults

Table 1.

WHO Guidelines for Physical Activity

Age range	Activity
Children (5 - 18 years)	60 minutes of physical activity per day
Adults (19 - 64 years)	150 minutes of moderate aerobics per week at the minimum
Older Adults (65+ years)	150 minutes of moderate aerobics per week plus strength exercises twice a week

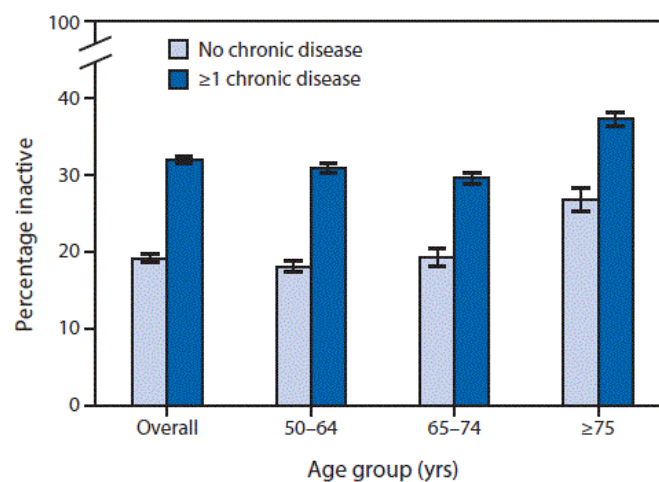


Figure 1. Inactivity in older people

Source: Watson et al. (2016)

By acknowledging the evidence on the associations among sports participation, happiness, well-being, and social capital construct, a theoretical model has been devised. The objective of the present study is to evaluate the impact of sports participation on the well-being and general happiness of older individuals based in China where the mediating role of social capital from a social epidemiological perspective is considered as well. Based on these objectives, the study addresses the following research questions;

- What is the impact of sports participation on the well-being of older individuals?
- What is the impact of sports participation on the general happiness of older individuals?
- To what extent do the feelings of trust mediate the association between sports participation, general happiness, and well-being?
- To what extent does community participation mediate the association between sports participation, general happiness, and well-being?
- To what extent does the neighborhood connections mediate the association between sports participation,

or older people (Henriques et al., 2020; H. Pan, 2018). In comparison to individualistic physical activities or exercise activities, sports participation tends to influence the well-being, happiness, and social outcomes due to the social nature of the sporting activities. It has been known to stimulate trust, feelings of belonging, and community associations in older people (A. C. H. Kim, Ryu, Lee, Kim, & Heo, 2020).

general happiness, and well-being?

Some gaps are consistent in the literature on the impact of sports involvement among the older population. First of all, most of the previous literature is concentrated on the relative impact of physical activities like walking, occupational labor, chores, gardening, or on exercise i.e., gym-based pieces of training where the effects of sports participation have primarily been ignored for the assessment of outcomes on older people (A. Kim, Park, Kim, & Fontes-Comber, 2019). Secondly, while most of the studies evaluate the status and impact of sports participation in children and young adults (Bean & Forneris, 2017; Gardner, Magee, & Vella, 2017; Graham & Pozuelo, 2017; Lee, Pope, & Gao, 2018) or adults, there are only a limited number of studies that consider the impact imposed and outcomes for the older population. Moreover, the findings are inconsistent and disjointed due to the lack of empirical evidence (A. Kim et al., 2019; Webb, Stratas, & Karlis, 2017) and most importantly, previous studies have mostly neglected the association between social and psychological outcomes for sports participation and these have been treated as separate and

unrelated outcomes in a segmented group of studies (Sato et al., 2016). The present study, therefore, aims to consider all of these gaps. In a recent study, A. C. H. Kim et al. (2020) considers the effects and association among the social and psychological outcomes about sports participation but did not consider well-being and only focused on the outcomes for the general happiness of older people. Thus, all of these gaps will be addressed through the present study.

The rest of this paper comprises four parts; literature review, methodology, results and analysis, and discussion and conclusion. In the literature review, the building theory, conceptual framework, and theoretical evidence have been presented. In the methodology, the data collection process has been outlined followed by hypothesis testing and analysis of resulting in the results and analysis part. The last portion, discussion and conclusion, highlights the key findings, limitations, implications, and future directions originating from this study.

Literature Review

Theoretical Background

Social capital is defined as the resources developed by a social group based on a social expectation, say, an exchange of favors, association in the community, feelings of trust, sanctions, and norms etc. A social group can take exist in various settings like workplaces, classrooms, voluntary organizations, residential communities, etc. The resources of the social capital can be used or accessed by individuals belonging to the group or collectively by the group (Richiardi, 2015; Villalonga-Olives & Kawachi, 2015; Webber, Huxley, & Harris, 2011) The usage of the social capital theory for determination and maintenance of health outcomes has been in practice since its inception, primarily due to the concepts of association and bonding presented in its framework (Browne-Yung, Ziersch, Baum, & Gallaher, 2013). There have been several studies citing the benefits of social capital, especially at the individual and consumer levels. The application of the concept has developed substantially since its infancy, from being just a mere definition of the concept to it being used as an integral part of life management and support mechanisms (Whittaker & Holland-Smith, 2016) and recently vis-a-vis the influence imposed by social capital on health and wellness-related outcomes (Häuberer, 2011; H. Pan, 2018; Papastavrou, Andreou, Middleton, Tsangari, & Papacostas, 2015)

The concept of social capital was coined by Putnam and Coleman (Coleman, 1988; Putnam, 1993). In similarity to the concepts of physical and human capital, social interactions influence the productivity of groups and

individuals. According to Putnam (1993), societal quality and the breadth of the relations formed through the society have a supportive impact on the individuals and also that the reciprocal nature of social relationships is prevalent (Häuberer, 2011). Through recent studies, the impact of social capital on sports participation has been explored. In a recent study, Novak, Doubova, and Kawachi (2016) evaluated the role of social capital on the physical activities practiced by high school students. The presence of social capital increases the support for individuals through community and trust development. Thus, it is proposed that the social capital affects sports activity and psychological outcomes in the older population.

Sports Participation and Wellbeing

Psychological wellbeing, of the individual is recognized as the realization of the potential of an individual (Ryff & Keyes, 1995). Well-being ascertains that there will be high levels of positive emotions and feelings in individuals and individuals with PWB are known to be more satisfied with life in general (H. Pan, 2018). The association between well-being and sports participation is reflected in the sport psychology and well-being studies. Academicians and policy-makers increasingly posit for participation in sports and related activities can positively influence the physical, cognitive, and mental development of young people (Appelqvist-Schmidlechner et al., 2018). Convincing evidence from a variety of studies suggests that there is a positive impact induced as a result of to participation in sports and is associated with more healthy behaviors, improved school performance, increased well-being and increased subjective health in the young people (Gardner et al., 2017; Heo, Ryu, Yang, Kim, & Rhee, 2018; McMahon et al., 2017; McMorris, 2019). Participation in sports activities is not considered to be a unified concept and Marlier (2016) made a distinction between different sports activities, plus-sport activities, and sport-plus activities. The sporting programs or activities have been considered to be more inclusive and related to the practices of both competitive and recreational sport. The study by Marlier (2016) found that sports activities, and not merely physical activities, are associated with the mental well-being of individuals. There are ambiguous and mixed associations reported by studies on mental well-being and physical activity. White et al. (2017), through a meta-analysis found, that sports participation and no other kinds of physical activities like work-related physical activities, transportation, or household work are associated with mental well-being. A plausible reason for this occurrence is that because sports activities are reflective of chosen-leisure activities that are aimed towards recreation and enjoyment to improve mood and self-perception, which

are key to enhanced psychological well-being. Rodriguez-Ayllon et al. (2019) also substantiate the important associations between sports participation and well-being in individuals of different ages. The social capital theory states that sports participation motivates people to interact with others and build a community and therefore, there are positive associations found between well-being and sports participation (C.-Y. Pan et al., 2016). The studies by Biddle, Ciaccioni, Thomas, and Vergeer (2019), Rodriguez-Ayllon et al. (2019), A. Kim et al. (2019) and Heo et al. (2018) have shown that the practices of sports and participation of adolescents and children in sports are key for the

development of certain developmental skills and also posit a positive influence on their well-being. While there is limited literature evaluating the outcomes of sports in older people, the presented evidence can be used to state that a similar effect can be noticed in the psychological well-being of the older population. Therefore, based on the evidence presented above, the following hypothesis is proposed;

Research Summary

The following is the summary of the literature evaluated in the study

Table 2

Research Summary

Author	Main contribution	Gap
Lera-López et al. (2017)	Life satisfaction and happiness are influenced by physical activity	The influence of sports-based activities is not considered
A. C. H. Kim et al. (2020)	Found evidence of an association between sports participation and happiness in older adults	The study does not consider the impact on well-being
Novak et al. (2016)	Found social capital to influence positive behavior in the high school students and increased their well-being	The impact of social capital or well-being is considered in the context of older adults
Marlier (2016)	Well-being, social capital, and physical activities are found to be significant for the prediction of positive outcomes	The factor of happiness is not studied.
Lee et al. (2018)	The review focuses on the sports activities' positive influence on the children's physical health	The impact on the older adults is not taken into consideration
Bardhoshi et al. (2016)	Sports activities are found to decrease the level stress and depression in older athletes leading towards happiness	Wellbeing is not considered as a factor
A. Kim et al. (2019)	This review show that there is evidence of the influence of sports participation on happiness in older adults	The review does not consider the impact of social capital
Rodriguez-Ayllon et al. (2019)	The meta-analysis findings suggest that physical activity can improve adolescents' mental health	The impact of sports activities and happiness is not considered
Appelqvist-Schmidlechner et al. (2018)	Sports-based activities predict positive mental outcomes in the individuals	The association between sports activities and happiness is not considered
Z. Zhang and Chen (2019)	The review presents evidence of an association between happiness and physical activities	The role of sports-based activities is not considered

H1: There is a significant impact on sports participation in the well-being of older people.

Sports Participation and General Happiness

Participation in sports is not a unified concept as it can manifest of various forms and settings. Marlier (2016) made a distinction between different sports activities, plus-sport activities, and sport-plus activities. Sports activities are recognized to include both competitive and recreational sport, where most of the focus has been on the development of skills and attributes in the youth that can be associated with playing sports. The physical exertion of the human body releases endorphins or happy hormones

which are known to influence the mood of people and put them in a generally happier state-of-mind. Thus, it can be argued that sports participation influences and predicts happiness in individuals, irrespective of age. Moreover, according to the social capital theory, communal participation and trust develop between team members, thus providing the individual with a social support system that influences his or her happiness. However, there have been no studies evaluating the direct relationship between sports participation and happiness, most studies in sports psychology literature recognize physical exercise and activity as predictive of happiness in individuals including older adults (Z. Zhang & Chen, 2019). In the study of

Khazae-Pool, Sadeghi, Majlessi, and Rahimi Foroushani (2015), it is found that physical exercise programs contribute towards an increase in the level of happiness felt by older people. Although older adults who took part in the physical exercise program report on their levels of happiness being improved, the control group who is not involved in the program show no changes in happiness. One study by A. C. H. Kim et al. (2020) considers the association between the happiness of older individuals participating in the Pickleball and found that the individuals report a significantly high level of happiness upon playing the game. According to another study by Lera-López, Ollo-López, and Sánchez-Santos (2017), the leisure time activities (physical) are also positively associated with happiness in older adults, and perceived health is found to mediate this association. In another study, Bardhoshi, Jordre, Schweinle, and Shervey (2016) found that the practice of physical exercise is associated with a reduction in stress and anxiety, and therefore, an increase in the level of happiness experienced by individuals. Based on this theoretical evidence, the following hypothesis has been proposed:

H2: There is a significant impact of sports participation in the general happiness of older people.

The Mediating Role of Social Capital

The social capital model presented by Putnam (1993) and Coleman (1988) provides a comprehensive overview of the various kinds of capital and the impact they impose on sports participation. These are six different forms of human capital identified as physical capital, individual capital, social capital, emotional capital, financial capital, and intellectual capital. From these various kinds of capital, the main influence has been suggested by the social capital, as the presence of trust and belonging enhances the intention to participate in sports and has been studied as a positive predictor of positive outcomes in individuals. Sports participation posits influence on the happiness, social capital, and psychological outcomes among older

adults. Komatsu, Yagasaki, Saito, and Oguma (2017), through a qualitative study show that community-based regular physical activity is associated significantly to mutual support and social connectedness among older adults. The participants of the study state that they felt a sense of safety within the community, and also began to support each other through the regular community-based physical activity program. The empirical evidence in support of the associations between happiness and social capital is overwhelming (Marlier, 2016; Moeijes et al., 2019; Novak et al., 2016; Z. Zhang & Chen, 2019). Moreover, the empirical evidence also increasingly suggests that the presence of support or belonging in any form may increase the level of engagement and participation in sports-based activities among older individuals. These factors influence the psychological outcomes directly and indirectly. The study by A. C. H. Kim et al. (2020) evaluates the mediation of social capital as a mediator between sports participation and happiness and found positive associations. Based on this evidence, the following mediation relationships are proposed:

H3: Community participation significantly mediates the association between sports participation and the well-being of older people.

H4: Community participation significantly mediates the association between sports participation and the general happiness of older people.

H5: Feelings of trust and safety significantly mediate the association between sports participation and the well-being of older people.

H6: Feelings of trust and safety significantly mediate the association between sports participation and the general happiness of older people.

H7: Neighborhood connections significantly mediate the association between sports participation and the well-being of older people.

H8: Neighborhood connections significantly mediate the association between sports participation and the general happiness of older people.



Figure 2. Conceptual Framework

Methodology

Method

The present study seeks to evaluate of the role played by sports activities and participation in the promotion of psychological well-being and general happiness among older individuals. The study is conducted in the context of China. The promotion of sports in older individuals has been found to boost their psychological and social well-being. The wellbeing of the elder population has been emphasized for the maintenance and development of social and psychological health by social researchers (Moeijes et al., 2019; Schwandt, 2016). Thus, the present study presents a model based on the activity theory which evaluates the impact of sports participation on the well-being and general happiness of elderly individuals through the mediation of dimensions of social capital. The study has been designed based on a quantitative methodological approach. The central research instrument for the study is a questionnaire. Two filtering questions have been incorporated into the study as well. As the focus is on the sports participation of older individuals, therefore people aged 50 or above are deemed suitable for the purposes of the study. Thus, the first question is “are you aged 50 or above?” and the second filter question inquires on the participation in sports activities “do you partake in any sports activities?” Thus, the respondents are profiled according to these questions. The questionnaire is initially prepared in English and then translated to Chinese. Two professional translators are hired for translating the items correctly. The back-translation method recommended by Campbell, Brislin, Stewart, and Werner (1970) is used. The study focuses on the well-being and happiness of older people due to sports participation. The data is collected from the incumbents of retirement houses and the questionnaire has been circulated on social networking websites as well. The method of online administration is used for data collection. A cover letter is attached with the questionnaire, consisting of filter questions, submission details, purpose, and scope of the study, as well as a confidentiality statement. Survey monkey and google forms are used for the circulation of the questionnaire. The method of convenience and snowball sampling is used for the collection of data. The items of the questionnaire are structured according to a proper order i.e., the first section consists of the demographical information, the second section consists of the dependent, the third section consists of the independent and the fourth consists of the mediating variables, so that respondents do not get confused. The sample size is finalized based on the item response theory (S.-H. Kim, 2004), where the method of

ten responses per item has been used. The total number of items is 22 and the sample size has been set at 350 to account for the missing values and incomplete questionnaires. The researcher receives 320 questionnaires back and evaluates them for missing values. 10 questionnaires are found to have over 40 per cent missing values and are discarded. The final sample consists of 310 respondents.

Measures

The scales for the present study have been sourced from existing literature and are adapted and modified to fit the context of the present study. Five out of six constructs have been measured based on a five-point Likert scale, ranging from strongly disagree to strongly agree.

General Happiness

General happiness is evaluated based on the single item scale by Abdel-Khalek (2006). The construct consists of a single question “Do you feel happy in general?” The responses for this question range from 1-10 and a higher score indicates an increased or greater level of happiness.

Sports Participation

The sports participation is measured based on the six-item scale adapted from the serious leisure inventory measures which have been used by previous studies for evaluation of the construct as well (Gould, Moore, McGuire, & Stebbins, 2008; A. C. H. Kim et al., 2020). A sample item is “I overcome difficulties in sports activities by being persistent”.

Social capital

Social capital is evaluated based on the 9 items adapted from the original 36 item scale of Onyx and Bullen (2000). The shortened version of the scale has been used in previous studies (Papastavrou et al., 2015). The instrument measures three constructs i.e., neighborhood connection “If you were caring for a child and needed to go out for a while, would you ask a neighbor for help?” trust and safety “do you agree most people can be trusted?” and community participation “are you an active member of a local organization (sport, craft) or club?”.

Well-being

Well-being is measured based on six items adapted from the Ryff and Keyes (1995) scale. A sample item is “In general, I feel I am in charge of the situation in which I live”.

Ethical Considerations

The author undertook certain steps in consideration of ethical requirements to improve the robustness of the study. Several ethical considerations are kept in view while conducting the process of data collection. First of all, none

of the respondents have been forced or coerced to participate in the study. The participants who become a part of this study enter through their own free will. Secondly, they are informed properly about the objectives and purpose of the data collection, the study, and the utilization of the data through the cover letter attached to the questionnaires. Moreover, the researcher has only used the data for research purposes. Additionally, the researcher makes sure that data is not manipulated in any way, and the respondents are ensured that their responses would be kept anonymous. The completion and submission of the online survey implies that the participants consent to participate in this study. Moreover, all of the work presented through this study is original and not plagiarized. All and any of the sources used in the study have been cited properly.

Results

Demographics

The collection of demographical information is an important part of the data collection process as it involves identifying the characteristics of the sample and is essential for the generalization of results. Frequency distributions are used for the evaluation of the sample characteristics. Gender, age, and education traits are examined. The study focuses on participation in sports activities for the promotion of well-being and happiness in older individuals. The gender is distributed unequally in the sample i.e., 52.3 per cent of the respondents are male whereas 47.7 per cent are female. The education information reveals that 11.9 per cent had completed graduation, 43.5 per cent listed their educational status as post-graduation, 33.5 per cent had completed masters and the remaining 11 per cent selected others. The age-based information shows that 23.9 per cent of the respondents are in the age group of 50-55, 29 per cent are within 56-60, 31.3 per cent are between 61-65, and 15.8 per cent are older than 66.

Descriptive Statistics and Reliability

To evaluate the reliability of the scale items the Cronbach alpha values of each scale were computed. According to Drost (2011) and Schriesheim, Eisenbach, and Hill (1991), the Cronbach alpha values are supposed to be greater than 0.7, thus, as the table demonstrates all of the scales have Cronbach alpha values greater than 0.7, all are reliable i.e. they were adequate for measuring the associated variable. Descriptive statistics are used to evaluate the general trend and characteristics of the data like mean, minimum, maximum and normality. The minimum and maximum values indicate the correctness of the data and information

on the presence of outliers. As the minimum and maximum values are found to lie within the range of the scale used for response evaluation (1-5), the outliers (extreme values) were not found in the data. The mean values indicate the trend of the responses of the participants. The mean value of all variables, except general happiness, is greater than 3 indicating that on average, all respondents agreed. The mean value of general happiness is 6.44, showing that the average happiness score of the respondents was 6. Skewness is used to evaluate the normality of data, the threshold range for skewness values is in between -1+1 (Sekaran & Bougie, 2016). Table 3 below shows that the skewness values fall within the prescribed range; thus, the normality of the data is established.

KMO and Bartlett Test

KMO and Bartlett's test is a measure of the adequateness of the sample. The KMO test considers the adequacy of the complete model and each factor as well. These tests are conducted before the factor analysis. The value of the indicator is to fall between 0 and 1; a KMO value greater than 0.8 shows that the data is adequate and suitable for factor analysis. The KMO value demonstrated in the Table 4 below is close to 1 i.e., 0.933, confirming the adequacy and suitability of the data. The Bartlett test of sphericity used for evaluating whether the correlation matrix formed by the variables is an identity matrix. For factor analysis, there must be some association among the variables by assessing the statistical correlations. The significance of the test confirms the association. The table value shows the sphericity test is significant. As both the KMO and Bartlett tests are true, the analysis can move towards factor analysis.

Table 3.

Descriptive, Reliability and Normality

	Cronbach Alpha	Min	Max	Mean	SD	Skewness
GH	-	1	10	6.44	3.356	-.392
SP	.942	1.00	5.00	3.5554	1.09257	-.849
CO	.925	1.00	5.00	3.5473	1.14896	-.731
TS	.926	1.00	5.00	3.5710	1.15025	-.802
NH	.901	1.00	5.00	3.6011	1.08850	-.849
WB	.942	1.00	5.00	3.4167	1.10747	-.515

Table 4.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.933
Bartlett's Test of Sphericity	Approx. Chi-Square	6162.141
	df	231
	Sig.	.000

Factor Analysis

The rotated component matrix demonstrates the correlations among the scale items and the construct and also shows the variance contributed by each item. The table below shows the results of the rotated component matrix. The values of the factor loadings or the correlations are supposed to be greater than 0.6, i.e., loading values greater than or equal to 0.6 are acceptable (Bagozzi, Yi, & Singh, 1991) and show that the item explains a significant percentage of the variance. The matrix below demonstrates that the loadings of each factor are greater than 0.7, thus all scale items contribute to the variance of the overall construct. Moreover, the issue of the cross-loading i.e., the loading of more than one factor per item has not been observed as well. Thus, all the items contribute effectively to the overall variance.

Common Method Bias

It is common for cross-sectional data to present a common method bias. The Harman's single factor test is conducted to evaluate the presence or absence of the common method variance or bias in the data. The test presents a post hoc procedure that is performed after the data collection has been completed. The test evaluates whether one factor is responsible for most of the variance being displayed in the data (Tehseen, Ramayah, & Sajilan, 2017). The first unrotated factor captures only 48 per cent of the variance in the data. The results of the test have been depicted in the table below and it can be seen that no single factor is responsible for more than half of the covariance among the constructs and also no single factor has emerged to be responsible for the variance as well. Moreover, the researcher evaluates the trend in the early and late responses as well and no varying discrepancy is found to be present. Thus, it is stated that the issue of the common method bias or variance does not exist in the present study.

Correlation

The correlation test is performed to evaluate the association among the variables. The correlation test evaluates the magnitude and direction of variable relationships. A positive sign or correlation coefficient is indicative of a direct relationship whereas a negative sign showcases an inverse association. The correlation coefficients are depicted in the table below; all of the variables are associated positively and moderately with one another. Moreover, all associations are significant.

Regression Analysis

Regression analysis is used for the evaluation of linear associations and dependencies among variables. The path analysis shows the degree of change produced in the

dependent variable due to the changes in the independent and mediation variables. The associations among the variables of the present study are shown in Table 8 below. Sports participation has a significant relationship with well-being, as indicated by the p-value. A unit change in sports participation increases the well-being of older individuals by 49 per cent. As the relationship is significant, the hypothesis is accepted. The association between sports participation and general happiness is also significant and positive.

Table 5.

Rotated Component Matrix

	Component					
	1	2	3	4	5	6
SP1		.709				
SP2		.781				
SP3		.834				
SP4		.850				
SP5		.833				
SP6		.823				
CO1				.790		
CO2				.837		
CO3				.817		
TS1			.822			
TS2			.846			
TS3			.871			
NH1					.804	
NH2					.851	
NH3					.811	
WB1	.745					
WB2	.795					
WB3	.853					
WB4	.868					
WB5	.855					
WB6	.860					
GH						.794

Table 6.

Common Method Bias

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.639	48.359	48.359	10.639	48.359	48.359
2	2.706	12.300	60.658			
3	1.838	8.354	69.012			
4	1.383	6.285	75.297			

Table 7.*Correlation*

	GH	SP	CO	TS	NH	WB
GH	1					
SP	.480**	1				
CO	.311**	.591**	1			
TS	.387**	.487**	.542**	1		
NH	.368**	.505**	.558**	.465**	1	
WB	.610**	.490**	.382**	.448**	.453**	1

A unit increase in sports participation increases the general happiness of older individuals by 48 per cent. As the association is significant, the hypothesis is accepted. The mediation of community is insignificant. The impact of sports participation through community produces a change of 8.5 per cent in the well-being of older individuals; however, as the p-value is greater than 0.01, 0.05, and 0.1, the hypothesis is rejected. The impact of sports participation through community produces a change of 7.7 per cent in the general happiness of older individuals; however, as the p-value is greater than 0.01, 0.05, and 0.1, the hypothesis is rejected. The mediation of trust and safety is significant. Trust and safety through sports participation influences wellbeing by 13.5 per cent and general happiness by 30 per cent, both hypotheses are accepted. The mediation of the neighborhood also produces significant results. Neighborhood through sports participation influences wellbeing by 14.1 per cent and general happiness by 26 per cent, both hypotheses are accepted.

Table 8.*Hypothesis Testing*

Hypothetical Path	B	T	P-Value
SP→WB	.490	9.855	.000
SP→GH	.480	9.611	.000
SP→CO→WB	.085	2.294	.021
SP→CO→GH	.077	0.682	.492
SP→TS→WB	.135	4.450	.000
SP→TS→GH	.300	3.341	.008
SP→NH→WB	.141	4.465	.000
SP→NH→GH	.260	2.805	.005

Discussion

The primary aim of the study is to explore the associations between the level of sports participation among older people and their levels of happiness and wellbeing. Moreover, the mediating role of social capital is also explored in the present study in the context of the older population of China. The indirect associations among different kinds of sports participation, and general happiness and well-being are evaluated through three sub-dimensions of the social capital i.e., community

participation, neighborhood connections, and trust and safety. The findings of the study posit that there are indeed direct associations prevalent between the sport's participatory activities by older people and their levels of happiness and well-being. These findings are supported by previously found empirical evidence. The empirical literature indicates associations between sports participation and positive psychological outcomes in individuals. For example, Heo et al. (2018) found that sports participation predicts positive well-being, a positive mood, and is associated with the occurrence of fewer depressive symptoms in older people. These findings are seconded through the studies of Bardhoshi et al. (2016), and Östlund-Lagerström et al. (2015) as well. The study by A. C. H. Kim et al. (2020) evaluate happiness in older people participating in Pickleball where the mediation of two sub-dimensions of social capital (neighborhood connections and feelings of trust and safety) are found to be significant as well. Similar findings have been presented in this study as well. In another study, Novak et al. (2016) investigates the association between social capital and the physical activities of high school students and found that social capital predicts participation and influences support for participation in physical activities. H. Pan (2018) study the life satisfaction of older Chinese individuals with reference to their associations with the social capital and found that the level of life satisfaction is affected by feelings of trust and safety. In the present study, sports participation is a method for improving the overall well-being of individuals from an epidemiological perspective. The findings of the present study are also consistent with previous studies contending that participation in sports activities can be beneficial for improving psychological well-being (Sato et al., 2016). As suggested by A. C. H. Kim et al. (2020) and Henriques et al. (2020), although involvement in local sports activities of a community or community-based programs may not be considered as sports events, they still improve the social and psychological well-being of older individuals. These are effective in building community participation, promote regular involvement in physical activities, and can have an uplifting effect on the mood and well-being of older people. The development of a sense of community, trust, and connections with the neighborhood alleviates stress and produces desirable health outcomes like increased life satisfaction and higher levels of well-being (J. Zhang, Yu, Zhang, & Zhou, 2017; J. Zhang, Zhang, Zhou, & Yu, 2018).

Conclusion

Sports participation is deemed as an effective tool for promoting and maintaining the social and psychological

health of older individuals. The overall physical mobility and mental health of individuals practicing some types of physical activity are progressive in comparison to those who do not indulge in physical activities of any kind (Ayvat et al., 2017). Against this backdrop, the present study has been carried out to evaluate the relationship between well-being, general happiness, and sports participation of the elderly. The study also evaluates the role of social capital in mediation. The key findings of the study are as follows;

- Sports participation has a positive and significant association with general happiness. The results indicate that the sports participation of older people living in China increase their feelings of happiness, making them psychologically healthier.
- Sports participation is found to have a significant and positive association with well-being. The results indicate that participation in sports increases the overall well-being of older citizens in China.
- The mediation of community participation is found to be insignificant with no influence on the associations between well-being, general happiness, and sports participation.
- The mediation of trust and safety is found to be significant. The presence of trust and safety among the older people encourages them to partake in sports activities which has a positive influence on the level of happiness experienced by older people. Similarly, trust and safety also induce a positive influence on the well-being of older people through sports participation.
- The mediation of neighborhood connections is found to be significant. The presence of neighborhood among the older people encourages them to partake in sports activities which has a positive influence on the level of happiness experienced by older people. Similarly, neighborhood connections also induce a positive influence on the well-being of older people through sports participation.

Limitations and Future Considerations

The first limitation of the present study is that a moderate and simplistic analytic technique has been used for the evaluation of variable relationships i.e., in order to increase the generalizability of the study and to make the results more robust, it is recommended that future researchers consider application of some advanced method like GMM, SEM or Smart PLS for validating the variable associations. Additionally, the findings have been drawn from a convenience sample which is predominantly composed of people of only one cultural descent i.e., Chinese and their educational levels were relatively high. Although the

gender and age proportional information of the participants is available, other demographical characteristics like ethnicity, religion, urban/rural, marital status, etc. are not. Therefore, it is recommended that future researchers consider this information when conducting new research studies. Moreover, as the data has been collected from only China, there can be differences in the perceptions and experiences of individuals living in other geographical areas or cultural backgrounds, and thus it is recommended that in the future, researchers focus on collecting data from different countries so that a more robust relation between sports participation and well-being of older people can be formulated. The study does not categorize any particular sports activity, although the introduction of some categories of sports can be used to evaluate the variance in preference and well-being of the older population as well.

Implications

The present study has a number of implications for research in sports psychology and gerontology and medicine. The study also makes a number of contributions from a social and health policy-making point of view. The theoretical contribution of the present study is that a direct association between the well-being through sports participation for the older people has been presented by the study. Although some studies consider the associations between exercise based interventions among older people and children or adolescents (Aleksavska-Velickovska, Gontarev, & Ruzdija, 2019; McMorris, 2019; Moeijes et al., 2019; C.-Y. Pan et al., 2016), noting that there is a lack of studies considering the impact of sports-based intervention and effects in regards of the older population. Thus, the present study is a step in the direction of validating the impact and importance of sports-based activities for elderly citizens. One of the social contributions of the present study is that it showcases the effects of social capital, and therefore confirms the positive influence generated by a sense of communal belonging or community relations. In this regard, the necessity and importance of the social relations has been highlighted for the aging population. The policy-making contributions of the present study are that the policy-makers of sports competitions or events, the managers of retired housing centers and the psychiatrists can help encourage the older population to take part in sports activities in order to positively influence their mental and physical health.

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