

# Social and Psychological Mobilizers of Attitude towards Activity Sports: A Multi-Theory Perspective

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## Abstract

An individual's attitude towards sports is formulated and conditioned by a variety of factors. Previous studies have shown that the attitude towards sports activities is conditioned by the individual as well as the social and psychological factors affecting the formulation of this attitude. Therefore, the present study was constructed to evaluate the impact of the social and psychological mobilizer's influence on the formulation of an individual's attitude towards sports participation. An empirical model based on the theory of planned behavior has been proposed, considering the influence of family support, social influence, self-efficacy and self-regulation on the attitude towards sports and perceived enjoyment has been introduced as a mediator. A sample consisting of 356 Chinese individuals was collected online from educational institutes. The analysis of the data was performed using SEM. The proposed model demonstrates that social factors influence the development of attitude towards sports activities in individuals. Psychological factors also demonstrated a significant association with attitude towards sports. The mediation of perceived enjoyment also showcased significant effects. The study is novel from the standpoint as it evaluates both the psychological and social factors along with the introduction of perceived enjoyment in mediation and produces new findings. The study holds important implications from a policy-making and managerial standpoint as well.

**Keywords:** China, sports participation, theory of planned behavior.

## Introduction

Participation in sports is important for the maintenance of both mental and physical well-being through an individual's childhood, adolescence and adulthood. The trend for sports has been on a decline in China (Lu et al., 2017). There are certain limitations to the perception and attitude of parents and family members regarding participation in sports activities. While the significance of physical activities is not completely ignored by families, most of the research studies indicates that parents or families are more concentrated on the promotion of strong academic performance, which is line with securing good jobs (Liu et al., 2016). As a result, parents are not supportive of participation of children and adolescents in sports and other similar activities (Fan & Cao, 2017). Level of participation in sports has been noted to decline in the adolescents and young people. Liu et al. (2016) stated that more than 80 percent of the young population of Shanghai is physically inactive. According to surveys conducted in 2016, the people in the age range of 6-18 participating in sporting activities was only 14.9 per cent. Whereas the participation percentage for girls

was 12 per cent, which was lower for the boys (Liu et al., 2016; Liu et al., 2017). There has been a decline in the participation of Chinese nationals in sporting activities inside and outside of school, primarily due to the incessant changes in the Physical Education Curriculum for Chinese Basic Education aimed at encouraging physical fitness and health through sports participation. However, in the last three years there has been a considerable growth in the competitive sports industry, which has also ensued participation motivation among the citizens.

Participation in sports and physical activities has become a growing trend in modern communities and societies. These activities are influenced by societal influence and participation in them is, among other things, dependent on personality and individual factors (Apostolou & Lambrianou, 2017). The majority of the studies on behaviors influencing sports practice have been focused on the behavioral factors influencing participation in sports. Recent developments in this field have been concentrated on the development of different theories, models, motivational factors explaining the attitudes and decisions to participate in the sporting activities. The majority of studies on

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sports practice have focused on the evaluation of differences among the cultural backgrounds, ages, genders, communities, types of sports activities, among others (Aiken, Bee, & Walker, 2018; Aleksovskav- Velickovska, Gontarev, & Ruzdija, 2019; Aoyagi et al., 2020; Cepeda-Carrión & Cepeda-Carrion, 2018; González-Serrano, Calabuig Moreno, Crespo Hervás, & Prado Gascó, 2017; Haro-González, Pérez-Ordás, Grao-Cruces, Nuviala, & Nuviala, 2018; Lee, 2017;

Rodrigues, Macedo, Teixeira, Cid, & Monteiro, 2020; Sabiston et al., 2020; Summers, Hassan, Ong, & Hossain, 2018; Yavuz, 2019; Zhou, Chlebosz, Tower, & Morris, 2020). There has been an increase in the sporting activities of individuals in China due to wide commercialization of the sports industry and participation of locals in international leagues and sporting events, leading to an increase in the adoption of sports at the individual level (Connell, 2018).

**Table 1**

*Sports participation percentage*

Type	Percentage
Swimming	62.5
Martial arts	19.1
Football	16.1
Badminton	14.3
Soccer	14.3
Gymnastics	10.7
Basketball	8.9
Table tennis	7.1
Tennis	5.4
Netball	3.6
T-ball	1.8
Rhythmic gymnastics	1.8
Cycling	1.8
Rugby	1.8

Source: Statista (2018a)

Table 1 above outlines the sports most frequently played and participated in by Chinese individuals. There has also been an increase in the participation in sporting activities by the Chinese individuals out of educational institutions, and due to the growing awareness of the people regarding the benefits of physical activities and sports have been noted as well (Abula, Gröpel, Chen, & Beckmann, 2018). The

following graph shows the participation rate of the Chinese population in physical activities. Engagement in sports and recreational activities was reported by 43.5 percent of the population, mindful movement (yoga, meditation) was practiced by 7.1 percent of people and fitness activities were performed by only 0.8 percent people (Statista, 2018b).

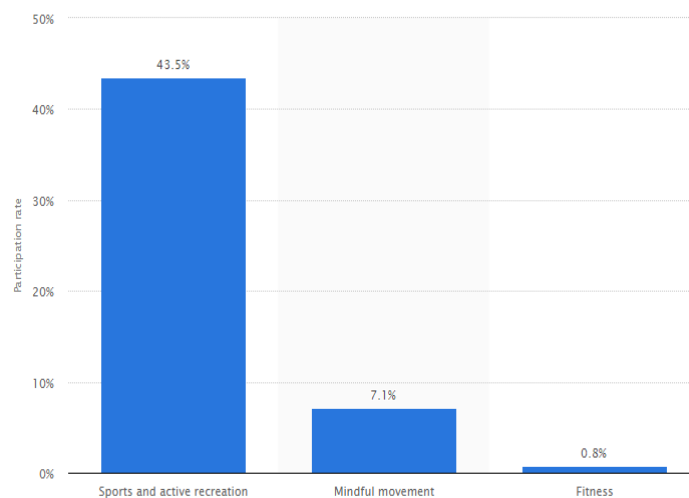


Figure 1: Sports participation by Chinese population

Source: Statista (2018)

In the current environment of globalization, sports presents a broader spectrum which has projected a positive impact on the health and happiness of the individuals (Zaman, Mian, & Butt, 2018). To encourage higher prevalence of a positive attitude towards sports, it must be associated with positive cultural, social and economic effects in the society (Ding & Sugiyama, 2017). It has been projected that individuals who enjoy physical activities and their associated benefits have a positive attitude towards sports. Some studies have also validated that the physical activities will be highly influential and acceptable in communities if the majority of its members display positive attitudes towards such activities; however, the prevalence of negative inclination will transcend in the rejection of such activities by individuals, thus indicating that societal inclination and factors play a major role in the development of one's attitude towards sports (Bendíková & Dobay, 2017; González-Serrano et al., 2017). According to McMorris (2019) physical activities are the cause for the development of the mental capabilities among students and reinforcement of positive attitudes towards sporting activities.

The present study is concerned with factors affecting the attitude of individuals towards participation in sports. The objectives of the present study are to evaluate how social and psychological factors act as mobilizers vis-a-vis attitude of sports participation and also to evaluate the mediating role of perceived enjoyment. There is a need to conduct studies that allow for evaluation of the reasons why an individual moves away from sports practice and the factors that have a direct influence on his/her decision, which is not only exclusively based on extrinsic, service quality factors or social factors, as identified by some studies conducted on sports marketing (Cepeda-Carrion & Cepeda-Carrion, 2018; Lee, 2017). There is a gap in the literature evaluating the factors incident on the behavior of sports consumers or individuals that may or may not indulge in sports activities, especially due to social change in terms of free time, relationship status, customized services and other trends that do not have an effect on and do not follow any set patterns of behaviors (Aoyagi et al., 2020). Therefore, the study proposes that there are certain psychological and social factors that affect the attitude of individuals towards sports. These factors influence the decisions and also affect the enjoyment levels or happiness an individual may draw from participation in such events. The study

uses the theory of planned behavior to explain how the behaviour of individuals reinforces motivation for people to partake in sports activities. This is one of the main contributions of the study, as different factors influencing the behavior and attitude of individuals are being highlighted. Moreover, the study has introduced perceived enjoyment as a mediator as well. The study contributes to sports behavior literature as only few studies have attempted to evaluate the different models or factors influencing the sports participation behavior (Apostolou & Lambrianou, 2017; Zhou et al., 2020). Particularly so, as the motivational factors are influential on the overall decision to play sports (Aleksavska-Velickovska et al., 2019; Aoyagi et al., 2020; Rodrigues et al., 2020). The present study has identified that the factors affecting the attitude towards sports participation are complex, including interpersonal, intra-personal community, and environmental variables. For this reason, in this study, the researcher aims to examine two sets of elements affecting the sports participation attitude of individuals, and also to test the role of perceived enjoyment as a mediating variable between social factors, psychological factors and attitude towards sports participation using a Chinese sample. The subsequent sections of the paper consist of literature review, methodology, results and discussion.

## **Literature Review**

### **Theoretical framework**

There has been significant evidence in research highlighting that participation in physical activities and sports benefits the mental and physical health of individuals (Aoyagi et al., 2020; Bae, Won, Lee, & Pack, 2020; Sánchez-Torres, Argila-Irurita, & Gonzalez, 2020). One framework that has been adopted by a number of researchers to explain the association between attitude, behaviours and physical activity is the theory of planned behavior (Gourlan, Boiché, Takito, Fregeac, & Cousson-Gélie, 2018; Hagger, Chatzisarantis, & Biddle, 2002; Roux, Gourlan, & Cousson-Gélie, 2020). The theory of planned behavior has been used for explaining the linkage between behaviour and beliefs of individuals. The theory showcased that attitude, perceived behavioural control and subjective norms are responsible for shaping the behaviours of an individual (Icek Ajzen, 1985). The theory of planned behavior states that the human beings are rational decision-makers that base their

decisions or actions upon their consideration of attitude towards the behavior, and the societal factors or pressure to conform to the stated behavior also directs the attitude towards the behavior (Icek Ajzen, 1991). The theory also directed that the intention or the orientation of a person to perform a certain behaviour is mandated by the attitude towards it. Intentions reflect the strength of the motivation to engage in the behaviour and is viewed as one of the proximal predictors of behaviour in TPB. Moreover, the social influence i.e., subjective norms and intrinsic factors also affect the overall attitude towards performance of the behaviour (Bae et al., 2020; Gourlan et al., 2018). The present study adopts the TPB model to develop a framework that considers social and psychological factors as motivators or mobilizers of an individual's attitude towards sports activities.

### **Social factors influencing Attitude towards Activity Sports**

In this study, social factors influencing the behavior includes familial support and other interpersonal influences. According to the TPB, subjective norms are directive of the behaviours adopted by individuals and these norms can be associated with socially acceptable or peer-endorsed behavior. There is considerable evidence that children follow the same behaviours as demonstrated by their parents i.e., adolescents and children with physically active parents are more likely to adopt the physical activities and receive more social support (Ryan & Deci, 2017). Henriksen, Ingholt, Rasmussen, and Holstein (2016) suggested that social processes are important for the participation of adolescents in physical activities and found that different kinds of social support predict (encouragement, watching, joining and talking) the intention for participation in physical and sports activities. Familial support has a considerable impact on the participation and development of positive attitudes towards sports. In this regard, Van Boekel et al. (2016) contended that social support consists of assistance on primarily two levels i.e., tangible needs (supervision, transportation and funding) and intangible needs (praise, verbal encouragement and non-verbal encouragement). When both of these assistances are provided the family support positively influences the behaviors and attitudes of the youth (Van Boekel et al., 2016). Familial support presents a sense of security and encouragement and demonstrates an increase in the confidence levels of the individuals and has been found to be more influential than other forms of social support (Qurban, Wang, Siddique,

Morris, & Qiao, 2019). Liu et al. (2017) found that among Chinese children, parental support increased and facilitated participation in moderate to vigorous physical activities. Therefore, on the basis of the above mentioned theoretical evidence, the following hypothesis is proposed:

**H1:** Family support has a significant effect on the attitude towards activity sports

The social influence is the extent to which the members of a community exert pressure on an individual to conform to some behaviour. In the social sciences literature, this construct has mostly been studied in light of the purchase of products and services (Gershman, Pouncy, & Gweon, 2017). Social influence effectively modulates the associations between various behavioural factors and influences the behaviour of consumers. Youn and Jin (2017) found that social influence moderates the association with nostalgia among consumers. Social support from family members and friends provides assistance and helps engender positive attitudes through conformation in adolescents and young adults. Particularly children, and individuals in general are more likely to perform activities that are followed by their peers (Chung, Ersig, & McCarthy, 2017). Social influence has also been appreciated as the pressure that people receive from their in-groups i.e., family, colleagues, friends, as well as the general society, with this type of societal influence mandating the development of different behaviors (Bergin, 2016; Cheng, Mendonça, & Farias Júnior, 2014). Involvement in sports activities is affected by the inclination of peer groups and other community members towards the activities. Novak, Doubova, and Kawachi (2016) found that social capital influences the level of physical activity among high school students.

**H2:** Social influence has a significant effect on the attitude towards activity sports.

### **Psychological factors influencing Attitude towards Activity Sports**

According to the theory of planned behavior, the behavior of individuals is directed by the degree to which they have a control on their perceived activities and according to the TPB extension suggested by Bozionelos and Bennett (1999), the behaviour is affected by the degree to which an individual can control their physical activities. As defined in the TPBC, the intrinsic or extrinsic variable can influence sports-related behavior. Icek Ajzen (1991) stated that the perception of the behavior itself is directed by external factors such as the opportunity for practicing

sports activities as well as by factors of an internal nature such as self-efficacy and self-regulation. Brooks et al. (2017) contended that the theory of planned behavior fails to fully account for the factors leading to the adoption sports practice and attitude towards sports adoption; therefore, the TPBC is often used in replacement (Bozionelos & Bennett, 1999). Self-efficacy and self-regulation are two of the intrinsic factors that seemingly pose an impact on the adoption of sports activities (Aoyagi et al., 2020; Bae et al., 2020). Self-efficacy refers to the evaluation of the confidence of an individual pertaining to the performance of some certain behavior, thus, it is considered to be an important predictor of physical exercise and allows for the development of confidence, skills and leads towards the performance of the behavior (Sánchez-Torres et al., 2020). Whereas self-regulation is the second intrinsic factor identified in the study, defined as the ability to manage and monitor the energy levels, thoughts, behaviors and emotions in a way as to produce positive well-being associations (Canales Lacruz & Rovira, 2016; Sánchez-Torres et al., 2020). Cañabate, Santos, Rodríguez, Serra, and Colomer (2020) considered self-regulation in relation to the emotional intelligence of school children and found that the capacity to recognize emotions and act accordingly, limiting the impact of stress, tension and anxiety is associated with the development of psychometric balance and also affects the performance of sports activities in the children, as the attributes of self-regulation help them control their emotions and adapt to the situation. In another study, Mickelsson (2017) contended that people tend to behave in similarity to their habits, i.e., sometimes they do not reflect on the achievement of sports activities. Thus, in the long-term, the intrinsic mobilizers like self-regulation and self-determination determine the level of adherence to sports activities. Based on the above theoretical discussion, the following hypotheses are proposed;

**H3:** Self-efficacy has a significant effect on the attitude towards activity sports.

**H4:** Self-regulation has a significant effect on the attitude towards activity sports.

#### **Mediating role of Perceived Enjoyment**

In the present environment, sports is perceived to have the power to influence various health-related benefits among the masses. Sports activities have potent behavioral, physical, and psychological benefits on individuals. One of these affects experienced through ion and attitude towards activity sports

participation in sports is the enjoyment derived by people taking a part in these activities. In order to gain a positive attitude towards sports, it must create an overall cultural, economic and social effect in society (Ding & Sugiyama, 2017). A study by Bendíková and Dobay (2017) conducted a survey among high school students and found that students, boys and girls, participating in sports activities develop positive attitudes and are considerably more happy and satisfied in comparison to the people who are not engaged in sports activities. Perceived happiness or enjoyment refers to the degree to which the use of some technology, product or activity triggers feelings of happiness among individuals (Gardner, Magee, & Vella, 2017; Trecroci et al., 2018). It has been anticipated through various studies that people who enjoy physical activities and actively take part in them are more likely to develop a positive attitude towards them as well and are also considerably happier. It has also been reported that sports or physical activities are more enjoyable if they are accepted by the community i.e., majority of the communal members have a positive attitude towards the sports activity (Yavuz, 2019; Zaman et al., 2018). According to the study by McMorris (2019), physical activities are necessary for the development of the mental and psychological capabilities among students and these result in positive attitude towards such activities. Thus, in consideration of the above literature the following hypotheses are proposed;

**H5:** Perceived enjoyment mediates the association between social influence and attitude towards activity sports

**H6:** Perceived enjoyment mediates the association between family support and attitude towards activity sports

**H7:** Perceived enjoyment mediates the association between self-efficacy and attitude towards activity sports

**H8:** Perceived enjoyment mediates the association between self-regulat

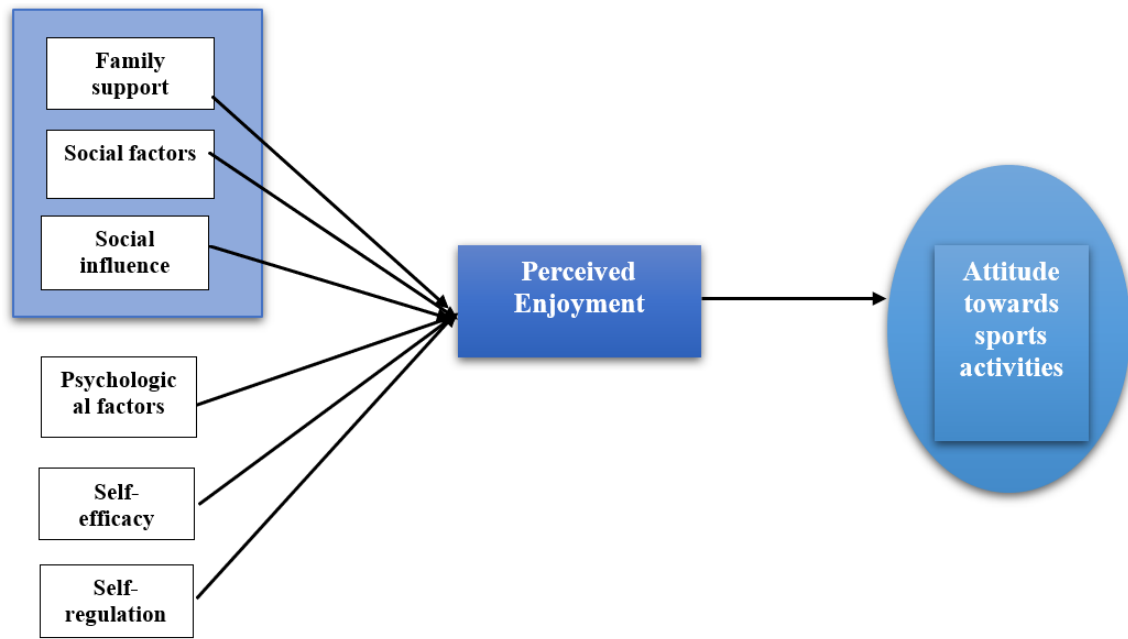
#### **Conceptual framework**

The following model has been inspired from the theory of planned behavior (Icek Ajzen, 1985; Icek Ajzen, 1991), which has been modulated for sports-related behaviours in individuals in accordance with the studies of Bozionelos and Bennett (1999) and Sánchez-Torres et al. (2020).

## Research Summary

Table 2: Research Summary

Author	Main Contribution	Gap
Henriksen et al. (2016)	Suggested that social processes are important for the participation of adolescents in physical activities.	Only considers parental support and focuses on adolescents' reaction to support.
Van Boekel et al. (2016)	The participation in the school sports was found to be significantly associated with higher GPAs, and favorable perception of family support, school safety and community support.	There is no discussion of the social influence, perceived enjoyment or psychological factors.
Qurban et al. (2019)	Presented that parental support enhances self-esteem and motivation for participation in sports.	There was no direct relation present between parental support and sports attitude or participation.
Liu et al. (2017)	Parental support influences participation in moderate to vigorous physical activities.	Does not explore the impact of psychological factors.
Gershman et al. (2017)	Develops a sequence for informing the way social influence affects behaviors	does not consider associations with sports participation.
Youn and Jin (2017)	Social influence strongly moderates with consumer nostalgia.	Does not present association with sports activity.
Chung et al. (2017)	The review studies the influence of the peer group and community towards diet and exercise activities.	The psychological factors have not been considered.
Novak et al. (2016)	The social capital influences the level of physical activities among high school students	Psychological mobilizers and intrinsic motivators have not been considered
Icek Ajzen (1991)	Presented the TPB which lay the ground for evaluation of factors contributing to the development of behavioural intention.	This particular study doesn't conceptualize behavioral intention with sports activities; however, later versions do.
Sánchez-Torres et al. (2020)	Presents the behavioural and other extrinsic factors affecting the motivation to engage in sports activities.	Does not evaluate social factors.
Mickelsson (2017)	Presented the idea that consumers are associated with their own recurring activities.	The social and psychological factors were not evaluated.
Cañabate et al. (2020)	Considers self-regulation in association with emotional intelligence in school children.	The social factors have not been discussed.
Zaman et al. (2018)	Studied various factors affecting the attitude towards sports activities.	No direct mention of perceived enjoyment.
McMorris (2019)	Studied factors affecting the behaviours of children towards the adoption of sports activities.	The relevance between perceived enjoyment and behavioral cognition was not presented.
Bendíková and Dobay (2017)	Studied perceived enjoyment as a factor in sports participation.	Social influence was not considered.



**Figure 2:** Conceptual Framework

## Methodology

### Sample and Process

The present study is concerned with the evaluation of the relationship of social and psychological mobilizers on attitudes towards sports. The present study was carried out in the context of China. The parents and society in China is more focused towards the promotion of strong academic performance among children and adolescents, which may guarantee good jobs in the future. Thus, the attitude of the family and society towards participation in sports has certain limitations, while knowing the significance of physical activity (Liu et al., 2016), they still prefer stronger inclination towards academics (Qurban et al., 2019). Thus, for the purpose of the present study, the researcher evaluates attitudes towards sports and perceived enjoyment of sports among the students of China. The present study follows a quantitative design and the research instrument of choice is a questionnaire. For generalization purposes, the questionnaire was initially prepared in English and then translated to Chinese. Three professional translators were hired for translating the items correctly so that no meaning is lost in the translation of the sentences and words. The back translation method recommended by Campbell, Brislin, Stewart, and Werner (1970) was followed. The research study is focused on the attitudes of people towards sports activities, as influenced by the social and psychological mobilizers. As sports activities are mostly common

within educational institutes, the data was collected from the incumbents of the educational institutes of China. The method of online administration was used for data collection. The student administrators from various schools, universities and colleges were contacted, and the data of students was collected through them. The questionnaires were disseminated among the potential respondents based on the random sampling technique for which reason, students from various levels of education are target respondents in the study. The questionnaire included a cover letter, indicating submission details, context, scope, and purpose as well as a confidentiality statement ensuring the respondents of their anonymity. The questionnaires were e-mailed to the students from participating institutes. A reminder email was sent to the respondents after one week of the initial email. After the first e-mail, 150 questionnaires were received. Another email was sent after a fortnight of initial mail, this step resulted in the return of another 106 questionnaires. A last email was sent as the final reminder to the respondents three weeks after the initial mail. This final email resulted in the return of 100 questionnaires. This strategy was used in order to increase the response rate among the participants and to decrease the negative effect of social desirability as well as to reduce common method bias. The items of the questionnaire were structured according to a proper order i.e., the first section consists of the demographical information, the second section

consisted of the dependent, the third section consisted of the independent and the fourth section consisted of the mediating variables. The sample size was finalized on the basis of the item response theory (Kim, 2004), where the method of twenty responses per item was used. The total number of items were 20, thus the sample size was set at 500 in order to compensate for incomplete and missing responses as the issue of no response is higher in online surveys. A total of 380 questionnaires were received back, yielding a response rate of 76 per cent. The responses were evaluated for missing values, and 24 out of 380 responses were found to have more than 40 per cent missing values. The questionnaires with missing values were disqualified and the remaining 356 were used for analysis.

### Measures

The items of the questionnaire were adapted from existing resources and modified to fit the specific cultural and research context of this study in order to increase the validity and understanding of the findings. To develop the measurement instrument for the survey in this study, the researcher has used the five-point Likert scale that ranges from levels of “strongly disagree” to “strongly agree”. Attitude towards sports activities was measured on the three-item scale suggested by Hagger et al. (2002). A sample item is “I like doing physical exercise or sport”. Perceived enjoyment was evaluated on the basis of the four-item scale developed by Aleksovska-Velickovska et al. (2019). A sample item is “Because it makes me happy”. Self-regulation was evaluated on the basis of the three-item scale developed by Rodrigues et al. (2020). A

sample item is “I usually set objectives in my physical activity or sports practice”. Self-efficacy was also evaluated on the basis of the scale developed by Rodrigues et al. (2020). A sample item is “I follow a plan or routine of exercises in a given period of time”. Family support was evaluated based on the sub-scale of social support developed by Zimet, Dahlem, Zimet, and Farley (1988). Three items evaluated the family support. A sample item is “I get the emotional help and support I need from my family”. Social support was evaluated based on the four-item scale developed by Burnkrant and Cousineau (1975). A sample item is “To a large extent I was motivated to partake in sports activities because of my family and friends were supportive”. For the purpose of data analysis, AMOS, SPSS and Excel will be used.

### Common Method bias

The Harman’s single factor test is performed in order to evaluate the common method bias in the responses. The test is a post hoc procedure that is performed following data collection in order to evaluate whether one factor is responsible for the variance in the data (Tehseen, Ramayah, & Sajilan, 2017). The first un-rotated factor captures only 48 per cent of the variance in the data. Thus, it can be seen that no single factor is responsible for the covariance among the constructs and also that no single factor has emerged to be responsible for the variance as well. For this reason, the issue of common method variance or bias is absent in the current study.

**Table 3**

*Common Method bias*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.707	48.533	48.533	9.707	48.533	48.533
2	2.226	11.131	59.664			
3	1.578	7.889	67.552			
4	1.554	7.769	75.322			
5	1.162	5.808	81.130			
6	.834	4.170	85.299			

## Results

### Demographical profile

Frequency distributions have been used for an assessment of the demographical characteristics of the sample. Features like gender, age and education have been evaluated as this information is useful for result generalization. A Majority of the sample is male i.e., 55.1 per cent and with remaining 44.9 per cent being

female. The educational status of the sample reveals that 13.5 per cent respondents are in school, 43.4 per cent are in college, 33.4 per cent are in university and the remaining 9.8 per cent sample listed their educational status as others. The respondents below the age of 25 (32.6%) and 25-35 (38.8%) provided most of the responses, which may in line with their educational background as well.



**Descriptive Statistics**

Descriptive statistics are used for evaluating the trends in data and the normality of the variables. The minimum and maximum values indicate the correctness of the data, as it indicates whether the data lies within the limits of the measurement scale used for response evaluation. This step indicates that no outliers were present in the data. Table 3 below shows that the maximum and minimum values range from 1-5, which

is in accordance with the Likert scale used for evaluation (1-5). The mean values of all the variables are greater than 3, indicating that the average response for each of the variable was in the agreement area. A skewness test is computed for evaluating the normality of the data with the acceptable range for skewness being -1 to +1 (Sekaran & Bougie, 2016). The results from Table 4 confirm that all variables are normal.

**Table 4**

*Descriptive and Normality*

Variable	N	MIN	MAX	Mean	SD	Skewness
SelfEffi	356	1.00	5.00	3.2514	1.03937	-.125
SelfReg	356	1.00	5.00	3.3343	.99183	-.360
SocInflu	356	1.00	5.00	3.5509	1.17196	-.574
FamSup	356	1.00	5.00	3.1779	1.17786	-.279
PerEnjoy	356	1.00	5.00	3.5688	1.11433	-.475
AttiTAS	356	1.00	5.00	3.3530	1.11720	-.433

**KMO and Bartlett Test**

KMO is a measure used for evaluation of the sample adequacy and confirms suitability of the data for factor analysis. The test considers the adequacy for each variable and for the complete model as well, with the statistic between 0 and 1. A value closer to 1 indicates that the sample is adequate (Klein & Dabney, 2013). Bartlett (1951) Sphericity test evaluates whether or not an identity matrix is founded by the variables. The Sphericity test checks for statistical correlations among

the variables because for factor analysis to work, it is necessary that there are some associations among the variables. A significant Bartlett's test indicates that the variable relationships are present and the test can be performed. The results of the KMO and Bartlett test can be seen in Table 4 below; the KMO value is near 1 and the Sphericity value is also significant, therefore, it can be stated that the sample data is suitable for factor analysis.

**Table 5**

*KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.918
Bartlett's Test of Sphericity	Approx. Chi-Square	6626.510
	Df	190
	Sig.	.000

**Factor Analysis**

Table 5 below shows the results of the rotated component matrix, which is performed for evaluating the correlations among the variables and the items that have been used for the evaluation. Values of the correlations or loadings greater than 0.6 are acceptable (Bagozzi, Yi, & Singh, 1991) and depict that the item

explained a significant percentage of the variance. It can be seen that in the matrix, the loadings of each factor is greater than 0.7, therefore, all scale items contribute in the variance of the overall construct. Moreover, the issue of cross-loading i.e., the loading of more than one factor per item has also not been observed.

**Table 6**

*Rotated Component Matrix*

	Component					
	1	2	3	4	5	6
SE1				.803		
SE2				.876		

SE3				.825					
SR1								.820	
SR2								.811	
SR3								.821	
SI1	.858								
SI2	.879								
SI3	.845								
SI4	.868								
FS1				.806					
FS2				.852					
FS3				.838					
PE1		.787							
PE2		.806							
PE3		.853							
PE4		.849							
AS1									.759
AS2									.746
AS3									.807

**Construct validity**

Convergent and discriminant validity are the two subtypes of construct validity. The convergent validity measures the relationship between the construct and some similar measure, showing that similar constructs are related (Ginty, 2013). CV is established on the basis of AVE and CR. Table 4 demonstrates that CR is

greater than 0.7 and AVE is less than 0.5, thus, convergent validity is established. The MSV values are less than the AVE values and self-correlation coefficients are also higher than those of the variable-variable correlation. Therefore, discriminant validity is negative, showing that construct validity is present.

**Table 7**

*Convergent and Discriminant Validity*

	CR	AVE	MSV	PE	SE	SR	SI	FS	AS
PE	0.921	0.746	0.333	0.863					
SE	0.889	0.727	0.328	0.503	0.852				
SR	0.899	0.748	0.333	0.577	0.573	0.865			
SI	0.968	0.885	0.341	0.536	0.493	0.509	0.941		
FS	0.902	0.755	0.520	0.373	0.364	0.403	0.564	0.869	
AS	0.917	0.787	0.520	0.558	0.477	0.577	0.584	0.721	0.887

**Model Fitness**

The model fitness is established based on the results of the CFA. Some measures are used to reflect on the fitness of the model. It can be seen in Table 8 below that all measures maintain excellent values showing that the model is fit. The current scores are in accordance with

the prescribed limits; CMIN is less than 3 (2.124), GFI is greater than 0.8 (0.920), IFI and CFI are greater than 0.9 (0.974), TLI is greater than 0.9 (0.968) and RMSEA is under 0.08 (0.056).

**Table 8**

*Model Fit Indices*

Fit Index	Recommended Score	Observed Score	Interpretation
CMIN/DF	≤ 3.0; 5.0	2.124	Excellent
GFI	≥ 0.80	0.920	Excellent
IFI	≥ 0.90	0.974	Excellent
TLI	≥ 0.90	0.968	Excellent
CFI	≥ 0.90	0.974	Excellent

Fit Index	Recommended Score	Observed Score	Interpretation
RMSEA	≤ 0.08	0.056	Excellent

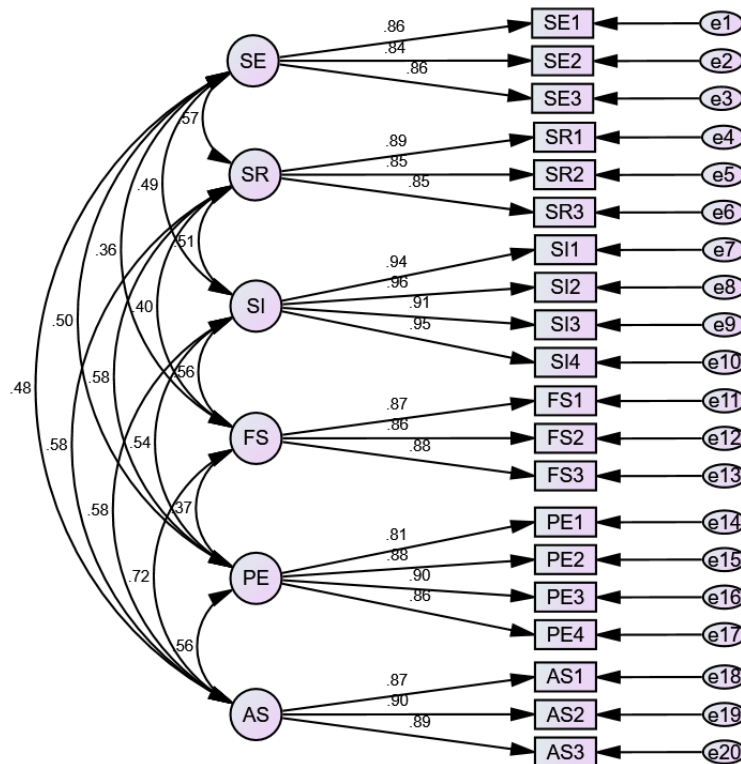


Figure 2: CFA

**Structural Equation Modelling**

Table 9 below demonstrates the direct effects between the mediating, dependent and independent variables. Self-efficacy produces an increasing effect in attitude towards sports among Chinese respondents. The coefficient for this association is 4.9 per cent; however, the p-value indicates that this relationship is insignificant, and therefore, the hypothesis is rejected. Self-regulation produces an increasing effect in attitude towards sports i.e., with a 1-unit change in self-regulation, the attitude towards sports increases by 17.4

per cent; therefore, the association is significant and the hypothesis is accepted. The effect of social influence is positive, a unit increase in social influence produces an increase of 15.7 per cent in attitude towards sports. As the association is significant, the hypothesis is accepted. The effect of family support is positive with a unit increase in family support producing an increase of 44 per cent in attitude towards sports. As the association is deemed significant, this hypothesis is also accepted.

Table 9: Structural Equation Modeling

	Path	Estimate	S.E.	C.R.	P
PerEnjoy	<--- SelfEffi	.168	.055	3.259	.001
PerEnjoy	<--- SelfReg	.305	.058	5.908	***
PerEnjoy	<--- SocInflu	.255	.051	4.787	***
PerEnjoy	<--- FamSup	.049	.046	.998	.318
AttiTAS	<--- SelfEffi	.049	.047	1.122	.262
AttiTAS	<--- SelfReg	.174	.051	3.853	***
AttiTAS	<--- SocInflu	.157	.044	3.440	***
AttiTAS	<--- FamSup	.440	.039	10.765	***

	Path	Estimate	S.E.	C.R.	P
AttiTAS	<--- PerEnjoy	.161	.044	3.646	***

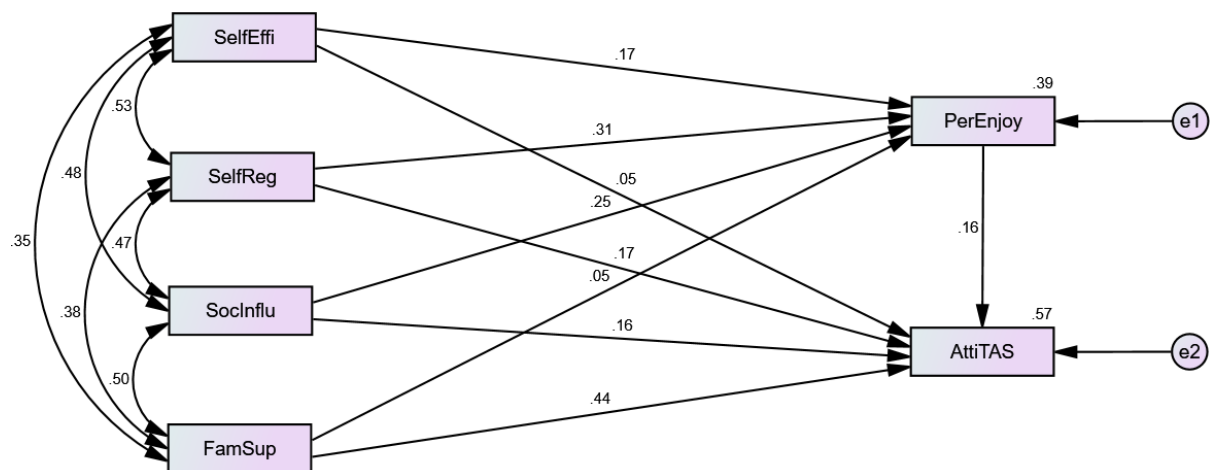
Figure 3 below demonstrates the impact of indirect effects i.e., the mediation results. Family support through perceived enjoyment produces an effect of 0.8 per cent; as the association is insignificant, the hypothesis is rejected. Social influence through perceived enjoyment produces an effect of 4.1 per cent; as the association is significant the hypothesis is accepted. Self-regulation through perceived enjoyment produces an effect of 2.7 percent; as the association is significant the hypothesis is accepted.

Self-regulation through perceived enjoyment produces an effect of 4.9 per cent; as the association is significant the hypothesis is accepted. Self-efficiency through perceived enjoyment produces an effect of 2.7 percent; as the association is significant the hypothesis is accepted.

**Table 10**

*Indirect effect via Perceived Enjoyment*

	FamSup	SocInflu	SelfReg	SelfEffi
PerEnjoy	.000	.000	.000	.000
AttiTAS	.008	.041**	.049**	.027**



**Figure 3: SEM**

**Discussion**

The present study focused on the validation of the social and psychological factors influencing attitudes towards sports activities. A positive association between social factors and attitude towards sports was found through this study. Henriksen et al. (2016) considered the role of parental support in the development of physical activities among adolescents. The results showcased that social support of all kinds by parents is influential in the development of a habit of physical activities among the adolescents. Van Boekel et al. (2016) found that the presence of family support is associated with an increase in sports participation, as it encourages students to participate in activities that are constructive for other constructive behaviors in the students. Qurban et al. (2019) and Liu et al. (2017) found that parental or familial support encourages participation of children and adolescents in sporting activities by having considerable effects on

their self-esteem. Novak et al. (2016) stated that social capital influences the attitudes of high school students for playing sports activities. Similarly, Chung et al. (2017), through an in-depth review, found that an individual’s community influences and modulates the decisions and attitudes to take part in sporting activities. Thus, the impact of the social factors is supported by empirical literature as well. Psychological factors evaluated in the present study were self-esteem and self-regulation behaviors and their resultant impact on the level of engagement in sports activities shown by individuals. Aoyagi et al. (2020) considered the various factors determining sports activities of individuals and recognized the intrinsic motivators to be impactful for the development of the attitudes towards the sports activities. Sánchez-Torres et al. (2020) considered self-regulation and self-esteem as factors affecting attitude towards sports, and these two

intrinsic motivators were found to have a significant influence. Mickelsson (2017) found that consumers or individuals have associations with their own recurring activities, which can be applied on the sports attitude development behaviors in individuals as well. Perceived enjoyment was considered as a mediator in the present study and the present study validated the associations between social influence as found by Zaman et al. (2018), Yavuz (2019), parental support and self-regulation as significant. The direct association between the psychological and perceived enjoyment and sports attitude hasn't been studied before, which is also a main contribution of the present study, however indirect associations have been validated by a number of studies e.g. Trecroci et al. (2018) and Gardner et al. (2017).

### **Conclusion**

There is evidence that environmental and personal factors affect the conformation of attitude towards sports activities. The present study considered the influence of social factors like family support and social influence and the psychological factors such as self-efficacy and self-regulation vis-a-vis the development of an individual's attitude towards sports activities. The theory of planned behavior was used for the development of the theoretical model. The study was based in China primarily to examine the attitude towards sports of individuals enrolled in educational institutes. The following are the key findings from the study;

- There is evidence of positive and strong association among social factors and attitude towards sports, indicating that family support i.e., support from parents and other close family members is essential for the development of a positive attitude towards sports activities. The inclination of the community or society towards sports activities also increases the development of a positive attitude towards sports.
- There is partial association found between the observed psychological factors and attitude towards sports activities. Self-efficacy was found to have insignificant association with the attitude towards sports activities. This shows that the personal abilities of the individuals do not have an impact on the development of the attitude towards sports activities. However, self-regulation showed positive association with the attitude towards sports activity.

The mediation of perceived happiness was positive and significant for social influence, self-regulation and self-

efficacy, showing that perceived happiness has an indirect impact on the positive attitude towards sports activities.

### **Limitations and Future considerations**

Every research study is subject to a number of limitations, and suggests some recommendations for improving the findings of the study. The first limitation of the study is that due to the presence of COVID-19, only online methods for the collection of data have been used which can create data reliability concerns; therefore, it is suggested that in future, researchers use personal administration or both methods. The second limitation of the study is that it fails to specify a single level of educational institute and therefore the findings are not specific in that regard. It is recommended that future researchers should focus on a certain age group e.g. adolescents, young adults, etc. The third limitation of the study is that only the survey method has been used for the evaluation of the variable associations; the usage of mixed methods or qualitative method could produce more segregated findings. Moreover, the study only presents the state of the sports activity attitude in China; data from neighboring developed countries could shine a light on the practices prevalent in Asia relating to sports activity attitudes. The study is an initial exploration regarding the factors affecting the behavior of individuals towards adoption of sports activities, and is in need of further clarification. The model of the study can be improved through the addition of other factors like physical condition, gender, motivation, kinds of support etc. The peer researchers are also recommended to evaluate the differences in the attitude towards sports of individuals living in rural and urban areas.

### **Implications**

The present study has a number of important implications. The theoretical contributions of the study is that it presents a model inspired from the TPB, taking different psychological and social factors into consideration. These factors haven't been studied in a single framework for measuring the development of attitude towards sports activities, signifying a valuable contribution to the sports psychology literature. The study points to the complex association among the intrinsic and extrinsic behavioral factors and supports the recent findings by Sánchez-Torres et al. (2020). The study has studied perceived enjoyment in mediation as well, which presents key findings for the sport psychology literature as well. There are societal implications of the study as it accounts for the impact imposed of intrinsic (self-regulation) and extrinsic

(family support and social influence) factors on the development of an individual's attitude towards sports. Thus indicating that the presence of strong associations with the community and family and encouragement from these mediums is necessary in encouraging physical activities among young individuals. For this

reason, there is a dire need for education of the social support system of the young individuals of China. Moreover, the study also contains insights for policy-makers in education with a view to encourage participation in sports.

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