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Exploring the Relationship between Leisure Activity Engagement and Happiness in China based on CGSS 2013-2018 Data

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Abstract

Based on the Chinese General Social Survey database (2013-2018), this paper investigates the relationship between leisure activity engagement and happiness in China when the standard correlates of happiness are held as controls. Fixed effect models indicate that leisure activity engagement is positively related to respondents' happiness, and respondents who are female, married, better educated, higher in personal annual income, owned more houses report higher level of happiness. We further investigate the relationship between engaging in 12 types of leisure activities and happiness. Except watching sports, the more frequently respondents watch TV/DVDs, going out for movies, shopping, reading books/newspapers/magazines, attending culture events, meeting relatives who don't live together, meeting friends, listening to music at home, participating in exercises, making handicrafts and surfing online, the higher level of happiness that respondents report. Overall, this study provides empirical finding to verify the contribution of leisure activity engagement to Chinese people's happiness, which has implications to making China's leisure-related policy and industry practices.

Keywords: Chinese • Happiness • Leisure activity • General social survey

Introduction

Happiness consists of people's cognitive and affective reactions to their life. According to the paradox of affluence, individual's happiness is more likely to fulfil psychological needs, rather than material gains, after reaching a certain level of affluence [1]. In the case of China, there has been a unique economic and social development progress and the pattern of leisure is greatly affected by the culture [2,3]. There has been a significant increase in Chinese people's leisure time and leisure consumption, and research indicates that both social and economic factors can positively affect the happiness [2-4]. Although some studies have investigated the relationship between leisure and happiness of people in China, their studies have some limitations. For example, some of them are conducted in specific cities (e.g., Beijing) or a specific year (e.g., 2015), or a specific social group (e.g., women), or with a small number of participants (less than 1,000) [2]. Hence, in the current study, we use the accessible and most recent six years data of the Chinese General Social Survey (CGSS) (2013-2018) to investigate the relationship between leisure activity engagement and happiness within Chinese social contexts.

Literature Review

Happiness

There is a growing body of research studies happiness [5,6]. Longstanding literature report determinants of happiness, including but not limited to individual's socio-demographic factors (e.g., age, gender \mathcal{E} marital status), economic factors (e.g., individual's labour income, retirement income, insurance income \mathcal{E} household business income) and social cohesion/social

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capital (e.g., social trust & social fairness) [5-7]. Up-to-date researches indicate various findings on investigating how socio-demographic and economic factors affect individual's happiness. Some multinational studies document that happiness is a U-shaped across age [8], and in general, being married, a good health can also positively affect individual's happiness [9,10]. However, research on happiness predictors has not shown consensus, such as having children [11,12], income [13,14], education [15], living in urban or rural areas [16,7], religion [56], the number of owed houses, and gender [17,18].

Happiness in China has interrelated with Chinese culture, and Chinese people's happiness has been greatly affected by the three major philosophies in China, including Confucianism, Taoism and Buddhism. From the Confucian's perspective, one's happiness may attach to the overall needs of collective unit (e.g., Family) [19,20]. Taoism differs from Confucianism, and emphasizes adaptation, which refers as conforming to natural force, accepting fate with peaceful mind, and treating personal liberation as priority of all human desires [20]. Based on Buddhism, doing physical exercises, mediating, doing charity and eliminating all human desires can all promote an individual's happiness [20]. Affected by the culture, Chinese people may feel happy when they are in calm and peacefulness, which is unlike westerners who may desire to acquire happiness when they experience excitements [21,22].

In China, people's happiness is receiving increasing attention due to its unparallel development between economic and happiness. A U-shaped pattern of happiness in China has been reported, and the happiness has declined from 1990 to about 2005, and recovery since then. Many researchs has been conducted to investigate factors that play roles the unparallel relationship between China's economic and happiness development. according to the literature, some social-economic factors have been proposed and studied. Similar to western studies, the happiness is U-shaped over age, and positively associates with income and health [23,24]. Besides, determinants link to four life domains, involving work, family, social cohesion/social capital and living environment, also play roles in enhancing Chinese people's happiness [7,24].

Leisure activities and happiness

Leisure activities offer individual opportunities to release pressure from life and work, socialize with others, improve self-worth, meet life values and needs [3,25]. In the past two decades, researchers have proposed theories to explain the relationship between leisure and happiness. For example, need-based theories suggest satisfy certain human innate needs can result in greater happiness, and they provide empirical evidence that socializing, family togetherness and physical fitness can explain 27% of the variance in happiness

[26]. Newman DB, et al. [27] provides a more detailed framework to explain leisure engagement's contribution to happiness. This framework contains five mechanisms, including detachment-recovery from work, autonomy (e.g., free selection and control), mastery (e.g., overcome challenges and develop skills), meaning (e.g., feeling purposeful and valuable) and affiliation (e.g., feeling of belonging) (DRAMMA), which interpret how leisure activity engagement affect happiness. Twilley provide empirical supports to most part of the DRAMMA framework. Although the results show no significant effect of leisure-based detachment-recovery and negative effect of leisure-based autonomy to happiness, leisure activity engagement has been regarded as an important part in contributing to individual's happiness [28].

As the need-based theories and DRAMMA model suggest, previous research find that engaging in some leisure activities can support an individual's happiness but in different ways [25,29]. For example, some leisure activities (e.g., meeting friends/relatives) involve social interaction and interpersonal communication, which could promote self-esteem, social capital and life satisfaction [30]. Some leisure activities (e.g., reading) involve learning and development, which support self-fulfilment and make individuals feel more secure [3,30]. Some researchers conducted one nation and multination research to study the relationship between leisure activity engagement and people's happiness [31,32]. They categorize leisure activities as active and passive, in terms of whether the activity involving energy expenditure or not [2,33]. They report active leisure activities (e.g., exercising, traveling & social interaction) are positively associated with happiness [34,35]. Passive activities (e.g., watching TV, surfing online & playing video games) are found negatively affect the happiness [3]. In some multinational research, affected by nation's culture and social contexts, findings of the relationship of different leisure activity engagement and people's happiness are variable [2,33]. For example, Wei X, et al. [2] report two intriguing findings as they find passive activities (e.g., watching TV & Internet surfing), rather than active activities (e.g., exercising, socializing & shopping) have positive relationship with Chinese people's happiness which might be due to the culture and social contexts [36]. In this study, we would explore how the frequency and different leisure activity engagement affect Chinese people's happiness. We used fixed effect models to control the effects of entity and years. Meanwhile, some standard correlates of happiness, such as individual's marriage status, education level, personal annual income, household registration type (Urban/Rural), gender, age, the number of owned houses were held as controls.

Methods

Data

The study adopted the CGSS 2013 to 2018 data. The CGSS is conducted by China's National Survey Research Centre, which measures over 10,000 families in China mainland to collect data using a multistage stratified random sampling method. The CGSS has been the first national, comprehensive, and household-based continuously social survey in China since 2003, and has been widely used in research, teaching and policy making process as a representative data. In addition, given that individuals before the age of 16 generally have no source of income, samples aged 16 or younger were removed. To avoid the interference of income outliers, the individual income data was truncated at the level of 1% and 99%.

Data were analyzed with Stata, and used fixed effect models to examine the relationship of the frequency of participating leisure activities and self-rated happiness.

Variables

Dependent variable: Happiness was measured as a one-off question with a choice of five responses. This measurement of happiness has been widely used and have considerable robustness. In CGSS 2013 to 2018 questionnaires, respondents were asked "With all things considered, do you think your life is happy?", and the five responses were scored from 1 to 5 varied from very unhappy to very happy (1=very unhappy, 2=unhappy, 3=neither happy nor unhappy, 4= happy, 5=very happy).

Independent variable: The frequency of participating leisure activities was measured in three years' questionnaires as "In the past year, how often do you take below leisure activities?". The corresponding options included: (1) Watching TV/DVDs; (2) Going out for movies; (3) Shopping; (4) Reading books/newspapers/magazines; (5) Attending culture events (e.g., going to a concert/a show & see an exhibition); (6) Meeting relatives who don't live together; (7) Meeting friends; (8) Listening to music at home; (9) Participating in exercises; (10) Watching sports; (11) Making handicrafts; (12) Surfing online. Respondents were asked to rate their frequency on a five-point scale (1= daily, 2= several times per week, 3=several times per month, 4= several times a year or less often, 5= never). This study sums up the frequencies of 12 leisure activities and constructs a comprehensive leisure activity frequency variable to measure the impact of participating leisure activities on happiness.

Control variables: According to previous research, to solve the endogeneity problems caused my missing variables, we further added control variables: the social-demographic variables, including individual's marriage status, education level, household registration type (Urban/Rural), gender, age, and the economic variables, including individual's personal annual income and the number of owned houses [5-7].

Results

Descriptive statistics

To show the data characteristics of the sample, the Table 1 presented the sample size, minimum and maximum value, mean and standard deviation of all variables.

Correlation analysis

Correlation coefficients between the frequency of leisure activity and control variables were examined and presented in Table 2. As the coefficients range from -0.580 to 0.418, there was no complete collinearity between independent variable and control variables. As shown in Table 2, there is a significant negative correlation between happiness and the frequency of participating leisure activities. Hence, the lower the frequency of participating leisure activities, the lower the residents felt happy. In other words, residents would report happier if they more frequently participated in leisure activities.

Table 1. Descriptive statistics of the sample.
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Variables	Description	Sample	Min	Max	м	SD
Happiness	Happiness (1-5, 1=very unhappy, 5=very happy)	31,665	1	5	3.83	0.84
Leisure	Leisure frequency (negative indicator)	31,199	29	58	45.34	6.75
Married	Married (1=married, 0= other marriage status)	31,734	0	1	0.78	0.41
Education	Education level (1-13)	31,724	1	13	4.96	3.13
Income	Personal annual income (log)	31,223	0	12.16	8.29	3.63
City	Urban household registration (1=urban, 2=other types of household registration)	31,653	0	1	0.45	0.5
Male	Male (1=male; 0=female)	31,734	0	1	0.49	0.5
Age	Age	31,190	20	86	51	16.03
House	The number of owed houses	31,490	0	3	1.08	0.51

The frequency of participating leisure activities and happiness: The fixed effect model was used to analyse how the frequency of participating leisure activities affect the happiness, and the results was presented in Table 3. According the model 1 in Table 3, the frequency of participating leisure activities negatively and significantly affected the respondent's happiness without considering other variables. After added control variables in the model 2, the estimated coefficient of the frequency of leisure activity to happiness remained negative and statistically significant. As shown in the model 3, the entity fixed effect model was used to further control some heterogeneity factors that do not change over time (e.g., personality), which might affect both the frequency of participating leisure activities and happiness. Results in model 3 still showed a significantly negative relationship between the frequency of participating leisure activities and happiness. In the model 4, the year fixed effect model was used to avoid the interference of macro policy or emergency. Results showed that although the estimated coefficient of the frequency of participating leisure activities was significantly changed, it still remained statistically significant at 1% level. Above results indicated that respondents would feel more happier if more frequently attended leisure activities.

As the estimate coefficients of married, educational, individual annual income, the number of owned houses were all positive, which indicated that the respondent who were married, better educated, earned more annually, owned more houses would feel happier. The respondent who was male and had an urban household registration reported lower happiness. Besides, the age seemed to have a U-shaped relationship with happiness, and the turning point is at the age about 53 years old. Specifically, for respondents who were younger than 53 years old, their happiness would decrease as their age increased. For those respondents who were older than 53 years old, their happiness would increase along with their age.

The frequency of participating different leisure activities and happiness: To further investigate the influence of the frequency of participating leisure activities to happiness, 12 types of leisure activities measured in the CGSS questionnaire were treated as 12 variables and tested the influence of each type of leisure activity on respondents' happiness successively. Table 4 showed six leisure activities and their relationships with respondents' happiness. According to Table 4, watching TV/DVDs, going out for movies, shopping, reading books/newspapers/magazines, attending culture events and meeting relatives who don't live together were negatively influence the

Table 2. Correlation coefficien	is mainx.

	Happiness	Leisure	Married	Education	Income	City	Male	Age	House
Happiness	1								
Leisure	-0.170***	1							
Married	0.072***	0.072***	1						
Education	0.104***	-0.580***	-0.100***	1					
Income	0.047***	-0.192***	0.082***	0.212***	1				
Urban	0.076***	-0.397***	-0.059***	0.450***	0.246***	1			
Male	-0.029***	-0.001	0.011**	0.108***	0.214***	0.010*	1		
Age	0.007	0.387***	0.052***	-0.444***	-0.031***	0.035***	0.011*	1	
House	0.112***	-0.099***	0.044***	0.091***	0.037***	0.042***	0.022***	-0.014**	1

Table 3. Relationship between the frequency of participating leisure activities and happiness.

Baramatara -	(1)	(2)	(3)	(4)
Parameters	Happiness (SE)	Happiness (SE)	Happiness (SE)	Happiness (SE
Loiouro	-0.0209***	-0.0220***	-0.0211***	-0.0206***
Leisure	(0.0007)	(0.0009)	(0.0014)	(0.0014)
Manufad	-	0.2495***	0.2578***	0.2596***
Married	-	(0.0141)	(0.0202)	(0.0202)
Education	-	0.0121***	0.0100***	0.0098***
Education	-	(0.0021)	(0.0032)	(0.0032)
Incomo	-	0.0056***	0.0052**	0.0055**
Income –	-	(0.0015)	(0.0022)	(0.0022)
Urban	-	-0.0331***	-0.0500***	-0.0491***
Urban –	-	(0.012)	0331*** -0.0500*** 0.012) (0.0177) 0669*** -0.0653*** .0097) (0.0146)	(0.0177)
Male	-	-0.0669***	-0.0653***	-0.0616***
Male	-	(0.0097)	(0.0146)	(0.0146)
٨٥٥	-	-0.0304***	-0.0321***	-0.0320***
Age		(0.002)	(0.003)	(0.003)
A do ²	-	0.0003***	0.0004***	0.0003***
Age ²	-	0	0	0
House -	-	0.1550***	0.1513***	0.1542***
nouse	-	(0.0092)	(0.0138)	(0.0138)
Constant -	4.784***	4.979***	5.004***	4.931***
Constant	-0.0311	-0.064	-0.096	-0.097
Entity fixed effect	No control	No control	Controlled	Controlled
Year fixed effect	No control	No control	No control	Controlled
Ν	31,134	29,694	29,694	29,694
R ²	0.03	0.07	0.06	0.06
F	897.521***	173.569***	74.291***	67.431***

*p<0.05,**p<0.01,***p<0.001

happiness, and could pass the statistical significance test at the level of at least 5%. Results indicated that the respondent's happiness would increase as the respondent increased their frequencies in participating above six types

of leisure activities. Table 5 showed the rest six leisure activities and their relationships with respondents' happiness. According to Table 5, five leisure activities, including meeting friends, listening to music at home, participating

Table 4. The impact of six types of leisure activities to happiness.

Parameters	(1)	(2)	(3)	(4)	(5)	(6)
Falameters	Happiness (SE)	Happiness (SE				
	-0.073***					
Watching TV/DVDs	(0.008)					
Coing out for moving		-0.030**				
Going out for movies		(0.012)				
Observing			-0.050***			
Shopping			(0.007)			
Deading				-0.043***		
Reading				(0.006)		
Attending outure events					-0.041***	
Attending culture events					(0.001)	
						-0.089***
Meeting relatives						(0.0104)
Morris	0.254***	0.273***	0.266***	0.268***	0.272***	0.272***
Married	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Education	0.026***	0.023***	0.0240***	0.018***	0.023***	0.0240***
Education	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
	0.008***	0.0090***	0.008***	0.0080***	0.0090***	0.008***
Income	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
l labora	0.006	0.011	0.002	-0.010	0.0090	0.001
Urban	(0.0171)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
Mala	-0.076***	-0.075***	-0.058***	-0.084**	-0.076**	-0.075***
Male	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
A	-0.041**	-0.036***	-0.037*	-0.037**	-0.037***	-0.037**
Age	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
A ===?	0.0001**	0.0001**	0.0001**	0.0001**	0.0001**	0.0001**
Age ²	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	0.159***	0.163***	0.161***	0.160*	0.162**	0.16**
House	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Occustorst	4.271***	4.1550*	4.1970*	4.253***	4.2340*	4.371**
Constant	(0.0)	(0.087)	(0.08)	(0.081)	(0.089)	(0.086)
Entity fixed effect	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Year fixed effect	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Ν	30,179	30,103	30,179	30,178	30,178	29,982
R ²	0.05	0.05	0.05	0.05	0.05	0.05
F	58.45***	51.46***	54.92***	55.21***	52.44***	56.99***

Table 5. The impact of the rest six types of leisure activities to happiness.

	(1)	(2)	(3)	(4)	(5)	(6)
Parameters	Happiness (SE)	Happiness (S				
Marting friends	-0.056***					
Meeting friends	(0.008)					
Listaning to music at home		-0.048***				
Listening to music at home		(0.005)				
Dertisingting in everying			-0.0640***			
Participating in exercises			(0.005)			
Watching sports				-0.01		
watching spons				(0.014)		
Making handicrafts					-0.021***	
Making hanulcians					(0.008)	
Quirfing online						-0.026***
Surfing online						(0.006)
Morriad	0.277***	0.270***	0.273***	0.272***	0.271***	0.267***
Married	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $							
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Education	0.023***	0.020***	0.019***	0.025***	0.025***	0.021***
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Euucation	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Incomo	0.008***	0.008***	0.008***	0.009***	0.009***	0.008***
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Income	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Urbon	0.005	-0.002	-0.025	0.013	0.015	0.001
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Ulball	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.018)
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Mala	-0.081***	-0.071***	-0.077***	-0.080***	-0.071***	-0.079***
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Male	(0.015)	(0.015)	(0.014)	(0.015)	(0.015)	(0.015)
$\frac{1}{1} + \frac{1}{1} + \frac{1}$	٨٢٥	-0.036***	-0.034**	-0.037***	-0.037***	-0.038**	-0.035***
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Age	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Age ²	0.001**	0.001**	0.001**	0.001*	0.001**	0.001**
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$\frac{(0.024)}{(0.024)} (0.024) (0$		0.158***	0.160***	0.154***	0.163**	0.162***	0.162**
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	House	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Constant (0.081) (0.077) (0.08) (0.099) (0.084) (0.077) Entity fixed effect Controlled		(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
(0.081) (0.077) (0.08) (0.099) (0.084) (0.077) Entity fixed effect Controlled <t< td=""><td>Osnatant</td><td>4.217***</td><td>4.126**</td><td>4.358***</td><td>4.092***</td><td>4.138***</td><td>4.070*</td></t<>	Osnatant	4.217***	4.126**	4.358***	4.092***	4.138***	4.070*
Year fixed effect Controlled Controled Controled Co	Constant	(0.081)	(0.077)	(0.08)	(0.099)	(0.084)	(0.077)
N 30,178 30,178 30,179 30,084 30,179 30,179 R ² 0.05 0.05 0.06 0.05 0.05 0.05	Entity fixed effect	Controlled	Controlled	Controlled	Controlled	Controlled	Controllec
R ² 0.05 0.06 0.05 0.05	Year fixed effect	Controlled	Controlled	Controlled	Controlled	Controlled	Controllec
	N	30,178	30,178	30,179	30,084	30,179	30,179
F 54 614*** 57 719*** 64 305*** 50 997*** 51 924*** 52 348***	R ²	0.05	0.05	0.06	0.05	0.05	0.05
	F	54.614***	57.719***	64.305***	50.997***	51.924***	52.348***
5, **p<0.01, ***p<0.001	5, **p<0.01, ***p<0.001						

in exercises, making handicrafts, surfing online were positively influence the respondent's happiness. Among all twelve leisure activities, meeting relatives that who don't live together brought the greatest happiness to respondents.

Discussion

The aim of this paper was to explore the overall relationship between the frequency of participating in leisure activities and Chinese people's happiness, and more specifically, how different types of leisure activities contribute to respondents' happiness in China. By conducting a secondary data analysis, we used fixed effect models to analyze a six-year CGSS data, and found that participating in leisure activities and Chinese people's happiness are positively related. To be more specific, except watching sports, the more respondents watch TV/DVDs, going out for movies, shopping, reading books/newspapers/ magazines, attending culture events, meeting relatives who don't live together, meeting friends, listening to music at home, participating in exercises, making handicrafts and surfing online, the happier they would feel. Took advantage of a longitudinal, detailed and nationwide questionnaire, the CGSS 2013 to 2018, this study was the first extensive research to investigate how leisure activities contribution to the happiness within China's social contexts based on the latest six years national survey. As discussed below, the results can be the basis for future research and have implications to policy formation.

Our results are in line with previous research findings on the positive relationship between the frequency of leisure engagement and Chinese people's happiness [2,33], and more specifically, participating in 11 out of 12 measured leisure activities are positively related to respondents' happiness after controlling for differences of control variables, fixed the effect of entity and year factors. Participating in some media-based activities (e.g., watching TV/DVDs, listening to music & surfing online) may be create a cheerful and sociable state, which can make people happier [34,37]. Social activities (e.g., meeting relatives and friends) could provide social approval and meet the needs of extraversion [38]. Similar to some previous research some active leisure activities can positively affect Chinese people's happiness. For instance, doing exercises can reduce anxiety and depression symptoms [39], shopping can improve the interpersonal relationship satisfaction [40], doing handicrafts can offer a sense of enjoyment and achievement [41]. Visiting culture events, going out for movies, listening to music and reading could fulfil Chinese people's philosophical needs for inner peace and improve self-worth [42]. Only the watching sports is non-significantly related to respondents' happiness, which might because this activity is featured with economic and affective cost and conflicted with People in China's leisure preference for a tranquil status.

According to the need-based theories [26] and the DRAMMA model [27], our results indicate that leisure activities can meet Chinese people's needs of detachment-recovery from work, autonomy, mastery, meaning and affiliation [3,25-27]. Besides, if categorizing leisure activities into active and passive, unlike some Westerners (e.g., Canadian, Euro-north, American) who can only promote their happiness from active activities, our finding shows that Chinese people was able to promote their happiness from both active and passive activities. This might due to the culture difference [20,43]. In Chinese culture, Chinese people's happiness is greatly affected by Chinese traditional philosophy mind (e.g., Confucianism, Taoism and Buddhism), which encourage forbearance, endurance and contending mentality [21,22,43]. While in western culture, westerners are more likely to put themselves in a more favourable light and they prefer to promote their happiness from exciting activities (e.g., doing exercises) as they can arousal their positive emotions to contribute their happiness [21,22].

Some of our empirical results are consistent with the general results of other happiness studies, some reflect China's culture and social context features. For example, in line with some previous research, respondents who are female, married, better educated tend to have higher level of happiness [2,7,18]. One possible reason is that although females are found spend more time on housework, career and nurturing activities with less earning than males, their autonomy have increased and their abilities to derive utility from their leisure time are better than males [2,18]. Compared with people who are single, married people can receive social support from their spouse, and are reported better in their mental and physical health, which positively associate with their happiness [44]. While losing spouse in their marriage, referring as widowed or divorced individuals, are reported negatively affect individual's happiness [45]. In accordance with previous studies, better educated people report higher level of satisfaction in financial status, interpersonal relationship, physical health, marriage and employment opportunities, which have been found contribute to their happiness [46].

Age demonstrates a U-shaped pattern with happiness, and the minimum, 53 years old, falls between 50 to 61 years old, which in line with previous research [47,48]. During this period, some factors have been reported negative affect this age range people's happiness, such as feeling depression from shifting work- focus to life-focus, the drop of their income and physical health condition [49,50]. Some researchers investigate elderly's happiness and determinants, and suggest that participating in leisure activities, such as social, performing-arts and aesthetic activities, living with grandchildren, and receiving leisure-centred education could make elderly happier [49,51].

In terms of material well-being, respondents with higher annual personal income and own more houses report higher level of happiness. In addition, although rural residents have many disadvantages in their life and work compared with urban ones, our results show that urban residents are more likely to report lower level of happiness. On one hand, rural residents may have low life aspirations compared with urban ones and the hope of a better life can effectively promote rural citizens' happiness rather than urban citizen's happiness [16]. On the other hand, urban citizens might receive more pressure from work (e.g., changing working conditions & stagnating wages) and life (e.g., increasing living costs) [52].

This study provided valuable empirical findings regarding the relationship between leisure engagement and Chinese people's happiness, but several limitations should be mentioned. First, for engaging in some leisure activities, such as doing exercises and visiting culture events, the infrastructure and locality might be essential and important. While these two factors have not been covered as regular questions in CGSS. For future research, some indirect leisure-activity-related factors, such as the infrastructure and locality, are worth to be studied. Second, China is a happiness inequality country caused by regional heterogeneity and income inequality [53]. Future research can explore how the regional heterogeneity affect the relationship between leisure engagement and happiness as we are restricted by the CGSS data and have not studied this question. Third, six years is relatively a short period and a national pattern of a longer and more recently time would be better to study the development of China's happiness. Besides, since 2017, China has experienced a series of progress and challenges, such as making great achievement in poverty alleviation [54], recovering from the coronavirus epidemic. Above experiences might greatly influence Chinese people's happiness. Hence, future research could focus on a longer period changes and influential factors to Chinese people's happiness [55,56].

Conclusion

In conclusion, our findings provide empirical evidence of the positive relationship between leisure activities and Chinese people's happiness, concrete analyze 12 types of leisure activities and their effects to the happiness. Based on our findings, we can generate implications to individuals and government to improve Chinese people's happiness and improve social harmony in China.

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