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The Relationship between Flow Experience in Leisure and Life Satisfaction in Undergraduates

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ABSTRACT

Objective: To understand the current situation of undergraduates' flow experience in leisure and life satisfaction, and to explore the relationship between the two. **Methods:** A stratified random sampling method was used to select 781 undergraduates (377 males and 410 females) from 7 colleges and universities in Guangdong Province. They were investigated using the Flow Experience in Leisure Questionnaire (FELQ) and the Youth Life Satisfaction Scale (YLSS). **Results:** The total scores of FELQ and YLSS of the students in this group are (161.73 ± 19.81) and (174.45 ± 26.50). FELQ's unity of knowledge and action, challenge and skill balance, concentration, grade ranking, family economic status are positively related to YLSS' life satisfaction ($\beta = .227, .115, .098, .158, .082, P < .05$); "Like to sleep during leisure" is negatively correlated with life satisfaction of YLSS ($\beta = -.097, P < .05$); FELQ's unity of knowledge and action, concentration, grade ranking and family economic status are positively related to YLSS's self-satisfaction ($\beta = .286, .126, .194, .096, P < .01$); "Like to sleep during leisure" is negatively correlated with YLSS's self-satisfaction ($\beta = -.091, P < .01$); FELQ's unity of knowledge and action, challenge and skill balance, father's occupation, "like self-study in leisure" are positively related to YLSS' environmental satisfaction ($\beta = .198, .131, .075, .073, P < .05$); "Like to sleep during leisure", gender and YLSS environment satisfaction negatively correlated ($\beta = -.094, -.091, P < .01$). **Conclusion:** Flow experience in leisure, types of leisure activities, gender, grade ranking and family factors (family economic status and father's occupation) may be related factors for the development of college students' life satisfaction.

1. Introduction

There is no unified definition of leisure. Broadly speaking, "leisure" refers to activities, behaviors and mental states during "leisure". The narrow sense of leisure refers to activities or behaviors performed

by people with a positive mindset during "leisure" in the short-term in order to restore and develop physical or mental strength, and long-term in order to improve physical and mental health and personal quality, and these activities or behaviors can allow individuals to obtain a free and comfortable psychological experience^[1].

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Reasonable leisure helps people meet the psychological needs of recreation, relaxation, self-improvement, self-confidence enhancement, etc., improve physical and mental health, and improve life satisfaction [2-4]. Further research found that different types of leisure produce different levels of satisfaction [5,6]. People will get more satisfaction and happiness when doing serious, organized and constructive leisure activities; on the contrary, non-serious leisure, such as watching TV, will produce less satisfaction [6].

The type of leisure activity is an external factor that affects life satisfaction, and the inner experience of leisure is an internal factor that affects life satisfaction.

The flow experience was first proposed by Csikszentmihalyi in the 1960s [5], which is also known as the optimal experience of an individual engaged in activities. It is a special experience that people experience when they are fully engaged in activities, which appears to be completely attracted by the activity itself, consciousness is concentrated in a very narrow range, consciousness and ideas unrelated to the activity are filtered out, and lose self-consciousness and enter the realm of ecstasy. At this time, the subject only responds to specific and clear feedback, obtains a sense of pleasure throughout the body, and generates a sense of control through the manipulation of the environment. There is very little difference between stimulus and self-response, self and environment, past, present and future [5].

It can be imagined that smooth experience is the direct reason for leisure activities to improve life satisfaction. However, there are not many empirical studies on the relationship between flow experience in leisure and life satisfaction, and most of them are adults [7,8]. This study intends to use a large sample questionnaire to quantify the relationship between college students' flow experience in leisure and life satisfaction, with a view to providing data support for clarifying the relationship between the two and providing a reference for the guidance of college students' leisure activities.

2. Objects and Methods

2.1 Objects

The stratified random sampling method was used to select 831 students from 7 undergraduate colleges and universities (undergraduate first and second batch, Category A) in Guangdong Province. Firstly, the undergraduate colleges and universities (undergraduate first and second batch, Category A) in Guangdong Province are divided into 7 categories including science and engineering, liberal arts, agronomy, medicine, sports, arts and comprehensive cat-

egories according to the professional category, and 1 randomly selected from the 7 categories of colleges and universities, which are respectively South China University of Technology, Guangdong Universities of Foreign Studies, Zhongkai University of Agriculture and Engineering, Guangdong Medical University, Guangzhou Sport University, Xinghai Conservatory of Music, Shenzhen University. Then determine the sample size to be drawn according to the proportion of enrollment, which are 150, 147, 62, 123, 118, 50 and 181 respectively. A total of 831 questionnaires were distributed and 787 valid questionnaires were recovered, with an effective rate of 94.7%. There are 377 males and 410 females; 155 in science and engineering, 132 in liberal arts, 62 in agriculture, 114 in medicine, 93 in sports, 50 in art and 181 in management.

2.2 Tools

2.2.1 Flow Experience in Leisure Questionnaire (FELQ) [6]

Compiled by Zhaoyuan Guo (2003). A total of 45 items are divided into 9 dimensions: balance of challenge and skill, unity of knowledge and action, clear goals, clear feedback, concentration, sense of control, loss of self-consciousness, loss of time, and self-contained goals. A rating of 5 levels from 1 (strongly disagree) to 5 (strongly agree) was used. The higher the score, the stronger the sense of fluency in leisure. A total score of 180 or more is a flow experience in leisure. In this study, the *Cronbach α* coefficient of the total table is 0.901, and the *Cronbach α* coefficients of the nine dimensions are 0.814 to 0.866, respectively.

2.2.2 Youth Life Satisfaction Scale (YLSS) [9]

Compiled by Xinggui Zhang et al. (2004). A total of 36 items are divided into two dimensions of self-satisfaction and environmental satisfaction. Self-satisfaction includes 4 sub-dimensions: friendship satisfaction, family satisfaction, academic satisfaction and freedom satisfaction; environmental satisfaction includes two sub-dimensions: school satisfaction and environmental satisfaction. A scale of 7 is used from 1 (completely non-compliant) to 7 (fully compatible). The higher the score, the higher the life satisfaction. In this study, the *Cronbach α* coefficient of the total table is 0.873, and the *Cronbach α* coefficients of the two dimensions are 0.833 and 0.851, respectively.

2.2.3 Self-Made General Personal Information Questionnaire

The questionnaire contains 32 items, such as: gender,

grade, school type, professional category, grade ranking, source of birth, whether there is only one child, major leisure activities, family economic status, father’s occupation, mother’s occupation, father’s education level, mother’s education level, value of leisure activities, leisure time per day on working days, leisure time per day on weekends, etc.

2.3 Statistical Methods

Use SPSS 20.0 to count the data. Use descriptive statistics to calculate the average score and standard deviation of each scale, and use Pearson correlation to analyze the flow experience in leisure questionnaire (FELQ) and youth life satisfaction scale (YLSS) scores, and multiple linear regression was used to analyze the related factors of YLSS total score and two-dimensional score.

3. Results

3.1 The Current Status of Undergraduate FELQ and YLSS

As can be seen from Table 1, the total score of YLSS is 174.45 ± 26.50 (the average score of each question is 4.85 ± 0.74); the total score of FELQ is 161.73 ± 19.81 (each question is divided into 3.59 ± 0.44), all undergraduates participate in leisure activities, and the total score of FELQ is 180 or more, 124 people, accounting for 15.88% (124/781) of the sample size. In other words, 84.12% of undergraduates lack flow experience in leisure, and life satisfaction is slightly satisfactory.

Table 1. Descriptive statistics of FELQ and YLSS scores

Dimension	Mean ± standard deviation	Maximum	Minimum
Challenge-skill balance	18.83±2.97	25	7
Unity of knowledge and action	18.84±2.99	25	9
Clear objectives	17.86±2.47	25	7
Clear feedback	17.81±2.43	25	9
Concentrate	17.57±2.57	25	8
Sense of control	17.04±2.73	25	7
Loss of self-consciousness	15.88±3.06	25	8
Lost time	18.37±3.20	25	9
Self-targeting	19.56±3.07	25	8
flow experience in leisure	161.73±19.81	225	91
Friendship satisfaction	35.64±6.02	49	9
Family satisfaction	35.90±8.05	49	9
Academic satisfaction	25.25±6.45	42	6
Freedom satisfaction	24.85±4.64	35	8
School satisfaction	28.76±5.88	42	6
Environmental satisfaction	24.05±4.28	35	5
Self-satisfaction	121.64±20.05	218	41
Environmental satisfaction	52.82±9.33	77	11
Life satisfaction	174.45±26.50	280	52

3.2 Correlation Analysis of Undergraduate FELQ and YLSS

It can be seen from Table 2 that the total score of FELQ, the score of each dimension and the total score of YLSS, two dimensions and the scores of 6 sub-dimensions are significantly positively correlated ($r = .085 \sim .412, P < .05$)

Table 2. Correlation analysis of FELQ and YLSS scores

	Friendship	Family	School	Environment	Freedom	Academic	Self-satisfaction	Environmental satisfaction	Life satisfaction
1. Challenge-Skill Balance	.387**	.202**	.280**	.242**	.317**	.344**	.382**	.288**	.391**
2. Unity of knowledge and action	.406**	.254**	.255**	.281**	.344**	.328**	.409**	.290**	.412**
3. Clear targets	.318**	.189**	.200**	.166**	.304**	.288**	.335**	.202**	.325**
4. Clear feedback	.302**	.194**	.213**	.215**	.265**	.311**	.330**	.233**	.333**
5. Attention	.327**	.214**	.209**	.187**	.282**	.330**	.356**	.217**	.348**
6. A sense of control	.239**	.104**	.184**	.126**	.230**	.321**	.270**	.175**	.266**
7. Loss of self-consciousness	.156**	.090*	.090*	.085*	.197*	.315**	.230**	.096*	.208**
8. Lose time	.220**	.153**	.145**	.193**	.215**	.187**	.237**	.181**	.243**
9. Self-targeting	.305**	.186**	.238**	.219**	.272**	.201**	.294**	.251**	.312**
10. FELQ total score	.381**	.227**	.259**	.248**	.346**	.372**	.406**	.278**	.406**

Notes: * P<0.05, ** P<0.01

3.3 Regression Analysis

3.3.1 Variable Assignment

Assign possible conditions (alternative answers) to variables (demographic variables and psychosocial factors) that may affect the YLSS score, and the results are shown in Table 3.

3.3.2 Multiple Linear Regression Analysis of Factors Related to Undergraduate Life Satisfaction

Multivariate linear regression was performed using the YLSS total score and self-satisfaction and environmental satisfaction factors as dependent variables, and the 32 demographic factors, psychosocial factors and 9 FELQ factors in Table 3 as independent variables, the results show (Table 4) that FELQ’s unity of knowledge and action, challenge

and skill balance, concentration, grade ranking, family economic status are positively correlated with the total score of YLSS ($\beta = .227, .115, .098, .158, .082$, both $P < .05$); “Like to sleep during leisure” is negatively correlated with the total score of YLSS ($\beta = -.097, P < .05$); FELQ’s unity of knowledge and behavior, concentration, grade ranking and family economic status are positively correlated with YLSS’s self-satisfaction ($\beta = .286, .126, .194, .096, P < .01$); “Like to sleep during leisure” is negatively correlated with YLSS’s self-satisfaction ($\beta = -.091, P < .01$); FELQ’s unity of knowledge and action, challenge and skill balance, father’s occupation, “leisure likes self-study” is positively correlated with YLSS’s environmental satisfaction ($\beta = .198, .131, .075, .073, P < .05$) “Like sleep laziness during leisure time”, gender and YLSS’s environmental satisfaction are negatively correlated ($\beta = -.094, -.091, P < .01$).

Table 3. Variable Assignment

Items	Options and assignments
1. Gender	0 = Male, 1 = Female
2. Grade	0 = freshman, 1 = freshman, 2 = freshman, 3 = freshman
3. Ranking of grades of grades after	0 = 70%, 1 = 51 ~ 70%, 2 = 31 ~ 50%, 3 = 11 ~ 30%, 4 = top 10%
4. School category	0 = Science and Technology, 1 = Liberal Arts, 2 = Agronomy, 3 = Medicine, 4 = Sports, 5 = Art, 6 = General
5. Professional category	0 = Science, 1 = Engineering, 2 = Liberal Arts, 3 = Agronomy, 4 = Medicine, 5 = Sports, 6 = Art, 7 = Management
6. Whether the only child is	0 = yes, 1 = no
7. Family economic status	0 = poverty, 1 = struggle, 2 = normal, 3 = well-off, 4 = rich
8. Birthplace	0 = city, 1 = town, 2 = rural
9. Father’s education level	0 = primary school or below, 1 = junior high school, 2 = high school, 3 = university or above
10. Mother’s education level	0 = primary school or below, 1 = junior high school, 2 = high school, 3 = university or above
11. Father’s occupation	0 = IT and communication, 1 = finance, securities and insurance, 2 = commerce and trade, 3 = energy, 4 = journalism, 5 = real estate, 6 = tourism, 7 = manufacturing, 8 = Education, 9 = Other
12. Mother’s Occupation	0 = IT and Communication, 1 = Finance, Securities and Insurance, 2 = Commerce, 3 = Energy, 4 = Journalism, 5 = Real Estate, 6 = Tourism, 7 = Manufacturing, 8 = Education, 9 = Other
13. The meaning of leisure	0 = very important, 1 = more important, 2 = normal, 3 = less important, 4 = not important
14. Leisure time per day on working days	0 = less than 2h, 1 = 2~4h (including 2h), 2 = 4~6h (including 4h), 3 = 6~8h (including 6h), 4 = above 8h (including 8h)
15. Weekend leisure time per day	0 = less than 2h, 1 = 2~4h (including 2h), 2 = 4~6h (including 4h), 3 = 6~8h (including 6h), 4 = more than 8h (including 8h)
16. Do you like reading during leisure?	0 = dislike, 1 = like
17. Do you like to go online during leisure?	0 = dislike, 1 = like
18. Do you like to listen to the radio during leisure?	0 = dislike, 1 = like
19. Do you like to hang out at leisure?	0 = dislike, 1 = like
20. Do you like self-study at leisure?	0 = dislike, 1 = like
21. Do you like chatting with friends in your leisure time?	0 = dislike, 1 = like
22. Do you like to watch movies at leisure?	0 = dislike, 1 = like
23. Do you like to listen to music at leisure?	0 = dislike, 1 = like
24. Do you like computer games at leisure?	0 = dislike, 1 = like
25. Do you like sports in your leisure time?	0 = dislike, 1 = like
26. Do you like playing chess and cards in your leisure time?	0 = dislike, 1 = like
27. Do you like to work part-time during leisure?	0 = dislike, 1 = like
28. Do you like traveling during leisure?	0 = dislike, 1 = like
29. Do you like club activities during leisure?	0 = dislike, 1 = like
30. Do you like talent activities during leisure?	0 = dislike, 1 = like
31. Do you like to sleep lazy during leisure?	0 = dislike, 1 = like
32. Do you like other leisure activities?	0 = dislike, 1 = like

4. Discussion

This study found that life satisfaction of undergraduates is at a slight satisfaction level; all undergraduates participate in leisure activities, and 84.12% of undergraduates have never experienced flow experience in leisure, which is consistent with previous research results^[10,11]. It indicates that the quality of undergraduate leisure activities is not high, and life satisfaction needs to be improved.

Multiple linear regression analysis shows that FELQ’s unity of knowledge and action, challenge and skill balance, and concentration are positively related to YLSS’s life satisfaction, and leisurely sleeping is negatively related to YLSS’s life satisfaction, consistent with the results of previous studies^[5,6,11]. It is suggested that multiple elements of flow experience in leisure are positive correlation factors of life satisfaction. Specifically, when an individual has mastered certain knowledge and skills, and combined the two organically, they are used in leisure activities, especially devoted to leisure activities, and when they are fully absorbed, they will find that they can overcome certain (or even Growing difficulty), thereby increasing self-confidence, triggering positive emotions and cognition, experiencing the beauty of life, and thus improving life satisfaction. It can be seen that leisure is not just killing time, it is not a waste of time, but is of psychological construction^[1].

Grade rankings, family economic status and YLSS life satisfaction are positively correlated, consistent with previous research results^[5,6,11]. Grade ranking is an important

indicator reflecting undergraduates’ learning ability and academic achievements. The more the ranking depends on the former, the higher their learning ability, the greater their academic achievements, and the parties therefore experience stronger self-confidence and self-esteem^[12], Produce positive awareness, improve self-satisfaction and overall life satisfaction. The economic status of the family is the material condition for family members to live. On the one hand, good family economic conditions help to create a better living environment and improve individual environmental satisfaction, on the other hand, good family economic conditions help individuals’ self-esteem and self-confidence^[13], thereby improving overall Life satisfaction.

Like to sleep during leisure will reduce life satisfaction, consistent with Xiong Ying’s research results^[11]. It is suggested that excessive negative rest is not leisure, and it cannot bring individuals an experience of relaxation, pleasure and happiness. Because sleepers waste more time, they tend to produce a sense of inability to do nothing and do nothing, and therefore generate more negative emotions and negative cognition, reduce self-evaluation and environmental assessment, and reduce life satisfaction overall.

This study found that sleep-likeness was negatively correlated with the total score of YLSS and the scores of the two factors, self-study during leisure was positively correlated with environmental satisfaction, and other leisure activities (including watching TV) were not significantly associated with YLSS score, which is inconsistent

Table 4. Multiple linear regression analysis of influencing factors of FELQ scores

Dependent variable	Independent variable	Regression Coefficients		Standardized regression Coefficient (β)	t-value	P-value	R ²	R _{adj} ²
		B	SE					
Life satisfaction	Unity of knowledge and action	1.994	.481	.227	4.144	<.001	.436	.430
	Grade ranking	3.586	.731	.158	4.903	<.001		
	Sleep at leisure	-5.483	1.793	-.097	-3.058	.002		
	Family’s financial situation	2.940	1.151	.082	2.555	.011		
	Challenge-skill balance	1.021	.446	.115	2.288	.022		
Life satisfaction	Concentrate	1.006	.446	.098	2.257	.024	.461	.467
	Unity of knowledge and action	1.911	.284	.286	6.724	<.001		
	Grade ranking	3.354	.549	.194	6.106	<.001		
	Family’s financial situation	2.600	.868	.096	2.994	.003		
	Concentrate	.983	.332	.126	2.958	.003		
	Like to sleep at leisure	-3.869	1.342	-.091	-2.884	.004	.383	.386
Environment satisfaction	Like to sleep at leisure	.613	.165	.198	3.718	<.001		
	Unity of knowledge and action	-1.855	.681	.094	-2.724	.383		
	Like to sleep at leisure	-1.693	.629	-.091	-2.692	.007		
	Gender					.007		
	Challenge-skill balance	.409	.166	.131	2.466	.014		
	Father’s occupation	.247	.112	.075	2.197	.028		
	like to study at leisure	1.366	.640	.073	2.132	.033		

with Zhaoyuan Guo's research results^[6]. It may be that for undergraduates, sleeping is a passive leisure activity, self-study is a positive and constructive leisure activity, and the other 15 leisure activities are neutral.

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