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The Effect of WeChat Usage on Upward Social Comparison in Undergraduates

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ARTICLE INFO	ABSTRACT
	To explore the status of undergraduates' WeChat usage and upward social comparison, and analyze the relationship between the above two variables. Totally 754 WeChat undergraduates were selected through poster recruitment from 5 colleges in Guangdong Province. They were investigated with Access Frequency to Social Networking Site Scale (AFSNSS), Upward Social Comparison Subscale of Iowa-Nwtherlands Comparison Orientation Measure (INCOM-USCS). The score of overall emotional engagement(OEE) of AFSNSS and the total standard score of INCOM–USCS (TSSI-U) were (22.41±4.70) and (0±4.5), respectively. The correlation between WeChat frequency and TSSI-U was not significant. TSSI-U was significantly positively correlated with the score of OEE and other items of AFSNSS (r=0.161~0.413, *P* <0.01). Multiple linear regression analysis showed that The scores of item 1,7and 8 of AFSNSS, as well as family economic status, grade ranking of academic performance (GRAP) and the purpose of WeChat use were postively correlated with TSSI-U (*β*=.104~.234, *P*<.05). Class cadre or not and origin were negatively correlated with TSSI-U (*β*=-.089, -.130, *P*<.05). Conclusion: It suggests that WeChat usage may be a related factor for undergraduates' upward social comparison.

1. Introduction

Social comparison is that people compare their own situation with those of others, in order to clarify their own social attributes, construct self-evaluation, produce self-expectation, create a good self-image and promote self-improvement [1].

Social comparison exists widely in human social life. According to the direction, social comparison can be divided into three categories: upward, downward and paral-lel. If self-improvement is the basic motivation and people who are better are chosen as the comparison object, it is called upward social comparison. On the other hand, if we choose people whose circumstances are worse than ours, it is called downward social comparison which purpose is to maintain self-esteem, improve emotions, improve self-evaluation, and achieve self satisfaction. The third is parallel social comparison, in which we usually have no realistic and objective evaluation criteria. In order to understand ourselves, we compare ourselves to those who

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are in a similar situation [2-4].

At present, social networking sites are becoming more and more popular because of their convenience. College students are the main force of users of social networking sites [5]. Because social networking sites provide a lot of social information about users, it inevitably leads to social comparison among visitors, which is often upward social comparison. For visitors, there are two main types of protagonists of social information on social networking sites: strangers and acquaintances. Because strangers (including all kinds of stars, Internet Celebrities, etc.) are far away from the visitors themselves and have low self-correlation, social information about strangers is not easy to cause in-depth social comparison, and it is not likely to cause adverse emotions of visitors because of the comparison. Comparatively speaking, the social information about acquaintances is more likely to cause in-depth upward social comparison, and it is also more likely to cause negative emotions such as depression and jealousy. That is because most of the social information displayed by acquaintances on social networking sites is carefully selected, positive and idealized. If this kind of information were frequently contacted with, they will unconsciously make the visitors a detailed comparison with their own situation, which will lead to upward social comparison, and produce negative emotions such as depression and jealousy because of the feeling of inferior to others [6-11].

Previous studies have mostly focused on the correlation between the frequency of social networking sites and upward social comparison [9,12], and the impact of user' upward social comparison on their self-evaluation [3,4,8], emotions [2,4,8-9], behavior [6] and quality of life [4,11]. There is not much attention on which elements in the usage of social networking sites will affect users' upward social comparison. This paper takes WeChat, the most popular social networking site among Chinese college students [5], as an example to answer this question.

2. Research Object and Method

2.1 Research Object

2.1.1 Sample Size Estimation

The minimum sample size is calculated by G * Power 3 [13]. As more than 98% of college students use WeChat [6-11], with 16 demographic variables and 8 scale independent variables in this study, the test effect value is at medium level [6-11], that is, d value is 0.50-0.80 [14]. In this study, we set the effect value d = 0.70, the statistical test force 1-β = 0.80, the type I error probability α = 0.05, and the minimum sample size is calculated as 351. The minimum sample size is determined

as 422 due to a 20% of possible follow-up loss rate.

2.1.2 Sampling

Through poster recruitment, 850 WeChat students were selected from Guangdong Medical University, Dongguan University of Technology, Guangdong Polytechnic Normal University, Zhongkai University of Agriculture and Engineering, as well as Guangdong University of Finance and Economics. 754 valid questionnaires were collected, with an effective rate of 88.7%. There were 311 males and 443 females; 158 freshmen, 167 sophomores, 153 juniors, 143 seniors, 133 fifth year students; 353 students from urban areas and 401 students from rural areas.

2.2 Tools

2.2.1 Access Frequency to Social Networking Site Scale, AFSNSS

It is compiled by Ellison [15] (2007) and revised by Niu Gengfeng [16] (2015) into Chinese version. There are 8 questions. Self-report method is used in the first two items to evaluate the number of friends on social networking sites and the average daily duration of using social networking sites. The Likert 5-point scoring method is used in the last six items to score from 1 to 5 points corresponding to "completely non-compliant" to "completely compliant". The total score of the last six items is the overall emotional engagement (OEE), which measure the intensity and dependence of emotional connection in the usage of social networking sites. The higher OEE, the higher the degree of emotional connection and dependence on social networking sites. In this study, the Cronbach's α coefficient of the scale was 0.81.

2.2.2 Upward Social Comparison Subscale of Iowa-Nwtherlands Comparison Orientation Measure, INCOM –USCS

Compiled by gibbons and bunk [17] (1999) and revised into Chinese version by Bai Xuejun, et al. [18] (2013). INCOM-USCS has 6 items, classified as a single dimension. The Likert 5-point scoring method is used to score from 1 to 5 points corresponding to "completely disagree" to "completely agree". The higher the total standard score of INCOM-USCS (TSSI-U), the stronger the tendency of upwards social comparison. In this study, Cronbach's α coefficient of the scale was 0.91.

2.2.3 Self-compiled General Personal Information Questionnaire

It has 16 items, including gender, age, grade, origin,

colleges and universities, major, grade ranking of academic performance(GRAP), WeChat-use age ,the purpose of WeChat use, etc.

2.3 Data Processing

SPSS 20.0 was used to analyze the valid data. Descriptive statistics were used to calculate the average score and standard deviation of each scale. Pearson product-moment correlation coefficient was used to explore the correlations between variables. Multiple linear regression analysis was used to analyze the related factors of TSSI-U.

3. Results

3.1 The Current Status of College Students' WeChat Usage and Upward Social Comparison

It can be seen from Table 1 that the use of WeChat and upward social comparison in this group are in the middle level[15-18].

3.2 Correlation between WeChat Usage of College Students and Upward Social Comparison

It can be seen from Table 2 that there is no significant correlation between the frequency of WeChat and TSSI-U. The score of OEE and other items of AFSNSS were significantly positively correlated with TSSI-U (r=0.161 ～ 0.413, $P < 0.01$).

3.3 Regression Analysis of College Students' WeChat Usage and Upward Social Comparison

3.3.1 Variable Assignment

Firstly, the possible situations (alternative answers) of each demographic classification variable that may affect TSSI-U are assigned (See Table 3).

Table 1. WeChat-use age, scores of INCOM-UCSC and AFSNSS

items	$\overline{X}$	SD
1. How many years have you used WeChat?	7.00	0.7
2. The tatal standard score of INCOM-UCSC (TSSI-U)	0	4.5
3. The scores of the 8 items of FSNSS		
(1) How many WeChat friends do you have?	95.1	23.2
(2) How long do you use WeChat per day in the past week?	6.1	2.5
(3) Using WeChat is part of my daily activities.	4.1	0.9
(4) I will be very proud to tell others that I use WeChat.	3.0	1.1
(5) Using WeChat has become my daily habit.	4.2	0.9
(6) If I don't log in to WeChat for a period, I feel disconnected from the world	3.7	1.0
(7) I feel that I am a member of WeChat users.	3.8	1.3
(8) If WeChat does not exist, I will feel very sorry.	4.3	1.5
4. Overall emotional engagement (OEE)	22.4	4.7

Table 2. Correlation Analysis of AFSNSS and INCOM-UCSC Scores

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	OEE
TSSI-U	.377 **	.047	.172**	.161**	.169**	.206**	351**	.322 **	.413**

Notes: ** $P < 0.01$

Table 3. variable assignment

items	choice and assignment
1.gender	0=male,1=female
2.grade	0= Freshman,1= Sophomore,2= Junior, 3= Senior, 4=fifth year
3. GRAP	0=after 70%, 1=51 ～ 70%, 2=31 ～ 50%, 3=11 ～ 30%, 4= top 10%
4. School category	0= science and engineering，1= liberal arts, 2= agricultural, 3=medical, 4= physical education, 5=arts, 6= comprehensive
5. Major category	0= science, 1= engineering course, 2= liberal arts, 3=medical, 4= agronomy, 5= management, 6=sports, 7=arts
6. Class cadre or not	0=Yes,1=No
7.Nation	0=Han nationality,1= ethnic minority
8. Is you an only child?	0=Yes,1=No
9. Family economic status	0=poor, 1= in short supply, 2= average, 3= well-to-do, 4= affluent
10.origin	0=city, 1=town, 2= rural
11. Father's education	0= primary school or below, 1= junior middle school, 2=high school or technical secondary school, 3= junior college, 4= university or above
12. Mather's education	0= primary school or below, 1= junior middle school, 2=high school or technical secondary school, 3= junior college, 4= university or above
13. Father's occupation	0=IT and communications, 1=finance, securities and insurance, 2=commerce, 3=energy industry, 4= journalism, 5=real estate, 6=tourism transportation, 7=manufacturing, 8=education, 9=agriculure, 10=other
14. Mather's occupation	0=IT and communications, 1= finance, securities and insurance, 2= commerce, 3= energy industry, 4= journalism, 5= real estate, 6= tourism transportation, 7= manufacturing, 8= education, 9=agriculure, 10=other
15. the purpose of WeChat use	0=to study, 1=to work, 2=to pay，3=to entertainment, 4=for social contact

3.3.2 Multiple Linear Regression Analysis of Related Factors of College Students' Upward Social Comparison

Taking TSSI-U as the dependent variable and the score of each item of AFSNSS and the 16 demographic variables as the independent variables, the multiple stepwise linear regression analysis was conducted. The results showed that (see Table 4), the score of item 1, 7 and 8 of AFSNSS, family economic status, GRAP and the purpose of WeChat use were positively correlated with TSSI-U (β =.104~.234, P<.05). Whether class cadres or not and origin were negatively correlated with TSSI – U (β = -.130, -.089; P<.05).

4. Discussions

College students in this group use WeChat for an average of (6.04 ± 2.47) hours a day, and each of them has an average of (95.1 ± 23.2) WeChat friends. The above 2 indicators are in the upper middle level, which is consistent with the results of previous studies [19-20]. It is suggested that college students are very willing to use WeChat, and establish certain online interpersonal relationships through WeChat.

College Students also put a high level emotion into WeChat. They are used to using WeChat. The maintenance of interpersonal relationship, information acquisition and transaction processing is realized through WeChat to a large extent, which makes college students put more attention and emotion into WeChat [20-22].

Multiple linear regression showed that the scores of item 1, 7, 8 of AFSNSS and family economic status, GRAP, the purpose of WeChat are positively correlated with the total standard score of INCOM– USCS; whether class cadres and origin are negatively correlated with the total standard score of INCOM– USCS.

Compared with the non class cadres or the students in low GRAP, the upward comparison tendency of class

cadres or the students in high GRAP is higher, which is consistent with the previous research results [19-20]. Generally speaking, class cadres and the students in high GRAP are students with good character and learning and strong motivation. They used to take self-improvement as the basic motivation, choosing people who are better than themselves as the objects of comparison, and conducting upward social comparison tendency.

Students from cities have the strongest upward social comparison tendency, followed by students from towns and rural, which is consistent with previous research results [19-20]. It is suggested that the living environment (including the richness of vision, life requirements, comparable object and other factors) has an important impact on upward social comparison tendency. Compared with the students from rural, the students from cities and towns have richer living environment and broader vision, contact with more fields and levels of outstanding people, trigger their stronger motivation for self-improvement, and therefore tend to be more inclined to upward social comparison.

The higher the family economic status, the stronger the upward social comparison tendency of college students, which is consistent with the previous research results [20,23]. According to Maslow's hierarchy of needs theory [24], human beings have five needs. From low to high, they are physiological needs, security needs, love and belonging needs, respect needs and self realization needs. When the needs of the lower level are quite satisfied, the next higher level needs will be produced and pursued. Family economic status firstly affects the satisfaction of lower level needs such as physiological needs and security needs, while the upward social comparison is based on the needs of respect and self realization. Students with better family economic status have better satisfaction of their low-level needs. Therefore, higher-level needs such as self-improvement and self-realization are more likely to occur, and the upward social comparison motivated by this is easier to

Table 4. multiple linear regression analysis of main influencing factors of TSSI-U

dependent variable	independent variable	*B*	SE	*β*	*t*	*P*	R^2	R_{adj}^2
TSSI-U	item 7of AFSNSS	.283	.053	.234	5.206	<.001.	511	.508
	GRAP	.191	.030	.104	2.976	.003		
	Family economic status	.153	.051	.108	2.967	.003		
	item 8 of AFSNSS	.240	.042	.192	2.365	.018		
	item 1 of AFSNSS	.212	.015	.153	2.079	.038		
	class cadres	-.167	.032	-.130	-4.249	<.001		
	the purpose of WeChat-use	.258	.039	.218	5.377	<.001		
	origin	-.095	.023	-.089	-1.979	.048		

produce.

The purpose of WeChat use, the number of WeChat friends, "I feel I am a member of WeChat" and "if WeChat does not exist, I will feel sorry" are positively correlated with the upward social comparison tendency. These four factors describe the emotional engagement and psychological dependence of users on social networking sites from different perspectives. In other words, the higher the emotional investment and psychological dependence on WeChat, the stronger the upward social comparison tendency. It is consistent with the results of previous studies [6-11]. In other words, the higher the emotional investment and psychological dependence on WeChat, the stronger the upward social comparison tendency. It is consistent with the results of previous studies [21]. It suggests that psychological feelings can change people's behavior. Specifically, the higher the degree of emotional investment and psychological dependence on WeChat, the more likely it is to believe the information on WeChat; only when WeChat is more applied to social activities (rather than work, entertainment and other activities), and people and things closely related to ourselves are learned from WeChat, social comparison (including upward social comparison) can be generated by browsing WeChat.

Previous studies have suggested that daily WeChat-use duration positively predicts upward social comparison tendency [25], but this study fails to find a significant correlation between the two, suggesting that psychosocial factors are more likely to predict upward social comparison tendency than physical factors. The daily WeChat-use duration is a physical factor, which is restricted by many psychosocial factors. College students who use WeChat for the same duration every day may have different psychosocial factors [26], such as their purpose of use (learning, work, entertainment or social interaction, entertainment,etc), use methods (continuous use or cutting-edge use), and use situation (classroom or dormitory), etc. it is these differences that affect the upward social comparison tendency.

5. Deficiency and Prospect of Research

This study adopts the cross-sectional research model, which may have a certain impact on the accuracy of the research results, because the formation of the relationship between College Students' WeChat use (including WeChat attitude, use behavior and intensity) and upward social comparison needs a long-term development process, so future research needs to reveal the relationship between the two through tracking research.

Questionnaire survey is used in this study. There are some limitations in the research methods and perspectives.

Future research can try to explore this issue from multiple perspectives through the combination of multiple methods (such as case interview, questionnaire survey, randomized controlled experiment).

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