

Influence of College Students' Use of Social Networking Sites on Self-Concept Clarity: Mediating Role of Social Comparison

Yazhi Liu^{1, a}, Hao Liu², Yuan Jiang¹

¹School of psychology, Beijing Sport University, Beijing, 10084, China

²Jiangsu Jianzhu Institute, Xuzhou, Jiangsu, 221116, China

^aliu_yazhi@hotmail.com

Abstract. To explore the effect of college students' use of social networking sites and social comparison on self-concept clarity and its mechanism of action, the researchers used social networking websites use strength questionnaire, social comparison tendency questionnaire and self-concept clear questionnaire and investigated 697 college students. The results showed that: (1) social networking sites use strength and social comparison was significantly positively related, and the intensity of social networking sites use and social comparison tendency and self-concept clarity has a significant negative correlation. (2) the use of social networking sites not only has a significant direct predictive effect on self-concept clarity but also has an indirect effect on self-concept clarity through the social comparison tendency.

Keywords: social networking sites; social comparison; self-concept clarity; the mediating role.

1. Problem Posing

The popularity of social networking sites is a hot phenomenon in today's society. The scale of active users of Facebook, the most popular social networking site in the world, has reached 1.35 billion, accounting for about 16% of the world's total population [1]. In China, the utilization rate of social networking sites (including Weibo, Qzone) among netizens also reached 61.7% [2]. Social networking sites have become an important means and platform for interpersonal communication in the Internet era [3]. The rise of social networking sites made its impact on the individual as a focus area. Studies have shown that social networking sites can accumulate and expand the social capital [4, 5], reduce loneliness, and promote the level of individual life satisfaction and happiness [6, 7]. However, researchers have also found inconsistent results. For example, some studies have found that the use of social networking sites is negatively correlated with self-esteem and happiness, and positively correlated with depression [8, 9, 10]. Tiggemann and Slater also showed that the use of social networking sites was significantly positively correlated with problems related to individual body image [11]. In response to the inconsistency of the results of studies, the researchers pointed out that the impact of social network use on individuals was affected by other variables [12, 13] For example, the use of social networking sites can only affect the life satisfaction and self-esteem of individuals through positive feedback and the mediating effect of social comparison [12, 14].

In addition, existing studies mainly focus on the impact of social network use on individual psychosocial adaptation. Self-formation and development have not received enough attention. As the core component of self-knowledge, self-concept gradually forms and develops in the process of socialization and refers to a person's multi-faceted and multi-level cognition and evaluation of self and its relationship with the environment, which reflects the level of self-knowledge and even self-consciousness development [15]. Due to the high degree of organization and complexity of self-concept, researchers came up with the concept of people's self-concept clarity which reflected the clarity, stability and internal consistency of individual self-concept and was an important attribute of self-development [16]. Self-concept clarity is also an important factor affecting the level of individual mental health and social adaptation [17]. Relevant studies have pointed out that self-concept clarity has a significant positive predictive effect on individual happiness and self-esteem, and a significant negative predictive effect on depression [18, 19, 20].

Interpersonal communication and social environment play a core role in the development of an individual's ego. As an important means and platform of interpersonal communication in the Internet

era, the influence of the Internet, especially social networking sites, on the formation and development of an individual's ego has also become the focus of researchers' attention. Individuals will conduct self-construction through self-representation and exploration on the Internet [21], especially social networking sites which provide teenagers with an ideal space for self-exploration. Interactive feedback of others also to provide a basis for the self-assessment [22, 23]. However, Valkenburg and Peter pointed out, on the basis of reviewing the previous research results, that the Internet would bring negative effects on the individual's self-development and proposed the hypothesis of self-concept differentiation [24]. This hypothesis holds that in the network, individuals can easily explore and try different aspects of themselves, which not only makes individuals face the risk that different aspects of themselves cannot be integrated but also disintegrates the unified and stable self that individuals have formed. Relevant studies also confirmed this view -- for example, the higher the level of Internet use, the lower the self-concept clarity [24, 25], and the self-exploration and expression of individuals in the network and self-concept clarity have significant negative predictive effect [26]. Studies on the use of social networking sites also show that the use of social networking sites is significantly positively correlated with the problems related to individual body image [11], and has a significant negative predictive effect on individual self-esteem [14]. Based on the above discussion, this study assumes that the use of social networking sites has a significant negative predictive effect on self-concept clarity.

In the formation and development of individual self-concept, social comparison is another important influencing factor. People often know themselves by comparing with others [27], and social comparison also has a direct impact on self-evaluation [28]. Individuals with high social comparison tendency are more likely to be negatively affected by social comparison, and their self-concept will also change with different social situations [29]. The social comparison has negative effects on individual self-efficacy, body image and body satisfaction [11, 30, 31]. In terms of self-concept, studies have confirmed that social comparison tendency has a significant negative predictive effect on the self-concept clarity of individuals [18, 32]. In addition, as a ubiquitous social psychological phenomenon, social comparison is inevitable in daily life, and environmental factors will stimulate individuals' social comparison tendency [28, 29]. In the social networking site, users will inevitably come into a large number of information published by others, and social networking sites have also become an important place for the individual social comparison [29]. Researchers saw social networking sites as a platform with the function of social comparison and self-evaluation and pointed out that teenagers are more likely to use social networking sites to get the information of others, compare themselves with others, and take these as the basis for his self-evaluation [14]. Therefore, the use of social networking sites will promote the social comparison tendency of individuals [29]. Relevant studies have further found the mediating role of social comparison in the influence of social network use on individual self-esteem and body intention [11, 14]. On this basis, this study assumes that social comparison has a significant negative predictive effect on self-concept clarity and that social comparison plays an intermediary role in the influence of social networking sites on individual self-concept clarity.

To sum up, based on the hypothesis of self-concept differentiation and previous research results, this study intends to explore the influence of social network use and social comparison on self-concept clarity, and further explore its mechanism -- the mediating role of social comparison in the influence of social network use on self-concept clarity.

2. Method

2.1 Participants

The convenience sampling method was adopted to select 733 college students with experience in using social networking sites (Weibo) from Beijing Sports University for the questionnaire survey. 697 valid questionnaires were collected and sorted out, with an effective recovery rate of 95.08%, including 360 boys (51.65%) and 337 girls (48.35%). There was no significant difference in grade and gender distribution ($\chi^2_{(1)} = 1.07, p > .05$).

2.2 Material

2.2.1 Social Networking Sites use Intensity Questionnaire

Ellison et al. initially developed social networking sites use intensity questionnaire [6]. The questionnaire consists of 8 items: the first two items measure the number of friends an individual has on social networking sites and their average daily use time, and the last six projects use Likert 5-point scoring method (1 "very inconsistent" - 5 "very consistent") to measure the emotional connection strength between individuals and social networking sites and the degree to which social networking sites are integrated into individuals' lives (for example, "social networking sites are part of my daily activities"). The scale converts individuals' scores on these questions into standard scores and calculates the average score, which represents the intensity of individuals' use of social networking sites. In this study, the internal consistency coefficient of the questionnaire is .85.

2.2.2 Social Comparison Questionnaire

The Social comparison questionnaire compiled by Gibbons and Buunk and translated by Wang et al [33]. There are 11 items in the questionnaire (for example, "I never consider my own situation in life according to others' situation"). Likert's 5-point scoring method is adopted. The higher the score, the higher the social comparison tendency of individuals. A confirmatory factor analysis was conducted for the questionnaire, and the results showed that the fitting index was good ($\chi^2/df = 3.74$, RMSEA = .04, NFI = .95, GFI = .96, CFI = .96). In this study, the internal consistency coefficient of the questionnaire is .80.

2.2.3 Self-concept Clarity Questionnaire

Campbell et al. prepared a self-concept clarity questionnaire [16]. The questionnaire measures clarity and consistency of an individual's self-concept across 12 items (e.g., "I often have conflicting opinions about myself"). Likert 4-point scoring (1 "very inconsistent" - 4 "very consistent") was used in the questionnaire. The higher the score, the higher the level of self-concept clarity. After the translation of the original questionnaire, confirmatory factor analysis was performed, and the fitting index was good ($\chi^2/df = 3.57$, RMSEA = .06, NFI = .92, GFI = .94, CFI = .94). In this study, the internal consistency coefficient alpha of the questionnaire was .81.

2.2.4 The test and Control of Common Method Biases

All the data in this study were from the participants' self-reported, which might have common method biases. In order to improve the rigour of the study, researchers tested common method biases through the method recommended by Zhou and Long, using confirmatory factor analysis, and setting common factor as 1 [34]. The results showed that the fitting index ($\chi^2/df = 27.35$, RMSEA = .033, NFI = .53, AGFI = .64, CFI = .59) is not ideal, showing that this study does not exist serious common method biases.

3. Results Analysis

3.1 General Status and Correlation Analysis of Social Network use, Social Comparison and Self-Concept Clarity

The results of gender difference analysis on the intensity of social network use, social comparison tendency and self-concept clarity showed that there was no significant gender difference in the three variables. Then, partial correlation analysis was carried out. The results showed that the intensity of use of social networking sites was significantly positively correlated with social comparison tendency, while the intensity of use of social networking sites and social comparison tendency was significantly negatively correlated with self-concept clarity (as shown in table 1).

Table 1. Descriptive statistical results and correlation analysis between variables

	<i>M</i>	<i>SD</i>	1	2	3
1 Intensity of social networking sites use	0	.70	1		
2 social comparison tendency	3.16	.62	.23**	1	
3 self-concept clarity	2.05	.55	-.29**	-.33**	1

(* $p < .05$, ** $p < .01$)

3.2 The Influence of Social Network use on Self-Concept Clarity: The Mediating Role of Social Comparison

According to the mediation effect analysis process recommended by Wen and Ye (this process combines the advantages of the sequential test method and the Bootstrap method [35]. Whether considering the error rate of the first type, the testing power, or the interpretability of the results, the process has advantages), this study used the Mplus program made by Wen and Ye (the program can get all the results at once, including the sequential test results and the confidence interval of the Bootstrap method), to repeatedly extract 1000 samples for the analysis of the mediating effect [35].

According to the results of mediating effect analysis, the intensity of use of social networking sites can significantly positively predict social comparison tendency ($\beta = .21, p < .01$). When the intensity of social networking sites use and social comparison tendency was entered into the regression equation, both intensity of use of social networking sites and social comparison tendency can significantly negatively predict self-concept clarity ($\beta = .16, p < .01$; $\beta = .32, p < .01$) (as shown in table 2). The average indirect effect ($a*b$) was $-.07$, Bootstrap SE = $.02$, and the confidence interval $[-.11, -.04]$ did not include 0. Therefore, the mediating effect of social comparison tendency on self-concept clarity was significant, and the mediating effect accounted for 29.57% of the total effect.

Table 2. Stepwise regression analysis of mediating effects

regression equation		Fitting index		Significant of regression coefficient			
Outcome variable	Predictor variable	R^2	F	β	Lower limit of Bootstrap	Upper limit of Bootstrap	β
Social comparison tendency	Gender	.08	10.84**	.02	.01	.06	.74
	Social networking use(a)			.21	.11	.28	<.01
	Gender	.16	24.45**	.02	.01	.07	.69
Self-concept clarity	Social networking use			-.16	-.24	.13	<.01
	Social comparison tendency(b)			-.23	-.40	-.23	<.01

(* $p < .05$, ** $p < .01$)

4. Discussion

4.1 General Status and Correlation Analysis of Social Network Use, Social Comparison and Self-Concept Clarity

The results of gender and grade difference test showed that there was no significant gender difference in the intensity of social network use, social comparison tendency and self-concept clarity. This shows that as an important means and platform for interpersonal communication in the Internet

age [3], all college students tend to use social networking sites for interpersonal communication. Although the specific use behaviours of individuals of different genders in social networking sites are different, there is no significant difference in their overall use level [36].

The results of further correlation analysis showed that there was a significant positive correlation between the intensity of social network use and social comparison tendency, while both the intensity of social network use and social comparison tendency showed a significant negative correlation with self-concept clarity. Individuals conduct a lot of self-exploration and self-disclosure in social networking sites, and inevitably become the audience of information exposed by others, which will induce individual social comparison tendency, especially college students tend to use social networking sites to establish connections with peers and obtain their relevant information [14]. At the same time, social comparison, as an influencing factor of self-development, makes individuals' self-concept vulnerable to external factors. Therefore, there is a significant negative correlation between social comparison and the clarity of an individual's self-concept [18, 32].

In addition, although social networking sites have a positive impact on individuals' psychological and social adaptation [5, 7, 13], and individuals can explore and express themselves in the use of social networking sites, the use of social networking sites is significantly negatively correlated with self-concept clarity [26]. This result is consistent with the self-concept differentiation hypothesis proposed by Valkenburg and Peter, and also prompts us to further study the influence of social network use on personal development [24].

4.2 The Influence of the Intensity of Social Network use on Self-Concept Clarity: The Mediating Effect of Social Comparison

The results of mediating effect analysis showed that the use of social networking sites not only has a significant direct prediction effect on self-concept clarity but also has an impact on self-concept clarity through the indirect effect of social comparison tendency. Firstly, the use of social networking sites has a significant negative predictive effect on self-concept clarity, which is not consistent with the views of some previous researchers. As mentioned, social networking sites for college students provides an ideal space to explore herself. Individuals in the network can be convenient to express and explore the different aspects of self. The network provides individuals with the opportunity to develop themselves, and individuals conduct self-reflection and self-construction through interactive feedback with others [22, 23]. However, the results of this study found that the use of social networking sites is not conducive to the formation of stable and clear self-cognition of individuals. This further indicates that the use of social networking sites will have a negative impact on the individual's self-development, making individuals face the risk of different aspects of self-integration [24, 26].

In addition, the use of social networking sites can also have an impact on self-concept clarity through the indirect effect of social comparison tendency, which has been confirmed in the impact of social networking sites on individual self-esteem and body self-image [11, 14]. Individuals not only present a large amount of self-related information in social networking sites, but also often obtain information about others through social networking sites [14]. Therefore, individuals will inevitably become the audience of content presented by other users in social networking sites, which will become the situational factor that induces individuals to make social comparison. In addition, the majority of friends on social networking sites are offline friends and classmates of individuals [2]. Such information of similar groups can more induce individuals' social comparison tendency [29]. However, social comparison will make individuals pay too much attention to external information and conduct self-evaluation and self-cognition based on external information, so as to shake their self-evaluation and self-perception and further exert a negative impact on the clarity of their self-concept [18, 32].

The negative predictive effect of social networking sites on self-concept clarity and the mediating effect of social comparison suggest that we should view the impact of social networking sites objectively. Social networking sites are designed to maintain and expand interpersonal relationship networks. Although they are conducive to the improvement of individuals' psychological and social

adaptability, they will have a negative impact on the development of individuals. This seemingly contradictory result reflects the impact of social networking sites on different aspects of individuals. This also suggests that we should further study the influence of social network use on personal development and pay attention to other influencing variables in the relationship between social network use and individual adaptation. At the same time, the researchers also pointed out that different social network use behaviors may have different effects on individuals [1, 13]. However, this study only discusses the influence of general social network use on self-concept clarity. It is necessary for future studies to investigate the influence of specific social network use behavior on individual psychological and social adaptation and self-development. Finally, this result suggests that people should guide college students to use social networking sites reasonably, view the friends' information in social networking sites objectively and rationally, so as to make social networking sites play a positive role in the development of college students.

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