

The Role of Active vs. Passive Social Media Use on Mental Health

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Abstract. Social media use (SMU) has become a popular topic in the field of examining its inner properties in social interactions and exploring people's perceived happiness. Existing literature suggested a clear correlation between different types of social media use (SMU) and mental health status, with passive SMU being negatively correlated with mental well-being. The study aimed to research this relationship with the potential related factors of social comparison and gender differences. The study was conducted in online survey questionnaires, and 150 participants were recruited. The survey consisted of parts of social media activities, social comparison orientation, and DASS-21 to measure participants' mental well-being. In the results, active SMU was negatively related to social comparison and positively related to mental health status, and passive SMU was opposite. The study also reported gender as a small but significant factor for passive SMU and anxiety level, that female participants were more closely correlated with passive use of social media and were more inclined to show symptoms of anxiety.

Keywords: Active/Passive Social Media Use, Social Comparison, Mental Well-being

1. Introduction

Social media use (SMU) has emerged as an indispensable component of people's daily lives. According to the analysis by Kepios, there were 5.41 billion social media users worldwide by July 2025, which were approximately 65.7% of the total global population [1]. Existing data has revealed that there were 1.12 billion internet users in China by the end of June 2025, which were nearly 80% of the national population [2]. Based on diverse types of behaviors in SMU, scholars have differentiated them into two categories: active use and passive use. Active social media use (ASMU) involves activities which promote direct interaction with others (e.g., posting photos, commenting, sharing information). These activities are thought to be beneficial by building social capital and receiving support, which can be positively related to improving well-being [3]. On the other hand, passive social media use (PSMU) refers to monitoring and indirect behaviors (e.g., reading comments, scrolling newsfeeds, viewing others' profiles) without active engagement. Research suggests that emotional well-being is negatively correlated with the amount of time with passive use [4].

Numbers of studies in the past years provided evidence that ASMU and PSMU were associated with different outcomes on mental health. Traditional studies widely believed that active users

perceived a higher level of online support, while passive use was regarded as negative or neutral. However, Godard and Holtzman provided a viewpoint that more empirical studies actually suggested that the real situation was more complex, because ASMU can also be significantly associated with depressive symptoms and PSMU can possibly promote supportive emotion at the same time [5]. It is clear that this link between active or passive SMU and mental health needs to be explored across different populations and cultural contexts.

According to the existing studies, it can be seen that most of the research is based on western culture background, so the mechanism of social support and social comparison is mainly elaborated with western society. Meanwhile, there still remains a certain scope worthy of exploration regarding the study on the gender effect on the inclination of active or passive SMU. Therefore, this current study aims to focus on the correlation of both active and passive use with social comparison level, the relationship between different types of usage and mental health status, and to find out whether there exists any gender difference in above situation, with the background of social media platforms in China. The study hypothesizes that active SMU would be correlated to mental well-being positively, while being negatively associated with social comparison. The passive SMU would show an opposite relationship with the above conditions.

2. Background

2.1. Social support and social comparison theory

Although there is still lack of definite theoretical support for studies of differentiating active and passive use of social media, most researchers identify the social support and social comparison theory as the foundation of explaining the different outcomes brought by these two types of SMU. Social support theory highlights that perceived or received social support enhances well-being by fostering feelings of connection and care. Active social media users align with the theory that they are more likely to gain or provide online support through their direct communication with others. At the same time, even just acknowledging that support is accessible can foster the positive effect on wellbeing, so it can also be helpful for passive users to observe the supportive interaction without active engagement [5].

Social comparison refers to the situation when individuals evaluate themselves by comparing themselves to others, and it can be either upward (others are better) or downward (themselves are better). The mechanism as it acts in SMU is that people are inclined to elaborate on their success rather than failure when posting online, which causes more upward social comparison and consequently leads to negative feelings of jealous or inferiority [4]. Ulvi et al. mentioned in their study that young women were specifically negatively influenced by the upward comparison to the unrealistic and filtered images online, and this could trigger body image problems [6]. In a study targeted at Icelandic adolescents, Thorisdottir and colleagues also reported that both active and passive SMU were associated to social comparison orientation and depressive symptoms, with a link mediated by poor body image and low self-esteem [7].

2.2. Contextual factors on mental health

Beyond social support and social comparison theory, other contextual factors – including warmth and reciprocity in online communication, self-relevance of content, and age– also impact on correlation between SMU and mental health.

By activating the norm of reciprocity imprinted in human nature, it shows a high possibility to foster a positive effect [8]. In a diary study focused on teenagers' SMU research, Wenninger et al. indicated that activities related to reciprocity (e.g., chat, provide and receive feedback) showed more positive effects instead of non-reciprocal behaviors (e.g., browse and post) [9]. The extended active-passive model emphasized that two significantly important characteristics of ASMU were reciprocity and communion with warmth [10]. Researchers highlighted that targeted active use contributed to stronger social response obligations (e.g., users directly sending messages to a specific target were more likely to receive a response), and it was positively correlated with greater well-being [10]. Warmth, according to the model, ranged from warm (agreeable) to cold (quarrelsome) attitude toward others' comments or viewpoints, was the main perspective underlying the behaviors promoting interactions and was the core factor leading targeted active SMU to improve one's well-being [10].

On the other hand, content self-relevance and appraisal seem to be moderators for PSMU's effect on mental health. Evans et al. indicated that during the process of passive browsing information, it was the users' subjective assessment of the content that determined the relationship between the behavior and impact on well-being rather than the content itself [11]. Specifically, Evans et al. concluded that the negative correlation between passive SMU and mental health would be more pronounced under conditions where passive users appraised the content negatively [11].

3. Methods

3.1. Participants

150 participants were invited through offline recruitment and requested to complete a 10–15-minute online questionnaire. The sample included 66 males and 84 females (all Chinese), and the age of them were from 18 to 57 years old ($M=25.03$, $SD=5.03$). The questionnaire included four parts of demographic content and three independent scales assessing social media use and mental health status.

3.2. Demographic information

This section comprised participants' age, gender, highest educational attainment (high school or below, college or bachelor's degree, master's degree or above), current employment status (students, waiting for employment/ unemployed, full-time employee, freelancer, and retired), and current living situation (alone, with families, flat-share, and dormitory). Also, the time spent on SMU everyday was also asked.

3.3. Social Media Activity Questionnaire (SMAQ)

The survey used SMAQ, developed by Ozimek and colleagues, to measure participants' inclination on active and passive social media use [8]. The original scale included 17 items in total (10 for passive conditions and 7 for active conditions), with a 5-point Likert scale (from 1=never to 5=very often). The mean scores were first calculated for both passive and active use and then compared to assess which category participants belonged to. In the situation that participants got the same mean score for both type of use, they would be categorized as "neutral" (neither active nor passive). In the current survey, the item "SMP8. I look at links or video clips posted on other people's profile pages (e.g., YouTube)" was deleted due to the incompatibility in Chinese major social media platforms' setup. The inner reliability was $\alpha=0.845$ for active SMU and $\alpha=0.853$ for passive SMU.

3.4. Iowa-Netherlands Comparison Orientation Measure (INCOM)

The INCOM was employed to assess the level of social comparison orientation. It was developed by Gibbons and Buunk [12]. It contained 11 items on two dimensions of Ability (e.g., “I am not the type of person who compares often with others”) and Opinion (e.g., “I often like to talk with others about mutual opinions and experiences”). The items were rated on a 5-point Likert scale (from 1=do not agree at all to 5=fully agree). A higher total score indicated a stronger social comparison inclination. The inner reliability and consistency was $\alpha=0.83$.

3.5. Depression Anxiety Stress Scales 21 (DASS-21)

Lovibond and Lovibond developed the Depression Anxiety Stress Scales (DASS-21), and it was used to assess the symptoms and severity of depression, anxiety, and stress [13]. The scale contained 21 items, with 7 items per subscale (e.g., depression: “I found it difficult to work up the initiative to do things”/ anxiety: “I was worried about situations in which I might panic and make a fool of myself”/ stress: “I found myself getting agitated”), using a 4-point Likert scale (0 = “did not apply to me at all”; 3 = “applied to me most of the time”), where participants rated each item accordingly. The higher the sum score for each subscale, the more severe of negative symptoms. Reliability analysis indicated a Cronbach’s α of 0.915 for depression subscale, 0.878 for anxiety subscale, and 0.893 for stress subscale [8].

4. Results

Among all participants, 98.67% of them were aged from 18-35 years old ($M=25.03$, $SD=5.03$, ranged 18-57), and 98.67% of them obtained an educational attainment of college/ bachelor’s degree and above. For job status, 40% of participants were students, 49% were working either as employees or freelancers, 10% were finding jobs or unemployed, and 1 participant was retired. For living status, 31.33% of participants were living alone, while the rest were either living with families or with non-family members. Based on the SMAQ, 50 participants were categorized into the active use group, and 82 participants categorized into the passive use group, while the rest of 18 participants had neutral types of SMU. According to Table 1, the active SMU group had the shortest time spent of 4.280 ± 1.703 hours per day, and the passive SMU group had the longest time spent of 5.421 ± 2.145 hours.

Table 1. Time spent on social media use

	Hours of SMU (h/day)		
	M	SD	Range
All	4.937	2.024	2~13
Neutral	4.556	1.756	2~8
Active Use	4.280	1.703	2~8
Passive Use	5.421	2.145	2~13

One-way ANOVA test was conducted to examine the significance of the difference of each SMU type to social comparison orientation and mental illness severity. As shown in Table 2, the scores of INCOM and DASS-21 for all types of use were significantly different (INCOM: $p<0.01$, $f=0.756$;

Depression: $p<0.01$, $f=0.854$; Anxiety: $p<0.01$, $f=0.636$; Stress: $p<0.01$, $f=0.575$). However, gender did not show a clear difference on types of SMU ($p=0.941$, $f=0.029$).

Table 2. Variance analysis on social media use type

	SMU type (M $\pm$ SD)			F	p	Cohen's f
	Neutral (n=18)	Active (n=50)	Passive (n=82)			
Gender	1.56 $\pm$ 0.51	1.58 $\pm$ 0.50	1.55 $\pm$ 0.50	0.061	0.941	0.029
INCOM score	29.67 $\pm$ 4.07	26.94 $\pm$ 2.57	33.04 $\pm$ 4.23	41.996	0.000**	0.756
Depression	0.28 $\pm$ 0.75	0.20 $\pm$ 0.57	3.57 $\pm$ 2.60	53.542	0.000**	0.854
Anxiety	0.17 $\pm$ 0.38	0.16 $\pm$ 0.42	2.61 $\pm$ 2.58	29.730	0.000**	0.636
Stress	2.61 $\pm$ 1.72	3.10 $\pm$ 1.33	5.24 $\pm$ 2.37	24.331	0.000**	0.575

For gender group, male=1, female=2; * $p<0.05$ ** $p<0.01$

The p-value for Pearson's correlation was used to determine the statistical significance of associations between active/ passive SMU and the other 5 factors (gender, social comparison level, depression, anxiety, and stress). According to Table 3, active SMU was significantly negatively correlated with INCOM score, depression, anxiety, and stress level ($p=-0.406$; -0.546 ; -0.405 ; -0.374). Meanwhile, passive SMU was significantly positively related to all factors ($p=0.210$; 0.717 ; 0.549 ; 0.482 ; 0.470). Also, the analysis confirmed the close inner correlation between three subscales (depression, anxiety, and stress) within DASS-21 again.

Table 3. Descriptive statistics and correlation analysis among variables

	M	SD	1	2	3	4	5	6	7
1. Active Use	2.424	1.083	—						
2. Passive Use	2.871	0.762	-0.023	—					
3. Gender	1.560	0.498	0.079	0.210**	—				
4.INCOM score	30.600	4.652	-0.406**	0.717**	0.100	—			
5. Depression	2.053	2.580	-0.546**	0.549**	0.133	0.749**	—		
6. Anxiety	1.500	2.278	-0.405**	0.482**	0.183*	0.675**	0.823**	—	
7. Stress	4.213	2.296	-0.374**	0.470**	0.047	0.606**	0.782**	0.747**	—

For gender group, male=1, female=2; * $p<0.05$ ** $p<0.01$

5. Discussion

The study aimed to examine the correlation among social media use types, social comparison inclination, and mental illness level. Also, it aimed to explore the possible difference between males and females. According to the results, active SMU was significantly negatively correlated with participants' INCOM scores and DASS-21 scores, thus the hypothesis of active SMU would be positively associated with mental health and negatively related to social comparison has been supported. The hypothesis with passive SMU has also been proved that the data showed significant positive correlations between passive use of social media, social comparison, and mental health. These findings aligned with prior literature indicating that passive SMU could exert a detrimental effect on individuals' mental well-being through upward social comparison [4]. At the same time,

passive SMU could form a bidirectional relationship with mental illness, that is, people with depression or anxiety tend to engage in social media in a manner that maintains or aggravates the symptoms, such as avoiding direct interactions, and these behaviors deteriorate the symptoms [5].

Meanwhile, other studies reported contrary results that depression, anxiety, and stress exhibited a closer association with active SMU rather than passive SMU [8]. The reason underlying this distinction could be that participants in this survey tended to use active SMU as a way to entertain or to simply share their daily lives, there existed only few opinions and participants themselves tended not to expect for further interactions, so that there would be less conflict and more positive comments, which made them feel more connected and included [3]. Another potential reason was that the study did not distinguish between private SMU from public SMU. The relatively clear difference between them was that private SMU tended to be more common, more synchronized, and more intimate in which the frequency of private SMU is almost twice that of public SMU [14]. Meanwhile, people typically engage with three to five different social media platforms in a complementary manner, either to interact with closed ones or to present themselves with wider audiences [15]. The correlation between private/ public SMU and mental well-being was reported to be different [14].

The result in the current research showed no clear distinction between different genders (male and female) in most factors (active SMU, social comparison, depression, and stress), except for passive use and anxiety, for which the study found a slight but distinct positive correlation in gender and passive SMU and anxiety. Therefore, the hypothesis of gender difference on the above factors has been partially rejected. The result was partially compatible with some prior studies that gender showed no significant effect on active SMU or on the relationship between SMU and mental well-being. In the meantime, Thorisdottir and colleagues reported that female participants used passive SMU more frequently, and they were more susceptible to being negatively affected by long-time use and passive browsing [7]. Female participants could be more sensitive to social comments and more likely to perceive and react to contents of upward social comparison (such as appearance and social popularity) during passive SMU [7]. Therefore, they tended to internalize negative experiences in passive SMU as emotional distress, and this difference in emotional regulation style made female participants more vulnerable to accumulating symptoms of anxiety when using social media passively. However, the result in this current study did not show any clear distinction in social comparison between different genders. Future studies are needed to confirm the influential pathway among genders, SMU, and mental well-being.

The study had several limitations. Firstly, the sample size was comparatively small, and the participants were mostly young adults with high educational attainment (98.67% of all participants had college/ bachelor's degree and above), thus the result's validity and applicability would be affected. Future studies should focus on a more diversified sample structure and include more differential conditions such as occupation. At the same time, this study only reported the correlation between the type of SMU with social comparison and mental illness rather than the exact causal path among the above factors, so the effect direction remained vague (whether passive SMU caused worse mental health status, or mental illness itself causes more passive usage, or it was bidirectional). A longitudinal design could be adopted to clarify the causal relationship through cross-lagged analysis for future studies.

6. Conclusion

To sum up, the research included a correlational study to test the relationship of active/ passive use of social media, social comparison orientation, mental well-being, and gender as potential factors.

Ultimately, this study found an apparent distinction between active and passive SMU that active SMU being negatively related to social comparison and positively related to mental health, while passive SMU was on the contrary. This study also suggested a slight significance in gender that female participants reported to be more closely correlated with passive SMU and anxiety. For further research, an experiment design is needed to explore the clear pathway among the factors above and to seek a more complex and complete mechanism of SMU influencing mental health status.

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