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Social Media Use Intensity and Well-Being: Suppression Effect of Online Social Support and Moderating Role of Social Media Type

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ABSTRACT

As social media is deeply integrated into daily life, users' mental health issues are becoming increasingly prominent. This study, based on the theoretical perspective of the "social media paradox," explores the impact of social media usage intensity on subjective well-being, as well as the mediating role of online social support and the moderating role of social media types (WeChat vs. Xiaohongshu). Valid data from 809 participants were collected using the Social Media Usage Intensity Scale, the Online Social Support Scale, and the Subjective Well-being Scale, and the mediating and moderated mediating effects were analyzed using the PROCESS macro for SPSS. The results show that: (1) social media usage intensity significantly and negatively predicts subjective well-being; (2) online social support plays a suppression effect between social media usage intensity and subjective well-being, with a significant indirect positive effect, although the direct negative effect is substantially larger; (3) social media type significantly moderates the predictive effect of usage intensity on online social support, with Xiaohongshu users showing greater gains in online support from higher usage intensity than WeChat users, supporting the first-stage moderation effect. The role of online social support in buffering the negative association is limited in offsetting the negative outcomes associated with excessive use, and the moderating role of social media type does not alter the overall pattern in which loss outweighs compensation.

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ARTICLE INFO

Received: 21 July 2026 | Revised: 8 August 2026 | Accepted: 28 August 2026 | Published Online: 8 October 2026
DOI: <https://doi.org/10.30564/jpr.v8i4.13790>

CITATION

Chen, M., Yang, J., Cao, B., et al., 2026. Social Media Use Intensity and Well-Being: Suppression Effect of Online Social Support and Moderating Role of Social Media Type. *Journal of Psychological Research*. 8(4): 1–13. DOI: <https://doi.org/10.30564/jpr.v8i4.13790>

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Keywords: Social Media Use Intensity; Subjective Well-Being; Online Social Support; Suppression Effect; Moderated Mediation Model

1. Introduction

Social media has become deeply embedded in the daily lives of modern people. According to the 56th statistical report published by the China Internet Network Information Centre (CNNIC), as of June 2025, the number of social network users in China stood at 1.107 billion, with social media platforms such as WeChat, Xiaohongshu and Douyin covering a diverse range of usage scenarios, from information gathering and social interaction to self-expression. However, the rise of social media has been accompanied by a question that continues to puzzle researchers and the public alike: does frequent use of social media actually benefit or harm an individual's subjective well-being? Subjective well-being, as a key indicator of an individual's mental health and quality of life, comprises an emotional dimension (the balance between positive and negative emotions) and a cognitive dimension (life satisfaction)^[1]. A large body of empirical research has revealed a complex and contradictory relationship between social media use and subjective well-being: on the one hand, social media provides channels for social connection and emotional support^[2]; on the other hand, excessive use is closely linked to higher levels of anxiety, depression and loneliness^[3,4]. This phenomenon of coexisting opposites is known as the "social media paradox": social media can both connect people and alienate them; it can both enhance well-being and erode it.

Existing research offers two main approaches to explaining this paradox. The first approach focuses on the "quality" and "quantity" of usage behaviour; that is, the effects of social media use are not determined by duration or frequency alone, but rather depend on the motivation for use (active or passive) and the pattern of use (social interaction or passive browsing)^[5,6]. Active, socially oriented use can enhance social connectedness and well-being, whereas passive browsing of information is more likely to trigger social comparison and negative emotions. The second pathway focuses on the social resources acquired during use, with online social support being regarded as a key mediating variable linking social media use to psychological

well-being^[7,8]. However, whilst the two pathways outlined above demonstrate the "positive" and "negative" aspects of social media respectively, few studies have integrated them into a single model to directly compare the magnitude of their effects—that is, to what extent can the "social support benefits" derived from social media use offset its "direct psychological costs"?

In light of this, the present study aims to develop an integrated model that examines both the direct negative path of social media usage intensity on subjective well-being and the indirect positive path mediated by online social support, and to test whether these two paths differ across different types of social media (WeChat and Xiaohongshu).

1.1. Intensity of Social Media Use and Subjective Well-Being

Early research largely adopted the optimistic assumption that "the more you use it, the stronger the connections," positing that frequent use of social media helps to expand social networks and accumulate social capital^[2]. However, as research has progressed, empirical evidence from the past decade has gradually pointed towards a cautious, or even pessimistic, assessment, revealing the psychological costs that may be associated with heavy use. A classic experiential sampling study by Kross et al. found that the higher the frequency of Facebook use, the lower the subsequent reports of life satisfaction and current mood; this effect remained significant even after controlling for offline social activities^[3]. A large-sample study by Przybylski and Weinstein suggests that there is an inverted U-shaped relationship between adolescents' daily social media usage and mental health; once a certain threshold is exceeded, the longer the usage, the more severe the psychological distress^[9]. Twenge et al., using data from a nationwide survey, further pointed out that screen time (particularly social media use) is significantly positively correlated with depression and suicidal tendencies among adolescents^[4].

The aforementioned negative effects can be understood from a number of theoretical perspectives. Social compari-

son theory^[10] posits that when using social media, individuals inevitably compare their own “everyday reality” with others’ “curated lives,” thereby fostering feelings of envy, dissatisfaction and inferiority. The time displacement hypothesis suggests that time spent on online socialising crowds out time that would otherwise be devoted to in-person, meaningful interactions, physical exercise or sleep, all of which are key sources of well-being. Furthermore, cognitive load theory suggests that processing fragmented, multi-threaded social media information continuously depletes an individual’s attention and cognitive resources, leading to mental fatigue and emotional exhaustion. Based on this, the present study proposes the first hypothesis:

H1. *The intensity of social media use significantly and negatively predicts subjective well-being.*

1.2. The Suppression Effect of Online Social Support

Although excessive use is harmful in itself, it cannot be denied that social media is indeed an important channel for accessing social support. When individuals post updates, share their feelings or seek help on social media, the “likes,” comments and private messages they receive from friends, family and even strangers constitute online social support^[7,8,11]. Consequently, users who engage with the platform more frequently have greater opportunities to initiate social interactions and receive social support in return, thereby indirectly enhancing their subjective well-being.

The crux of the matter lies in the relative magnitude of the “benefits” and the “costs”. When the direct and indirect effects have opposite signs, this constitutes what is known in statistics as a suppression effect^[12,13]. The suppression effect refers to a situation in which the direct and indirect effects have opposite signs, such that the indirect effect partially offsets the direct effect, thereby suppressing the true magnitude of the independent variable’s influence. From a methodological perspective, if the mediating variable is not included in the model, researchers may underestimate the actual extent—and even the direction—of the independent variable’s influence on the dependent variable. Shrout and Bolger^[14] have pointed out that, although the suppression effect is less “intuitive” than the traditional mediating effect, it possesses unique theoretical value in psychological

research, as it reveals opposing pathways operating within the same variable. If the direct effect of social media usage intensity on subjective well-being is negative, whilst the indirect effect via online social support is positive, and the absolute value of the former exceeds that of the latter, then online social support essentially plays only a limited buffering role; although it can compensate for an individual’s well-being to some extent, it is far from sufficient to reverse the psychological toll caused by excessive use. Compared with simply confirming a pure mediating effect, revealing this “positive-negative offsetting” structure would provide a more in-depth response to the core concerns of the “social media paradox.” Based on this, this study proposes:

H2. *Online social support acts as a suppression effect between the intensity of social media use and subjective well-being; that is, the indirect positive effect is significant, but the absolute value of the direct negative effect is significantly greater than that of the indirect positive effect.*

1.3. The Moderating Effects of Different Types of Social Media

Different types of social media platforms feature vastly distinct social ecosystems, which may influence the efficiency with which users derive social support from their usage. WeChat centres on strong ties (socialising with acquaintances), with users’ friends predominantly comprising real-life classmates, colleagues and family members; their social circles are relatively closed and highly overlapping. In this environment, excessive activity may actually lead to social fatigue, pressure to manage one’s image, or even privacy concerns. By contrast, Xiaohongshu centres on weak ties (interest-based communities), where users connect based on shared interests (such as beauty, travel, learning and fitness), and interactions between strangers are more open and inclusive. This “interest-based community” characteristic makes it easier for users to receive affirming feedback from “like-minded individuals” when posting content, meaning that the efficiency with which social support is converted is, in theory, higher. These two social ecosystems represent distinct types of social media: WeChat falls under the category of strong-tie, acquaintance-based social networking, whilst Xiaohongshu belongs to the category of weak-tie, interest-based communities. This difference in social media types

may further influence the mediating process whereby usage intensity affects subjective well-being via online social support. Research by Zhang et al. also indicates that the mediating role of online social support in the relationship between social media usage and psychological well-being is moderated by environmental factors^[11].

Based on the above analysis, structural differences in the social ecosystems of different social media platforms may lead to heterogeneity in the mediating process as a whole. We included social media type as a moderator because WeChat (a strong-tie, acquaintance-based network) and Xiaohongshu (a weak-tie, interest-driven community) differ fundamentally in how users interact and how social support is generated and exchanged. Compared with WeChat, Xiaohongshu is more conducive to the conversion of user engagement into social support resources. Consequently, the indirect pathway through which social media usage intensity influences subjective well-being via online social support may differ across the two user groups. Accordingly, this study proposes:

H3. *Social media type moderates the mediating effect of online social support on the relationship between social media usage intensity and subjective well-being; that is, the moderated mediation effect is significant.*

2. Methods

2.1. Subjects

Based on an effect size of $f^2 = 0.15$, $\alpha = 0.05$ and $1 - \beta = 0.80$, G*Power 3.1 was used to calculate that a total of at least 107 participants were required. Using a questionnaire survey, the researchers collected data by sharing the survey link via WeChat Moments, university student WeChat groups and the Xiaohongshu recruitment platform. After excluding 60 invalid questionnaires (due to completely duplicate responses, excessively short completion times or completion in under two minutes), a total of 809 valid questionnaires were obtained, of which 433 respondents were WeChat users (53.5%) and 376 were Xiaohongshu users (46.5%). In terms of the composition of the sample, 666 participants were female, accounting for 82.3%, whilst 143 were male, accounting for 17.7%.

2.2. Measuring Tools

2.2.1. Social Media Usage Intensity Scale

The Social Media Usage Intensity Scale is a psychological scale specifically designed to study the intensity of people's social media use, adapted by Peng Zhen^[15]. The scale comprises a total of five items and employs a 5-point Likert scale, where 1–5 represent “strongly disagree”, “somewhat disagree”, “neutral”, “somewhat agree”, and “strongly agree”, respectively. The scores for each item are summed to produce a composite score for the intensity of social media use. The higher the score obtained by a participant, the greater their intensity of social media use. The Cronbach's α coefficient for the original scale was 0.804, whilst in this study it was 0.768, indicating good internal consistency.

2.2.2. Online Social Support Scale

The Online Social Support Scale (OSSS) is a psychological scale that assesses, from multiple dimensions, various aspects of an individual's perceived online social support, including emotional support, social companionship, informational support and instrumental support. The scale was developed by Nick et al. and adapted by Peng Zhen^[15], adopting Zhang Shuai's three-part coding scheme; companionship support was merged into emotional support to form the “emotional companionship support” dimension. The final scale comprises three dimensions: emotional companionship support comprises five items, informational support comprises five items, and instrumental support comprises three items, totaling 13 items. A 5-point Likert scale is used, where 1–5 represent “strongly disagree”, “somewhat disagree”, “neutral”, “somewhat agree” and “strongly agree”, respectively. The scores for each item on the scale are summed to produce a composite score for online social support. The higher the score obtained by a participant, the greater their level of online social support. The Cronbach's α coefficient for the original scale was 0.886, whilst in this study it was 0.926, indicating good internal consistency.

2.2.3. Subjective Well-Being Scale

This study employed an adapted subjective well-being questionnaire for measurement. The construction of this measure was grounded in Diener's tripartite model of subjective well-being, which conceptualizes well-being as comprising

two core components: a cognitive component (life satisfaction) and an affective component (positive and negative affect)^[16]. Based on this framework, we assessed the cognitive component using the satisfaction with life scale (SWLS)^[17], and the affective component using the Positive and Negative Affect Schedule (PANAS) and the Profile of Mood States (POMS)^[18,19]. The three dimensions were combined into a single composite score to capture the overall level of subjective well-being, following established practices in the literature (e.g., Sheldon and Elliot^[20]). The composite score was calculated as: standardized (positive affect) + standardized (life satisfaction) – standardized (negative affect). All three dimensions demonstrated good internal consistency in the present study.

The questionnaire comprises three dimensions, totalling 20 items, as follows:

Negative emotions (12 items). Drawing on the Negative Emotions dimension from the Chinese Short Form of the POMS^[19], this dimension includes items such as tension, agitation, inner restlessness, restlessness, irritability, worry, unhappiness, sadness, despondency, depression, worthlessness, and helplessness. A 5-point Likert scale was used, with scores of 1–5 representing “hardly at all”, “a little”, “somewhat”, “quite a lot” and “a great deal”, respectively; a higher score indicates more frequent experiences of negative emotions. In this study, the Cronbach’s α coefficient for this dimension was 0.944, indicating good internal consistency.

Positive emotions (4 items). Drawing on the positive emotion dimension from the PANAS^[18], four items were selected: happy/joyful, relaxed/at ease, calm/peaceful, and excited. A 5-point Likert scale was used, with scores of 1–5 representing “none”, “a little”, “some”, “quite a lot”, and “a great deal”, respectively; higher scores indicate a greater experience of positive emotions. In this study, the Cronbach’s α coefficient for this dimension was 0.897, indicating good internal consistency.

Life satisfaction (4 items). Drawing on the Chinese version of the SWLS^[21], the items were streamlined and their wording adjusted to suit the research context; the scale comprises four items: “I am satisfied with my life”, “I am living well”, “I feel my life has a purpose/something to strive for”, and “I feel my life is meaningful/worthwhile”. A 7-point Likert scale was employed, with scores ranging from 1 to 7 representing “do not agree at all”, “do not agree”, “tend

not to agree”, “somewhat agree”, “agree”, “strongly agree” and “agree very strongly”, respectively; a higher score indicates greater life satisfaction. In this study, the Cronbach’s α coefficient for this dimension was 0.938, indicating good internal consistency.

In this study, the composite measure of subjective well-being was calculated by adding the positive emotion score to the life satisfaction score and subtracting the negative emotion score; a higher score indicates a higher level of subjective well-being.

2.3. Statistical Analysis

The collected data were analysed using SPSS 27.0 to perform tests for common method bias, descriptive statistics, correlation analysis and regression analysis; the PROCESS macro for SPSS provided by Hayes^[22] was used to test for mediation effects and moderated mediation effects.

3. Results

3.1. Analysis of Common Method Bias

To examine whether common method bias existed among the study variables, Harman’s one-factor test was employed. The results showed that seven factors had eigenvalues greater than 1, with the first factor accounting for 26.581% of the variance—below the critical threshold of 40%. This suggests that common method bias is within an acceptable range. However, given that all variables were assessed using self-report measures, the possibility of common method bias cannot be completely ruled out.

3.2. Descriptive Statistics and Correlation Analysis

The results indicate that the intensity of social media use is significantly positively correlated with online social support ($r = 0.435, p < 0.01$) and significantly negatively correlated with subjective well-being ($r = -0.278, p < 0.01$); the correlation coefficient between online social support and subjective well-being did not reach statistical significance ($r = -0.026, p = 0.468$). See **Table 1** for further details.

It is worth noting that the simple correlation coefficient between online social support and subjective well-being did

not reach statistical significance. This phenomenon may stem from the presence of a suppression effect: when the direct and indirect effects have opposite signs, they cancel

each other out, thereby suppressing the simple correlation between the variables^[12,13]. This issue is further examined in the subsequent mediation analysis.

Table 1. Descriptive statistics and correlation analysis for each variable ($N = 809$).

Variable	<i>M</i>	<i>SD</i>	<i>r</i>		
			1	2	3
1. Social media use intensity	15.75	3.60	1		
2. Online social support	43.90	8.58	0.435**	1	
3. Subjective well-being	7.38	14.85	-0.278**	-0.026	1

Note: ** $p < 0.01$.

3.3. Analysis of Mediating Effects

3.3.1. Regression Analysis

The results of the regression analysis indicate that the intensity of social media use is a significant positive predictor of online social support ($\beta = 0.436, p < 0.001$); when both social media usage intensity and online social support were included in the regression equation, online social support significantly and positively predicted subjective well-being ($\beta = 0.118, p = 0.0017$), whilst the direct effect of social media usage intensity on subjective well-being was significantly negative ($\beta = -0.329, p < 0.001$). See **Table 2** and **Figure 1** for further details.

3.3.2. Significance Test

The results of the Bootstrap test indicate that the indirect effect of online social support is significantly positive (effect size = 0.211, Boot standard error = 0.083, 95% CI [0.055, 0.383]). The direct effect is opposite in sign to the indirect effect, suggesting that online social support exerts a suppression effect. Specifically, the direct effect of social media usage intensity on subjective well-being was -1.356 , with a total effect of -1.144 ; the indirect effect of online social support was 0.211 (95% CI [0.055, 0.383]), representing approximately 15.6% of the absolute value of the direct effect (**Table 3**).

Table 2. Regression Analysis of Variables Model.

Dependent Variable	Predictor Variables	β	<i>t</i>	95% Confidence Interval		R^2	<i>F</i>
				LLCI	ULCI		
1 Online social support	Social media use intensity	0.436	13.742***	0.890	1.186	0.190	188.841***
2 Subjective well-being	Social media use intensity	-0.329	-8.802***	-1.658	-1.053	0.088	39.025***
	Online social support	0.118	3.149**	0.077	0.330		

Note: ** $p < 0.01$, *** $p < 0.001$.

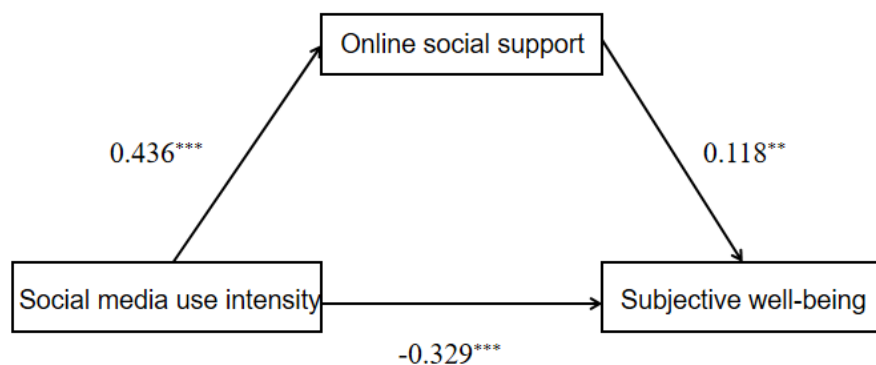


Figure 1. Diagram of the mediating effect model for online social support.

Note: ** $p < 0.01$, *** $p < 0.001$.

Table 3. Test for the Significance of the Mediating Effect.

Effects	Effect Size	Boot SE	Lower Boot CI Limit	Upper Boot CI Limit	Effect Proportion
Mediating effect	0.211	0.083	0.055	0.383	18.46%
Direct effect	-1.356	0.154	-1.658	-1.053	81.54%
Total effect	-1.144	0.139	-1.418	-0.871	

3.4. Testing for a Moderated Mediating Effect

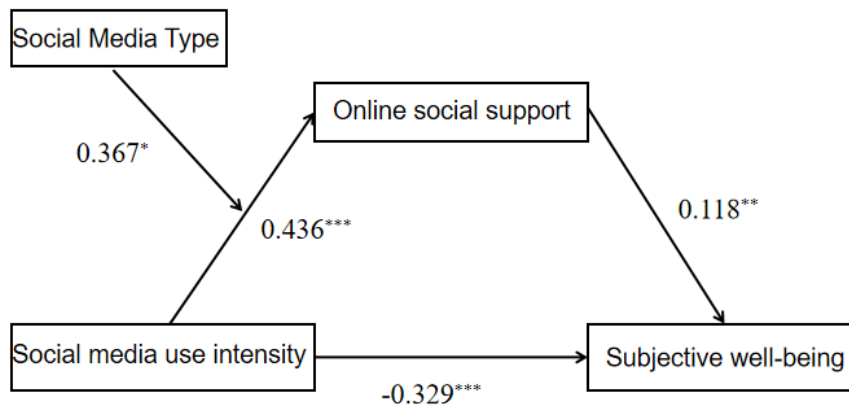
Using Model 7 in the PROCESS macro for SPSS to test the moderating effect of social media type on the mediating process, the results of the regression analysis indicate that the intensity of social media use is a significant positive predictor of online social support ($\beta = 0.438, t = 13.852, p < 0.001$). The main effect of social media type was not significant ($\beta = -0.042, t = -1.323, p = 0.1862$). The interaction between the two was significant ($B = 0.367, \beta = 0.077, t = 2.433, p$

$= 0.0152$). The results indicate that the type of social media plays a significant moderating role in the pathway through which social media usage intensity influences online social support. When both online social support and usage intensity were included in the regression equation, online social support was found to be a significant positive predictor of subjective well-being ($\beta = 0.118, t = 3.149, p = 0.0017$). The direct effect of usage intensity on subjective well-being is significantly negative ($\beta = -0.329, t = -8.802, p < 0.001$). See **Table 4** and **Figure 2** for further details.

Table 4. Testing the moderating and mediating effects of online social support on subjective well-being.

Dependent Variable	Predictor Variable	β	t	R^2	F
Online social support	Social media use intensity	0.438	13.852***	0.197	65.944***
	Social Media Type	-0.042	-1.323		
	Social media use intensity $\times$ Social Media Type	0.077	2.433*		
Subjective well-being	Social media use intensity	-0.329	-8.802***	0.088	39.025***
	Online social support	0.118	3.149**		

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

**Figure 2.** Path diagram of the moderated mediation model.

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

To further elucidate the direction of the interactions, a simple slope analysis was conducted. The results indicate that, in the WeChat group, the intensity of social media use has a significant positive predictive effect on online social support; in the Xiaohongshu group, the positive predictive effect of social media use on online social support is even stronger, meaning that Xiaohongshu users derive signifi-

cantly greater gains in online social support from higher usage intensity than WeChat users. See **Table 5** for details.

The results of the Bootstrap test indicate that the conditional indirect effect was 0.172 for the WeChat group and 0.247 for the Xiaohongshu group. The index of moderated mediation was 0.075, with a 95% bootstrap confidence interval of $[-0.002, 0.176]$, which includes zero. This indicates

that the moderated mediation effect, considered as a whole, was not statistically significant. However, the interaction term in the first stage was significant ($B = 0.3665, p = 0.0152$),

suggesting that the moderating effect of social media type is present only in the first stage of the mediation process. See **Table 6** for details.

Table 5. Conditional Effects of Social Media Types.

Social Media Type	Effect Size	Standard Error	<i>t</i>	<i>p</i>	LLCI	ULCI
WeChat group	0.847	0.109	7.817***	<0.001	0.634	1.060
Xiaohongshu group	1.214	0.105	11.601***	<0.001	1.008	1.419

Note: *** $p < 0.001$.

Table 6. Test of the moderated mediating effect of social media type.

Item	Effect Size	Boot SE	Lower Boot CI Limit	Upper Boot CI Limit
Conditional indirect effects in the WeChat group	0.172	0.077	0.046	0.343
Conditional indirect effects in the Xiaohongshu group	0.247	0.094	0.072	0.446
Mediation indices with moderators	0.075	0.046	-0.002	0.176

4. Discussion

Drawing on the theoretical perspective of the ‘social media paradox’, this study constructed a moderated mediation model to examine the mechanism through which the intensity of social media use influences subjective well-being. The results indicate that the intensity of social media use is a significant negative predictor of subjective well-being, with online social support exerting a suppression effect; the type of social media played a significant moderating role in the first stage, supporting the first-stage moderation effect, although the overall moderated mediation effect was not significant (Index = 0.075, 95% CI [-0.002, 0.176]). The discussion below will focus on these findings.

4.1. The Direct Detrimental Impact of Social Media Usage on Subjective Well-Being

This study found that the intensity of social media use was a significant negative predictor of subjective well-being, confirming Hypothesis 1. This finding is consistent with previous research. A meta-analysis comprising 51 studies and a total of 680,506 participants indicated that problematic social media use was significantly negatively correlated with subjective well-being^[23]. Kross et al. also found in their classic experience-sampling study that the more frequently individuals used Facebook, the lower their subsequently reported life satisfaction and current mood were^[3]. Twenge et al., drawing on data from a nationwide survey, further pointed out that screen time (particularly social media use)

is significantly positively correlated with depression and suicidal tendencies among adolescents^[4]. The findings of this study are consistent with these conclusions in a sample of Chinese social media users.

The emergence of this negative effect can be explained from several theoretical perspectives. Firstly, based on social comparison theory^[10]. When using social media, individuals inevitably come into contact with “carefully curated” snippets of other people’s lives; this upward comparison tends to foster feelings of envy, dissatisfaction and inferiority, thereby undermining their sense of well-being^[24]. Secondly, the time displacement hypothesis suggests that on-line socialising takes up time that would otherwise be spent on in-person, meaningful interactions, physical exercise or sleep—all of which are key sources of well-being. Furthermore, social overload is another mechanism that cannot be overlooked; when individuals receive an excessive number of social requests, messages and expectations for interaction on social media, they experience fatigue and stress, which in turn undermines their psychological well-being^[25]. The fear of missing out (FoMO) further amplifies this effect: individuals, worried that they might miss out on others’ exciting experiences, find themselves constantly scrolling through their feeds, caught in a vicious cycle where “the more they scroll, the more anxious they become, and the more anxious they become, the more they scroll”^[26]. Together, these mechanisms constitute the “damage pathway” through which social media use undermines subjective well-being.

It is worth noting that even after statistically controlling for the mediating variable of online social support, the

direct negative effect remained significant and of considerable magnitude. This suggests that this negative association is not solely attributable to a “lack of support”; even when users derive some social support from their use, the negative effects arising from excessive use persist independently. This finding suggests that the negative association between social media use and well-being exhibits stability across different pathways and may not be fundamentally reversed by increasing online interaction.

4.2. The Suppression Effect of Online Social Support

This study found that online social support exerts a suppression effect on the relationship between social media usage intensity and subjective well-being, thereby confirming H2. Specifically, the indirect effect of social media usage intensity mediated by online social support was significantly positive; however, the direct negative effect far outweighed the indirect positive effect, with the latter offsetting only approximately 15.6% of the former. This result implies that, whilst social media use can provide a certain degree of social support through triggering online interactions, thereby slightly enhancing well-being, this “compensatory pathway” is negligible in magnitude and is entirely incapable of reversing the significant harm caused by the “depletion pathway”.

This finding is consistent with the theoretical explanations of the suppression effect provided by MacKinnon et al. and Zhao et al., according to which, when the direct effect and the indirect effect have opposite signs, the indirect effect suppresses part of the true magnitude of the direct effect^[12,13]. In this study, had the mediating variable of online social support not been included, the researchers might have underestimated the true negative association between social media usage intensity and subjective well-being. Only after including the mediating variable did the direct negative effect become fully apparent; this effect was significantly greater than the total effect, indicating that the indirect positive effect of online social support concealed part of the negative association, making the overall association appear smaller than its actual magnitude, although this suppression effect itself was weak. This suppression effect is not an isolated finding of this study; it has also been verified in other research. A nine-month longitudinal study by Li et al., involving 4,237 adolescents, found that protective factors

such as perceived support from friends and family partially suppressed the association between the intensity of online social network use and depressive symptoms^[27]. In other words, supportive factors can, to a certain extent, buffer the negative consequences of heavy usage, but this buffering effect is limited. A study by Chai et al. similarly found that the indirect effect of social media use on subjective well-being via social overload was significantly negative, indicating that social overload acts as a suppressive factor between social media use and well-being^[25]. A study by Yang and Feng also confirmed that social media use indirectly influences psychological well-being and subjective well-being via self-esteem and online social support, and that risk factors such as cyberbullying play a moderating role in the first stage of the mediating process^[28]. The above research indicates that the impact of social media use on well-being often involves multiple opposing pathways, and the suppression effect is a widespread statistical phenomenon rather than an exception.

It is particularly worth noting that the simple correlation analysis in this study revealed that the correlation coefficient between online social support and subjective well-being did not reach statistical significance. This seemingly contradictory phenomenon is, in fact, a classic manifestation of the suppression effect: when direct and indirect effects are in opposite directions, they cancel each other out at the level of simple correlation, thereby obscuring the true relationship between the variables^[12]. Only after controlling for the direct effect of usage intensity on well-being in the regression analysis did the net effect of online social support on subjective well-being become apparent. This finding suggests that the absence of a significant simple correlation coefficient does not necessarily imply the absence of a substantive relationship between variables; particularly when indirect pathways running in opposite directions are involved, it is all the more necessary to employ mediation analysis to reveal the true structure of the relationships between variables.

From a theoretical perspective, the discovery of this suppression effect offers a new perspective on the “social media paradox”. Previous research has largely focused on the “overall effect” of social media use on well-being, whilst overlooking the offsetting structure of the positive and negative pathways. The findings of this study indicate that the “positive” and “negative” aspects of social media do not coexist independently, but rather are in an ‘asymmetric offsetting’

relationship; although the positive aspects do exist, they are considerably smaller in magnitude than the negative aspects. This insight helps explain why numerous studies have found that, although the net effect of social media use on well-being is negative, the effect size is often modest: it is precisely because of this weak buffer provided by online social support, which offsets some of the negative association, that the overall negative effect appears less extreme.

4.3. The Moderated Mediating Effect of Social Media Type Is Significant

This study found that the type of social media plays a significant moderating role in the first-order path through which usage intensity influences online social support. Specifically, Xiaohongshu users derive significantly greater gains in online social support from higher usage intensity than WeChat users. A possible explanation is that Xiaohongshu centres on interest-based communities and weak ties, making it easier for users to receive affirming feedback from ‘like-minded individuals’ when posting content, thereby resulting in a higher conversion efficiency of social support; whereas WeChat centres on strong ties and circles of acquaintances, where excessive activity may actually lead to social fatigue, causing the marginal utility of support to diminish. It should be noted, however, that these platform characteristics—such as interest-based communities and relationship strength—were not directly measured in the present study; the above interpretation, therefore, remains a possible explanation rather than an established mechanism. A study by Yang and Feng also suggest that the mediating effect of online social support on the relationship between social media use and psychological well-being is moderated by environmental factors^[28]. Liao Shengqing et al., in their longitudinal study based on the China Family Panel Studies (CFPS), also found that social support plays an important mediating role between internet use and subjective well-being^[29].

This study found that the moderating effect of social media type was significant in the first stage, supporting the first-stage moderation effect, although the overall moderated mediation effect was not significant (Index = 0.075, 95% CI [-0.002, 0.176]). This result suggests that social media type influences the first stage of the mediating process through which social media use affects subjective well-being by altering the effect size of the pathway from social me-

dia use to online social support. A simple slope analysis indicates that both WeChat and Xiaohongshu users derive significant gains in social support from higher usage intensity, suggesting that, regardless of the type of social media platform, such usage can, to a certain extent, yield social support in return. However, there are significant differences in the efficiency of this conversion between the two groups: in weak-tie interest-based communities, such as Xiaohongshu, users’ active behaviour is more readily converted into online social support; whereas in strong-tie social circles of acquaintances, such as WeChat, the gains in support derived from the same level of active behaviour are relatively limited. This difference in relationship strength may be a manifestation of the moderating effect of social media type. Specifically, as Xiaohongshu is an interest-based community that emphasises weak ties, users’ active behaviour is more readily converted into online social support; WeChat, on the other hand, is a social network based on strong ties within circles of acquaintances, where the support gained from the same level of active behaviour is relatively limited. These differences between the two social media platforms may constitute the boundary conditions of the mediating process. In other words, when users utilise Xiaohongshu, their efficiency in obtaining online social support is significantly higher than when using WeChat; the type of social media moderates the conversion efficiency of this “compensation pathway”. However, whilst the moderating effect in the first stage was significant, this difference was attenuated when it came to its impact on overall well-being, suggesting that the differences observed in the first stage were insufficient to reverse the overall pattern. This finding raises two thought-provoking questions: firstly, although Xiaohongshu users derive greater online social support from their use of the platform, this increase is modest compared to the direct negative effects. In other words, even if social media were to be optimised along the “compensation pathway”, it would still be unable to alter the overall pattern whereby “losses outweigh compensation”. Secondly, the negative outcomes associated with excessive use are consistent across social media platforms; whether on WeChat or Xiaohongshu, the time loss, social comparison and cognitive overload resulting from high-intensity social media use are similar. Indeed, the more extensive display of lifestyles on Xiaohongshu may even exacerbate upward social comparison^[30], thereby offsetting

its advantages in terms of support acquisition. Research has found that there is a significant negative correlation between problematic social media use and subjective well-being, with technology conflict and fatigue playing a chain-mediating role in this relationship^[31]. This mechanism is likely to be widespread across different social media platforms. This suggests that the nature of excessive use being negatively associated with well-being is not altered by differences in social media ecosystems; rather, it is an inherent characteristic of the act of using social media itself, rather than a flaw specific to any particular social media platform.

This finding may challenge the popular view that ‘interest-based communities are healthier than socialising with acquaintances’. Although Xiaohongshu is more effective in terms of ‘receiving support’, this efficiency advantage has not translated into higher subjective well-being. The results of this study suggest that the ‘benefits’ of social media are not sufficient to offset its uncontrolled ‘excess’. For the average user, reducing aimless, excessive use may be more meaningful than switching to a different social media platform.

4.4. Limitations of the Study and Future Prospects

This study has the following limitations, which require further refinement in future research.

Firstly, the cross-sectional design limits causal inference. This study employed a questionnaire-based approach to collect data, with all variables measured at a single point in time; consequently, it is not possible to establish causal relationships between the variables. Although a mediating model was constructed based on theoretical assumptions, causal inference in the strict sense still requires validation through longitudinal or experimental studies. Future research could employ a cross-lagged design or empirical sampling to examine the dynamic relationship between social media use and well-being on a finer temporal scale.

Secondly, the self-report method may introduce bias. As all data were collected via participants’ self-reports, issues such as social desirability, recall bias or common-method bias may arise. Although Harman’s one-factor test indicated that common-method bias was not significant, future research could combine behavioural data (such as the duration of social media use as recorded in the app’s background, or objective records of ‘likes’ and comments) or peer reports to

validate the findings of this study using multi-source data.

Thirdly, the representativeness of the sample is limited. The participants in this study were primarily users of WeChat and Xiaohongshu, with women accounting for 82.3% of the sample, indicating a certain imbalance in the gender ratio. It remains to be seen whether the study’s conclusions are applicable to other social media platforms, such as Douyin and Weibo, as well as to a broader age range (such as middle-aged and older adults) and male populations. Future research could incorporate a wider range of social media platforms and a more gender-balanced sample to examine the boundary conditions of differences across social media ecosystems.

5. Conclusions

This study draws the following conclusions: (1) The intensity of social media use is a significant negative predictor of subjective well-being, with a significant and substantial direct negative effect; (2) Online social support plays a suppressing role between the two variables; its indirect positive effect can only offset approximately 15.6% of the direct negative effect, indicating an extremely limited compensatory role; (3) The type of social media platform exerts a significant moderating effect in the first stage of the mediation process; Xiaohongshu users derive greater gains in online support from higher usage intensity than WeChat users, supporting the first-stage moderation effect, although the overall moderated mediation effect was not significant.

Author Contributions

Conceptualization, M.C. and J.Y.; methodology, M.C. and J.Y.; software, M.C.; validation, J.Y., B.C. and K.L.; formal analysis, M.C.; investigation, M.C.; resources, J.Y.; data curation, M.C., B.C. and K.L.; writing—original draft preparation, M.C.; writing—review and editing, J.Y., B.C. and K.L.; visualization, M.C.; supervision, J.Y.; project administration, J.Y.; funding acquisition, J.Y. All authors have read and agreed to the published version of the manuscript.

Funding

The authors declare that financial support was received for the research and publication of this article. This study

was sponsored by the Education Science Research Project of Beijing Union University “Optimization and Application Exploration of Immersive Virtual Reality Practice Teaching Platform for Future Psychological Teachers” (JK202506).

generation of scientific content. All AI-assisted outputs were critically reviewed, revised, and edited by the authors. The authors take full responsibility for the integrity, accuracy, and originality of the work presented in this manuscript.

Institutional Review Board Statement

Ethical review and approval were waived for this study due to the exclusive use of anonymized, non-identifiable human data, no intervention or interaction with participants, no collection of sensitive personal information or involvement of commercial interests, and no foreseeable risk of physical or psychological harm.

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability Statement

For access to the data of this study, please contact the corresponding author with a reasonable request.

Acknowledgments

The first author would like to express sincere gratitude to her graduate supervisor for continuous support, guidance on the research direction, and assistance with the initial data analysis. We also thank all the participants who took part in this study for their time and cooperation. We hope our findings will offer the journal and its readers insightful perspectives on the relationship between social media use and subjective well-being.

Conflicts of Interest

The authors declare no conflicts of interest.

AI Use Statement

During the preparation of this manuscript, the authors used DeepSeek solely for language refinement and polishing of written expressions. No AI tools were used for data analysis, statistical processing, interpretation of results, or

References

- [1] Diener, E., Suh, E.M., Lucas, R.E., et al., 1999. Subjective well-being: Three decades of progress. *Psychological Bulletin*. 125(2), 276–302.
- [2] Ellison, N.B., Steinfield, C., Lampe, C., 2007. The benefits of Facebook “friends:” Social capital and college students’ use of online social network sites. *Journal of Computer-Mediated Communication*. 12(4), 1143–1168.
- [3] Kross, E., Verduyn, P., Demiralp, E., et al., 2013. Facebook use predicts declines in subjective well-being in young adults. *PLoS ONE*. 8(8), e69841.
- [4] Twenge, J.M., Joiner, T.E., Rogers, M.L., et al., 2018. Increases in depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science*. 6(1), 3–17.
- [5] Verduyn, P., Lee, D.S., Park, J., et al., 2015. Passive Facebook usage undermines affective well-being: Experimental and longitudinal evidence. *Journal of Experimental Psychology: General*. 144(2), 480–488.
- [6] Frison, E., Eggermont, S., 2016. Exploring the relationships between different types of Facebook use, perceived online social support, and adolescents’ depressed mood. *Social Science Computer Review*. 34(2), 153–171.
- [7] Oh, H.J., Ozkaya, E., LaRose, R., 2014. How does online social networking enhance life satisfaction? The relationships among online supportive interaction, affect, perceived social support, sense of community, and life satisfaction. *Computers in Human Behavior*. 30, 69–78.
- [8] Nabi, R.L., Prestin, A., So, J., 2013. Facebook friends with (health) benefits? Exploring social network site use and perceptions of social support, stress, and well-being. *Cyberpsychology, Behavior, and Social Networking*. 16(10), 721–727.
- [9] Przybylski, A.K., Weinstein, N., 2017. A large-scale test of the goldilocks hypothesis: Quantifying the relations between digital-screen use and the mental well-being of adolescents. *Psychological Science*. 28(2), 204–215.
- [10] Festinger, L., 1954. A theory of social comparison processes. *Human Relations*. 7(2), 117–140.
- [11] Zhang, C.A., Tang, L., Liu, Z., 2023. How social media usage affects psychological and subjective well-being: Testing a moderated mediation model. *BMC Psychology*. 11(1), 286.

- [12] MacKinnon, D.P., Krull, J.L., Lockwood, C.M., 2000. Equivalence of the mediation, confounding and suppression effect. *Prevention Science*. 1(4), 173–181.
- [13] Zhao, X., Lynch Jr., J.G., Chen, Q., 2010. Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*. 37(2), 197–206.
- [14] Shrout, P.E., Bolger, N., 2002. Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*. 7(4), 422–445.
- [15] Peng, Z., 2024. A Study on the Impact of Social Media Use on Left-Behind Children's Access to Online Social Support [Master's Thesis]. Dongbei University of Finance and Economics: Dalian. China. DOI: <https://doi.org/10.27006/d.cnki.gdbcu.2024.000284> (in Chinese)
- [16] Diener, E., 1984. Subjective well-being. *Psychological Bulletin*. 95(3), 542–575.
- [17] Diener, E.D., Emmons, R.A., Larsen, R.J., et al., 1985. The satisfaction with life scale. *Journal of Personality Assessment*. 49(1), 71–75.
- [18] Watson, D., Clark, L.A., Tellegen, A., 1988. Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*. 54(6), 1063–1070.
- [19] Zhu, B., 1995. An Introduction to the POMS Scale and the Abridged Chinese Norms. *Journal of Tianjin Institute of Physical Education*. (1), 35–37. DOI: <https://doi.org/10.13297/j.cnki.issn1005-0000.1995.01.007> (in Chinese)
- [20] Sheldon, K.M., Elliot, A.J., 1999. Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology*. 76(3), 482–497.
- [21] Xiong, C., Xu, Y., 2009. Reliability and validity of the Chinese version of the Life Satisfaction Scale in the general population. *Chinese Journal of Health Psychology*. 17(8), 948–949. DOI: <https://doi.org/10.13342/j.cnki.cjhp.2009.08.026> (in Chinese)
- [22] Hayes, A.F., 2014. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. Guilford: New York, NY, USA.
- [23] Ansari, S., Iqbal, N., Asif, R., et al., 2024. Social media use and well-being: A systematic review and meta-analysis. *Cyberpsychology, Behavior, and Social Networking*. 27(10), 704–719.
- [24] Vogel, E.A., Rose, J.P., Roberts, L.R., et al., 2014. Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture*. 3(4), 206–222.
- [25] Chai, H.-Y., Niu, G.-F., Lian, S.-L., et al., 2019. Why social network site use fails to promote well-being? The roles of social overload and fear of missing out. *Computers in Human Behavior*. 100, 85–92.
- [26] Doktorova, D., El Mghari, S., Tokovská, M., 2024. Social media engagement and identity: The loneliness and fomo experience of young people. *Communication Today*. 16(1), 138–154.
- [27] Li, J.-B., Feng, L.-F., Wu, A.M.S., et al., 2021. Roles of psychosocial factors on the association between online social networking use intensity and depressive symptoms among adolescents: Prospective cohort study. *Journal of Medical Internet Research*. 23(9), e21316.
- [28] Yang, Q., Feng, Y., 2024. Relationships between social networking sites use and subjective well-being—A meta-analysis and meta-analytic structural equation model. *Heliyon*. 10(12), e32463.
- [29] Liao, S., Cui, X., He, T., 2024. Does Internet Use Increase Well-being?—A Longitudinal Study Based on the China Family Panel Survey (CFPS). *Journal of Journalism and Communication Studies*. 31(4), 96–113+128. (in Chinese)
- [30] Meier, A., Johnson, B.K., 2022. Social comparison and envy on social media: A critical review. *Current Opinion in Psychology*. 45, 101302.
- [31] Yan, J., Fu, M., Huang, B., et al., 2023. The relationship between problematic social media use and subjective well-being: The chained mediating role of technology conflict and fatigue. *Research in Psychology and Behaviour*. 21(6), 824–831.