

Passive/Active WeChat Use and Subjective Well-being among Chinese Parents: A Serial Mediation Model

Peng Wang^{1,2}, Sharifah Sofiah Syed Zainudin¹, Nurul Ain Mohd Hasan¹, Shaohua Huo¹, Xiaoyan Wang¹

¹Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Malaysia

²Zhejiang Yuexiu University, China

Correspondence: Peng Wang, Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Malaysia; Zhejiang Yuexiu University, China.

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Abstract

Previous studies have explored the direct impact of social media use on subjective well-being (SWB), but they have not fully grasped the potential mechanisms underlying this relationship. As a result, this study aims to investigate the direct relationship between passive/active WeChat use and SWB, as well as how upward social comparison, perceived social support, and self-esteem serially mediate the relationship between passive/active WeChat use and SWB among Chinese parents. The current study, which used a sample of 403 Chinese parents, found no significant relationship between passive WeChat use and SWB, but there was a significant relationship between active WeChat use and SWB. Moreover, upward social comparison and self-esteem have a significant and negative serial mediating effect on the relationship between passive WeChat use and SWB. Additionally, the study found a significant and positive serial mediating effect of perceived social support and self-esteem on the relationship between active WeChat use and SWB. We hope the suggestions will contribute to a deeper understanding of parents' use of WeChat and SWB.

Keywords: WeChat, upward social comparison, perceived social support, self-esteem, Subjective Well-being (SWB)

1. Introduction

WeChat is currently widely used as a common tool for individuals in China to engage with one another daily, making it the country's most popular social media platform (Pang, 2022). This has also inspired new forms of parental engagement with social media, namely WeChat as an important platform for parenting. Early research has suggested that social media use is first associated with or causes changes in certain psychological or introspective variables, such as increased or decreased self-esteem, social comparison tendencies, or social support, which then leads to other psychological outcomes, such as subjective well-being (SWB) or mental health.

However, a large number of studies have explored the direct impact of social media use on SWB without identifying potential mechanisms that could explain this relationship. Furthermore, the relationship between social media use and an individual's SWB may not be direct (Chen et al., 2016). Parents' SWB can be predicted by upward social comparison, perceived social support, or self-esteem, which may also act as mediating variables (Glatz et al., 2023; Schmuck et al., 2019).

To more thoroughly examine the relationship between parental WeChat use and SWB, the current study intends to expand on previous research by investigating the relationships between parental passive/active WeChat use, upward social comparison, perceived social support, self-esteem, and SWB. This study examines two examines effects: upward social comparison and self-esteem in the relationship between passive WeChat use and SWB, and perceived social support and self-esteem in the relationship between active WeChat use and SWB among Chinese parents.

2. Theoretical Foundation

2.1 Subjective Well-being (SWB)

Subjective well-being (SWB) is defined as an individual's overall evaluation of their quality of life based on internal standards, which includes a comprehensive assessment of life satisfaction and its various components, as well as a psychological state dominated by positive emotions (Diener, 1984). SWB is primarily consisting of three components: life satisfaction, frequent positive affect, and infrequent negative affect (Diener, 1984; Diener et al., 2009; Jebb et al.,

2020). SWB is a multidimensional notion that includes various indicators. In recent years, researchers have regarded life satisfaction as a primary component of SWB (Diener et al. 2018).

Previous researchers investigated SWB of parents from three dimensions: marital quality, parental satisfaction, and life satisfaction (Ishii-Kuntz & Ihinger-Tallman, 1991). This study focuses on two dimensions—life satisfaction and parental satisfaction—for the following reasons: First, life satisfaction, as a basic factor of SWB, reflects an individual's cognitive evaluation of their overall life circumstances (Diener, 1984). Second, parental satisfaction highlights the uniqueness of the parenting role, offering insights into parents' psychological experiences and role identity while fulfilling parenting responsibilities (Ishii-Kuntz & Ihinger-Tallman, 1991). The combination of these two dimensions not only captures the primary sources of parents' SWB, but also provides a more targeted research perspective on the unique challenges of parenting, providing a theoretical foundation for enhancing parental well-being.

Research on the SWB of kindergarten and elementary school parents is important because it has a profound effect not only on the family atmosphere and parent-child relationships, but also on children's emotional development and educational quality (Hua & Lin, 2019). During the vital stages of their children's growth, parents frequently confront multiple challenges, including educational pressure, societal expectations, and family responsibilities. Parents experience satisfaction and joy when they have a sense of purpose in life, their basic needs are met, their emotions are more positive, and their social roles are improved (Nelson et al., 2014). Improving SWB can assist parents in better dealing with these issues, thereby optimizing the family education environment. At the same time, this research can give empirical evidence for mental health interventions, educational policy optimization, and family support system enhancement, promoting social harmony and educational equity (Huang, 2017).

2.2 The Role of Passive/Active Use of WeChat on SWB

An individual's passive and active use of social media has varying effects on their psychological and social aspects. Existing research focuses on the negative consequences of negative social media use (Shaw et al., 2015), such as how negative use, particularly targeted or random browsing of social content, is linked to lower social capital and SWB (De Vries & Kühne, 2015; Oh et al., 2013).

Meanwhile, an increasing number of studies have revealed that people's passive social media use (such as simply viewing their own or others' posts without direct interactions) can negatively affect their overall SWB. Furthermore, passive social media use can lead to upward social comparison and jealousy, which reduces SWB (Chen et al., 2016; Verduyn et al., 2017).

Conversely, active social media use, such as posting new pictures or updating one's status, can lead to social support and positive feedback, thereby contributing to an improvement in SWB (Verduyn et al., 2017). Consequently, when analyzing hypotheses about the active social media use, many studies attribute its positive effects on SWB to providing necessary information and emotional support (Appel et al., 2016).

A small but rising body of research has linked social media use to a decrease in SWB among individuals, particularly parents (Verduyn et al., 2017). Parents may merely browse material on social media, seeing only the "highlights" of other people's lives (Sidani et al., 2020). Bartholomew et al. (2012) discovered that moms who visit and manage their Facebook profiles are more likely to feel parenting stress. Similarly, Schoppe-Sullivan et al. (2016) discovered that moms who often use Facebook may seek external validation of their parental role and exhibit perfectionism, making them more prone to depressive symptoms. Passive WeChat use has also been linked to higher negative moods and lower SWB (Chen et al., 2019). This suggests that increased social media use among parents may serve as a mechanism for seeking external recognition, ultimately undermining their SWB.

Furthermore, parents' active WeChat use facilitates information exchange. Hua and Lin (2019) see WeChat as a means for spreading information among parents. Social media allows parents to communicate information about their children, parenting experiences, and skills with other parents (Niela-Vilén et al., 2014). The usage of WeChat, particularly parent groups, increases the interaction between families and schools by allowing both to participate in their children's educational activities in real time. WeChat integrates families and schools by facilitating information flow, creating a close bond through the exchange of information (Zhang, 2020).

Communication allows families and schools to communicate, gradually establish mutual understanding, and eventually reach a consensus. Even after kids have returned home, parents can contact teachers by text, voice message, photos, and videos (Huang, 2017). This demonstrates the importance of WeChat's role in providing social support for parents dealing with issues their children confront. Based on this, the current research hypothesizes that:

H1: There is relationship between passive WeChat use and SWB of Chinese parents.

H2: There is relationship between active WeChat use and SWB of Chinese parents.

2.3 The Mediating Role of Upward Social Comparison and Self-Esteem

The widespread use of social media in recent years has changed how individuals communicate and had a significant effect on mental health and SWB. WeChat, a social networking site that many Chinese parents use, is closely associated with their emotional and mental health. It is thought that passive WeChat use, such as passively browsing other's posts, leads to upward social comparison, in which people evaluate themselves against those who seem to have better lives or accomplishments (Festinger, 1954). Studies have shown that upward social comparison frequently results in negative emotions like anxiety, envy, and inferiority, thereby undermining individuals' SWB (Vogel et al., 2014).

Upward social comparison has a particularly strong effect on SWB among parents. Amaro et al. (2019) and Sidani et al. (2020) found that when parents believe their talents are inferior to those of other parents, they are more likely to experience higher levels of depression and lower parenting satisfaction. This connection can be attributed to negative perceptions of the social media environment, which are characterized by feelings of exclusion and increased negative emotions. Glatz et al. (2023) further highlighted that negative emotions triggered by comparisons with other parents are more closely linked to passive social media use and a general tendency toward social comparison. Additionally, mothers may encounter greater challenges during the transition to parenthood, including significant declines in self-esteem and decreased satisfaction with interpersonal relationships (Van Scheppingen et al., 2018; Twenge et al., 2003).

The chain mediation model provides a comprehensive approach to understanding these complex psychological mechanisms. Existing research has found that upward social comparison has an indirect effect on SWB by reducing self-esteem (Zhang et al., 2020). Based on this, the current study proposes that upward social comparison and self-esteem serve as chain mediators in the relationship between passive WeChat use among Chinese parents and their SWB. This not only expands our understanding of the mechanisms underlying SWB, but it also provides theoretical support for improving parents' mental health and optimizing social media use. This leads to the following hypotheses:

H3: Upward social comparison and self-esteem have a serial mediating effect on the relationship between passive WeChat use and SWB among Chinese parents.

2.4 The Mediating Role of Perceived Social Support and Self-Esteem

The mediating roles of perceived social support and self-esteem in the relationship between positive social media use and SWB have garnered intense study attention. Valkenburg et al. (2006) identified a chain mediation effect resulting from the frequency and overall tone of received reactions, implying that increased online activity frequency may boost self-esteem through the frequency of positive social feedback, influencing SWB. Similarly, Marengo et al. (2021) found a positive relationship between the frequency and intensity of positive feedback received and SWB, with self-esteem serving as a mediator.

Furthermore, active social media use can have an indirect influence on self-esteem due to the mediating effect of social support (Chen et al. 2016). Researchers generally agree that perceived social support contributes to enhancing self-esteem (an individual's evaluation of their self-worth), and subjective well-being is an outcome of self-esteem (Marengo et al., 2021). Additionally, people perceive more support from family members or close friends than from acquaintances, and this perceived social support promotes both self-esteem and SWB (Carr et al., 2015; Granovetter, 1973; Wilson et al., 2020). Thus, in the relationship between active social media use and SWB, perceived social support and self-esteem may act as chain mediators. Consequently, this paper proposes the following hypotheses:

H4: Perceived social support and self-esteem have a serial mediating effect on the relationship between active WeChat use and SWB among Chinese parents.

Taken together, the present study employs the conceptual framework combining passive/active WeChat use, upward social comparison, perceived social support, self-esteem and SWB. This study also investigated the sequential mediation effects of upward social comparison, perceived social support, and self-esteem on the relationship between passive WeChat use and SWB among Chinese parents (Fig 2.1).

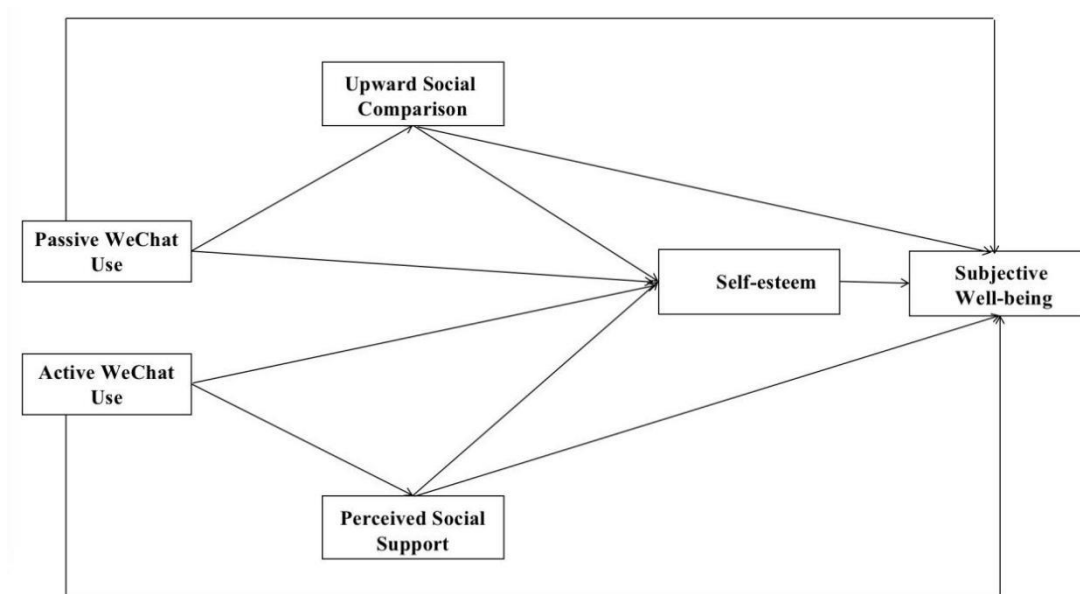


Figure 2.1. Conceptual framework of passive/active WeChat use and SWB among Chinese parents: a serial mediation model

3. Methods

3.1 Procedure

The current study used an online survey conducted in April at kindergartens and primary schools across China using Wen Juan Xing (<https://www.wjx.cn/>). Permission was obtained from Ethics Committee for Research Involving Human Subjects of Universiti Putra Malaysia (JKEUPM-2024-032). 435 parents participated in the survey. Each participant who successfully submitted a completed and valid questionnaire within the required time was eligible to receive a 5 RMB reward (approximately 0.7 USD).

3.2 Measures

3.2.1 Passive/Active WeChat Use

Following Pang (2021), we used the modified passive and active WeChat use scale originally designed for Facebook use (Ng, 2019). Passive usage contains information consumption without direct exchanges with other users, whereas active usage refers to online activities that involve direct exchanges (Verduyn et al., 2017; Ng, 2019). Four items associated with passive WeChat use included “looking at friends’ status updates,” “scrolling through the news feed,” “viewing friends’ pages,” and “looking at friends’ pictures”. Similarly, four items associated with active WeChat use included “posting status updates,” “replying to and commenting on friends’ posts,” “sending private messages to friends,” and “sharing links”. Participants were asked about the frequency of their engagement in these specific activities while using WeChat on a five-point Likert scale, ranging from 1 = never to 5 = always.

3.2.2 Upward Social Comparison

The study conducted by Schmuck et al. (2019) utilized three items from SNSs to assess upward social comparison. These items were modified to specifically capture parents' experiences of upward social comparison. Participants were asked to indicate their agreement with statements such as: “I often think that other parents have a happier life when I read their WeChat moments or see their photos”. A 5-point Likert-type scale was implemented, with 1 representing “strongly disagree” and 5 representing “strongly agree.” Scores were summed, with higher scores indicating a greater tendency for upward social comparison.

3.2.3 Perceived Social Support

In accordance with Han and Yang (2023), we implemented the modified family subscale of the Multidimensional Scale of Perceived Social Support (Zimet et al., 1988) to evaluate the social support perceptions of participants while utilizing WeChat. The modified family subscale consisted of four items, each of which began with the adverbial clause “When you are feeling down or in a difficult parenting situation...”. Participants were required to indicate their level of agreement on a 5-point scale (ranging from 1, strongly disagree, to 5, strongly agree) for each question. Higher values on the scale indicated a stronger feeling of social support.

3.2.4 Self-esteem

Rosenberg's (1965) Self-esteem Scale was employed to evaluate the self-esteem of the parents. On a 5-point Likert scale, participants were asked a series of questions regarding their feelings about their self-worth, with responses ranging from 1 (strongly disagree) to 5 (strongly agree) in this 10-item scale. The scale has demonstrated adequate validity in assessing psychosocial health (Barlow et al., 2002).

3.2.5 Subjective Well-being

As for SWB, this study uses the summing standardized scores of life satisfaction and parenting satisfaction. Life satisfaction was assessed on a 5-point Likert scale based on the Satisfaction with Life Scale (Diener et al., 1985). The respondents were asked to indicate their agreement ranging from 1 (strongly disagree) to 5 (strongly agree) with five statements. Parenting satisfaction was measured by Parenting Sense of Competence (Gilmore & Cuskelly, 2023), which include parenting efficacy and parenting satisfaction. Parenting satisfaction scale (6 items) was used in this study. After adding up the scores, high scores correspond to higher SWB.

3.3 Data Analysis

The data was analyzed using SPSS 29.0 and AMOS 28.0. In order to ascertain the measurement model's goodness of fit, we conducted a confirmatory factor analysis prior to the development of the structural model. We used Chi-square(χ^2)/df, RMSEA, CFI, TLI and PGFI to determine the model fit indices. It has been suggested that fit is acceptable when the ratio of the chi-square test statistic to the degrees of freedom is not larger than 3 (MacIver & Carmines, 1981). L. Hu and Bentler (1999) considered RMSEA value lower than 0.08 can be acceptable. The CFI value above 0.90 is considered acceptable (L. Hu & Bentler, 1995), and the TLI follows the same rules of thumb as the CFI (Bentler & Bonett, 1980). Moreover, according to Mulaik et al. (1989), a good model should have a PGFI index of 0.5 or more.

4. Results

4.1 Participant Characteristics and Correlation Analysis

Out of the 435 participants in the survey, 403 were valid for further statistical analysis because the rest had a response time of less than 100 seconds and gave consistent answers (response rate = 92%). Most respondents are mothers (65.8%), with the majority of age between 31 to 35 years old (35.5%). Respondents live in Hangzhou where married are among the highest rate (86.1%). Meanwhile, the highest education levels are undergraduate college (39.5%), and family income are between RMB 10,000 to 19,999 (31%). Full-time employment parents are the highest respondents (47.4%). Majority of parents have one child (54.6%) and the educational stage of children are primary school (47.9%).

Table 4.1. Means, standard deviations (SD), reliabilities and inter-correlations among study variables

Measure	Mean	SD	Alpha	AWU	PWU	PSS	USC	SE	SWB
AWU	3.34	1.324	0.878	1					
PWU	2.64	1.345	0.891	-.508**	1				
PSS	3.33	1.342	0.871	.638**	-.566**	1			
USC	2.76	0.069	0.882	-.583**	.527**	-.622**	1		
SE	3.34	1.336	0.951	.552**	-.528**	.623**	-.600**	1	
SWB	3.31	1.349	0.929	.532**	-.483**	.585**	-.530**	.525**	1

PWU = Passive WeChat Use, AWU = Active WeChat Use, USC = Upward Social Comparison, PSS = Perceived Social Support, SE = Self-esteem, SWB = Subjective well-being.

α = Cronbach's alpha.

** Correlation is significant at the 0.01 level (2-tailed).

In addition, we calculated the means, standard deviations (SD), Cronbach's alpha coefficients, and bivariate correlations (see Table 4.1). The Cronbach's alpha values for all variables ranged from 0.871 to 0.951, indicating good reliability in the current study. The results showed that all variables were significantly correlated.

4.2 Structural Model and Hypotheses Testing

The results from SEM analyses were as follows. Chi-square (χ^2) / df (< 3.0) is 2.989, RMSEA (< 0.08) value is 0.07; CFI (> 0.90) value is 0.909; TLI (> 0.90) value is 0.901; and PGFI (> 0.50) value is 0.657. These values meet the standards for each fit index, indicating that the measurement model fit is good.

In terms of Fig 4.1, the results indicated that the negative impact of passive WeChat use on SWB is insignificant ($\beta = -0.118, p > 0.05$). Therefore, H1 is not supported. Conversely, active WeChat use has a positive and significant impact on SWB among Chinese parents ($\beta = 0.156, p < 0.05$). Thus, H2 is supported.

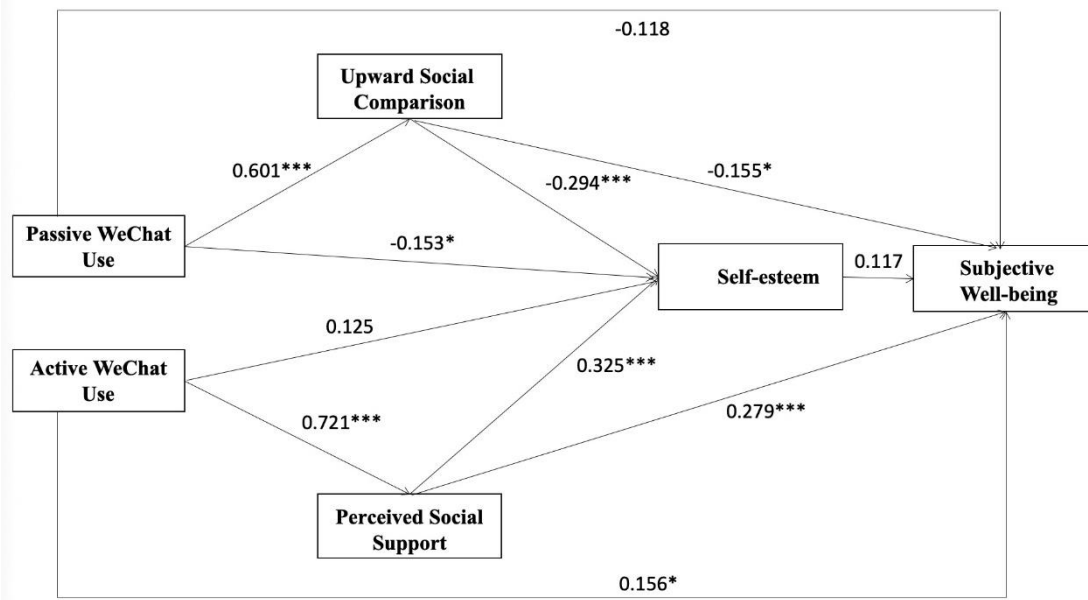


Figure 4.1. Serial mediation of upward social comparison, perceived social support and self-esteem in the relationship between passive/active WeChat use and SWB among Chinese parents with standard path coefficients

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The bootstrapping procedure indicated that the indirect effect was statistically significant. Based on Table 4.3, a significant negative effect of upward social comparison and self-esteem on the relationship between passive WeChat use and SWB among Chinese parents is observed, indicating that the reduction in self-esteem caused by upward social comparison further decreases SWB. The combined indirect effects demonstrate that the relationship between passive WeChat use and SWB among Chinese parents is serially mediated by upward social comparison and self-esteem. Therefore, H3 is supported. It is worth noting that the direct effect of passive WeChat use on SWB is not significant, indicating that the mediation effect is the full mediation.

Table 4.3. Mediating effects analysis in the structural equation model

Parameter	Estimate	95% CI	p-value
PWU → USC → SWB	-0.057	(-0.115, -0.018)	0.003**
PWU → SE → SWB	-0.012	(-0.031, -0.002)	0.008**
PWU → USC → SE → SWB	-0.013	(-0.030, -0.004)	0.008**
AWU → PSS → SWB	0.121	(0.064, 0.215)	0.000***
AWU → SE → SWB	0.009	(0.001, 0.027)	0.024*
AWU → PSS → SE → SWB	0.017	(0.005, 0.038)	0.006**

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: PWU = Passive WeChat Use, AWU = Active WeChat Use, USC = Upward Social Comparison, PSS = Perceived Social Support, SE = Self-esteem, SWB = Subjective Well-being.

Moreover, the mediated effect of perceived social support and self-esteem on the relationship between active WeChat use and SWB among Chinese parents is positive, indicating an indirect effect that links active WeChat use and SWB through perceived social support and self-esteem. Furthermore, the combined indirect effects demonstrate that among Chinese parents, perceived social support and self-esteem serially mediate the relationship between active WeChat use and SWB, thereby highlighting the sequential enhancement of SWB through these factors. Thus, H4 is supported, and the mediation effect is a partial mediation, as the direct effects of active WeChat use on SWB is significant.

5. Discussion

The objective of this study was to examine the direct relationship between passive/active WeChat use and the SWB, as well as the serial mediation effects of upward social comparison and self-esteem on the relationship between passive WeChat use and SWB. Additionally, the serial mediation effects of perceived social support and self-esteem on the relationship between active WeChat use and SWB among Chinese parents were examined.

First, this study found no direct association between passive WeChat use and SWB. Although extensive literature suggests that negative social media use typically leads to a decrease in SWB—especially when individuals use social media as a tool for passing time, which can result in over-reliance, social comparison, and feelings of loneliness, eventually affecting mental health (De Vries & Kühne, 2015; Oh, Ozkaya, & LaRose, 2013; Shaw et al., 2015)—this study found no significant direct relationship between passive WeChat use and SWB. This finding could be related to the motivations and patterns of social media use within this group.

Research indicates that parents use WeChat mostly to receive parenting information, maintain relationships with family and friends, and engage in social interactions, rather than for entertainment (Hua and Lin, 2019; Zhang, 2020). As a result, even when use social media passively, parents engage with social media differ from entertainment-driven use. This distinction may explain why their usage of social media has less of an impact on their SWB than it does on younger individuals.

Additionally, parents may possess strong emotional regulation and coping abilities while dealing with social media, particularly in handling negative emotions brought by platforms like WeChat. Many parents have developed mature emotional management skills during the parenting process; they typically use social media to maintain their social support networks rather than being too consumed in negative information or social comparisons (Zhang, 2020). Therefore, emotional regulation abilities and social support may help parents' SWB to be less affected even if they use social media passively, resulting in no significant negative relationship.

Secondly, parents who actively use WeChat—by sharing life updates, participating in group chats, and interacting with others—can gain emotional support, information exchange, and psychological comfort, all of which improve their SWB. Previous research indicates that active social media use generally improves SWB, particularly in terms of establishing and maintaining social relationships, receiving social support, and engaging in emotional exchange (Niela-Vilén et al., 2014). Posting updates, commenting on friends' postings, and participating in social interactions might strengthen individual's sense of belonging and social connectedness, thereby improving SWB (Appel et al., 2016; Verduyn et al., 2017). Parents frequently utilize social media—particularly WeChat—to stay in touch with family and friends, exchange parenting experiences, and seek support (Hua and Lin, 2019; Zhang, 2020). Such interactions not only reduce feelings of loneliness, but also allow for emotional expression and the development of support networks, which improves their SWB.

Furthermore, when using social media, parents tend to have a strong sense of purpose and positivity. They are more likely to use social media to get parental information, engage in family and social activities, and communicate their emotions and life status. According to research, such positive social interactions reduce stress, enhance emotional support, and improve people's SWB (Huang 2017; Zhang 2020). Parents, in particular, can benefit from sharing parenting experiences or participating in online parenting communities through platforms such as WeChat, which can increase their social support networks and improve their SWB. As a result, parents' active WeChat use improves their SWB in this study.

Thirdly, this study investigated the role of self-esteem and upward social comparison in mediating the relationship between parents' passive WeChat use and their SWB. The results of this study are consistent with earlier studies, which show that upward social comparison and self-esteem have a serial mediating effect on the relationship between passive WeChat use and SWB among Chinese parents.

However, because there is no direct relationship between passive WeChat use and SWB, this mediation effect presents as full mediation. Passive WeChat use, in particular, can cause upward social comparison among parents, with witnessing others' advantages in parenting, life, or career leading to feelings of inadequacy. Such upward social comparisons frequently cause unpleasant emotions and a decrease in self-evaluation, significantly reducing self-esteem (Vogel et al., 2014; Amaro et al., 2019; Sidani et al., 2020). This psychological effect is more obvious for parents of kindergarten and primary school children, who are in a period of intense attention on their children's education and family development, making them more vulnerable to the influence of others' achievements.

Thus, upward social comparison and self-esteem fully mediates the effects of passive WeChat use on parents' SWB. Passive WeChat use has an indirect impact on SWB via psychological processes such as social comparison and self-esteem (Zhang et al., 2020; Glatz et al., 2023). This suggests that parents' emotional and psychological states have

an important mediating role. It is worth noting that, while self-esteem played an important role in the chain mediation effect, it did not have a direct relationship with SWB, implying that the SWB of parents is more influenced by the external environment and family situation.

Finally, this study found that perceived social support and self-esteem play a chain mediating role in the relationship between parents' positive use of WeChat and their SWB.

Individuals who actively use social media tend to experience a higher sense of social support and self-esteem (Valkenburg et al., 2006; Marengo et al., 2021). In line with earlier research, this study found that active WeChat use and SWB is mediated sequentially by parents perceived social support and self-esteem. Moreover, it represents partial mediation, as active WeChat use positively and significantly affects the SWB of Chinese parents.

Active WeChat use, such as participating in parent groups, communicate with friends and family, and accessing educational resources, can enhance parents perceived social support (Chen et al., 2016; Hua and Lin, 2019; Zhang, 2020). A positive psychological consequence that is especially evident during active WeChat use is the increase in perceived social support, which further raises parents' self-esteem by bolstering their sense of self-worth and acknowledgment of their achievements (Wilson et al., 2020).

However, as with earlier findings, the effect of self-esteem on SWB via the pathway of perceived social support is that no direct relationship exists between self-esteem and SWB

(Wilson et al., 2020). This research implies that encouraging positive social activities and perceived social support is critical for improving parents' SWB. Meanwhile, efforts should be made to improve the interactive environment on social media platforms such as WeChat in order to assist parents in establishing and maintaining supportive social networks.

6. Limitations

This study has limitations. First, due to the nature of cross-sectional data, the causal relationships proposed in the model may be limited. Therefore, more longitudinal and experimental studies are required, as these more robust research designs allow researchers to draw more exact conclusions about causal relationships and short- and long-term effects.

Another imitation of this study is that the sample size is insufficient to reflect all WeChat users who are parents. The sample consisted of parents with preschool and elementary school-aged children. While the WeChat user base is large, an ideal sample would include people from various backgrounds (Bae et al., 2020). Future research could expand to include more types of parents and consider other caregivers and the children themselves. For example, including instructors in the study could lead to a more thorough knowledge of the relationship between media consumption and social responsibility. Furthermore, combining the viewpoints of parents, caregivers, children, and teachers may allow for deeper exploration of the impact of social media use on SWB.

Furthermore, while extensive research supports the model and the relationships between passive and active WeChat use, upward social comparison, perceived social support, self-esteem, and SWB, the distinction between "passive" and "active" use in social media research is still limited. Certain types of active social media use may not enhance SWB and might even lead to its decline (Verduyn et al., 2021). Similarly, passive social media use may elicit positive emotions, thereby positively influencing SWB (Meier et al., 2020).

Future research should further refine the categorization of passive and active usage patterns rather than simply classifying activities into browsing, posting, and interacting. Researchers should investigate the potential effects of WeChat use on SWB, considering factors such as social media content, sender, and recipient (Valkenburg et al., 2021). Future research could also use qualitative methods to explore the diversity of social media content and the heterogeneity of its reception effects, enabling a more comprehensive analysis of the unique impact of social media on parents.

7. Implications

Parents' usage of WeChat, whether passive or active, has a considerable effect on their SWB. This influence is not direct, but rather mediated by variables such as upward social comparison, perceived social support, and self-esteem. The chain mediation effect indicates that passive WeChat use negatively affects self-esteem and SWB through the mechanism of upward social comparison. Active WeChat use, on the other hand, increases social support, which raises self-esteem, resulting in enhanced SWB and a positive cycle (Wilson et al., 2020). Self-esteem appears as an important factor determining these consequences.

This finding is critical for understanding the relationship between parental mental health, social comparison, and social media activity. Interventions aimed at enhancing self-esteem and promoting healthier social media usage habits are essential. These insights are valuable for understanding the potential of social media to contribute positively to the mental health and social connections of Chinese parents.

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Authors contributions

Peng Wang and Shaohua Huo were responsible for study design and revising. Peng Wang, Shaohua Huo and Xiaoyan Wang were responsible for data collection. Peng Wang drafted the manuscript. Dr. Sharifah Sofiah Syed Zainudin and Dr. Nurul Ain Mohd Hasan revised it. All authors read and approved the final manuscript.

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Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Obtained.

Ethics approval

The Publication Ethics Committee of the Redfame Publishing.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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