



Social Media and Subjective Well-Being: The Moderating Role of Personality Traits

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Abstract

Social media has emerged as an important part of daily life for many people, with potential implications for subjective well-being. In this cross-sectional study, we investigated whether time spent on social media, social media stress, and social media self-regulation failure are associated with emerging adults' subjective well-being (positive affect, negative affect, and life satisfaction) and tested whether these links depended on participants' Big Five personality traits (extraversion, agreeableness, conscientiousness, emotional stability, and autonomy). A representative community sample of emerging adults (N=343; 42.3% men; $M_{\text{age}}=24.82$ years) completed self-report questionnaires. Consistent with the “Goldilocks hypothesis”, both too much and too little time spent on social media were associated with greater negative affect, with 45 minutes per day predicting the lowest negative affect. Moderation analyses revealed that time spent on social media was related to lower positive affect for participants low on extraversion. Social media self-regulation failure was related to lower positive and higher negative affect for participants with low agreeableness. Social media stress related to less negative affect for participants with low emotional stability, and to more negative affect for people with high emotional stability. These findings suggest that the impact of social media on emerging adults' well-being may depend in part on their personality traits.

Keywords Subjective well-being · Personality · Social media use · Social media stress · Social media self-regulation failure · Big five

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1 Introduction

The psychological effects of social media (websites and apps where you can view, post, and share photos, videos, and messages with others) are highly debated in both the academic literature and the public press. Haidt's (2024) "Anxious Generation" introduced the concept of a phone-based childhood and argued that individuals who hit puberty around 2009 (now emerging adults) have been "underprotected" in the virtual world, contributing to an international epidemic of mental illness. However, Haidt's strong claims have not gone uncontested. Haidt's perspective is challenged by researchers like Odgers (2024), who argue that Haidt's claims lack nuance and that there is no empirical evidence that social media causes widespread psychological harm.

Social networking sites are considered the fastest growing medium of communication, with 67.1% of people using social media worldwide (Statista, 2024), offering users an extensive network of acquaintances (Ellison et al., 2007). Research on social media use and its effects on subjective well-being has expanded rapidly (Tang et al., 2021; Valkenburg et al., 2021; Vuorre & Przybylski, 2023), yet findings remain inconsistent (Webster et al., 2021). Prior studies have largely examined overall usage patterns or the emotional impact of specific activities (Webster et al., 2021), often neglecting the interplay between different dimensions of social media use. This study addresses that gap by considering three inter-related aspects: time spent on social media, social media stress, and self-regulation failure. While time spent reflects overall exposure, social media stress captures the emotional strain associated with use, and self-regulation failure highlights difficulties in controlling engagement—together, these factors shape the complex relationship between social media use and subjective well-being. Moreover, this study advances the field by incorporating individual differences in personality, examining how Big Five traits moderate these relationships. Finally, we provide the first test of the digital Goldilocks hypothesis in emerging adults, examining whether moderate social media use balances its benefits and harms in this developmental stage.

1.1 Emerging Adulthood

Generation Z, often referred to by Haidt (2024) as the "anxious generation," includes individuals born between 1995 and 2010, most of whom are emerging adults (ages 18 to 30). Emerging adulthood is a transitional developmental phase between adolescence and adulthood, characterized by major developmental challenges in identity, work, love relationships, and parenthood domains (Arnett et al., 2014; Duffy, 2021; McGorry et al., 2024). Emerging adults today differ significantly from previous generations, due in part to constant internet access (Blanchflower et al., 2024; Haidt, 2024; Lukianoff & Haidt, 2019; McGorry et al., 2024). As "digital natives" (Munsch, 2021), this generation thrives in rapidly advancing technological environments (Dolot, 2018) and has a particularly strong need to share their experiences and perspectives with others through social media (Dobrowolski et al., 2022). In this study, we attempt to gain more insight in the subjective well-being of current emerging adults in relation to their engagement with social media.

1.2 Social Media Use and Subjective Well-Being

Subjective well-being is a key component in quality of life, defined by Anglim et al. (2020) as a composite of three components: high positive affect, low negative affect, and high life satisfaction. Findings on the relationship between social media use and subjective well-being are inconsistent (Valkenburg et al., 2021), with some studies showing positive outcomes, such as social support (Liu & Yu, 2013; Roberts & David, 2022), well-being (Wang et al., 2014; Zhang et al., 2019), and life satisfaction (Valenzuela et al., 2009), whereas others highlight negative outcomes, such as mental health difficulties (McGorry et al., 2024; Rasmussen et al., 2020; Vuorre et al., 2021) and lower subjective well-being (Brooks, 2015; Marttila et al., 2021; Wirtz et al., 2020). Some studies even suggest that abstaining from social media can enhance subjective well-being (Allcott et al., 2020), while the experience of cyberbullying on social media has been linked to decreased life satisfaction and suicidal ideation (Giumetti & Kowalski, 2022).

Valkenburg et al. (2021) emphasize the need for larger sample sizes, and accounting for risk and protective factors to better understand which individuals are particularly susceptible to the effects of social media use. Webster et al. (2021), suggest that while social media can positively impact subjective well-being, it also poses risks due to potential negative social interactions, such as ostracism and negative feedback. Emerging research suggests the “digital goldilocks hypothesis”, which proposes that an optimal amount of digital technology use balances the positive and negative effects of social media use. This hypothesis references the fairy tale “Goldilocks and the Three Bears” by Southey (1853), implying that the relationship between social media use and subjective well-being may be best characterized by a quadratic function (Jensen et al., 2019; Przybylski & Weinstein, 2017). According to this hypothesis, moderate use of technology is beneficial, whereas “overuse” (quasi problematic behaviour related to social media use; Orosz et al., 2016) can be harmful. There is preliminary evidence supporting this hypothesis in adolescent samples (Przybylski & Weinstein, 2017). However, the applicability of this hypothesis to emerging adults remains unexplored. Consequently, our first hypothesis proposes a quadratic relationship between time spent on social media and subjective well-being, aiming to contribute novel insights to the existing literature:

H1 Time spent on social media has a concave-downward quadrature relationship with positive affect and life satisfaction, and a concave-upward quadrature relationship with negative affect.

1.3 Personality and Subjective Well-Being

As we move forward, it is essential to recognize that the association between social media and subjective well-being may vary depending on individual differences. One key factor influencing this association is personality. Personality traits are defined as enduring patterns of thinking, feeling and behaving (Costa et al., 2019) that are relatively stable over time and situations (Anglim et al., 2020). Personality traits can shape how individuals experience and interpret various life events, including their social media interactions. The influential Big Five taxonomy states that personality can be captured by five traits: extraversion, agreeableness, conscientiousness, emotional stability and autonomy (also known as openness

to experience) (Costa et al., 2019). Recent meta-analytic findings by Bleidorn et al. (2022) indicate that the rank-order stability of personality traits increases significantly throughout early life, plateauing in young adulthood, and these stability increases coincide with mean-level changes towards greater maturity.

The relationship between personality and well-being is well-established. A recent meta-analysis (Anglim et al., 2020) reported an average correlation between personality traits and well-being of ($r = -.46$), followed by extraversion ($r = .37$). Mean meta-analytic correlations were 0.36 for conscientiousness, 0.25 for agreeableness, and 0.19 for openness. In total, almost half of the variance in well-being was explained by personality domains (46%) and facets (53%). In this article, we aim to replicate these findings in our Dutch speaking, community sample of emerging adults, proposing the following hypothesis:

H2 High scores on the Big Five personality traits are positive predictors of subjective well-being.

1.4 Social Media Use, Personality and Subjective Well-Being

Given that personality traits influence how individuals navigate the world, including their social media use, it is reasonable to expect that they also play a crucial role in determining the effects of social media use on subjective well-being.

For instance, people with high levels of extraversion and agreeableness may derive greater social support and positive interactions from social media, these traits being characterized by sociability and prosocial behaviour, respectively (Anglim et al., 2020). In contrast, those high on conscientiousness, emotional stability and autonomy may be more vulnerable to the negative impacts of social media, as these traits are associated with a preference for goal-directed behaviour, emotional control and independence respectively, (Anglim et al., 2020; Liu & Campbell, 2017; 2020; Shensa et al., 2020). The interplay between personality factors and social media offers a valuable perspective for understanding why the impact of social media on subjective well-being varies across individuals. Therefore, our next set of hypotheses investigates how personality traits may moderate the relationship between time spent on social media and subjective well-being:

H3a Time spent on social media is positively associated with subjective well-being for individuals who score high on extraversion and agreeableness.

H3b Time spent on social media is negatively associated with subjective well-being for individuals who score highly on conscientiousness, emotional stability and autonomy.

We investigate these associations while also considering the broader impact of social media use, including social media stress and self-regulation failure.

1.5 Social Media Stress and Subjective Well-Being

Stress has long been known to decrease subjective well-being (Gillett & Crisp, 2017). With the rise of technology, a new type of stress emerged that mostly results from the high speed of technological change and its pervasive use, referred to as technostress (La Torre et al.,

2019; Nimrod, 2017; Şahin & Çoklar, 2009). Technostress includes psychological, physical and behavioral strain responses to the use of information and communication technology (ICT) (Salanova et al., 2013). Examples of definitions of technostress are: “a reflection of one’s discomposure, fear, tenseness and anxiety when one is learning and using computer technology directly or indirectly that ultimately ends in psychological and emotional repulsion...” (Wang et al., 2008, p. 3004) and “a negative psychological state associated with the use or threat of ICT use in the future. This experience is related to feelings of anxiety, mental fatigue, skepticism and inefficacy” (Salanova et al., 2007, p. 1).

Whereas multiple studies have addressed the relationship between technostress and subjective well-being in working environments (e.g., Li et al., 2023; Singh et al., 2022), Salo and colleagues (2019) argue that technostress in the context of personal use of ICT presents challenges that are usually not considered in organizational studies. Without the external structure and goals provided in organizational use of technology, personal use reflects user’s self-regulation strategies, biases, and goals. Previous research has indicated a relationship between increased time spent on social media and psychological stress through compulsive behaviors, social interaction anxiety, materialism, and external locus of control (Hsiao, 2017; Lee et al., 2014). The relationship between technostress induced by social media, specifically, and subjective well-being has not yet been investigated, thus leaving a gap in the literature. We believe this type of stress to be an underexposed component of technostress that deserves attention, as it has the potential to negatively relate to individuals’ well-being.

This study aims to bridge this gap by investigating the relationship between social media stress and subjective well-being. Social media stress may not only result from excessive use but also stem from qualitative aspects of interactions on these platforms. As a negative outcome, social media stress stands in contrast to “time spent on social media,” which serves as a neutral usage measure. This distinction underscores the importance of precise conceptual framing to differentiate between the quantitative aspects of social media use and the qualitative impact on users’ well-being in social media research.

Building on the existing literature, we hypothesize that social media stress is directly associated with lower subjective well-being:

H4 Social media stress is associated with lower subjective well-being.

Furthermore, it is important to recognize individual differences in the experience of social media stress. Previous research indicates that personality influences subjective experiences (Besser & Shackelford, 2007). For instance, people scoring high on extraversion experience more positive affect, whereas people high in neuroticism are liable to experience more negative affect for the same events. There is considerable evidence that personality traits predict whether people interpret the same experiences as challenging versus threatening (Shiner et al., 2023). Research has found negative associations between perceived stress and extraversion, conscientiousness, agreeableness, and openness (Besser & Shackelford, 2007; Ebstrup et al., 2011; Şahin & Çetin, 2017). In contrast, neuroticism is correlated positively with perceived stress (Shiner et al., 2023). Accordingly, we propose that the Big Five personality traits moderate the relationship between social media stress and subjective well-being, making people with high scores on the Big Five personality traits more resilient to stress and increasing their subjective well-being.

H5 Social media stress is negatively associated with subjective well-being for individuals who score lower on extraversion, agreeableness, conscientiousness, emotional stability, and autonomy.

1.6 Social Media Self-Regulation Failure and Subjective Well-Being

In addition to stress, self-regulation failure is increasingly recognized as a key mechanism linking social media use to well-being outcomes. While time spent on social media provides a quantitative measure and social media stress focuses on emotional strain, self-regulation failure addresses the behavioral and cognitive struggles individuals face when managing their social media use. Self-regulation failure offers unique insights that go beyond time spent on social media or social media stress by highlighting how difficulties in controlling social media use can disrupt personal goals (Du et al., 2018). For example, prolonged engagement with social media without interruptions, also known as “media stickiness” (Brinberg et al., 2023), has been shown to diminish task-performance by offering short-term gratification while interfering with long-term goals (Hofmann et al., 2012; le Roux & Parry, 2021; Meier et al., 2016; Siebers et al., 2024; Zahrai et al., 2022). Off-task media use is associated with depression, social anxiety, and stress (van der Schuur et al., 2015). As mentioned before, these mechanisms are particularly relevant in personal contexts where, due to lack of external structure, social media use relies solely on people’s own self-control mechanisms (Salo et al., 2019). As such, integrating the construct of social media self-regulation failure is vital to providing a nuanced understanding of how distinct aspects of social media use relate to subjective well-being.

Based on these considerations, we hypothesize:

H6 Social media self-regulation failure is negatively associated with subjective well-being.

Though understanding the direct relationship between self-regulation failure and subjective well-being is crucial, self-regulation processes vary significantly across people with different personality traits, as outlined by Hooker and McAdams (2003). For instance, people with high scores on conscientiousness often display goal-directed behavior, thus frequently engaging in self-regulation processes. Previous research also associates conscientiousness, agreeableness, and emotional stability with health promoting behaviors, which are prototypical self-regulation processes (Booth-Kewley & Vickers, 1994; Hampson et al., 2007). Whereas these traits promote positive outcomes, Legault and Inzlicht (2013) suggest that individuals highly engaged in self-regulatory activities may be more sensitive to self-regulation failure, leading to more pronounced negative outcomes. Comparably, we expect social media self-regulation failure to have a more negative effect on people low in extraversion, because individuals with high scores on extraversion are more reactive to positive emotions (Costa et al., 2019).

We therefore expect that personality traits will significantly shape the relationship between social media self-regulation failure and subjective well-being, as certain traits may amplify or mitigate the negative outcomes of self-regulation failure. This leads to our final hypothesis:

H7 Social media self-regulation failure is negatively associated with subjective well-being for individuals who score low on extraversion, agreeableness, conscientiousness, emotional stability, and autonomy.

1.7 Objectives of the Current Study

This study aims to address key gaps in the literature by investigating the nuanced relationship between social media use and subjective well-being in emerging adults. In this context, we pursue three aims:

The first aim of this study is to examine the direct relationships between time spent on social media, social media stress, and social media self-regulation failure and subjective well-being in a proportional stratified community sample of young adults. We use a quadratic term for time spent on social media to investigate whether there is an optimal amount of time to spend on social media.

Second, the direct relationships between Big Five personality traits and subjective well-being are examined, aiming to replicate earlier findings. Our third aim is to investigate the Big Five personality traits as potential moderators of the relationship between time spent on social media, social media stress, social media self-regulation failure, and subjective well-being. Because there are still inconsistent findings about the relationship between social media use and subjective well-being, this study is an important addition to the existing literature. The results have the potential to contribute to a better understanding of the complex relationship between the use of social media, personality and subjective well-being. Furthermore, research into possible negative effects of stress and self-regulation failure resulting from social media use could pave the way towards interventions aiming to increase happiness. To the best of our knowledge, there has been no previous research exploring these relationships in young adults, which makes our study a unique addition to the current literature. The results fill existing research gaps and contribute to understanding how to improve young adults' quality of life based on their personality differences.

2 Methods

All aspects of the study design, methods, data exclusions and analysis plan were pre-registered at the Open Science Framework (https://osf.io/xwzy2/?view_only=d1638bd4f36a475cbe82430ef450e2f8). The analytic code will be made available in an open repository upon publication. [The data will be made available upon acceptance for publication.]

2.1 Participants

The current study is part of the ongoing longitudinal Flemish Study on Parenting, Personality and Development, consisting of nine waves (see Prinzie et al., 2003 for a detailed description of the sampling procedure). In 1999, a proportional stratified sample of elementary-school-aged children ages 4 to 7 years and attending regular schools and their families was randomly selected (i.e., the names of the children who had their birthday before March 31 were arranged alphabetically; the second and the last child but one were selected). Strata were constructed according to geographical location, sex and age. Number of children living

at home ranged from one to seven (mean = 2.4). Percentages of mothers (M) and fathers (F) with various educational levels were as follows: elementary school, M 0.9, F 3.0; secondary education, M 41.1, F 43.3; non-university higher education M 45.2, F 34.4; university M 12.8, F 19.2. These percentages are representative of the Belgian population. The board of the Katholieke Universiteit Leuven approved the study (OT 98/12 ZKA 2922) Informed consent was obtained from all participants.

For the current study, data were used from the ninth wave (2018), as this wave covered emerging adulthood and contained the measures of interest. Participants were 366 emerging adults. We report how we obtained our sample size, all data exclusions, all manipulations, and all measures in the study. Twenty-three participants were excluded due to missing data, resulting in a sample size of 343 participants (age range = 21–27 years, $M = 24.82$, $SD = 1.15$; 145 men (42.2%) and 199 women (57.8%)). All participants were of Belgian nationality.

2.2 Measures

Time spent on social media. Participants were asked how many hours per day they spend on social media (minimum zero, maximum twelve hours per day). The instructions were as follows: *By social media we mean websites and apps where you can view, post, and share photos, videos, and messages with others. You can view, receive, and send messages on these platforms. Examples of social media include social networking sites like Instagram, Facebook, LinkedIn, Pinterest, and Twitter, as well as apps/sites like WhatsApp, SMS, Facebook Messenger, and Snapchat.* A self-reported measure of social media use was included because it offers valuable insight beyond mere usage duration by capturing individual perceptions and evaluations, which influence well-being (Wolfers, 2024). While objective data provide precise metrics, they fail to account for cognitive and emotional factors, as well as differences in active versus passive use. Self-reports therefore provide a more comprehensive understanding of social media's effects.

Social media stress. Emotional stress responses to social media use were measured using four questions from the National Media Passport in the Netherlands (2017). The questions were answered using a five-point Likert scale ranging from 1 (*not correct at all*) to 5 (*totally correct*). Example questions are: “I feel uneasy when I hear or notice that I receive a message/notification and I cannot view it immediately” and “I feel restless when I notice that I cannot keep track of all messages / notifications on my smartphone” ($\alpha = 0.78$).

Social media self-regulation failure. Social media self-regulation failure was measured using the Self-report SMSCF-scale developed by Du and colleagues (2018). The questionnaire consists of three items, answered on a five-point Likert scale ranging from 1 (*never*) to 5 (*very often*). The items all complete the following sentence: “How often do you give in to the need to use social media (e.g., Instagram, Pinterest, WhatsApp), even when using social media at that time...”. An example item is: “... conflicts with other goals (e.g., doing things for school, study, work or other tasks)” ($\alpha = 0.86$).

Personality. Young adults rated their personality using the Five-Factor Personality Inventory (FFPI; Hendriks et al., 1999). The questionnaire consists of 100 sentence items, 20 items for each dimension: extraversion, agreeableness, conscientiousness, emotional stability (versus neuroticism) and autonomy (also labelled as openness to experience). Autonomy refers to intellectual autonomy, emphasizing the ability to make independent decisions, resist social pressures to conform, and maintain an independent opinion on various topics (Peru-

gini & Ercolani, 1998). The autonomy factor is not equivalent to the NEO-PI-R Openness factor. Autonomy is related to determined self-control and independent decision-making. Openness to experience aligns with the lexical Intellect factor but is broader, encompassing unconventionality and behavioral flexibility (McCrae & Costa, 1997). The statements are rated on a five-point Likert scale ranging from 1 (*not at all applicable*) to 5 (*entirely applicable*). α ranged from 0.93 (Emotional Stability) and 0.85 (Agreeableness).

Positive and negative affect. The emotionally driven component of subjective well-being was measured using the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). The PANAS is a self-report measure, consisting of two ten-item mood scales, measuring positive affect and negative affect during the past week. The items are rated on a five-point Likert scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). $\alpha=0.89$ (positive affect); $\alpha=0.87$ (negative affect).

Life satisfaction. The cognitively driven component of subjective well-being was measured using the Satisfaction with Life Scale (SWLS; Diener et al., 1985), a five-item scale measuring global cognitive judgments of one's life satisfaction. The items are rated on a seven-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Example items are "I am satisfied with my life" and "In many ways my life is close to my ideal". $\alpha=0.84$.

2.3 Statistical Analyses

First, descriptives among all variables were calculated using IBM SPSS Statistics version 27. Then, *Mplus* version 8.10 (Muthén & Muthén, 1998–2017) was used to test multivariate path models. For each dependent variable (positive affect, negative affect, and life satisfaction), time spent on social media, social media stress, social media self-regulation failure, and the Big Five personality traits were entered in Model 1 (main effects), depicted in Figure A1. Also, a squared measure for time spent on social media was included to investigate a possible curvilinear relationship in which there is an optimum amount of time spent on social media. In Model 2, 45 interaction terms between time spent on social media, social media stress, and social media self-regulation failure and each of the Big Five personality dimensions were added. Sex was added as a covariate in both models (1 = male, 2 = female). The predictor and moderator variables were standardized to reduce multicollinearity and to facilitate the interpretation of interaction effects (Cohen et al., 2003). To take into account any non-normality in our data, we used a robust Maximum Likelihood Estimator (MLR), and Full Information Maximum Likelihood (FIML) was used to deal with missing data. To interpret significant interaction effects, the Johnson-Neyman technique was used to inspect the Regions of Significance (RoS) of personality wherein the relationships between the predictors and outcome variables reached significance (Hayes & Matthes, 2009; Johnson & Neyman, 1936). In line with recommendations by Roisman et al. (2012), for the significant interaction effects, scores at 2SD below and above the sample mean on personality dimensions were used to derive simple regression lines for the effects of time spent on social media, social media stress, or social media self-regulation failure on positive affect, negative affect, or life satisfaction.

3 Results

3.1 Descriptive Statistics

Descriptive statistics for all the study variables are presented in Table A1.

3.2 Main Effects of Social Media and Personality on Subjective Well-Being

To examine all main effects, sex, time spent on social media, social media stress, social media self-regulation failure, and the Big Five traits were entered all together as predictors of positive affect ($R^2=0.396$, $p<.001$), negative affect ($R^2=0.442$, $p<.001$), and life satisfaction ($R^2=0.368$, $p<.001$; Tables 1, 2 and 3, Model 1). Model 1 had a perfect fit to the data (i.e., a saturated model). Model results revealed that time spent on social media was not significantly related to positive affect, negative affect or life satisfaction. Extraversion, conscientiousness, emotional stability, and autonomy however were significantly related to more positive affect. Furthermore, extraversion, agreeableness, and emotional stability were negatively associated with negative affect. Finally, women reported higher life satisfaction, as did people with higher scores on extraversion, conscientiousness, emotional stability, and autonomy. These findings partly confirm our second hypothesis. However, social media stress and social media self-regulation failure did not predict subjective well-being outcomes, rejecting our fourth and sixth hypotheses.

3.3 Moderation Effects of Personality Traits

In Model 2, we tested whether personality moderated the effect of time spent on social media, social media stress, and social media self-regulation failure on positive affect, negative affect, and life satisfaction, (Tables 1, 2, 3 and 4, Model 2). Hereto, three times fifteen interaction terms were added to the direct effects, to predict positive affect ($R^2=0.439$, $p<.001$), negative affect ($R^2=0.481$, $p<.001$), and life satisfaction ($R^2=0.400$, $p<.001$; Tables 1, 2 and 3, Model 2). The direct main effects that were significant in Model 1 were also significant in Model 2. However, in terms of main effects, Model 2 also found that men reported significantly more negative affect and that social media self-regulation failure was associated with more negative affect.

Moreover, the quadratic term of time spent on social media was a positively significant predictor of negative affect, suggesting a U-shaped curvilinear relationship between time spent on social media and negative affect when the linear and interaction effects were controlled (Figure A2). This result partially supports the Digital Goldilocks hypothesis (H1). To illustrate, people with median scores on time spent on social media reported lower negative affect than did those with lower or higher amounts of time spent on social media. Participants scoring 1.06 *SD* below the mean on time spent on social media experienced the least amount of negative affect, revealing that that was the optimal amount of time spent on social media with respect to its influence on negative affect. This turning point corresponded to a raw score of 0.75 h which is 45 min.

For *positive affect*, results of Model 2 revealed a significant interaction effect of time spent on social media with extraversion ($f^2=0.0049$), partly confirming H3a. Regions of significance (RoS) were plotted for the slope of time spent on social media on positive

Table 1 Model results for main (Model 1) and interaction effects (Model 2) of time spent on social media (SMtime), social media stress (SMS) and social media Self-Regulation failure (SMSRF) and personality on positive affect

	Positive affect				
	β	S.E.	95% CI		<i>p</i>
			LL	UL	
Direct effects (Model 1)					
Sex	−0.04	0.04	−0.12	0.03	0.319
SMtime	−0.06	0.06	−0.16	0.04	0.302
SMtime ²	−0.04	0.08	−0.17	0.09	0.604
SMS	0.05	0.05	−0.03	0.13	0.295
SMSRF	−0.01	0.06	−0.11	0.08	0.832
Extraversion	0.38	0.05	0.31	0.46	<0.001
Agreeableness	0.10	0.05	0.01	0.18	0.059
Conscientiousness	0.15	0.05	0.08	0.23	0.001
Emotional stability	0.38	0.05	0.30	0.45	<0.001
Autonomy	0.27	0.05	0.19	0.35	<0.001
Interaction effects (Model 2)					
Sex	−0.04	0.05	−0.12	0.03	0.369
SMtime	−0.06	0.06	−0.16	0.03	0.284
SMtime ²	−0.04	0.06	−0.15	0.07	0.533
SMS	0.04	0.05	−0.04	0.12	0.361
SMSRF	−0.03	0.06	−0.12	0.06	0.572
Extraversion	0.38	0.04	0.31	0.45	<0.001
Agreeableness	0.10	0.05	0.02	0.18	0.050
Conscientiousness	0.15	0.05	0.07	0.22	0.001
Emotional stability	0.38	0.05	0.30	0.46	<0.001
Autonomy	0.28	0.05	0.20	0.36	<0.001
SMtime*Extraversion	0.11	0.05	0.03	0.18	0.020
SMtime*Agreeableness	0.05	0.05	−0.03	0.13	0.296
SMtime*Conscientiousness	−0.10	0.05	−0.18	−0.01	0.067
SMtime*Emotional Stability	0.05	0.05	−0.03	0.13	0.316
SMtime*Autonomy	−0.03	0.05	−0.12	0.06	0.571
SMS*Extraversion	0.00	0.05	−0.08	0.08	0.979
SMS*Agreeableness	−0.04	0.05	−0.12	0.05	0.442
SMS*Conscientiousness	−0.01	0.04	−0.08	0.06	0.780
SMS*Emotional Stability	−0.01	0.05	−0.09	0.06	0.763
SMS*Autonomy	−0.07	0.05	−0.15	0.02	0.177
SMSRF*Extraversion	0.03	0.05	−0.05	0.11	0.492
SMSRF*Agreeableness	0.10	0.05	0.02	0.19	0.041
SMSRF*Conscientiousness	0.00	0.04	−0.07	0.08	0.933
SMSRF*Emotional Stability	0.01	0.05	−0.07	0.09	0.805
SMSRF*Autonomy	0.01	0.05	−0.08	0.09	0.906

Note: SMtime=time spent on social media, SMS=social media stress, SMSRF=social media self-regulation failure

Table 2 Model results for main (Model 1) and interaction effects (Model 2) of SMtime, SMS, and SMSRF and personality on negative affect

	Negative affect				
	β	S.E.	95% CI		<i>p</i>
			LL	UL	
Direct effects (Model 1)					
Sex	−0.07	0.05	−0.15	0.00	0.106
SMtime	−0.01	0.06	−0.11	0.09	0.904
SMtime ²	0.09	0.06	−0.01	0.20	0.151
SMS	−0.04	0.05	−0.12	0.04	0.407
SMSRF	0.09	0.05	0.00	0.17	0.101
Extraversion	−0.21	0.05	−0.29	−0.12	<0.001
Agreeableness	−0.18	0.04	−0.25	−0.11	<0.001
Conscientiousness	−0.05	0.05	−0.13	0.03	0.305
Emotional stability	−0.62	0.04	−0.68	−0.55	<0.001
Autonomy	−0.04	0.04	−0.11	0.03	0.356
Interaction effects (Model 2)					
Sex	−0.10	0.05	−0.18	−0.02	0.034
SMtime	0.01	0.06	−0.08	0.10	0.874
SMtime ²	0.12	0.06	0.02	0.22	0.043
SMS	−0.03	0.05	−0.11	0.05	0.529
SMSRF	0.10	0.05	0.02	0.18	0.041
Extraversion	−0.20	0.05	−0.28	−0.12	<0.001
Agreeableness	−0.17	0.04	−0.24	−0.10	<0.001
Conscientiousness	−0.04	0.05	−0.12	0.04	0.431
Emotional stability	−0.59	0.04	−0.66	−0.52	<0.001
Autonomy	−0.03	0.04	−0.10	0.03	0.410
SMtime*Extraversion	−0.09	0.05	−0.17	−0.01	0.061
SMtime*Agreeableness	−0.01	0.05	−0.09	0.07	0.867
SMtime*Conscientiousness	0.03	0.05	−0.05	0.11	0.513
SMtime*Emotional Stability	0.05	0.04	−0.02	0.11	0.212
SMtime*Autonomy	−0.02	0.04	−0.09	0.05	0.709
SMS*Extraversion	−0.01	0.05	−0.10	0.07	0.771
SMS*Agreeableness	−0.00	0.05	−0.08	0.07	0.972
SMS*Conscientiousness	0.01	0.04	−0.06	0.08	0.850
SMS*Emotional Stability	0.12	0.04	0.05	0.18	0.003
SMS*Autonomy	0.04	0.04	−0.03	0.11	0.333
SMSRF*Extraversion	0.08	0.06	−0.01	0.17	0.147
SMSRF*Agreeableness	−0.09	0.04	−0.16	−0.02	0.040
SMSRF*Conscientiousness	0.03	0.04	−0.03	0.10	0.400
SMSRF*Emotional Stability	−0.07	0.05	−0.15	0.01	0.138
SMSRF*Autonomy	0.04	0.05	−0.04	0.11	0.444

Note: SMtime=time spent on social media, SMS=social media stress, SMSRF=social media self-regulation failure

affect (Figure A3). The RoS indicated that, for participants scoring lower than -0.7 *SD* on extraversion ($n = 153$), time spent on social media was associated with lower positive affect. The strength of this effect increased when scores on extraversion decreased. Simple slope analyses revealed that $B(-2SD) = -0.28$, 95% CI $[-0.46 - -0.12]$, $p = .004$ and $B(2SD) = 0.11$

Table 3 Model results for significant main (Model 1) and interaction (Model 2) effects of SMtime, SMS, and SMSRF and personality on life satisfaction

	Life satisfaction				
	β	S.E.	95% CI		<i>p</i>
			LL	UL	
Direct effects (Model 1)					
Sex	0.13	0.05	0.05	0.20	0.010
SMtime	−0.02	0.07	−0.13	0.09	0.770
SMtime ²	−0.11	0.08	−0.24	0.02	0.148
SMS	0.05	0.05	−0.04	0.13	0.363
SMSRF	−0.04	0.06	−0.13	0.06	0.524
Extraversion	0.27	0.05	0.18	0.35	<0.001
Agreeableness	0.04	0.05	−0.04	0.13	0.426
Conscientiousness	0.14	0.05	0.05	0.22	0.009
Emotional stability	0.42	0.05	0.34	0.51	<0.001
Autonomy	0.23	0.05	0.15	0.31	<0.001
Indirect effects (Model 2)					
Sex	0.13	0.05	0.04	0.21	0.012
SMtime	−0.02	0.06	−0.12	0.09	0.792
SMtime ²	−0.13	0.07	−0.25	−0.02	0.063
SMS	0.04	0.05	−0.04	0.12	0.408
SMSRF	−0.04	0.05	−0.12	0.05	0.481
Extraversion	0.25	0.05	0.17	0.33	<0.001
Agreeableness	0.04	0.05	−0.03	0.12	0.332
Conscientiousness	0.15	0.05	0.07	0.24	0.004
Emotional stability	0.43	0.05	0.34	0.51	<0.001
Autonomy	0.24	0.05	0.16	0.32	<0.001
SMtime*Extraversion	0.09	0.05	−0.00	0.17	0.103
SMtime*Agreeableness	0.04	0.04	−0.04	0.11	0.410
SMtime*Conscientiousness	0.03	0.06	−0.08	0.13	0.671
SMtime*Emotional Stability	−0.02	0.06	−0.11	0.07	0.699
SMtime*Autonomy	−0.06	0.05	−0.14	0.02	0.208
SMS*Extraversion	−0.02	0.06	−0.12	0.07	0.711
SMS*Agreeableness	−0.04	0.05	−0.13	0.04	0.364
SMS*Conscientiousness	0.02	0.05	−0.07	0.10	0.740
SMS*Emotional Stability	−0.04	0.05	−0.11	0.04	0.420
SMS*Autonomy	−0.04	0.06	−0.13	0.06	0.502
SMSRF*Extraversion	0.03	0.06	−0.06	0.13	0.572
SMSRF*Agreeableness	0.06	0.06	−0.03	0.15	0.299
SMSRF*Conscientiousness	0.05	0.06	−0.05	0.14	0.398
SMSRF*Emotional Stability	−0.08	0.06	−0.18	0.01	0.147
SMSRF*Autonomy	0.04	0.06	−0.05	0.13	0.467

Note: SMtime=time spent on social media, SMS=social media stress, SMSRF=social media self-regulation failure

[-0.04 -0.25], $p=.216$. For positive affect, model results also revealed a significant interaction effect of social media self-regulation failure and agreeableness ($f^2=0.0064$), partly confirming H7. RoS for the slope of social media self-regulation failure on positive affect showed that social media self-regulation failure was related to lower positive affect for par-

Table 4 Summary of hypotheses and results

Hypothesis	Support
H1. Time spent on social media has a concave-downward quadratic relationship with positive affect and life satisfaction, and a concave-upward quadratic relationship with negative affect .	Partial
H2. High scores on the Big Five personality traits are positive predictors of subjective well-being.	Partial
H3a. Time spent on social media is positively associated with subjective well-being for individuals who score high on extraversion and agreeableness.	Partial
H3b. Time spent on social media is negatively associated with subjective well-being for individuals who score high on conscientiousness, emotional stability and autonomy.	Partial
H4. Social media stress is associated with lower subjective well-being.	No
H5. Social media stress is negatively associated with subjective well-being for individuals who score low on extraversion, agreeableness, conscientiousness, emotional stability and autonomy.	Partial
H6. Social media self-regulation failure is negatively associated with subjective well-being.	No
H7. Social media self-regulation failure is negatively associated with subjective well-being for individuals who score low on extraversion, agreeableness, conscientiousness, emotional stability and autonomy.	Partial

ticipants scoring lower than -2.40 *SD* on agreeableness ($n=5$) (Figure A4). The strength of this effect increased when scores on agreeableness decreased. Simple slope analyses showed that $B(-2SD)=-0.23$, $[-0.43 - -0.03]$, $p=.054$ and $B(2SD)=0.18$, $[0.00 - 0.36]$, $p=.104$. All other interaction effects for Big Five traits and social media variables predicting positive affect were not significant, partly rejecting H3, H5 and H7.

Not only did agreeableness moderate the relationship between social media self-regulation failure and positive affect, it also moderated the relationship between social media self-regulation and *negative affect* ($f^2=0.0101$), again partly confirming H7. The RoS revealed that for participants scoring below 0.06 *SD* above the sample mean, social media self-regulation failure was associated with more negative affect ($n=254$) (Figure A5). Simple slope analyses revealed that $B(-2SD)=0.28$, $[0.09 - 0.46]$, $p=.013$ and $B(2SD)=-0.07$ $[-0.21 - 0.06]$, $p=.382$. For negative affect, there also was a significant interaction effect of social media stress and emotional stability ($f^2=0.0122$), partly confirming H5. RoS revealed that social media stress was related to less negative affect for participants scoring below -0.78 *SD* on emotional stability ($n=68$) (Figure A6). This effect became stronger as values on emotional stability decreased. In contrast, for emerging adults scoring higher than 1.39 *SD* on emotional stability ($n=21$), more social media stress was related to more negative affect. This effect increased as values on emotional stability increased. Simple slope analyses revealed that $B(-2SD)=-0.25$, $[-0.40 - -0.10]$, $p=.006$ and $B(2SD)=0.19$, $[0.06 - 0.32]$, $p=.015$. All other interaction effects for Big Five traits and social media variables predicting negative affect were not significant, partly rejecting H3, H5 and H7.

Finally, for *life satisfaction* no significant interactions were found, again partly rejecting H3, H5 and H7.

In summary, hypotheses H1, H2, H3, H5, and H7 received partial support, while H4 and H6 were rejected (see Table 4). In this study, partial support for a hypothesis refers to cases where the observed results align to some extent with the hypothesized relationship but not fully.

4 Discussion

4.1 Social Media Use, -Stress, -Self-Regulation Failure and Subjective Well-Being

The aim of this study was to improve our understanding of the association between emerging adults' personality traits, their subjective well-being and the time they spent on social media, as well as their social media stress, and social media self-regulation failure. Our findings suggest that personality traits are often differentially associated with components of subjective well-being. Additionally, we found extraversion, agreeableness, and emotional stability to be moderators in relationships between social media variables and various components of subjective well-being, highlighting the nuanced interplay of individual personality traits and digital behaviors.

Our first aim was to examine the relationships between social media factors and well-being. Our results indicated that there was a curvilinear relationship between time spent on social media and negative affect, extending the “digital goldilocks hypothesis” to emerging adults, a population previously underrepresented in such studies (Jensen et al., 2019; Przybylski & Weinstein, 2017). Spending approximately 45 min per day on social media was the optimal amount with respect to its influence on negative affect. This quadratic relationship can most likely be explained by the fact that social media can have positive, as well as negative influences on subjective well-being (Odgers, 2024; Webster et al., 2021). We expect that, when spending too little time on social media, one misses out on important social factors such as support and the building and maintaining of relationships (Liu & Yu, 2013; Webster et al., 2021). However, when someone spends too much time on social media, we expect negative factors such as ostracism, negative feedback, and stress to take the upper hand (Brooks, 2015; Webster et al., 2021); social media use may also take time away from in-person interactions. That there is a so-called ‘sweet spot’ (Brailovskaia et al., 2023), where the ratio between positive and negative factors has the most beneficial outcomes for subjective well-being is therefore logical. According to our results, social media time did not relate to positive affect or life satisfaction.

We did not find evidence for direct relationships between social media stress and social media self-regulation failure and measures of subjective well-being, contrary to our fourth and sixth hypotheses. We therefore believe that social media stress and social media self-regulation failure do not have overall *direct* effects on subjective well-being.

4.2 Personality and Subjective Well-Being

Our second aim was to replicate results from previous personality research, suggesting that personality traits are differentially associated with components of subjective well-being. Our findings were largely in line with our proposed second hypothesis (H2), stating that personality dimensions are positively related to positive affect and life satisfaction, and negatively related to negative affect. Two out of five personality dimensions—extraversion and emotional stability—were related to all three outcomes. We found that extraversion was related to high positive affect and life satisfaction and low negative affect. The association between extraversion and subjective well-being may be attributed to the inherent tendency to experience more positive emotions as well as to the rewarding outcomes of extraverted behavior (Anglim et al., 2020; Suar et al., 2019).

Like extraversion, emotional stability was associated with all three components of subjective well-being. These associations can be explained by the internal resources for resilience of people high on emotional stability and by the tendencies of people low on emotional stability to experience more negative feelings such as anxiousness and depression and have greater reactivity to stressful events (Anglim et al., 2020; Roberts & Yoon, 2022; Suar et al., 2019). In our study, people high on agreeableness reported less negative affect. Ode and Robinson (2007) suggested that agreeableness is associated with the automatic self-regulation of negative thoughts and feelings, most likely explaining the relationship we found. Furthermore, Roberts and Yoon (2022) suggested that, in highly agreeable and conscientious individuals, subjective well-being is indirectly influenced through rewards or achievements or avoidance of conflicts and difficulties. This may also explain why conscientiousness was related to high positive affect and life satisfaction. Furthermore, individuals high on conscientiousness are more likely to achieve their goals, which in turn leads to greater subjective well-being (McGregor & Little, 1998). Finally, autonomy was associated with positive affect and life satisfaction. According to self-determination theory, autonomy is a universal psychological need, and it is therefore important for the achievement of happiness, influencing subjective well-being both directly and indirectly through material concerns (Deci & Ryan, 2008; Ng, 2014). Moreover, autonomy relates to people's expectations for self-efficacy and personal control, which is consistently associated with subjective well-being (Diener, 1984).

4.3 Personality as a Moderator

Our third aim was to investigate personality traits as possible moderators in the relationships between social media use, -stress and -self-regulation failure. Differential susceptibility to the negative effects of social media was found in depressed participants in a previous study (Shensa et al., 2020); namely, people with depressive symptoms reported more negative effects of social media experiences than a healthy control group. In the present study, three significant moderation effects were found among the 45 interactions that were investigated. Even though the large number of interactions investigated invites caution, the three found moderation effects are relevant. The effect sizes are small and in line with recent work in personality research (Baranger et al., 2023; Vize et al., 2023).

4.3.1 Extraversion, Time Spent on Social Media, and Positive Affect

First, extraversion was a moderator of the relationship between time spent on social media and positive affect. We found that, for participants with extraversion scores slightly below the sample mean, more time spent on social media resulted in less positive affect. This is partly in line with Hypothesis 3a, which states that for people high in extraversion, the relationship between time spent on social media and positive affect is positive, whereas for people low in extraversion this relationship is negative or non-significant. According to earlier research, social activity partially mediates the existing relationship between extraversion and positive affect (Lucas et al., 2008). However, in the study by Lucas and colleagues (2008), introverted and extraverted people reported similar boosts in positive affect when in social situations, though the study also stated that extraverted people tend to engage in the type of social activities that are most strongly correlated with positive affect, whereas

introverted people may choose different types of social activities. This might explain the moderation effect that we found. According to a systematic review by Bowden-Green and colleagues (2020), introverted people have a tendency to display less positivity online and include fewer social words in the content they create. In contrast, extraverts demonstrate a willingness to socialize by their use of the communicative functions including status updates, comments, and adding more friends (Wang et al., 2012). This links back to extant literature on the poor-get-poorer (and the rich-get-richer) hypothesis, stating that internet use relates to positive outcomes for people with more social welfare, such as extraverts, and negative outcomes for people with less social welfare, such as introverts (see e.g., Cheng et al., 2019; Kraut et al., 2002). We suspect that the explanation for the moderation effect we found may lie in the way social media is used by people low on extraversion: their behavior is related to less social interactions and connectedness, resulting in lower positive affect.

The study by Lucas and colleagues (2008) also stated that extraverted people report higher positive affect than introverted people regardless of the amount and type of social activity in which they have recently engaged. This might explain why we did not find a relationship between time spent on social media and positive affect in people with high scores on extraversion. There appears to be a direct link between extraversion and positive affect in which social activities, including social media use, are not influential factors. This is supported by the significant direct effect we found of extraversion on positive affect.

4.3.2 Agreeableness, Social Media Self-Regulation Failure, and Positive- and Negative Affect

The second and third moderation effects we found were those of agreeableness on the relationship between social media self-regulation failure and positive- and negative affect. This is in line with Hypothesis 7, stating that social media self-regulation failure results in lower positive and higher negative affect in people low on agreeableness, whereas for people high in agreeableness this relationship is weaker or non-significant. For people with low values on agreeableness, we found that social media self-regulation failure resulted in lower positive affect and higher negative affect. In previous research, agreeableness was found to be associated with the self-regulation of forms of negative emotionality including anxiety and depression (Ode & Robinson, 2007). This could explain why, for people low in agreeableness, we found relations between social media self-regulation failure and low positive- and high negative affect, whereas for people high in agreeableness these effects were not present. Agreeableness may offer protection against negative affect because agreeable individuals automatically down-regulate negative thoughts and emotions (Ode & Robinson, 2007). People low in agreeableness, however, do not have this buffer and therefore experience drops in positive affect when experiencing social media self-regulation failure. This finding highlights the importance of self-regulation skills for people low in agreeableness. For them, social media self-regulation skills, as well as emotional self-regulation skills, could result in higher positive affect.

4.3.3 Emotional Stability, Social Media Stress, and Negative Affect

Finally, the relationship between social media stress and negative affect was moderated by emotional stability. We expected a positive relationship between social media stress and

negative affect for people low in emotional stability, and a weaker or non-significant effect of social media stress on negative affect for people high in emotional stability. However, we found the exact opposite. For people low in emotional stability, social media stress resulted in less negative affect, whereas for people high in emotional stability, social media stress resulted in more negative affect. This is contradictory to earlier research which found that emotional stability is associated with resistance to stress (Alessandri et al., 2018; Strizhitskaya et al., 2019). However, Watson and Pennebaker (1989) concluded that emotional stability vs. neuroticism reflects differences in willingness to report negative things about the self. Our unexpected results may thus be due to the presence of rater bias. This would indicate that participants who are emotionally stable are less likely to report stress so the stress they do report is a lot more intense than that of people low in emotional stability. This intense stress is more likely to induce negative affect, which would explain the relationship we found. It should be noted that, according to our results, people high in neuroticism were likely to experience negative affect regardless of the social media stress they experience. Emotional stability plays an important role in the interpretation of events as stressful (Roberts & Yoon, 2022; Shiner et al., 2023). A second explanation for the moderation effect we found could therefore be that social media stress does not have a large impact on negative affect because there already is a baseline of negative affect among those low on emotional stability, whereas people high on emotional stability do not often face negative emotions. In fact, social media stress might be a distraction from the problems highly neurotic people are facing, explaining the decrease in negative affect when experiencing social media stress. On the other hand, we can conclude that social media stress can negatively affect even the most emotionally stable people.

In contrast with our predictions, personality traits did not moderate most of the links between the social media variables and well-being. We expected individuals to be differently susceptible to the effects of social media use, stress, and self-regulation failure based on their personality characteristics. We found that, other than the relationships described above, personality factors did not influence the relationship between social media factors and subjective well-being.

4.4 Limitations and Directions for Future Research

Several limitations should be mentioned. First, the cross-sectional nature of our study can only provide information about one specific moment in time, eliminating possibilities of drawing conclusions on the direction of effects. However, because this is such a new and cutting-edge topic in research, our study variables were only first measured in the most recent wave of the present longitudinal study. In potential future waves, these variables will also be included. This is also why we have been explorative with the number of interactions we examined. So, even though we found relevant interactions, there is a possibility of chance findings. To assess the interaction effect's statistical power, we performed post-hoc power analyses using the InteractionPoweR R package (Baranger et al., 2023). This tool enables users to analyze the power of interaction effects within cross-sectional regression models. Analyses indicated that, with a sample size of $N=343$ and an alpha level of 0.05, the study was significantly underpowered for detecting the interaction effects, with power levels of 0.28, 0.32, 0.71, and 0.47, respectively. This warrants caution in interpreting the

interactions we did find. Future research using larger sample sizes and a longitudinal design will help to tease apart the relationships among variables over time.

Another limitation is that our sample consisted solely of Western European families within the age range of 24 to 30 years. Previous research indicates that the effect of personality on the emotional component of subjective well-being is pancultural, whereas the influence of personality on life satisfaction (the cognitive component of subjective well-being) is moderated by culture (Schimmack et al., 2002). Future research should include participants with a diversity of cultural backgrounds to increase the generalizability of the findings. The interpretation of results must also account for the role of age in shaping social media's impact on well-being. Emerging adulthood is a critical life phase characterized by identity exploration, increased independence, and the formation of long-term habits (Arnett et al., 2014). Given that this developmental period involves heightened social engagement and digital connectivity, social media use may have distinct effects compared to older age groups. Future research should examine whether the observed relationships hold across different life stages, considering factors such as cognitive maturation, emotional regulation, and shifting social priorities over time. Understanding these age-related differences will provide a more nuanced perspective on how social media influences well-being across the lifespan.

Finally, the current study is based on offline personality measures. Future research should also include online personality descriptions to investigate the generalizability of our findings when considering digital self-presentation and online behavioral tendencies (see e.g., Bailey et al., 2020; Bunker & Kwan, 2024).

In discussing our limitations, it is important to consider how we measured time spent on social media, which we assessed using self-reported daily usage in hours. While self-reports are sometimes criticized for potential recall biases or social desirability effects (Zerbe & Paulhus, 1987), they remain a widely used and practical approach for estimating media consumption (Parry et al., 2021). Some researchers argue that objective measures, such as app usage data or screen time logs, offer greater accuracy in tracking digital behavior (Johannes et al., 2021). However, self-reports provide crucial insights that objective metrics alone cannot capture.

As Wolfers (2024) points out, perceptions of media use go beyond simple usage logs and include descriptive, cognitive, moral, and emotional components. These perceptions are socially constructed and play a role in shaping how media use affects mental health. Since self-reports inherently reflect these broader psychological dimensions, they offer valuable context for understanding how individuals interpret and evaluate their social media engagement.

Although our measure of time spent on social media was intended to quantify actual usage rather than subjective experiences, self-reports remain essential for assessing the psychological impact of social media use. Two individuals with the same screen time may perceive their usage differently: one might feel in control and experience positive effects, while another might view their usage as excessive and stress-inducing. To fully understand the relationship between social media and well-being, future research should incorporate both self-reported and objective measures, allowing for a more comprehensive perspective on how digital media use is experienced and interpreted.

5 Conclusion

The present study revealed that time spent on social media is an important predictor for negative affect; a U-shaped relationship between time spent and negative affect indicated that too little or too much time spent on social media may potentially increase negative affect, relative to a more moderate amount of time on social media. In addition, extraversion, agreeableness, conscientiousness, emotional stability and autonomy are important predictors for different components of subjective well-being. Although personality traits did not interact with the social media variables to predict well-being in most cases, our study found several notable moderation effects. Firstly, we found that time spent on social media was related to lower positive affect only for emerging adults scoring *low* on extraversion. Secondly, social media self-regulation failure was related to lower positive affect and higher negative affect only for participants with extreme *low* scores on agreeableness. Finally, social media stress was linked with less negative affect for people with *low* scores on emotional stability, and to more negative affect for people with *high* scores on emotional stability. In conclusion, to answer the questions posed at the beginning of this paper, no substantial effects of time spent on social media, social media stress, and social media self-regulation failure on subjective well-being could be observed, irrespective of the direction. Only people with high scores on neuroticism experience less negative affect when experiencing social media stress. These findings underscore the nuanced relationship between social media use, personality traits, and subjective well-being, highlighting the importance of personalized approaches in understanding and fostering mental health in the digital age.

However, it is important to acknowledge that our study was underpowered for detecting certain interaction effects, which may have limited our ability to identify more subtle moderation patterns. Given the complexity of the relationships between social media use, personality traits, and well-being, future research with larger, more diverse samples and longitudinal designs is necessary to validate and extend our findings. Replication studies will be crucial to determine the robustness of these effects and to further refine our understanding of how individual differences shape the impact of social media on mental health.

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Declarations

Competing Interests None.

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