

Journal Pre-proofs

The risk of social media addiction between the ideal/false and true self: Testing a path model through the tripartite person-centered perspective of authenticity

L. Monacis, M.D. Griffiths, P. Limone, M. Sinatra

PII: S0736-5853(21)00148-9
DOI: <https://doi.org/10.1016/j.tele.2021.101709>
Reference: TELE 101709

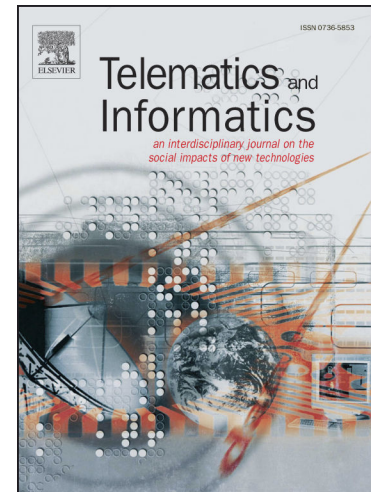
To appear in: *Telematics and Informatics*

Received Date: 7 March 2021
Revised Date: 4 August 2021
Accepted Date: 1 September 2021

Please cite this article as: Monacis, L., Griffiths, M.D., Limone, P., Sinatra, M., The risk of social media addiction between the ideal/false and true self: Testing a path model through the tripartite person-centered perspective of authenticity, *Telematics and Informatics* (2021), doi: <https://doi.org/10.1016/j.tele.2021.101709>

This is a PDF file of an article that has undergone enhancements after acceptance, such as the addition of a cover page and metadata, and formatting for readability, but it is not yet the definitive version of record. This version will undergo additional copyediting, typesetting and review before it is published in its final form, but we are providing this version to give early visibility of the article. Please note that, during the production process, errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

© 2021 Elsevier Ltd. All rights reserved.



**The risk of social media addiction between the ideal/false and true self:
Testing a path model through the tripartite person-centered perspective of authenticity**

Authors: Monacis, L.¹, Griffiths, M. D.^{2*}, Limone, P.¹, Sinatra, M.³⁻⁴

¹ Department of Humanities, University of Foggia, 71121 Foggia, Italy; e.mail: lucia.monacis@unifg.it

² Psychology Department, Nottingham Trent University, Nottingham NG1 4FQ, UK; e.mail:
mark.griffiths@ntu.ac.uk

¹ Department of Humanities, University of Foggia, 71121 Foggia, Italy; e.mail: pierpaolo.limone@unifg.it

³ Department of Educational Sciences, Psychology, Communication, University of Bari, 70121 Bari, Italy;
email: maria.sinatra@uniba.it;

⁴ University Institute SSML "N. Mandela", 75100 Matera, Italy

*Author to whom correspondence should be addressed.

**The risk of social media addiction between the ideal/false and true self:
Testing a path model through the tripartite person-centered perspective of authenticity**

Abstract

Much previous research has focused on the important role played by personality constructs in developing addictive use of social media. However, no investigation has yet been conducted examining the association between dispositional authenticity and online self-idealization, or authentic self-expression hypothesis and the risk of becoming addicted to social media. To fill this gap, the present study tested a path model that hypothesized direct and indirect effects of the three components of authentic personality on social media addiction via selfitis behaviors. Participants (N = 490; M_{age} = 20.31 years, SD = 3.76) recruited from high schools and universities completed a self-report survey assessing the three authentic personality traits, selfitis behaviors, and social media addiction. Results generally confirmed the supposed pathways. Direct and indirect effects on social media addiction were discussed by integrating the two mechanisms of compensation related to individual dispositions with the online self-idealizing and authentic self-expression hypothesis underlying selfitis behaviors. Whereas self-alienation was found to have positive direct and

indirect effects on the increasing of the likelihood of becoming addicted to social media, both traits of the tendency to accept external influence and authenticity showed indirect effects in opposite directions on the risk of addictive use of social media. Findings from the present study extended previous research by exploring inter-individual differences in predisposing and reinforcing factors associated with the online self-presentation.

Keywords: social media addiction; dispositional authenticity; selfitis; online authentic self-presentation; online idealized self-exhibition.

1. Introduction

Although social media platforms bring many advantages such as emotional support, self-expression, and community building (Dalvi-Esfahani et al., 2020), excessive use can sometimes lead to what has been termed 'social media addiction' (SMA), 'compulsive social media use', and 'pathological social media use' (Savci et al., 2020; Wegmann and Brandt, 2019), and has been considered by many in the field as a type of behavioral addiction (Andreassen, 2015; Chung et al., 2019; Monacis et al., 2017). Given the increasing prevalence of daily internet use, research has led to the development and validation of psychometrically robust scales to assess various online addictions such as social networking addiction (Kuss and Griffiths, 2011) and utilizing Griffiths' (2005) addiction components model (i.e., salience, mood modification, tolerance, withdrawal, conflict, and relapse), as well as to the analysis of the risk factors related to SMA.

Among recent studies concerning SMA, the most investigated variables have been gender (e.g., Aparicio-Martínez et al., 2020), social anxiety and loneliness (e.g., O'Day and Heimberg, 2021), fear of missing out (FoMO), compulsive use behavior, self-esteem, attention deficits, impulsivity, life satisfaction, empathy, and personality constructs (Dalvi-Esfahani et al. 2019; Dalvi-Esfahani et al. 2021). A careful reading of such studies shows that personality traits have generally been operationalized within the Five-Factor model framework (e.g., Andreassen et al. 2013; Andreassen and Pallesen, 2014; Kircaburun and Griffiths, 2018) or according to the Dark Triad/Tetrad traits (e.g., Kircaburun et al., 2018; Lee, 2019; Monacis et al., 2020).

2. Literature review

2.1. Self-presentation on social media

Further personality dispositions, such as dispositional authenticity, should also be taken into account in association with SMA and in light of the current contrasting perspectives concerning the desire to present the self on social media in an ideal way (self-idealization hypothesis) or in an authentic way (authentic self-expression hypothesis) (Bailey et al., 2020). Such ways of self-presentation can be simultaneously desired by individuals on the basis of their different psychological needs. Authentic self-expression allows users to affirm their true sense of self and enhances self-esteem and the sense of belonging. Consistently with this hypothesis, empirical evidence concerning online self-presentation has suggested a positive association between true/real self-presentation and greater subjective wellbeing (Bailey et al., 2020; Hu et al., 2019). Reinecke and Trepte (2014) reported that individuals presenting their true self on *Facebook* have higher levels of positive affect and lower levels of negative affect. Similarly, Grieve and Watkinson (2016) showed that individuals who were more authentic on social networking sites (e.g., *Facebook*) experienced better social connectedness and less stress, and Wang and colleagues (2018) found that adolescents with a high level of need for belongingness were more likely to increase their expression of their true selves on social networking sites. This positive outcome may also echo previous studies carried out into real world true self-presentation, showing significant associations between authenticity, self-esteem, and well-being (e.g., Wood et al., 2008).

Concerning the self-idealization hypothesis, self-idealization allows social media users to edit their online selves providing positive self-views, positive impressions of themselves in others, and resulting in positive psychological wellbeing. Conversely, self-idealizing behavior can be associated with feelings of internal conflict, psychological discomfort, and strong emotional reactions. In relation to these latter findings, a few studies have suggested that social media can facilitate false self-presentation, which leads to reduced wellbeing and, in extreme cases, to pathology. Indeed, a recent study reported that a strong need for approval was associated with higher levels of false/lying self-presentation, which significantly increased depression (Mun and Kim, 2021). Similarly, high levels of false/ideal self-presentation on *Facebook* have been found to be related to low self-esteem and an avoidant and anxious attachment style (Gil-Or et al., 2015). Shifting the attention from predictors to outcomes of online false self-presentation, Turel and Gil-Or (2019) demonstrated boundary conditions for the false-*Facebook* self-effects on self-image enhancement by re-posting/sharing behaviors of an individual's own content on social media, such as "selfies and images of the self" (p. 4). Following Turel and Gil-Or's (2019) suggestion to fill the gap on the effects of online false self-presentation, the present study focuses on interrelationships between dispositional authenticity and addictive use of social media in order to provide further insight into the underlying mechanisms facilitating the risk of SMA.

2.2. The tripartite person-centered perspective of authenticity

The theoretical framework of authentic personality utilized in the present paper was from the Winnicottian perspective, which distinguishes between the 'true self' and the 'false self'. The former is viewed as being more spontaneous, authentic, and real, whereas the latter is viewed as being more defensive and protective of the 'true self'. Rogers (1959) asserted that the ideal-self represents what an individual really wishes to be like and stems from a deviation of the real-self due to lacking positive regard in childhood experience. This leads to incongruity (i.e., inconsistency between the real self and the ideal self).

Based on Rogerian theory, Barrett-Lennard (1998) posited the person-centered tripartite conception of authenticity, which was later operationalized by Wood et al. (2008). This model comprises the interplay between three levels of an individual's experience: (i) primary experience, which includes the basic, unconscious or true states, emotions, and thoughts; (ii) symbolized awareness of those states, emotions, and thoughts; and (iii) outward behavior and communication referred to the lived experience. The first component of authenticity, *self-alienation*, concerns the extent to which individuals experience self-alienation emerging from the incongruity between the conscious awareness and actual experience (the true self). This dispositional trait reflects the subjective experience of individuals not knowing who they are and not feeling in touch with themselves and others. The second component, *authentic living*, refers to the extent to which individuals behave and express emotions consistently with the conscious awareness of physiological states, emotions, beliefs, and cognitions. Consequently, these individuals live in accordance with their own values and beliefs. The third component of authenticity, *accepting external influence*, refers to the extent to which individuals accept the influence of others and believe they ought to conform to others' expectations. The last aspect can take place between levels one and two and/or levels two and three and describes to what extent the social environment contributes to self-alienation and authentic living.

3. Problem statement

In the present study, such conceptualization of authentic personality is extended to online environments by linking it to selfitis behaviors (i.e., individuals' problematic behaviors related to the taking and sharing photos via social media) (Balakrishnan and Griffiths, 2017). Selfitis behavior is meant as an optimal venue/vehicle in engaging strategic self-presentation that refers to an online ideal/false self, in order to enhance users' profiles and maintain or fills the gap in social connections and interactions. The manipulation of online self-presentation, which is characterized by self- and/or others-orientated behaviors, meets self-reinforcement needs and may lead to a seemingly habitual or addictive use of social networking sites. Indeed, selfitis behavior has been considered as a bridge that, linking personality traits and social needs (Monacis et al, 2020; Gioia et al., 2021), may establish individuals' self-importance (Griffiths and Balakrishnan, 2018). This is in line with the Uses and Gratifications Theory paradigm (Katz and Blumler, 1974) as well as with the dual-factor

model of *Facebook* use (Nadkarni and Hofmann, 2012) based on two social needs (i.e., the need to belong and the need for self-presentation).

In addition, following Wegmann and Brand's (2019) model that describes the process of development and maintenance of problematic social networking use based on conditioned learning processes and on the impact of reinforcement mechanisms, the concept of selfitis behavior may be referred to as the experience of gratification and/or compensation of the aforementioned self-reinforcement needs. The model assumes that two different reinforcements resulting from the fear-driven/compensation-seeking hypothesis and the reward-driven hypothesis. The former hypothesis involving a negative reinforcement mechanism, identifies individuals who, characterized by low social competence and/or high (social) anxiety and motivated by negative drives of the compensation of their social deficits, are engaged much more frequently and intensively in social media use, consequently becoming more vulnerable to SMA. The latter hypothesis implying a positive reinforcement mechanism combined with the experience of gratification and satisfaction of social needs, explains how individuals with specific personality traits associated with high need of self-presentation, popularity, and impression management, may also develop problematic/addictive social media use. Both reinforcement mechanisms reflect respectively the social compensation hypothesis and the 'rich-get-richer' hypothesis, both developed by Valkenburg and Peter (2007).

4. Research contribution

In light of these aforementioned theoretical frameworks and empirical findings, and given the lack of studies taking into account authenticity as an additional personality disposition related to SMA, the present study examined individual differences in the authentic personality traits associated with selfitis behaviors and the risk of SMA. Consequently, specific pathways implicated in the development of SMA were analyzed by testing direct and indirect effects of the three components of authentic personality constructs on the risk of SMA via selfitis behaviors.

It was hypothesized that the risk of SMA would be directly influenced by high levels of the self-alienation trait (H1) and by the high propensity to accept external social influences (H2). For H1, the influence may be explained according to a fear-driven/compensation-seeking hypothesis. Like socially anxious and lonely individuals seeking social support and connectedness to others on social media (e.g., O'Day and Heimberg, 2021), individuals who are aware of being alienated/disconnected from themselves and others, tend to experience emotional distress, constant preoccupation, anxiety, and fear. Therefore, their lack of self-worth and their feeling different or separate from everyone else could lead to an excessive use of social media in order to reduce their fear of isolation and to seek relief. Consistently, driven by this sort of compensation mechanism, users are negatively reinforced and potentially become addicted to SMA.

Conversely, as for H2, the direct association might be explained in terms of a reward-driven hypothesis involving a positive reinforcement mechanism, that is individuals who live in accordance with others' expectations and need for social recognition and popularity, use social media to experience gratification and to satisfy their social need. This positive reward may increase the likelihood of being at higher risk of SMA. This in line with previous findings demonstrating that the interaction of specific psychosocial characteristics, such as narcissism, with positive reinforcement mechanisms may develop into an addictive use of social media (Monacis et al, 2020; Sherman et al. 2016; Sherman et al., 2018).

Beyond the direct paths, the hypothesized model also assumes two indirect paths within the self-alienation-SMA relationship (H3) and the tendency to accept external influence-SMA relationship (H4) via selfitis behaviors. This further supports the mediating role played by selfitis behavior in determining and maintaining the onset of addictive use of social media. By combining the two assumed approaches with the self-idealization hypothesis, selfitis behaviors could afford the opportunity to present an idealized self-image on social media, therefore positively influencing the associations between these two individual dispositions and the risk of becoming addicted to social media. Consequently, both traits driven by the two different mechanisms of reinforcement were expected to be positively associated with the increase of online self-manipulation (selfitis behaviors) involving a greater tendency to exhibit an ideal/false self in virtual platforms. Such association could lead to addictive use of social media. This concurs with the association between online false self-presentation and negative mental health reported in previous investigations (Mun and Kim, 2021; Turel and Gil-Or, 2019; Wright et al., 2018).

With regard to the trait of authenticity, a negative association of high score on this trait with addictive use of social media was hypothesized (H5). Indeed, individuals characterized by a high sense of self-worth that lead them to consider others' evaluation less important, tend to may be less inclined to addictive use of social media. Finally, an indirect and negative association between the two constructs via selfitis behaviors was also hypothesized in order to support the authentic online self-expression hypothesis. Here, high scores on this trait are hypothesized to be negatively related with low scores of selfitis behaviors (i.e., the online ideal/false self-presentation) that, in turn, could lead to lower the risk of becoming addicted to social media (H6). The final hypotheses were formulated in light of the aforementioned findings (Bailey et al., 2020; Grieve and Watkinson , 2016; Hu et al., 2019; Reinecke and Trepte, 2014; Wang et al., 2018) confirming the authentic self-expression hypothesis.

5. Method

5.1. Participants, procedure, and ethics

A convenience sampling technique was used to select participants due to their easy accessibility and proximity to the researchers. The initial sample comprised 520 undergraduate and school students recruited from different university courses (humanistic and social sciences courses) and from a secondary school next

to the university in Southern Italy. Written informed consent was obtained from the head of the school. Students aged over 18 years and attending the last year of the school were randomly selected from a pool of classes. A well-trained researcher was present in online classroom settings during data collection to explain the procedure. All participants voluntarily and anonymously completed an online survey, which took approximately 15 minutes during the traditional online lessons. Thirty cases were removed from data analysis due to missing data. A total of 490 students (Males = 228; $M_{\text{age}} = 20.31$ years, $SD = 3.76$) completed the survey. Data collection took place during November and December 2020. The study was approved by the Ethics Committee of the corresponding author's affiliation. Participants provided informed consent according to the Helsinki Declaration and the ethical rules of the Italian Psychological Association.

5.2. Measures

The battery of survey questions included a socio-demographic section related to questions concerning gender and age, as well as the three psychometric scales below.

The Authenticity Scale (AS: Wood et al., 2008) comprises 12 items that assess authentic personality and are rated on a seven-point Likert scale from 1 (*does not describe me at all*) to 7 (*describes me very well*). The AS comprises three subscales: Self-Alienation, Authentic Living, and Accepting External Influence, each of which comprises four items. A total score is calculated for each scale. Higher scores on the Self-Alienation subscale indicate higher levels of self-alienation (e.g., *"I feel out of touch with the 'real me'"*). Higher scores on the Authentic Living subscale indicate higher levels of living in accordance with one's beliefs (e.g., *"I think it is better to be yourself, than to be popular"*). Higher scores on the External Influence subscale indicate the tendency to accept external influence (e.g., *"I am strongly influenced by the opinions of others"*). The scale was translated into Italian for the present study. Forward and backward translation method was used following an internationally recognized standardized method (Beaton, Bombardier & Guillemin, 2000). As a result of CFA, the Italian AS demonstrated that the goodness of fit indices generated adequate values ($\chi^2 = 128.612$ $df = 51$, $p < .001$; RMSEA = 0.056 (CI 95% [0.044, 0.068]), SRMR = 0.053, CFI = 0.919). In the present study, the Cronbach's alphas of the total scale and subscales ranged from $\alpha = 0.71$ to $\alpha = 0.82$.

The Selfitis Behavior Scale (SBS: Balakrishnan and Griffiths, 2018; Italian version: Monacis et al., 2020), comprises 20 items that assess selfitis behavior. Each item is rated on a five-point Likert scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). The scale includes five subdomains: social and emotional subjective wellbeing (four items; e.g., *"Taking selfies gives me a good feeling to better enjoy my environment"*), self-confidence (five items; *"I feel confident when I take a selfie"*), self-presentation (five items; e.g., *"I use photo editing tools to enhance my selfie to look better than others"*), self-approval (four items; e.g., *"I post frequent selfies to get more 'likes' and comments on social media"*) and autobiographical memories (two items; e.g., *"Taking selfies provides better memories about the occasion and the experience"*). Higher total scores indicate

higher levels of selfitis behavior. In the present study, the Cronbach's alpha value of the overall scale was 0.93.

The Bergen Social Media Addiction Scale (BSMAS) (Andreassen et al., 2016; Italian version: Monacis et al., 2017) comprises six items that assess the risk of social media addiction over the past year. Each item is rated on a five-point Likert scale from 1 (*very rarely*) to 5 (*very often*). The six items (e.g., "*How often during the last year have you tried to cut down on the use of social media without success?*") reflect six core components of addiction (i.e., salience, mood modification, tolerance, withdrawal, conflict, and relapse). Higher total scores indicate a greater risk of addiction to social media. In the present study, the Cronbach's alpha value of the overall scale was 0.78.

5.3. Statistical analyses

Descriptive statistics and bivariate correlations were calculated among the variables to explore possible mediating effects of selfitis behaviors between the three dimensions of authentic personality and risk of social media addiction. Based on the observed associations, a structural equation model (SEM) approach was utilized to test the hypothesized mediating role of selfitis behavior. Gender was also included as covariate. SEM was conducted using the Robust Maximum Likelihood (RML) estimation method. The model fit index of the SEMs included: the χ^2 (and its degrees of freedom and p -value), the Standardized Root Mean Square Residual (SRMR) "close to" 0.09 or lower, the Comparative Fit Index (CFI) "close to" 0.95 or higher, and the Root Mean Square Error of Approximation (RMSEA) <0.08. Bootstrapping procedures (5,000 resamples) were used to generate 95% bias-corrected confidence intervals. The SEMs were performed utilizing Mplus 7.2 while the other tests were conducted by utilizing SPSS 21.0. The level of statistical significance was $p < .05$ (two-tailed tests)

6. Results

Means, standard deviations, independent t -tests, and zero-order correlations among the study variables in the total sample, males, and females are shown in Table 1. Gender differences were found among the variables of interest. Findings showed females scored significantly higher than males on the trait of authentic living ($t[488], -3.337, p < .001$), selfitis behavior ($t[488], -2.992, p < .01$), and the risk of social media addiction, ($t[488], -3.164, p < .01$).

Findings from bivariate correlation in the total sample indicated that the risk of social media addiction was positively associated with both the tendency to accept external influence and self-alienation but was unrelated with authentic living. Selfitis behavior was positively associated with self-alienation and accepting external influence, and negatively associated with the authentic living. Similar patterns of associations were found among males and females.

The assessed path model produced adequate fit to the data [$\chi^2=637.524$, $df=234$, $p<.001$; $RMSEA=0.059$ (90% C.I. = 0.054–0.065), $CFI=0.908$, $SRMR=0.058$]. The standardized estimates are shown in Fig. 1. All coefficients values for the measurement model were significant ($p<.001$). Taken together, the results generally confirmed the hypothesized relationships. Regarding self-alienation, findings showed significant direct and indirect effects on the risk of social media addiction (supporting H1 and H3). As for accepting external influence, no significant direct effect on the risk of social media addiction was found (therefore, H2 was not supported). Conversely, its indirect effect became significant via selfitis behavior (therefore confirming H4). Finally, concerning authentic living, findings partially supported the hypothesized relationships. More specifically, an unexpected lack of significant association between authentic living and the risk of social media addiction was found (H5), whereas a significant indirect effect via selfitis behavior was observed within such an association (H6). Direct and indirect effects of the three authentic personality traits on the risk of social media addiction are reported in Table 2.

7. Discussion

In order to provide further insight into the influence of further personality dispositions on the risk of social media addiction, the present study examined the relationship between individual differences in authentic personality traits and the risk of developing SMA. The findings are now discussed in accordance to the aforementioned proposed hypotheses.

In relation to the direct and indirect effects of self-alienation on social media addiction (H1 and H3, respectively), findings confirmed the hypothesized relationships, supporting the combination of a fear-driven approach with the self-idealization hypothesis. As expected (H1), since self-alienated individuals with high a level of personal and social deficits tend to experience greater distance between conscious awareness and the true self, they may engage in excessive social media use in order to compensate their emotional distress and to reduce their feelings of estrangement and isolation. Consistently with H3, given the anxiety arising from the discrepancy between the true self and ideal self, self-alienated individuals are engaged in a defensive process based on a negative drive of compensation, and intentionally manipulate their self-images/portraits in line with their ideal self, therefore exhibiting an ideal or false self-presentation that may result in an excessive use of social media, which for some may be addictive. Such interpretation could be aligned with Turel and Gil-Or's study (2019) which reported strong associations between levels of falseness of self-presentation on *Facebook* and the re-posting and sharing self-image enhancing content. Therefore, the findings in the present study contribute to and extend the existing literature on false self-presentation on social media on the basis of the self-idealization hypothesis (Wright, 2018).

Another notable finding concerned the lack of a direct association between the tendency to accept external influence and risk of SMA (not supporting H2). Although findings initially showed a positive correlation between the two constructs, a careful inspection of the path analysis demonstrated a non-significant direct

effect. This leads to the conclusion that, in contrast to self-alienation, the propensity to conform to other's expectations is unlikely to be primarily responsible for the development of SMA, and that other underlying mechanisms or pathways may be involved in determining addictive use of social platforms. That is, individuals with high scores on this trait appear not to be at risk of addictive behavior on social media, probably due to the fact that they are not looking for any experience of gratification for their self-reinforcement when using social media platforms.

However, when looking at the indirect path, findings supported the expected hypothesis (H4), given the significant mediating role played by selfitis behaviors within this relationship. Individuals who accept external influences and are motivated to satisfy their need for social recognition and popularity linked to positive self-reinforcement, tend to show a more frequent engagement in appearance-related behaviors by posting and sharing digitally edited selfies of their self-idealized portraits. The positive self-views emerging from the online ideal/false self-expression behavior appear to increase the probability of excessive use of social networking sites, therefore leading to SMA among a small minority of individuals. For these individuals, social media represents a medium to communicate their false self-expression by facilitating the "ideal me" as a function of others-oriented behavior. Such findings support the integration of the two underlying hypotheses (i.e., reward-driven vs. online self-idealization hypothesis) in explaining the risk of developing SMA. This implies that the dispositional trait to accept external influences could be considered as a risk factor for SMA when associated to the actions of self-management via selfitis behaviors (Wegmann and Brand, 2019).

Finally, the idea that the authentic personality trait can be considered as a protective factor against SMA was partially confirmed. The lack of a negative correlation and of a direct effect between the two constructs was an unexpected result that should be further investigated. This may be explained by the fact that the trait of authenticity has a direct bearing on well-being indicators rather than on behavioral indicators of addiction. It was just in this direction that authenticity may play a role of contributory protective factor, as shown in the indirect pathway. In fact, for users with high levels on authenticity, social media platforms represent a cyberspace where an individual can assert their true trait by reducing the manipulation of online self-image photos and/or selfies, which, in turn, leads to a decrease in the risk of developing an addiction to social media.

Without altering authentic online self-presentation, users also can satisfy their needs to be connected, keep in touch with others, maintain long-distant relationships and/or support daily face-to-face relationships (Tosun, 2012; Tosun and Lajunen 2010). Consequently, social media use acts as a means to communicate an individual's authentic self-expression by revealing the "real me" in their interaction with others. These findings are also in line with those reporting that individuals who express their "true self" on social media, and have more self-oriented motivations for posting personal and emotional content (e.g., Seidman, 2014), as well as with those studies demonstrating associations between an authentic self-expression and a positive mood and affect in online environments (Bailey et al., 2020; Reinecke and Trepte, 2014; Grieve and

Watkinson,2016). Such interpretation may support the hypothesis of authentic self-presentation on social media, suggesting that the addictive use of social media depend on the interplay between individual dispositions and the way individuals are engaged in online self-expression.

Similarly, the hypothesized model provides further insight into protective and risk factors related to the problematic use of social media by taking into account the integration of the tripartite person-centered view of authenticity with the online authentic and idealized self-presentation hypotheses. The findings empirically demonstrated that both traits of self-alienation and of the tendency to accept external influence motivated by two different mechanisms of compensation equally fostering an online ideal/false self-presentation, may increase the likelihood of becoming addicted to social media. On the contrary, the trait of authenticity associated with a decreased manipulation of online self-idealized photos and/or selfies may lower the risk of SMA.

Finally, some limitations should briefly be mentioned. The cross-sectional method used in the study did not allow for inferring the causality between the constructs of interest. The data were also self-selected (utilizing convenience sampling) and self-report which are subject to well-known methods biases. Future research might include 'social media authenticity' as a further criterion variable associated with selfitis behaviors. This further index could be operationalized by Euclidean distances between authentic personality traits and authentic personality traits adapted to social media use. Finally, a larger and more representative sample size, including different age cohorts, should be considered in order to further generalize the findings of the present study.

Declaration of Competing Interest

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.

References

- Andreassen, C. S., 2015. Online social network site addiction: a comprehensive review. *Curr. Addict. Rep.*, 2(2), 175-184. doi: 10.2174/13816128113199990616
- Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., Pallesen, S., 2016. The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychol. Addict. Behav.*, 30(2), 252-262. doi: 10.1037/adb0000160
- Andreassen, C. S., Griffiths, M. D., Gjertsen, S. R., Krossbakken, E., Kvam, S., Pallesen, S., 2013. The relationships between behavioral addictions and the five-factor model of personality. *J. Behav. Addict.*, 2(2), 90-99. doi: 10.1556/jba.2.2013.003

- Andreassen, S. C., Pallesen, S., 2014 Social network site addiction: An overview. *Curr. Pharm. Des.*, 20, 4053-4061. doi: 10.2174/13816128113199990616
- Aparicio-Martínez, P., Ruiz-Rubio, M., Perea-Moreno, A.-J., Martínez-Jiménez, M.P., Pagliari, C., Redel-Macías, M.D., Vaquero-Abellán, M., 2020. Gender differences in the addiction to social networks in the Southern Spanish university students. *Telemat. Inform.*, 46, 101304. doi: 10.1016/j.tele.2019.101304
- Bailey, E. R., Matz, S. C., Youyou, W., Iyengar, S. S., 2020. Authentic self-expression on social media is associated with greater subjective well-being. *Nat. Commun.*, 11 (1), 1-9. doi: 10.1038/s41467-020-18539-w
- Balakrishnan, J., Griffiths, M. D., 2017. Social media addiction: What is the role of content in YouTube? *J. Behav. Add.*, 6, 364-377. doi: 10.1556/2006.6.2017.058
- Balakrishnan, J., Griffiths, M.D., 2018. An Exploratory Study of "Selfitis" and the Development of the Selfitis Behavior Scale. *Int J Ment Health Addiction*, 16, 722-736. doi: 10.1007/s11469-017-9844-x
- Barrett-Lennard, G. T., 1998. *Carl Rogers' helping system: Journey and substance*. Sage, London.
- Beaton, D. E., Bombardier, C., Guillemin, F. M., 2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, 25(24), 3186–3191. doi: 10.1097/00007632-200012150-00014
- Chung, K. L., Morshidi, I., Yoong, L. C., Thian, K. N., 2019. The role of the dark tetrad and impulsivity in social media addiction: Findings from Malaysia. *Pers. Individ. Differ.* 143, 62-67. doi: 10.1016/j.paid.2019.02.016
- Dalvi-Esfahani, M., Niknafs, A., Alaedini, Z., Ahmadabadi, H. B., Kuss, D. J., Ramayah, T., 2020. Social Media Addiction and Empathy: Moderating impact of personality traits among high school students. *Telemat. Inform.*, 57, 101516. doi: 10.1016/j.tele.2020.101516
- Dalvi-Esfahani, M., Niknafs, A., Kuss, D.J., Nilashi, M., Afrough, S., 2019. Social media addiction: Applying the DEMATEL approach, *Telemat. Inform.*, 43, art. no. 101250. doi: 10.1016/j.tele.2019.101250
- Etgar, S., Amichai-Hamburger, Y., 2017. Not all selfies took alike: Distinct selfie motivations are related to different personality characteristics. *Front. Psychol.* 8, 842. doi: 10.3389/fpsyg.2017.00842
- Gil-Or, O., Levi-Belz, Y., Turel, O., 2015. The "Facebook-self": characteristics and psychological predictors of false self-presentation on Facebook. *Front. Psychol.* 6, 99. doi: 10.3389/fpsyg.2015.00099
- Gioia, F., McLean, S., Griffiths, M.D., Boursier, V., 2021. Adolescents' selfie-taking and selfie-editing: A revision of the Photo Manipulation Scale and a moderated mediation model. *Curr Psychol.* doi: 10.1007/s12144-021-01702-x
- Grieve, R., Watkinson, J., 2016. The psychological benefits of being authentic on Facebook. *Cyberpsychol. Behav. Soc. Netw.* 19 (7), 420-425. doi: 10.1089/cyber.2016.0010
- Griffiths, M. D., Balakrishnan, J., 2018. The psychosocial impact of excessive selfie-taking in youth: A brief overview. *Educ. Health* 36 (1), 3-6.
- Griffiths, M.D., 2005. A 'components' model of addiction within a biopsychosocial framework. *J. Subst. Use* 10, 191-197. doi: 10.1080/14659890500114359

- Hu, C., Kumar, S., Huang, J., Ratnavelu, K., 2019. The expression of the true self in the online world: a literature review, *Behav. Inform. Techno*, 40 (3), 271-281. doi: 10.1080/0144929X.2019.1685596.
- Katz, E., Blumler, J. G., 1974. *The uses of mass communications: Current perspectives on gratifications research*. Sage Publications, Beverly Hills, CA.
- Kircaburun, K., Jonason, P. K., Griffiths, M. D., 2018. The Dark Tetrad traits and problematic social media use: The mediating role of cyberbullying and cyberstalking. *Personal. Individ. Differ.* 135, 298-303. doi: 10.1016/j.paid.2018.07.034
- Kuss, D. J., Griffiths, M. D., 2011. Online social networking and addiction--a review of the psychological literature. *Int. J. Environ. Res. Public Health* 8 (9), 3528-3552. doi: 10.3390/ijerph8093528
- Lee, S.-L., 2019. Predicting SNS addiction with the Big Five and the Dark Triad. *Cyberpsychology*, 13(1). doi: 10.5817/CP2019-1-3
- McCain, J., Borg, Z., Rothenberg, A., Churillo, K., Weiler, P., Campbell, W. K., 2016. Personality and selfies: Narcissism and the Dark Triad. *Comput. Hum. Behav.* 64, 126-133. doi: 10.1016/j.chb.2016.06.050
- Monacis, L., de Palo, V., Griffiths, M. D., Sinatra, M., 2017. Social networking addiction, attachment style, and validation of the Italian version of the Bergen Social Media Addiction Scale. *J. Behav. Addict.* 6 (2), 178-186. doi: 10.1556/2006.6.2017.023
- Monacis, L., Griffiths, M. D., Limone, P., Sinatra, M., Servidio, R., 2020. Selfitis Behavior: Assessing the Italian Version of the Selfitis Behavior Scale and its mediating role in the relationship of dark traits with social media addiction. *Int. J. Environ. Res. Public Health* 17 (16), 5738. doi: 10.3390/ijerph17165738
- Mun, I. B., Kim, H., 2021. Influence of false self-presentation on mental health and deleting behavior on Instagram: The mediating role of perceived popularity. *Front Psychol*, 12, 1138 doi: 10.3389/fpsyg.2021.660484.
- Nadkarni, A., Hofmann, S. G., 2012. Why do people use Facebook? *Pers. Individ. Differ.* 52 (3), 243-249. doi: 10.1016/j.paid.2011.11.007.
- O'Day, E. B., Heimberg, R. G., 2021. Social media use, social anxiety, and loneliness: A systematic review, *Comput. Human. Beha. Rep.*, 3, 100070. doi:10.1016/j.chbr.2021.100070.
- Reinecke, L., Trepte, S., 2014. Authenticity and well-being on social network sites: A two wave longitudinal study on the effects of online authenticity and the positivity bias in SNS communication. *Comput. Hum. Behav.* 30, 95-102. doi: 10.1016/j.chb.2013.07.030
- Rogers, C. R., 1959. A theory of therapy, personality and interpersonal relationships as developed in the client-centered framework, in: Koch, S. (Ed.), *Psychology: A study of a science. Vol. 3: Formulations of the person and the social context*. McGraw-Hill, New York, pp. 181-256.
- Savci, M., Tekin, A., Elhai, J. D., 2020. Prediction of problematic social media use (PSU) using machine learning approaches. *Curr. Psychol.* doi: 10.1007/s12144-020-00794-1

- Seidman, G., 2014. Expressing the “true self” on Facebook. *Comput. Hum. Behav.*, 31, 367-372. doi: 10.1016/j.chb.2013.10.052
- Sherman, L.E., Payton, A.A., Hernandez, L.M., Greenfieldk, P.M., Dapretto, M., 2016. The power of the like in adolescence: effects of peer influence on neural and behavioral responses to social media. *Psychol. Sci.*, 27(7), 1027-1035. doi: 10.1177/0956797616645673
- Sherman, L.E., Hernandez, L.M., Greenfield, P.M., Dapretto, M., 2018. What the brain ‘likes’: neural correlates of providing feedback on social media. *Soc Cogn Affect Neurosci.*, 13(7), 699-707. doi: 10.1093/scan/nsy051
- Tosun, L. P., 2012. Motives for Facebook use and expressing “true self” on the Internet. *Comput. Hum. Behav.*, 28 (4), 1510-1517. doi: 10.1016/j.chb.2012.03.018
- Tosun, L. P., Lajunen, T., 2010. Does Internet use reflect your personality? Relationship between Eysenck’s personality dimensions and Internet use. *Comput. Hum. Behav.*, 26 (2), 162-167. doi: 10.1016/j.chb.2009.10.010
- Turel, O., Gil-Or, O., 2019. To share or not to share? The roles of false Facebook self, sex, and narcissism in re-posting self-image enhancing products. *Pers. Individ. Differ.* 151, 109506. doi: 10.1016/j.paid.2019.109506
- Valkenburg, P.M., Peter, J., 2007. Preadolescents’ and adolescents’ online communication and their closeness to friends. *Dev. Psychol.*, 43(2), 267–77. doi: 10.1037/0012-1649.43.2.267
- Wang, P., Xie, X., Wang, X., Wang, X., Zhao, F., Chu, X., Nie, J., Lei, L., 2018. The need to belong and adolescent authentic self-presentation on SNSs: A moderated mediation model involving FoMO and perceived social support. *Pers. Individ. Differ.*, 128, 133–138. doi: 10.1016/j.paid.2018.02.035
- Wegmann, E., Brand, M., 2019. A narrative overview about psychosocial characteristics as risk factors of a problematic social networks use. *Curr. Addict. Rep.*, 6 (4), 402-409. doi: 10.1007/s40429-019-00286-8
- Wiederhold, B. K., 2017. Being authentic on Facebook has same health benefits as in-person authentic behavior. *Cyberpsychol. Behav. Soc. Netw.*, 20 (6), 345. doi:10.1089/cyber.2017.29074.b
- Wood, A. M., Linley, P. A., Maltby, J., Baliousis, M., Joseph, S., 2008. The authentic personality: A theoretical and empirical conceptualization and the development of the Authenticity Scale. *J. Couns. Psychol.*, 55 (3), 385-99. doi:10.1037/0022-0167.55.3.385
- Wright, E. J., White, K. M., Obst, P. L., 2018. Facebook false self-presentation behaviors and negative mental health. *Cyberpsychol. Behav. Soc. Netw.*, 21 (1), 40-49. doi:/10.1089/cyber.2016.0647

Table 1. Means, standard deviations, and zero-order correlations of the study variables among males, females, and the total sample

Variables	M	SD	1	2	3	4
-----------	---	----	---	---	---	---

Total sample (n = 490)						
1. Authentic living	22.26	4.289	-			
2. Accepting external influence	10.45	5.164	-.182**	-		
3. Self-alienation	12.39	5.498	-.129**	.434**	-	
4. Selfitis behavior	38.72	14.388	-.179**	.258**	.244**	-
5. Social media addiction	12.54	4.611	-.036	.255**	.289**	.499**
Males (n = 228)						
1. Authentic living	21.56	4.360	-			
2. Accepting external influence	10.63	4.797	-.119	-		
3. Self-alienation	12.14	5.397	-.085	.386**	-	
4. Selfitis behavior	36.62	14.026	-.256**	.154**	.154*	-
5. Social media addiction	11.83	4.198	-.051	.334**	.334**	.526**
Females (n = 262)						
1. Authentic living	22.86	4.159	-			
2. Accepting external influence	10.26	5.467	-.225**	-		
3. Self-alienation	12.60	5.574	-.179**	.427**	-	
4. Selfitis behavior	40.50	14.566	-.158**	.293**	.314**	
5. Social media addiction	13.14	4.866	-.063	.232**	.251**	.466**

* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

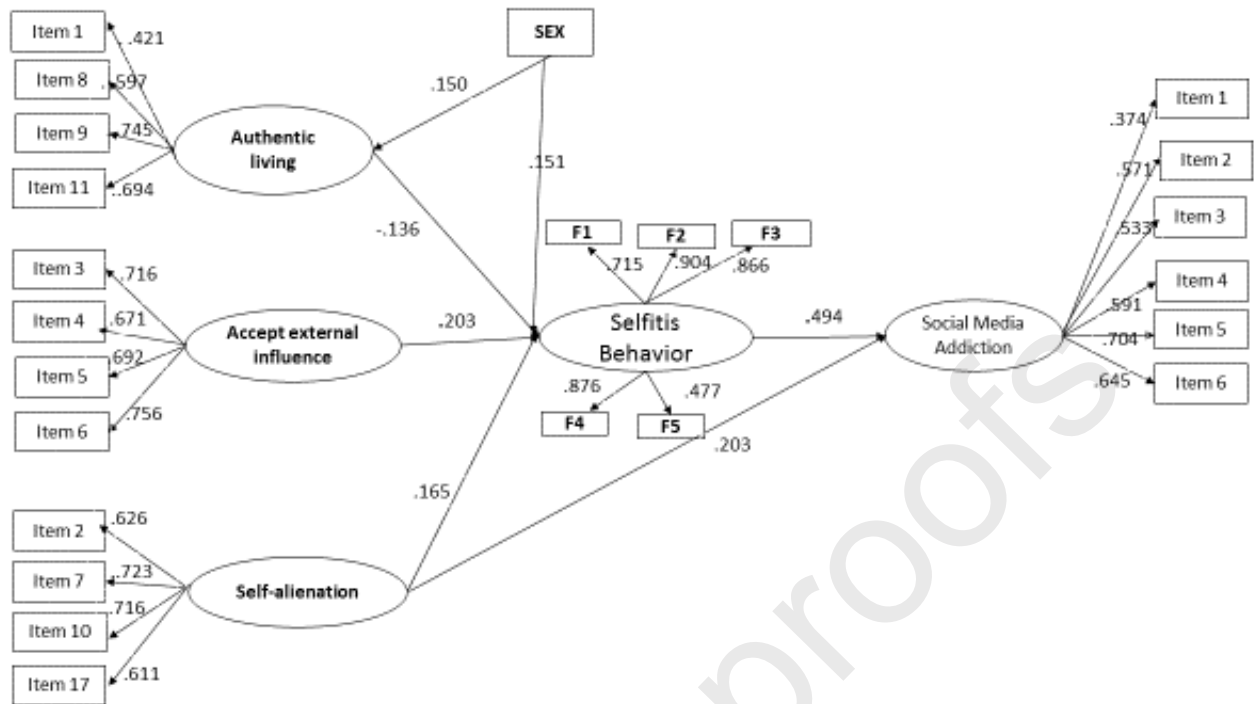
Table 2. Direct and indirect effects of the three authentic personality traits on the risk of social media addiction

Direct effects	β	p	C.I. 95%
1. Authentic living \rightarrow SMA	0.055	> 0.05	[-0.060 - 0.171]

2. Accepting external influence → SMA	0.081	> 0.05	[-0.062 - 0.224]
3. Self-alienation → SMA	0.203	< 0.01	[0.059 - 0.347]
Indirect effects			
1. Authentic living → Selfitis behavior → SMA	- 0.067	< 0.05	[-0.132 - -0.002]
2. Accepting external influence → Selfitis behavior → SMA	0.100	< 0.01	[0.026 - 0.174]
3. Self-alienation → Selfitis behavior → SMA	0.081	< 0.05	[0.010 - 0.152]

SMA=risk of social media addiction

Figure 1. The tested path model



Highlights

- There are direct and indirect paths from self-alienation to risk for social media addiction
- There is an indirect path from accepting external influence to risk for social media addiction
- There is an indirect path from authenticity to a lower risk of becoming addicted to social media
- Selfitis behaviors help in understanding individual's self-presentation on social media