Title: Psychological Predictors of Addictive Social Networking Sites Use: The Case of Serbia

Abstract: The popularity of social networking sites (SNS) changed to a great extent not only media environment, but also everyday life activities of modern humans. Despite their obvious benefits in terms of communication, there is evidence of addictive tendencies in SNS use. The study examined psychological and socio-demographic predictors of these addictive tendencies in Serbian SNS users drawn from a representative sample (N=2014), having in mind that Serbia has Facebook penetration rate over European average. Results indicate a low incidence of self-reported addictive tendencies, with some individual differences worth addressing. We developed and tested exhaustive model that included three sets of predictors (socio-demographic, psychological and exposure to traditional media), as well as restrictive models that systematically excluded group by group. Path analysis revealed that psychological traits were stronger predictors than socio-demographic ones: people with lower self-esteem, lower general self-efficacy and higher introversion were more likely to report addictive SNS use. Although our results in general support the so called "social compensation hypothesis", it can be due to the focus on addictive tendencies instead of other indicators of SNS use.
25.06.2013

To the Editors of *Computers in Human Behavior*:

On behalf of my coauthor and myself, I am pleased to submit for editorial review a manuscript entitled “Psychological Predictors of Addictive Social Networking Sites Use: the Case of Serbia”.

We thank you for your consideration.

Most sincerely,

Jasna Milosevic
Highlights

- Media use, psychological and socio-demographic predictors of addictive SNS use.
- Representative sample, 2014 respondents, 861 SNS users, Serbia.
- Very few (3%) SNS users reported addictive tendencies.
- Path analysis identified relevance of three groups of predictors.
- Addictive tendencies correlate with lower self-esteem and self-efficacy, higher introversion.
Psychological Predictors of Addictive Social Networking Sites Use: 
The Case of Serbia

Jasna S. Milošević-Đorđević 1 Iris L. Žeželj 2

1 Faculty for media and communications, Singidunum University, Karadjordjeva 65, 11000 Belgrade, Serbia; Institute for Political studies; Jasna.milosevic@fmk.edu.rs
2 Faculty of philosophy, Psychology Department, Belgrade University, Cika Ljubina 18-20, 11000 Belgrade, Serbia; zezelj.iris@gmail.com

Corresponding author: Jasna Milosevic Dordevic, Faculty for Media and Communications, Singidunum University, Karadjordjeva 65, 11000 Belgrade, Serbia; jasna.milosevic@fmk.edu.rs; Cell phone +381 63 245300
Running Head PREDICTORS OF ADDICTIVE SNS USE

Psychological Predictors of Addictive Social Networking Sites Use:
   The Case of Serbia
PREDICTORS OF ADDICTIVE SNS USE

Abstract
The popularity of social networking sites (SNS) changed to a great extent not only media environment, but also everyday life activities of modern humans. Despite their obvious benefits in terms of communication, there is evidence of addictive tendencies in SNS use. The study examined psychological and socio-demographic predictors of these addictive tendencies in Serbian SNS users drawn from a representative sample (N=2014), having in mind that Serbia has Facebook penetration rate over European average. Results indicate a low incidence of self-reported addictive tendencies, with some individual differences worth addressing. We developed and tested exhaustive model that included three sets of predictors (socio-demographic, psychological and exposure to traditional media), as well as restrictive models that systematically excluded group by group. Path analysis revealed that psychological traits were stronger predictors than socio-demographic ones: people with lower self-esteem, lower general self-efficacy and higher introversion were more likely to report addictive SNS use. Although our results in general support the so called "social compensation hypothesis", it can be due to the focus on addictive tendencies instead of other indicators of SNS use.

Keywords: Addictive tendencies in SNS use, extraversion, self-esteem, self-efficacy, traditional media exposure, path analysis
PREDICTORS OF ADDICTIVE SNS USE

Highlights

- Media use, psychological and socio-demographic predictors of addictive SNS use.
- Representative sample, 2014 respondents, 861 SNS users, Serbia.
- Very few (3%) SNS users reported addictive tendencies.
- Path analysis identified relevance of three groups of predictors.
- Addictive tendencies correlate with lower self-esteem and self-efficacy, higher introversion.
Psychological Predictors of Addictive Social Networking Sites Use: The Case of Serbia

1. Introduction

In the past decade, Internet has become the main source of information, entertainment, marketing and, relatively recently, irreplaceable tool for communication. Online social networking sites (SNS) such as Facebook, Tweeter, Instagram, LinkedIn have reached hundreds of millions of users (Wilson, Fornasier, & White, 2010). While traditional Internet sites produce content for users to consume, SNSs create environment for users to produce and exchange content (personal pictures, videos, interests and preferences). Social ties formed via SNS tend to cross the physical boundaries - they often comprise of ethnically and culturally diverse groups of people who are scattered around the world.

Despite obvious advantages of online social networking (Shaw & Gant, 2002), there is also evidence of its addictive potential, leading to variety of psychological and social problems (Amichai-Hamburger & Vinitzky, 2010; Amichai-Hamburger, Wainapel, & Fox, 2002; Ehrenberg, Juckes, White, & Walsh, 2008; Wilson et al., 2010). Studies focusing on non-specific Internet use (Young & Rogers, 1998; Armstrong, Phillips, & Saling, 2000; Davis, 2001; Niemz, Griffiths, & Banyard, 2005; Kim & Davis, 2009), instant messaging and use of smart-phones (Ehrenberg et al., 2008) and those focusing on social networking activities (McKenna, 2000; Amichai-Hamburger et al., 2002; Ehrenberg et al., 2008; Wilson et al., 2010; Amichai-Hamburger & Vinitzky, 2010), demonstrated that their excessive use could have negative impact on everyday life. As the main purpose of social networking sites (SNS) is to establish relationships, its overuse is often seen as a type of cyber relation addiction. In this view, it is equivalent to any other addiction, as it (a) interferes with vital life activities, such as sleep, nutrition habits, work or school, and (b) dominates person's life (e.g. virtual relationship problems take over real life relationship problems) (Davis, 2001; Niemz et al., 2005). Wilson, Fornasier and White (2010) in a similar vein measured addictive tendencies by: level of salience (One of the first things I do each morning is to log on Facebook (FB), loss of
PREDICTORS OF ADDICTIVE SNS USE

control (I find it hard to control my FB use), and withdrawal (I feel lost when I cannot access my FB account).

Research aiming to identify socio-demographic and psychological predispositions for addictive Internet use came up with a set of predictors. When Internet was in its infancy, it was demographic features that qualified someone to become an addict - one needed to be computer savvy first. Early research (Shotton, 1991) found that typical computer addict was technologically sophisticated, highly educated male. However, since then Internet has become much more user-friendly and no longer requires technological skills. Recent research shows that typical Internet user cannot be easily defined by socio-demographic characteristics (Shaw & Gant, 2002), and that only combination of psychological and social factors contributes to the etiology of Internet addiction (Kuss & Griffiths, 2011). Psychological profile of addictive Internet user most often portraits a relatively poorly adapted person: introvert (Shotton, 1991; Amichai-Hamburger et al., 2002), with low self-esteem (Kim & Davis, 2009; Davis, 2001; Niemz et al, 2005; Armstrong et al., 2000), prone to social disinhibition (Niemz et al., 2005) and anxiety (Kim & Davis, 2009), high on neuroticism (Ehrenberg et al., 2008). Nevertheless, some studies report on psychological benefits of Internet use, such as decrease of loneliness and depression (Shaw & Gant, 2002).

As SNS are designed as a tool for interpersonal communication, psychological profile of their addictive user can be even more specific. Similar set of personality traits appeared to be associated with the excessive SNS use, such as: low self-esteem and low life satisfaction (Kuss & Griffiths, 2011; Wilson et al., 2010; Tazghini & Siedlecki, 2013; Amichai-Hamburger & Vinitzky, 2010), those scored higher on the trait of neuroticism and conscientiousness (Amichai-Hamburger, 2010), lower levels of openness to experience (Ross et al., 2009; Skues, Williams, & Wise, 2012). While low self-esteem was consistently confirmed as an important predictor of SNS overuse (Kim & Davis, 2009; Tazghini & Siedlecki, 2013), the influence of other personality traits, especially extraversion, did not prove to be consistent. A number of studies reported extraversion to be negatively correlated to higher Internet use (McKenna & Bargh, 2004; Landers &
PREDICTORS OF ADDICTIVE SNS USE

Lounsbury, 2004), supporting the so called "social compensation hypothesis" that claims people with lack of real social relationships can profit most from virtual relationships. Others reported that higher extraversion was correlated to stronger addiction tendencies in SNS use, in line with "rich get richer" hypothesis (Wilson et al., 2010; Ehrenberg et al., 2008; Amichai-Hamburger & Vinitzky, 2010). Some authors explain these contradictory findings by asserting that different personalities use SNS in a different manner: extraverts use it for social enhancement, whereas introverts use it for social compensation (Kuss & Griffiths, 2011).

In contrast to vast number of studies exploring "first line" psychological traits as predictors of addictive SNS use, there is relatively little evidence of impact of "meta-traits", such as self-efficacy (Bandura, 1994) on this type of behaviour. It can be hypothesised, however, that low self-efficient individuals would be more prone to develop addictive tendencies, as a non-productive behaviour pattern.

It is clear that addictive SNS use is a complex phenomenon that needs to be investigated further, using multiple perspectives. Since SNS is a form of media use this analysis should also examine its relationship with more specific media consumption, especially exposure to traditional media (print, TV and radio).

It is also important to note that different ways SNS use is defined and measured, lead to different results. Studies that focused on addictive behaviour or feelings typically yielded strong psychological correlates (Wilson et al., 2010). Studies with more descriptive orientation, measuring the features of SNS use such as number of friends, amount and type of uploaded content, membership in virtual groups failed to find such strong correlations (Ross et al., 2009; Skues et al., 2012). However, some authors highlight that even with the latter type of studies, when behaviours are not self-reported but objectively measured, the correlation re-appears (Amichai-Hamburger & Vinicky, 2010; Ross et al., 2009).

Finally, there is a need to investigate these phenomena in more diverse cultural environments, i.e. within non-English speaking social network users. According to Internet web statistics survey (December 2011), FB had 43.3% penetration rate in Serbia in December 2011, which was higher than European average (29.8 %). Despite this
PREDICTORS OF ADDICTIVE SNS USE

widespread use of social sites, the SNS-related behaviour in Serbian population in not studied in detail, especially on large, representative samples.

The aim of current study was to develop a model that would relate key psychological predictors such as self-esteem, extraversion and self-efficacy, socio-demographic predictors and traditional media exposure, to addictive social networking among general population in Serbia. We developed and tested exhaustive model (Figure 1) that included all three groups of predictors, as well as restrictive models that systematically excluded group by group.

Figure 1:
Exhaustive model of different predictors of addictive social networking

Although we measured addictive behavior, our test should not be viewed as a diagnostic tool. We aim to capture individual differences in this behavior pattern and investigate its psychological and demographic background.

2. Material and methods

Data was collected via telephone interview in September 2012, on a nationally representative sample (N=2014) of Serbian population older than 12. We opted for this age cut-off, as official policy of major social networking sites is allowing users older than 13 to open accounts. The average length of the interview was 25 minutes.

2.1. Instrument
PREDICTORS OF ADDICTIVE SNS USE

Self-esteem was measured by Rosenberg’s ten item scale (Cronbach’s Alpha = .74), with minimum of 10 and maximum of 50.

Extraversion was measured by a subscale from BFI, consisting of eight items (John, Donahue & Kentle, 1991). The respondents assessed how much each of the adjectives describes them personally: sociable, outgoing; successful in fighting for your rights; talkative; enthusiastic; energetic; shy, inhibited; usually silent; reserved. Cronbach’s Alpha coefficient of .77 allowed for computing total extraversion score varying between 8 and 40.

General self-efficacy was measured by a mini scale proposed by Bandura (2006), with one item: “On average and in general, what percent of important plans that you have in life do you actually realize (ranging from 0 to 100 percent)?”.

SNS addictive tendencies scale was developed for the purpose of this research. Total of 45 items were created starting from two broad indicators - (a) interference with vital life activities and (b) domination of virtual over real interpersonal relationships. A longer version of scale was first tested in a pilot study on representative sample of 2034 respondents (Authors, 2013). We checked for clarity and relevance of each item. Based on loadings on first factor and discriminative power, six items were chosen for the brief version of scale used in current research. The scale had solid internal consistency (Cronbach’s Alpha = .72), which allowed us to calculate total score ranging from 6 to 30.

All scales were five point Likert type, ranging from one (“I do not agree at all” or “Does not describe me at all”) to five (“I completely agree” or “Describes me completely”).

Traditional media exposure was measured by summing up the frequency of all traditional media consumption. The questions measured how much respondents watch TV, listen to the radio, read daily newspapers or magazines. The total score varied between 4 and 28, with higher score indicating higher traditional media exposure.
PREDICTORS OF ADDICTIVE SNS USE

Socio-demographic variables were measured with a standard set of questions comprising of age, gender, and settlement type (urban/rural).

2.2 Respondents and sampling

Sample type was two staged stratified combined probability sample. Sample stages were households chosen by simple random method and household members chosen by quotas derived from Serbian Census 2011 data. Primary sampling units were households: one household comprised people living in the same dwelling. Secondary sampling units were actual respondents. Allocation of the sample by strata was proportional to the size of the stratum. In order to optimize the sample plan and reduce sampling error, the sample was stratified by type of settlement (urban-rural), regions, age groups and gender.

Fieldwork control covered ten percent of randomly selected respondents. They were contacted by telephone to check whether the interview had occurred and was in accordance with all given procedures. Table1 summarises the demographic characteristics of the sample.

Table 1
Demographic profile of the sample

<table>
<thead>
<tr>
<th></th>
<th>Percentages %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>48.3</td>
</tr>
<tr>
<td>Female</td>
<td>51.7</td>
</tr>
<tr>
<td>Settlement type</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>58.2</td>
</tr>
<tr>
<td>Rural</td>
<td>41.8</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>12-29</td>
<td>25.6</td>
</tr>
<tr>
<td>30-44</td>
<td>23.0</td>
</tr>
<tr>
<td>45-65</td>
<td>35.7</td>
</tr>
<tr>
<td>65+</td>
<td>15.7</td>
</tr>
<tr>
<td>Educational level</td>
<td></td>
</tr>
<tr>
<td>Elementary school and less</td>
<td>20.0</td>
</tr>
<tr>
<td>Secondary school</td>
<td>63.9</td>
</tr>
<tr>
<td>College and Graduate School</td>
<td>16.2</td>
</tr>
<tr>
<td>Internet use</td>
<td></td>
</tr>
<tr>
<td>Every day</td>
<td>47</td>
</tr>
<tr>
<td>4-6 times a week</td>
<td>4.3</td>
</tr>
<tr>
<td>2-3 times a week</td>
<td>5.6</td>
</tr>
<tr>
<td>Once a week</td>
<td>2.9</td>
</tr>
<tr>
<td>Once in two weeks</td>
<td>1.0</td>
</tr>
</tbody>
</table>
PREDICTORS OF ADDICTIVE SNS USE

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a month</td>
<td>1.7</td>
</tr>
<tr>
<td>Less than once a month</td>
<td>0.9</td>
</tr>
<tr>
<td>Never</td>
<td>36.6</td>
</tr>
</tbody>
</table>

Total number of respondents: 2014
SNS users (account on at least one): 861

2.3. Data Analysis

Study aimed to determine whether all hypothesized psychological predictors’ and traditional media consumption measures, influence significantly addictive social online networking. Path analysis parameters were used for this purpose: chi-square (the normal theory maximum likelihood chi-square), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). A value up to 0.08 for RMSEA represents reasonable error of approximation in the population (Browne & Cudeck, 1993). Values below the recommended level of 0.900 for CFI suggest that model cannot be accepted, and above this limit that the model can be accepted.

3. Results

Representative sample consisted of 2014 respondents older than 12 years, of which 43% (861 respondents from the sample) had at least one active account on SNSs. This usage rate is consistent with Facebook penetration data for Serbia from Internet web statistics survey (December 2011).

Data shows that most SNS users in Serbia tend not to report about addictive social networking behaviour (Table 2). Table 2 contains mean scores, standard deviations and item factor loadings for each item from the SNS addiction scale. Principal component analysis of the social networking scale yielded with one factor, explaining 42.33% of variance.
PREDICTORS OF ADDICTIVE SNS USE

Table 2
Means (M), standard deviations (SD), and factor loadings of items on short SNS addictive tendencies scale

<table>
<thead>
<tr>
<th>Items on the SNS addiction scale</th>
<th>M</th>
<th>SD</th>
<th>Factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since I've been on social network my grades/success on work have deteriorated / my performance at work is worse</td>
<td>1.95</td>
<td>1.30</td>
<td>.65</td>
</tr>
<tr>
<td>It happens to me that I sleep much less than usually because I stay longer with SN</td>
<td>2.09</td>
<td>1.45</td>
<td>.69</td>
</tr>
<tr>
<td>Sometimes I have an impression that I live two lives: one private and another virtual</td>
<td>1.76</td>
<td>1.28</td>
<td>.72</td>
</tr>
<tr>
<td>I would rather spend an afternoon and/or evening on SN than devote that time to any other activities</td>
<td>1.50</td>
<td>1.04</td>
<td>.66</td>
</tr>
<tr>
<td>I have better time with people that I have met over the Internet than with those that I know in person</td>
<td>1.34</td>
<td>.92</td>
<td>.63</td>
</tr>
<tr>
<td>I fear that I might meet some of my virtual friends in real life</td>
<td>1.51</td>
<td>1.07</td>
<td>.54</td>
</tr>
</tbody>
</table>

Note: Five point Likert scale was used (1=I do not agree at all; 5=I completely agree ;)
Extraction Method: Principal Component Analysis.

SNS users did not report favoring virtual over real social relationships ‘I have better time with people that I have met over the Internet than with those that I know in person’ (1.34). They were somewhat more prone to acknowledge that SNS activities interfered with their day to day activities: It happens to me that I sleep much less than usually because I stay longer with social network (2.09); Since I've been on social network my grades/success on work have deteriorated / my performance at work is worse (1.95).

Although the theoretical span on SNS addiction scale ranged from 6 to 30, three quarters of respondents fell into “low” category, with total score less than 13 (Table 3). Only a small group of SNS users in Serbia actually reported to have high addictive tendencies.
PREDICTORS OF ADDICTIVE SNS USE

Table 3
Categories of SNS addiction

<table>
<thead>
<tr>
<th>Categories of SNS addiction</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (total score 6-13)</td>
<td>653</td>
<td>75.8</td>
</tr>
<tr>
<td>Medium (total score 14-21)</td>
<td>180</td>
<td>21.0</td>
</tr>
<tr>
<td>High (total score 22-30)</td>
<td>28</td>
<td>3.2</td>
</tr>
<tr>
<td>Total</td>
<td>861</td>
<td>100</td>
</tr>
</tbody>
</table>

Next, we employed correlational analysis (detailed in Table 4) in order to explore first order relations between the measured variables.

Addictive social networking exhibited high to moderate correlations with all psychological variables: self-esteem \((r = -0.35, p < 0.000)\), extraversion \((r = -0.105, p < 0.002)\) and life efficacy \((r = -0.127, p < 0.000)\), and low but statistically significant correlations with demographic variables. Correlation with traditional media exposure did not reach statistical significance \((r = -0.020, p=0.627)\).

Table 4
Correlation, means and standard deviations for the measured variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-esteem (1)</td>
<td>-</td>
<td>0.46**</td>
<td>0.36**</td>
<td>-0.01</td>
<td>-0.30**</td>
<td>-0.11**</td>
<td>-0.36**</td>
<td></td>
</tr>
<tr>
<td>Extraversion (2)</td>
<td>-</td>
<td>0.30**</td>
<td>-0.09**</td>
<td>0.06*</td>
<td>-0.25**</td>
<td>-0.08**</td>
<td>-0.10**</td>
<td></td>
</tr>
<tr>
<td>Life efficacy (3)</td>
<td>-</td>
<td>-0.05</td>
<td>0.05*</td>
<td>-0.16**</td>
<td>-0.06**</td>
<td>-0.13**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional media exposure (4)</td>
<td>-</td>
<td>-0.06*</td>
<td>-0.14**</td>
<td>0.04</td>
<td></td>
<td>-0.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender (5)</td>
<td>-</td>
<td>0.05*</td>
<td>-0.03</td>
<td></td>
<td></td>
<td>-0.09**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (6)</td>
<td>-</td>
<td>0.05*</td>
<td>-0.10**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban / rural (7)</td>
<td>-</td>
<td></td>
<td>0.07*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Addictive SNS (8)</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M scale</td>
<td>4.09</td>
<td>3.83</td>
<td>61.96</td>
<td>2.71</td>
<td></td>
<td></td>
<td></td>
<td>1.69</td>
</tr>
<tr>
<td>SD scale</td>
<td>1.13</td>
<td>1.12</td>
<td>22.24</td>
<td>1.56</td>
<td></td>
<td></td>
<td></td>
<td>1.18</td>
</tr>
</tbody>
</table>

Note: ** p < 0.01 two tailed; * p < 0.05 two tailed
PREDICTORS OF ADDICTIVE SNS USE

In the next phase, we tested four different models: Model A was labeled "exhaustive" as it included all three groups of predictors: psychological, socio-demographic and exposure to traditional media; Model B excluded traditional media exposure; Model C excluded socio-demographic variables; and Model D included only psychological predictors. Path analysis determined which model fitted the data best. Table 5 displays the goodness-of-fit indices for different models.

A highly significant chi-square showed that a large amount of observed covariance between items remains unexplained by the first “exhaustive” model A. Other measures of fit for the model A also laid outside of conventional acceptance limits: RMSEA values were above the acceptance limit, and the CFI and NFI scores were below the recommended level. The model B, which included all psychological and demographic variables excluding traditional media exposure, also demonstrated suboptimal fit. Restrictive models C and D had acceptable fit indices, but model C that included psychological predictors and traditional media exposure was overall superior. Figure 2 illustrates the weights of all predictors in the accepted model.

Table 5
Path analysis, fit indices exhaustive and restrictive models

<table>
<thead>
<tr>
<th>Fit indices</th>
<th>HF/DF</th>
<th>CFI</th>
<th>RMSEA</th>
<th>NFI</th>
<th>AIC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MODEL A</strong> (exhaustive: psychological predictors, demographic and traditional media exposure)</td>
<td>20,89</td>
<td>.683</td>
<td>.099</td>
<td>.677</td>
<td>446,969</td>
</tr>
<tr>
<td><strong>MODEL B</strong> (restrictive: psychological predictors, demographic, without traditional media exposure)</td>
<td>26,41</td>
<td>.711</td>
<td>.112</td>
<td>.707</td>
<td>387,282</td>
</tr>
<tr>
<td><strong>MODEL C</strong> (restrictive: psychological predictors, traditional media exposure, without demographic)</td>
<td>15,5</td>
<td>.934</td>
<td>.084</td>
<td>.931</td>
<td>92.24</td>
</tr>
<tr>
<td><strong>MODEL D</strong> (highly restrictive: psychological predictors)</td>
<td>44,2</td>
<td>.949</td>
<td>.147</td>
<td>.948</td>
<td>70.20</td>
</tr>
</tbody>
</table>
PREDICTORS OF ADDICTIVE SNS USE

Figure 2:
Direct and indirect effects of self-esteem, self-efficacy and media exposure to social networking sites addiction

![Diagram showing the relationships between self-esteem, life self-efficacy, additive social networking, and traditional media exposure.]

Note: Arrows indicate path coefficients, which are standardized regression weights

4. Discussion

The emergence of SNS more than a decade ago changed the media environment greatly. The largest networks now have hundreds of millions of active users, they established themselves as alternative channels of interpersonal communication, parallel to face-to-face interaction. As some forms of direct interpersonal interactions can be interpreted as addictive, so can similar virtual interactions.

The aim of this study was to explore the predictive value of socio-demographic, and psychological traits, as well as exposure to traditional media to these addictive tendencies. As previous research highlighted, many SNS studies relayed on small samples, and therefore lacked generalizability (Skues et al., 2012; Tazghini & Siedlecki, 2013). This study is trying to address this problem by investigating the addictive SNS use on the representative sample of Serbian population, making the study’s results more reliable.

To set the right tone for this discussion, we must start with the fact that we registered low incidence of the self-reported addictive behaviours. Average acceptance of different
PREDICTORS OF ADDICTIVE SNS USE

addictive tendencies ranged from 1.34 to 2.04 on a five-point scale. However, there were some interpersonal differences in these tendencies worth addressing. When comparing the predictive power of different sets of variables, psychological predictors dominated socio-demographic ones: path analysis demonstrated that exhaustive model including both psychological and socio-demographic variables had suboptimal fit, whilst the restricted model including psychological and traditional media exposure fitted the data well. Psychological profile that emerged is the user of lower self-esteem, more introverted and les self-efficient. This finding is consistent with the "social compensation hypothesis" - people less adapted to real life interactions seek fulfilment in online environment exhibiting more addictive tendencies. We are, however, reluctant to interpret this as contradictory to self-enhancement hypothesis, as latter tends to be true when predicting more adaptive online behaviours, such as content sharing, establishing and maintaining friendships etc. Set of behaviours we measured focused on lack of control when using SNS, negative impact on real life activities and prioritizing virtual over real life relationships.

It is important to note that SNS should be viewed as a tool that can be used or misused-personal traits qualify someone to be more prone to develop addictive tendencies or to widen circle of friends, share knowledge and experience.

One stream of using those results could be guidelines for SNS developers (Flanagin, 2001; Edwards, 2000). They can modify and structure the future developments of SNS to further attract people with certain psychological traits, and profile specific features to attract specific personalities. Additionally, present findings may inform psychologist, counsellors, teachers, and parents about people who are more at risk to develop addictive behaviour towards SNS. The engagement of particular psychological types in addictive activities on SNS may serve as an anchor point for future studies with the idea to develop strategies in terms of defining target groups at risk for developing addiction for SNS. In general, this study shows that personality traits are significant predictor of addictive SNS usage. There is an emerging need for the society to straighten the psychological wellbeing of the SNS users by encouraging youth to benefit from educational and
PREDICTORS OF ADDICTIVE SNS USE

communicational potential of SNSs and to learn to recognize and prevent their misuse that could lead to addiction.

4.1. Limitations

The fact that our study relied on self-reported measures of addictive behavior can be viewed as a limitation, as they can be sensitive to socially desirable responding and acquiescence biases. It was also empirically demonstrated that observable behavior is more reliable and more strongly related to psychological traits in comparison to self-reports (Amichai-Hamburger & Vinitzky, 2010). However, as we obtained a relatively strong pattern of correlation with psychological predictors, it can be hypothesized that they would be even stronger with behavioral criterion of addiction.

In order to get a complete picture of users online behavior, measures of addiction could also be complemented with more descriptive measures of SNS use such as number of friends, time spent networking, amount and type of uploaded content, as well as with ratings from alternative sources, such as close family members. The data could be collected by diary records and/or direct recording of online behaviour.

5. Conclusions

In this study we investigated the addictive behaviour in SNS use on a large sample of Serbian population. Path analysis identified psychological predictors to be more potent than socio-demographic ones. SNS user with addictive tendencies was identified to be less self-efficient, with lower self-esteem and more introverted. Given the popularity of Internet and SNSs, especially among young generation, we should continue to identify the predictors of both use and overuse of all Internet applications. Specific nature of addictive SNS use warrants further investigation and comparison to other problematic behaviours (gambling, eating disorders, and alcohol abuse). There is also need to further divide risk groups in order to explore different types of SNS addictive tendencies.
PREDICTORS OF ADDICTIVE SNS USE

References


PREDICTORS OF ADDICTIVE SNS USE


PREDICTORS OF ADDICTIVE SNS USE


PREDICTORS OF ADDICTIVE SNS USE