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MEASURING SOCIAL MEDIA ADDICTION AMONG UNIVERSITY STUDENTS

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Abstract

New developments in technology have changed the habits of people and people can find the things of real life in virtual worlds. Interacting in online platforms and sharing options of social media have made the life of students more easy while Social Media Addiction(SMA) becomes a problem among young people, causing to mental and physical problems in long run by using it in an excessive manner. The aim of this study is to determine the usage purposes of social media and SMA level among university students according to age, gender, usage years and daily usage. For that aim, 665 students were surveyed in an online platform at Bingöl University in 2019. Descriptive statistics, Kruskal Wallis Test, One-Way ANOVA test, Factor Analysis and Correlation Analysis statistical methods are used to analyze and validate data by SPSS 20 software. Instagram, youtube and facebook were found to be three mostly used social media networks respectively. Maintaining communication with existing friends, listening music and sharing things are main usage purposes for females while males prefer social media for following a group, playing games and meeting new people. According to gender, there are significant differences just for conflict factor that males spend more time on social media than doing their daily responsibilities and activities, showing that males are more addictive. Moreover, younger university students have higher conflict addiction score and as students use social media more in years and daily, they become more addictive in general. Students spend daily most of their social media time for communicating with existing friends and chatting. Daily usage has the strongest correlation with occupation factor. Furthermore, the strongest correlation is seen between relapse and conflict factors and the most effective factor on Social Media Addiction Scale (SMAS) was found to be conflict factor.

Key words: Social Media Addiction Scale, Students, Bingöl University
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1. Introduction

Connecting at anytime, anywhere and with anyone has made indispensability social media with help of increasing different cheap and affordable mobile social media uses. Interactive capabilities of social media can bring individuals or organization together to hold conservations and to share ideas, leading to creating interest groups and forming relationships. Social media dynamic usage and interactions takes the attention governments, political organizations, non-profit organizations, healthcare providers, universities etc. As more people use social media networks each day, many firms or organization start to use social media in order to increase their market share or people in their domain. It is stated by Baccarella et al.,(2018) that many firms in European Union(EU) use social media for marketing, public relations, customer service, product development, personnel decision-making etc. Furthermore, many organizations or people try to reach more people by social media networks to improve their reputation and identity while, people have used more social media in daily life with an increasing usage in all ways of life, causing addiction; disturbing mental and physical problems on users in long run.

Virtual worlds as online games, chat rooms, web rings as home pages, electronic bulletin boards and social networking tools are ways of people interacting in online platforms. Facebook, Twitter, Google Plus, MySpace, YouTube, LinkedIn, Flickr, Bebo, DeviantArt, Hi5, Friendster, Tagged, Badoo, Xing, Orkut, Pinterest, WhatsApp, Viber, Snapchat, LINE, Pinterest, YY, LinkedIn, Telegram, VKontakte, Blackberry Messenger, and KakaoTalk virtual life can be a way for users to escape from normal life and interact with other people (Vannucci et al., 2017:163–166). Social supports are needed by people as to be cared, loved and valued by friends and family members as way of fighting negative life experiences and decreasing stress level with increasing satisfaction. Individual problems, negative experiences, and feelings are talked with others as for finding social supports and solutions to their problems (Andreassen et al., 201390–99). Although the new technologies generally increase the quality of human life, it also comes to the fore with psychiatrists' case studies and related addiction preventing studies that also they cause new problems in excessive usages. Individual mental health can be affected by lack of real social support, resulting in depression and anxiety symptoms (Andreassen et al., 201390–99; Vannucci et al., 2017:163–166 ; Chung et al., 2019: 62-67). Students at university have multiple stress factors as academic stress and further challenges of life such as living in another place, caring themselves and having new friends. Thus, students may use social media in excessive manner to escape from their daily problems and stress. Furthermore, diversity of social media use in mobile devices and feeling more free about internet are other reasons of using social media more (Brailovskaia et al., 2019: 167–174; Uysal, 2020: 70-85).

In this study, it is aimed to measure four main dimensions (occupation, relapse, mood and conflict) of social media addiction and learning reasons of using social media through applying a survey to Bingöl University students in 2019. It is aimed

to fill the research gap about the internet addiction among university students in Bingöl University, Turkey that it is a pioneer study to determine the addiction level and reasons of using social media. Moreover, this study can help to define whether students are addictive or not since many students do not know how to determine whether they are addictive or not as there are not any international standards to determine the level of addiction. Furthermore, the existing field is updated with new specific findings at another region of Turkey for comparison purposes as the social media field has many new innovations and changes, affecting the behaviors and usages.

2. Theoretical Background

2.1 Social Media

More than 73% of worldwide internet users are active on social media (Kemp, 2017). It is estimated that there will be around 3.09 billion social media users around the globe by the end of 2021 (Statista, 2020). Facebook, YouTube, Instagram, Whatsapp , TikTok, QQ, QZone, Sina Weibo, Reddit, Snapchat, Twitter and Pinterest are found the most popular social media networks in 2020 (Medya Akademi, 2020; Buluk et al. , 2017). Among existing social media networks, Facebook the most popular Social Network Sites(SNSs) has over 2.3- 2.41 billion members monthly active users with more than 1.5 billion people daily usage in 2019 (Andreassen et al., 201390–99; Marengo, Poletti, Settanni , 2020). Instagram has recently surpassed 1 billion monthly active users, the vast majority of whom are using it on a daily basis (Casale & Banchi, 2020).

There are 37 million active Facebook users in Turkey as the first one in Europe. With the number of 38 million users, Turkey ranks 6th among the countries that use mostly Instagram in the World. Moreover, Turkey has 11,8 million active users of Twitter , ranking 6th on the list in the World and as the second one in Europa after the United Kingdom (Medya Akademi, 2020).

Social media usage measured by the Social Tracker mobile application measuring on-screen duration of users using at least one of SNSs (Chung et al.,2019 : 62-67). It is found that most users spend minimal three hours on social media (Sampasa-Kanyinga & Lewis, 2015) and young users in EU spend more than 2 hours per day on SNSs (Mander, 2017). Uncontrollable internet addicts can cause dysfunctional consequences (Vannucci et al., 2017: 163–166). Work, academic productivity, and mental health can be affected by addictive and excessive use of social media a behavioral addiction disorder causing and poor mental health similar to excessive exercising, and compulsive buying behaviors (Settanni et al., 2018:165–170 ; Sampasa-Kanyinga & Lewis, 2015). Undergraduates participants using Facebook have anxious problems meaning higher daily social media use resulting in greater dispositional anxiety symptoms with depressive symptoms (Vannucci, Flannery, Ohannessian , 2017: 163–166). Underestimating the time intervals in social media is an addictive behavior. Cognitive time passes less slowly under deprivation or in stressful situation that there is a significant partial

correlation between Facebook addiction score and time distortion (Turel, Brevers, Bechara, 2018: 84-88).

2.2 Addictive Use of Social Media and Dimensions

Dependence is a psychological state while addiction is described as "*a dependence, on a behavior or substance that a person is powerless to stop*" that the behavior is a state of problematic media use and sometimes the dependence and the behavior are used instead of each other (Olendorff, Jeryan, Boyden, 1999; Wang , Lee , Hua, 2015: 40–49). According Diagnostic and Statistical Manual of Mental Disorders IV addiction criteria, no differences are found between '*chemical*' and '*behavioral'* addiction in the study of Yücens & Üzer(2018). Dependence of social media starting mainly with a habit distorting into psychological dependence over time can lead to the magnitude of mood alternations, negative outcomes and excessive expenditures of time. Users may lose the productivity and have the feelings of isolation(Wang , Lee , Hua, 2015: 40–49). Having more social media friends means that users may get more positive comments as likes for photos and congratulations for achievements, creating a psychological dependence on the online platforms with fear of having less support when leaving facebook supported by study of Brailovskaia, Schillack, Margraf(2018) and Casale, Rugai, Fioravanti (2018). Maladaptive cognition positively affected by habit and perceived ease of use has strong effects on perceived enjoyment and perceived usefulness. Perceived irreplaceability has strong impact on negative affect anticipation influencing the level of dependence with deficient self-regulation. Hence, negative affect anticipation is the most important factor of dependence (Wang , Lee , Hua, 2015: 40–49). Continued use terms is used for user still using social media even knowing negative consequences while compulsive use is defined as using social media without awareness of the negative outcomes (Liu& Jianling, 2018 :55–59). Uncontrollability of thoughts   what friend are doing online can cause negative emotion states forcing engagement of social media in a maladaptive to regulate their states. Unsatisfied psychological needs can be met by social media. The fear of missing-out "*the desire to stay continually connected with what others are doing*" has direct effect problematic social media use with fear of being negatively evaluated and perception of low self-presentational skills (Casale, Rugai, Fioravanti, 2018: 83–87).

Being lonely, less satisfied with life, depressive moods, openness and having lower self-esteem are properties of compulsive internet users (Yücens & Üzer , 2018:313–318; Dalvi-Esfahani et al., 2019) as loneliness and depression can be decreased by social media from some studies (Miloševic -Dordevic & Zezelj ,2014: 229–234). People spending large amount of time in facebook, thinking always about social platforms events, and having psychological unease when not using social media have more tendency to Facebook Addiction Disorder (FAD) (Brailovskaia et al., 2019:167–174). Seeing the social media as the only place to be cared, thinking not valuable when not using social media, not doing without social media and strong desire and necessity of using it are signs of addictive people. Compulsive users lose the track of time while they are online and cannot

complete their necessary tasks, causing to feel guilty (Wang , Lee , Hua, 2015: 40–49). Implicit associations explaining by subconscious cognitive links in the brain as cognitive-emotional deficits for pleasure seeking, causing to repetitive activities are studied that they are related to social media addiction. Many decisions of people are taken without conscious awareness (Turel& Serenko, 2020).

Social media use starts with a rational decision as soft addiction and it can end with an irrational behavioral outcome. Academic, family, and work lives can be ignored by user in long term that they are over-rely on the utility and pleasure of microblogging meeting their internal needs that they are incapable of finding substitutes, resulting in anxiety and agitation in long term (Wang , Lee , Hua, 2015: 40–49). Interactions on SNS can turn into behavioral addiction called as SNSs addiction causing social overload, envy and anxiety. Addictive people can feel guilt or anxiety, impacting deleteriously on individual's lives, through introversion and social isolation. Depression was seen as outcome of internet addiction but not a pioneer by study of Lu et al (2011). Being an outcome is more dangerous than having depression and using internet to adjust their feelings. Deficient self-regulation, neglect of personal life, cognitive preoccupation, mood modifying experiences, tolerance, concealment of addictive behaviors, and escapism are symptoms of that addiction with some abuse cases as euphoria, withdrawal, relapse, and reinstatement (Abbasi , 2019: 277-280; Vannucci, Flannery, Ohannessian , 2017: 163–166).

Salience *(preoccupation with the behavior)* thinking too much about social media or preoccupied by social media, **Tolerance or Craving** (*increasing engagement*) spending more time on social media for getting more pleasure, **Mood Modifications** (*performing the behavior for relieving*) using more social media to decrease depression or to forget problems for reducing negative feelings, **Withdrawal** (*experiencing psychological and physical discomfort*) feeling uncomfortable or stress when not using social media, **Relapse** or loss of control (*unsuccessfully decreasing or controlling the behavior*) failing of reducing social media time without success and **Conflict** (*neglecting social, recreational, work etc. things*) ignoring works, studies, sports, recreational activities, family , friends etc. harming other important life areas are six addiction symptoms of social media addiction firstly suggested by Griffiths (2005) (Andreassen , Pallesen , Griffiths, 2017: 287-293; Settanni et al., 2018:165–170; Liu, Jianling , 2018 : 55–59; Turel, Brevers, Bechara, 2018: 84-88). Behavioral salience, withdrawal, relapse, and conflict core criteria of addiction have negative results on users while cognitive salience, tolerance, and mood modification are related to high engagement of peripheral criteria (Andreassen et al., 2013: 90–99).

2.3 Reasons of Using Social Media and Results of Excessive Usage

Keeping in touch with friends, sharing interesting things, expression of opinion and relaxation, gathering useful information, decreasing emotional stress, spreading information, gaining more contacts, making groups, selling or buying products, increasing their fame etc. are main motivation factors of using social media (Dalvi-Esfahani et al., 2019; Wang , Lee , Hua, 2015: 40–49). Feeling happy while using social media and telling thing that cannot be told face to face are two

other reasons of using social media(Uysal, 2020: 70-85).   Creating reputation by showing social media followers numbers and creating circles of friends or communities are other reason of using SNSs (Baccarella et al., 2018:431-438).

Gaining pleasant feelings and avoiding unpleasant feelings as a kind of intrinsic needs like perceived enjoyment motivate users for social media (Wang , Lee , Hua, 2015: 40–49). As way of pleasure seeking and withdrawal-pain avoidance (Bechara et al., 2019), social media posts reward the brain like sexuality and eating. It increases dopamine secretions by 9%; defined as a sense of happiness. This rate is around 22% in cocaine use (Tunceliemek, 2018). Mathematical analysis of experts on social networks shows that the probability of a person to be happy increases by 15% when a distant person is somewhat happy. (Tutgun-Ünal , 2015). Furthermore, symptoms of depression can be decreased in SNSs through positive interactions and social support increasing users' perception of connectedness (Andreassen et al., 201390–99). Hence, virtual life can be a way for users to escape with a hope of finding relief (Vannucci, Flannery, Ohannessian , 2017: 163–166) that people not having enough sufficient social support in real world use social media more (Brailovskaia, Schillack, Margraf, 2018:450–456). Pathological internet use was firstly define by Young (1996) by evaluation of more than sixty hours internet usage weekly. Problematic internet use is predicted by past negative and present fatalistic situations that users try to use more the SNSs to avoid thinking personal problems (Settanni et al., 2018:165–170).

Wellbeing, social functioning, sleep, academic and work performance and health can be affected by social media addiction (Turel, Brevers, Bechara, 2018: 84-88). An obsessive permanently online staying need (Andreassen et al., 2013: 90-99) and excessive gambling or pornography viewing are problematic actions of addicts   (Vannucci, Flannery, Ohannessian , 2017: 163-166). Online gaming addiction was found as the one of the main reasons college drop-outs in the United States (Barnes & Pressey, 2014: 93-109). Excessive, aggressive, and inaccurate engagement; inappropriate and undesirable contents like violent or pornographic content, fake news;   tracking people without consent as geolocation information, causing   privacy and safety problems;   cyber bullying, stalking, and online harassment; harming reputations by inappropriate and offensive content; ingroup-outgroup bias like excluding others from conversations ; racial and gender (in)equality and privacy and safety risks are found to be blocks of social media (Baccarella et al., 2018; Vannucci, Flannery, Ohannessian , 2017: 163–166). Undesirable feedback called as cyber-bullying or negative social comparisons as other having happier and better lives can cause stress on social media users. Validating their self-worth or decreasing intolerable worry may be done by posting more on social media sites in order to get more '*likes*'. Users may use social media sites for avoiding real-world stressors by cyber-stalking harassing or frightening someone or posting about their problems, as a maladaptive coping strategy (Vannucci, Flannery, Ohannessian , 2017: 163–166).

Depression, insomnia, sleep loss, (Andreassen et al., 2013: 90–99; Baccarella et al., 2018: 431-438 ; Chang Liu, Jianling , 2018), higher social anxiety or anxiety

disorders, lower self-esteem, envy (Chang Liu, Jianling , 2018; Yücens, &Üzer, 2018: 313–318;) and impulse control (Vannucci, Flannery, Ohannessian, 2017: 163–166) accompanied by significant psychiatric and chronic diseases are related social media addiction. Attention Deficit Hyperactivity Disorder (ADHD) showing symptoms of lack of attention and hyperactivity affecting social, work and school contexts and having high relationship with anxiety and mood disorders; obsessive-compulsive disorder (Settanni et al., 2018:165–170; Yücens, &Üzer, 2018: 313–318), higher stress of Facebook addiction, named as Facebook Addiction Disorder (Brailovskaia, Schillack, Margraf, 2018:450–456), suicidal ideation by cyber-victimization (Jasso-Medrano & Lopez-Rosales , 2018: 183-191) and homicide (Asongua, Udujib, Okolo-Obasic, 2019) have connections with social media addiction and with each other from past studies. FAD have positive correlation with depression, anxiety symptoms and insomnia (Andreassen et al., 2013: 90–99). Also, ADHD, depression, schizophrenia and obsessive-compulsive disorder can accompany internet addiction as psychiatric comorbidity (Yücens, &Üzer, 2018: 313–318).

2.4 Social Media Users' Traits and Predictors of Social Media Addiction

Personality traits, demographics and needs can have affect internet usage. Personality traits and trans-diagnostic constructs of cognitive distortions can cause internet addiction, social anxiety and depression (Yücens, & Üzer, 2018: 313–318). Machiavellianism (making sure plans benefiting him/her but not others) employing more self-presentation tactics, Narcissism(people seeing me as a natural leader) needing for approval and admiration, Psychopath(out of control state) engaged in unsolicited internet pornography and Sadism(watching people get into fights excites me) called as dark tetrad personality traits causing to pathological online use can be seen among social media users. Individuals having psychopath, narcissism, and machiavellianism properties have increased substance use and problematic gambling behavior as cocaine-addicted individuals have a higher machiavellianism characteristic. Average daily screen-time and psychopath have a positive correlation with social media addiction. Lower level of empathy and smartphone use disorders are predictors of social media usage (Dalvi-Esfahani et al., 2019). Trait impulsivity can be used for explaining non-substance-dependent addictive behaviors like pathological gambling, overeating and online gaming. It is found that psychopath and narcissism have positive correlation with impulsivity apart from Machiavellianism (Chung et al., 2019: 62-67).

According to study results, lower age, being a woman, current relationship, being student, low level education, low income, lower self-esteem, and narcissism parameters have high addiction (Andreassen , Pallesen , Griffiths , 2017: 287-293). Self-importance, fantasies of unlimited success, feeling special and unique, lack of empathy, envy and arrogance are characteristics of narcissism (Andreassen , Pallesen , Griffiths , 2017: 287-293). Narcissist people have low self-esteem and high problematic use of social media. Persons who have low self-esteem in real life can express themselves with high self-esteem in social media sites (Liu,& Jianling , 2018:58-59). Vulnerable narcissism is explained as hypersensitivity to the

opinions of others, an intense desire for approval, and defensiveness. Sense of entitlement, grandiose fantasies, and admiration desires are characteristics of narcissist users. Grandiose narcissism explained with grandiosity, aggression, and dominance can be found in problematic social media use (Casale& Banchi, 2020). It is found from a study of Liu,& Jianling (2018) that self-esteem and narcissism are correlated with social media addiction. The presence of a self-reinforcement with more selfies may increase the level of narcissism over time (Casale, Rugai, Fioravanti, 2018: 83–87). Facebook may be a better platform for narcissists that users can show themselves for self-promotion by status updates and photos while Twitter is restricted with 140 characters making not a good way for self-promotion (Casale, Rugai, Fioravanti,2018: 83–87).

Introvert , lack of confidence in their strategic self-presentation, low self-esteem and anxiety high on neuroticism are risk groups of social media addiction (Casale, Rugai, Fioravanti,2018: 83–87; Miloševic -Dord-evic, & Zezelj ,2014: 229–234). Impulsivity and low self-esteem as personal traits, loneliness, depression, and specific motives like gambling are main determinants of internet addiction (Brand et al. , 2016). Online communication reduces social anxiety in short term and increases confidence to communicate with others. Internet is a good platform for people having low self-esteem, low motivation, fear of rejection and need for approval as a compensation of some deficiencies (Yücens, &Üzer, 2018: 313-318). People with low self-esteem find social media platform as a safer place to express themselves than high self-esteem people; a relief and affordable way (Aladwani& Almarzouq ,2016: 575-581; Andreassen , Pallesen , Griffiths , 2017: 287-293). Extraversion with which users have more posting activity, bigger online networks, and more likes counts and neuroticism users seeking social support with increased posting activities play important role at use of social media. Neuroticism has positive correlation with social media addiction while extraversion was not significant from study of Marengo, Poletti, Settanni (2020). Individuals with a high degree of neuroticism use more social media and neuroticism has a positive relationship with problematic social media use (Dalvi-Esfahani et al., 2019). The number of status updates correlates with both neuroticism to get higher levels of positive feedback and received likes have positive effect on social media addiction (Marengo, Poletti, Settanni , 2020). It is found that compulsive social media in which self-esteem has negative affect and also interaction anxiousness has a positive significant effect on problematic learning outcomes among university students that thoughtful engagement with social media is necessary for students with more self-awareness to prevent problematic usages (Aladwani& Almarzouq ,2016: 575-581; Marengo, Poletti, Settanni , 2020).

3. Method

This study aims to measure the level of social media addiction among university students. Due to the lack of measurement tools on social media addiction in Turkey, it was considered important to develop a measurement tool in order to cover all social media applications such as Twitter, Instagram, Swarm, Facebook,

Foursquare, youtube, Google +, Linkedin, Vine and others in more comprehensive way at a different university. Validity studies, test-retest reliability and linguistic equality of Social Media Addiction Scale (SMAS) with four factors were carried out by Tutgun-Ünal (2015). A 5-point Likert-type SMAS consisting of 41 items through conducting validity and reliability studies to examine the social media addiction of university students was applied at Bingöl University in 2019 that occupation, mood modification, relapse and conflict are main groups of that scale. Moreover, 17 items were asked to learn usage purposes of students with a 5 Likert-scale (Never (1), Rarely (2), Sometimes (3), Often (4), Always (5)).

675 university students who have at least one of the social media applications were reached in the scale development of the study. Bingöl University students constitute the main population of the study. According to the survey system program, 639 sample size was found to be sufficient when there were approximately 16,000 students at Bingöl University with 95% confidence level and 5% confidence interval (Surveysystem, 2019).

Hypotheses:

H1: There are significant differences for university students' social media addiction according to gender.

It is found that male students use social media more in the study of Uysal (2020) that they have the fear of missing developments at higher level, leading to ignoring more their homework (Özsürünç, Pehlivan, Çilan, 2018). Females are more addicted to social media at the problematic use.

H2: There are significant differences for university students' social media addiction according to age.

18-29 age range people use more social media (Yılmaz & Yılmaz , 2018) that lower age is a risk factor for SMA (Andreassen , Pallesen , Griffiths, 2017) and younger users show more risky behaviors in online platforms. It is found in the study of McAndrew & Jeong (2012) that older people use less facebook. Family income, parents education and close friends behaviors have effects on SMA besides age.

H3: There are significant differences for university students' social media addiction according to their daily usage time.

As people spend more time daily on SNSs, they become more addictive (Li Chung et al., 2019: 62-67). Students using social medial more than 7 hours daily are risk groups. Decreasing daily usage time can be a way of reducing SMA.

H4: There are significant differences for university students' social media addiction according to usage years.

As the usage years increase, people become more familiar with social media and new social media applications and updates (Li Chung et al., 2019: 62-67). The social media is a fruitful place to meet the information needs of users and in years, they become more dependent on SNSs.

H₅: There are significant differences for university students' social media addiction according to usage purposes related to gender and daily usage.

Chatting with friends, making shares, making new friends and playing online games are main reasons of using SNSs(Uysal, 2020: 70-85). Females prefer social media to communicate with existing friends and to get emotional support. 18 to 34-year-old people use mainly Facebook, Instagram and Snapchat(Perez, 2014). Males use more Facebook, Twitter and Instagram while females use more youtube and linkedin (Yılmaz & Yılmaz , 2018).

SMAS was found to be valid and reliable that 0,977 Cronbach Alfa value is calculated for 41 items with a high degree of reliability and factor loads are determined by factor analysis to show the structure and factors of the study. Furthermore, Kaiser-Meyer-Olkin (KMO) coefficient for adequacy and sufficient items for each factor in sampling and Barlett Sphericity test for correlation analysis are used for the explanatory factor analysis that 0 ,978 KMO value greater than 0,9 and the significance value of Barlett test ($\chi2 = 23577,467$; p. =. 000) show the sufficiency of carrying out factor analysis. Extraction method as principal component analysis and rotation method as Promax with Kaiser Normalization are used in the factor analysis. The first factor of that model explains 52,622% variance with eigenvalue of 21,575. The second, third and fourth factors explain 7,823%, 2,906% and 2,635% variance respectively that four factors explains 65,986% of cumulated variance greater than 40-60% value, which is a high value for strong factor structure of the scale (See, Table 1 in appendix section).

4. Results

51,4 % of participants are women and % 48,6 of them are male. % 90,7 of them are between 18-25 age range. Furthermore, 94% of students are undergraduate and 6% of them are master and PhD students. 33,5% percent of participants use mobile devices and personal computers and 69,8% of them use just mobile devices to connect social media. The most popular social media platform is Instagram with %85,2 followed by youtube with %49,2, facebook with %47, Twitter with 36,9% Google+ with 42,5% Linkendin with 6,8%, Foursquare with 1,6% and vine with 0,9%. 72,4% of them use social media more than 4 years and 28% of them use more than 7 years. For daily use, 41,6% of students use internet more than 4 hours and 8,7% of them use social media more than 7 hours that the usage between 1-3 hours is 43,1%.

Research, collaboration, starting and maintaining communication, sharing content and entertainment have been identified as the main objectives in using social media (Yılmaz & Yılmaz, 2018). In the study conducted by Yılmaz & Turan (2019), social media is mostly used for entertainment and education. In that study, searching information and news, connecting with current friends, chatting, using for education purposes, listening and sharing music and photos are respectively the most main reasons of using social media while to be known by other people, to know new people, playing games, commenting on others shares and giving likes

and looking others profile are the least important reasons of using social media in the order as shown in Table 1.

Table 1. Social media usage purposes

No	Usage Purpose	N	Mean	Std. Deviation
1	Searching for information / news	675	3,63	1,052
2	Maintaining communication with existing friends	675	3,62	1,123
3	Using for chat	675	3,31	1,089
4	Communicating for educational purposes	675	3,26	1,096
5	Listening / sharing music	675	3,05	1,230
6	Sharing the liked objects (pictures, videos, notes etc.)	675	3,01	1,185
7	Writing a notification / status	675	2,78	1,132
8	Sharing liked news or re-tweeting	675	2,74	1,237
9	Subscribing to interested groups or following a group	675	2,70	1,233
10	Getting information about brands / products for shopping	675	2,66	1,153
11	Browsing other people's profiles	675	2,59	1,151
12	Commenting / like on others' situations or posts	675	2,56	1,154
13	Interacting with brand / product pages (technical support, reporting problems, etc.)	675	2,52	1,186
14	Following the pages of famous people	675	2,40	1,181
15	Playing games	675	2,29	1,221
16	Meeting new people	675	2,02	1,062
17	To be recognized by other people	675	1,88	1,084

Source: Authors' calculations

According to gender, t-independent test is applied based on assumptions of equal variances and normally distributed data criteria that there are no significant difference for general SMAS according to gender that there are small differences between means as shown in Table 2, meaning our H_1 hypothesis is rejected. In the study of Tutgun-Ünal (2015), no gender differences were also detected. However, conflict factor is significantly different (t= -3,291, p= 0,001<0.05) and there are no significant differences for occupation, mood and relapse factors. Males are more addictive in conflict factor that social media affect works of males negatively and they neglect family members and friends due social media than females. Neglecting works and homework, not finishing activities on time, spending more time on social media than spending time with friends, trying to hide time spent on social media, forgetting eating, spending less time on personal care, having physical problems like back pain, having problems in relationships and spending more each time on social media even though there is a need of doing more things are items that males show higher mean with significant differences (p<0.05) according to gender in that group. Furthermore, In the study of (Çiftçi, 2018) applied to students, it was found that men are more dependent to social media than women.

Statistically significant items are shown in Table 2 according to usages purposes for gender that woman use mainly to maintain communication with existing friends, to listen and to share music, videos and photos, to write a notification / status and to browse profiles while males are more eager to subscribe or to follow a group, to

play games, to meet new people and to be recognized by other people, supporting hypothesis H_5.

Table 2. t-test according to gender

Group	Gender	N	Mean	Std. Deviation	t	Sig. (2-tailed)
Occupation	Woman	347	2,7	0,96	1,093	0,275
	Male	328	2,6	0,86		
Mood	Woman	347	2,5	1,06	-0,771	0,441
	Male	328	2,5	0,99		
Conflict	Woman	347	2,1	0,96	-3,291	0,001
	Male	328	2,4	0,98		
Relapse	Woman	347	2,2	1,0	-1,750	0,080
	Male	328	2,4	0,96		
SMAS	Woman	347	2,3	0,88	-1,716	0,087
	Male	328	2,4	0,87		
I use it to meet new people	Woman	347	1,76	1,015	-6,953	0,000
	Male	328	2,30	1,040		
I use it to be recognized by other people	Woman	347	1,64	1,000	-6,020	0,000
	Male	328	2,13	1,114		
I use it to share the objects I like (pictures, videos, notes etc.)	Woman	347	3,14	1,262	2,936	0,003
	Male	328	2,87	1,082		
I use it for playing games	Woman	347	2,04	1,146	-5,648	0,000
	Male	328	2,56	1,243		
I use it to browse other people's profiles	Woman	347	2,70	1,203	2,578	0,010
	Male	328	2,48	1,083		
I use it to write a notification / status.	Woman	347	2,86	1,204	2,029	0,043
	Male	328	2,69	1,044		
I use it to subscribe to groups that interest me or to follow a group.	Woman	347	2,58	1,239	-2,678	0,008
	Male	328	2,83	1,215		
I use it to listen / share music	Woman	347	3,23	1,263	3,867	0,000
	Male	328	2,87	1,167		
I use it to maintain communication with my existing friends	Woman	347	3,73	1,153	2,807	0,005
	Male	328	3,49	1,078		

Source: Authors' calculations

Table 3. Kruskal Wallis Test for age

Group	Age	N	Mean	Std. Deviation	F	Sig.
Occupation	18-25	612	2,7139	0,91742	4,982	0,083
	26-35	55	2,4985	0,84139		
	36-45	7	2,1190	1,10644		
	Total	674	2,6895	0,91531		
Mood	18-25	612	2,5676	1,03620	3,617	0,164
	26-35	55	2,4618	0,98723		
	36-45	7	1,8857	0,89336		
	Total	674	2,5508	1,03193		
Conflict	18-25	612	2,2981	0,98174	6,892	0,032
	26-35	55	2,1292	0,97184		
	36-45	7	1,5113	0,78579		
	Total	674	2,2742	0,98264		
Relapse	18-25	612	2,3608	1,01557	4,390	0,111
	26-35	55	2,2400	1,00547		
	36-45	7	1,6286	0,80356		
	Total	674	2,3413	1,01531		
SMAS	18-25	612	2,4603	0,87882	6,371	0,041
	26-35	55	2,2914	0,86408		
	36-45	7	1,7491	0,83804		
	Total	674	2,4377	0,88019		

Source: Authors' calculations

Shapiro-Wilk-W test is used to check the normality of data that data are not normally distributed (p<0.05) according to age. Thus, non-parametric Kruskal Wallis Test is used to find significant differences according age. There are not significant changes according to general addiction SMAS scale, rejecting Hypothesis H_2. Conflict factor is the only group having significant differences that younger students have higher conflict addiction mean and older students are less addictive as shown in Table 3.

A significant number of students start using social media at the age of 10 or earlier. Accordingly, vocational high school students start using Facebook and YouTube at an earlier age than other social media networks (Uysal, 2020: 70-85). According to usage years there are significant difference for all factors and main SMAS scale as shown in Table 4, supporting Hypothesis H_4. About 44,4% of students use social media between 4-6 years and 28% of them use more than seven years, meaning that students start to use social media at secondary school. As the usage years increased, students become more addictive.

Table 4. ANOVA according to usage years

Group	Usage Year(s)	N	Mean	Std. Deviation	F	Sig.
Occupation	< 1 year	68	2,2806	0,82921	6,339	0,000
	1-3 years	118	2,6066	0,81190		
	4-6 years	300	2,7411	0,93251		
	>7 years	189	2,8064	0,93942		
	Total	675	2,6895	0,91531		
Mood	< 1 year	68	2,2118	0,88428	4,522	0,004
	1-3 years	118	2,3966	0,98188		
	4-6 years	300	2,6227	1,04636		
	>7 years	189	2,6550	1,05927		
	Total	675	2,5508	1,03193		
Conflict	< 1 year	68	1,9783	0,87444	4,068	0,007
	1-3 years	118	2,1249	0,86709		
	4-6 years	300	2,3386	0,99688		
	>7 years	189	2,3718	1,03872		
	Total	675	2,2742	0,98264		
Relapse	< 1 year	68	2,0147	0,94778	4,002	0,008
	1-3 years	118	2,2169	0,90415		
	4-6 years	300	2,4380	1,05248		
	>7 years	189	2,3831	1,01987		
	Total	675	2,3413	1,01531		
SMAS	< 1 year	68	2,0997	0,78345	5,601	0,001
	1-3 years	118	2,3103	0,76991		
	4-6 years	300	2,5032	0,90574		
	>7 years	189	2,5349	0,90405		
	Total	675	2,4377	0,88019		

Source: Authors' calculations

36% of students use the internet between 3-5 hours a day and 36% of them use the internet more than 5 hours per day (Çiftçi, 2018). 43,1% of students use daily social media between 1-3 hours and 32,8% of them use between 4-6 hours. There are significant differences ($p < 0.05$) for daily usage with ANOVA One-Way test as shown in Table 5, supporting Hypothesis H_3. Students(8,7%) using more than seven hours are the most addictive group, leading to not doing their works and task as shown in occupation group with 3.5 mean close to often region.
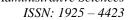
Table 5. ANOVA test for daily usage

Group	Daily Usage	N	Mean	Std. Deviation	F	Sig.
Occupation	< 1 hour	103	2,1189	0,75800	50,702	0,000
	1-3 hours	291	2,5060	0,84989		
	4-6 hours	222	2,9647	0,81965		
	>7 hours	59	3,5551	0,86873		
	Total	675	2,6895	0,91531		
Mood	< 1 hour	103	2,0932	0,91601	27,775	0,000
	1-3 hours	291	2,3698	0,99220		
	4-6 hours	222	2,7964	0,98495		
	>7 hours	59	3,3186	0,95565		
	Total	675	2,5508	1,03193		
Conflict	< 1 hour	103	2,0051	0,91094	27,775	0,000
	1-3 hours	291	2,0798	0,96468		
	4-6 hours	222	2,4697	0,94448		
	>7 hours	59	2,9679	0,86912		
	Total	675	2,2742	0,98264		
Relapse	< 1 hour	103	1,9864	0,85647	22,566	0,000
	1-3 hours	291	2,1395	0,98102		
	4-6 hours	222	2,6018	1,00946		
	>7 hours	59	2,9763	0,94693		
	Total	675	2,3413	1,01531		
SMAS	< 1 hour	103	2,0469	0,79135	35,283	0,000
	1-3 hours	291	2,2472	0,85189		
	4-6 hours	222	2,6705	0,80990		
	>7 hours	59	3,1835	0,73967		
	Total	675	2,4377	0,88019		

Source: Authors' calculations

For usage purposes according to daily usage, there are significant differences for all items except using for education purposes (p=0.92>0.05) by ANOVA One-Way Test, supporting Hypothesis 5. The highest two means are 3,97; greater than seven hours daily usage group using social media for communicating with existing friends and 3.92 mean of the same group for chatting with friends. It can be said that communication with existing friends and chatting are two main reasons of social media addiction that as students have more friends, they are incline to spending more time and this habit can turn into addiction.

Age has weak correlation with other items that it can be due to not having big age differences in that study. Usage years have the strongest correlation with daily usage and as the students have used social media more years, they become more addictive. Daily usage has the strongest correlation with occupation, as students use more social media daily, they become more addictive and they think more about

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social media activities. All factors of addiction (occupation, mood, relapse, conflict) have strong correlation with each other and the strongest correlation is between relapse having mean of $2.34 \pm 1,01$ and conflict factors having the highest mean of addiction as 2.68 ± 0.91(r=0,826; p<0.01). The strongest correlation on SMAS with mean of $2.43 \pm 0,88$ comes from conflict factor(r=0,947; p<0.01) as shown in Table 6.

Table 6. Pearson correlation for social media addiction

Factor \ Factor	Age	Usage Years	Daily Usage	Occupation	Mood	Conflict	Relapse	SMAS
Age	1	,173[**]	-,106[**]	-,091[*]	-,067	-,096[*]	-,081[*]	-,098[*]
Usage Years	,173[**]	1	,273[**]	,154[**]	,131[**]	,125[**]	,106[**]	,145[**]
Daily Usage	-,106[**]	,273[**]	1	,427[**]	,328[**]	,274[**]	,294[**]	,360[**]
Occupation	-,091[*]	,154[**]	,427[**]	1	,747[**]	,695[**]	,728[**]	,873[**]
Mood	-,067	,131[**]	,328[**]	,747[**]	1	,711[**]	,691[**]	,836[**]
Conflict	-,096[*]	,125[**]	,274[**]	,695[**]	,711[**]	1	,826[**]	,947[**]
Relapse	-,081[*]	,106[**]	,294[**]	,728[**]	,691[**]	,826[**]	1	,888[**]
SMAS	-,098[*]	,145[**]	,360[**]	,873[**]	,836[**]	,947[**]	,888[**]	1

Source: Authors' calculations

5. Discussions

Among millennial (18 to 34-year-olds), Facebook, Instagram and Snapchat are the most commonly used SNSs (Perez, 2014). Youtube was found more popular among vocational school students (two years programs at university) when compared with vocational high school students while Twitter, Instagram and Linkedin usages are close to each other. Facebook, Twitter and Instagram are more popular among males while females use other social media networks more like youtube, linkedin. However, in the study of (Yılmaz & Yılmaz , 2018), it was found that women use social media networks such as Twitter, Instagram and Pinterest more. Instagram is the most popular social media platform among students. Facebook, youtube and Linkedin are three most famous platforms used more than 5 years and Instagram is famous in last three years. About 68 % of vocational school students have 3 or more social media networks and 52 % of vocational high school students have 3 or more social media networks accounts. The main reasons of using social media are chatting with friends, sharing photos, video and information ; spending free time and making new friends and playing online games (Uysal, 2020: 70-85). In this study, Instagram, youtube and facebook are three most popular SNSs and the popularity of twitter has decreased recently. Searching information and news, connecting with current friends and chatting and listing music are main reasons of using social media that students can contact with friends mainly by Instagram and Facebook and they use youtube more to listen music and watching videos related to their studies. Moreover, the options of sharing both in Instagram and facebook at the same time force users to use more

SNSs simultaneously, resulting in spending more time on social media. As stated in that study, males are more addictive on social media that friends suggesting option of facebook takes students' attention to follow more groups or add more friends. It can be said that SNSs strategies are based on users' longer usage.

Bodur and Korkmaz (2017) stated that male students use at a higher rate social media. The fear of missing developments is more seen among males. It was revealed that male students are more addicted to telephone than female students, and female students are more internet addicted than male students. (Özsürünç, Pehlivan, Çilan, 2018). Females spending more time over social media have higher levels of addiction (Li Chung et al., 2019: 62-67) that females are more socially oriented , making them susceptible for SMA. And it was found that females share more selfies on social media (Dhir, Pallesen, Torsheim, & Andreassen, 2016). Females become more addictive with elements of social interaction while men become addictive with problematic use; being more unsocial or video gaming. (Andreassen , Pallesen , Griffiths, 2017: 287-293).   It is found from the study of Tutgun-Ünal(2015) that females use more social media than men to get emotional support and men are negatively affected by social media. In this study, there are not significant differences for SMAS while significant differences are seen conflict factor that male students ignore their homework and activities. Females prefer to use social media to communicate with existing friends and for shares which is not a problematic social media usage . Playing games, following groups and meeting new people purposes can cause problematic social media usage. Many groups in social media are created for special purpose as getting new members or inform people. However, these groups can affect the students and some of these groups are used by fanatic dangerous organizations.

Fear of missing developments is seen more frequently in the Z generation(born between 1996-2010) , which wants to obtain everything easily and is focused on pleasure (Tunceliemek, 2018). It was observed that as the internet and telephone addiction increased, the fear of missing developments also increased among students (Özsürünç, Pehlivan, Çilan, 2018). It is also found that there is a positive correlation between spending time on computer screen and internet addiction (Li Chung et al., 2019: 62-67). About 23,15 % of students use daily just Instagram more than 5 hours and this rate is 5,41% for facebook and 5,41% for youtube (Uysal, 2020: 70-85).   Excessive use of mobile phones and the hours of connection can be risk factors for SMA (Luis Jasso-Medrano, Lopez-Rosales , 2018:183-191). As people use more social media daily, they become more addictive with a strong support in all factor in that study. Decreasing daily usage time can be a way of reducing SMA. The risk groups in that study are students using social medial long time with high daily usage(>7 hours daily and >7 years usage). Cell phones can be banned at classes while it was observed that students try to use cell phone to connect social media during classes as a way of decreasing daily usage. Aslan (2020) has suggested some methods how to decrease daily usage in his study.

According to study results, lower age, being a woman, being student, low level education, low income, lower self-esteem, and narcissism parameters have high addiction (Andreassen , Pallesen , Griffiths, 2017: 287-293; Kuss & Griffiths, 2011) that students older than 15 years are more addictive than younger students

(Özsürünç, Pehlivan, Çilan, 2018). It is found that young people take more risky behaviors in online   platforms than offline environments (Gray, 2016). Researchers argue that as people grow older, they tend to use Facebook less often because the need for comparison with others declines with age (McAndrew & Jeong, 2012). In this study, there are not significant differences according to age since the participants are mainly students with a close age. However, there are significant differences for conflict group that younger students are more addictive in that factor and they spend more time on internet. It is also found by Yücens & Üzer (2018) that the mean age and monthly income of the family have significant differences that the mean age of the non- internet addiction group is higher than internet addiction group. Families with higher income can support their children with more money to do other activities while poor students can use internet more cheaply. The income level of students is a problem for Bingöl University students that they come generally from poor and middle level income families and they cannot participate in costly activities. University management may encourage student to sport activities, theater, conferences etc. to decrease SMA.

Trolling can be done in social media with sharing inappropriate content to provoke others and also fake news can destroy the image of big brands and famous people. Cyberbullying, addictive use, trolling, online hunts, fake news, and privacy abuse are dark sides of social media (Baccarella et al., 2018 :431-438). Students on social media get lots of shares and some of these shares have special purposes as creating panic or trolling for some people or organization. As the COVID-19(Corona Virus) has scattered, the panic and misinformation created by social media have made students more addictive for following news and shares. As it was found that some social media users have created panic purposely. Fake news or photos are widely used in social media and many young students believe these shares.

5.1 Limitations, Future Research and Recommendations

It is hoped that the research will overcome the lack of measurement tool for SMA. It is thought that the current results obtained regarding the SMA of university students will contribute to the detailed understanding of SMA. Participants were university students experiencing daily stress making them highly vulnerable to SMA and hence additional surveys are to be applied to other age groups in future. This study can be extended with different samples and different measures to determine and compare other addictive behaviors. Furthermore, there is a necessity of using personality and cultural backgrounds of students with family demographic factors such as income, education level etc. Moreover, some other studies can be necessary for measuring the effects of social media on mental health of students. Furthermore, traits of users as further research topic about SMA are to be understood well by clinicians and counselors to reduce behavioral symptoms addiction and problematic uses of university students.

This study was carried out in Bingöl University at East of Turkey, where students' families have lower income level and the university was established in 2007 that SMA of students can be different from other older universities and other

developed cities' universities in Turkey that students have more options to spend time. Hence, the results cannot be generalized for all university students in Turkey, but it gives general opinions that it may give some hints and results for comparison purposes.

6. Conclusion

Searching information and news, connecting and chatting with current friends, using for education purposes and listening and sharing music are main usage purposes of students. About % 90 of students use social media more than 4 years and % 50,3 of them use more than four hours daily. As students use more years and spend more time on social media, they become more addictive and solutions are to be developed to decrease daily usage time, which can be done by organizing more social activities at university. As males and younger students spend more time on social media, special priority is to be given to this group. Subscribing or following dangerous groups, excessive playing games and desire of meeting new people can be problematic social media usage for males with some hidden threats. Consultancy about social media dangers can be given to students to protect them by considering that fake news and shares can affect their physiological mood.

Communication with existing friends and chatting with highest means and significant differences are main reasons of usages - SMA. It is expected that students with higher friends in social networks have more risk of being addictive. Daily usage has the strongest correlation with occupation factor that as they use more, they think and use more about social media. Conflict factor is found as the strongest addiction factor on SMAS.

In this context, it should be strongly emphasized that studies should be carried out to decrease the use of social media or to direct the use of social media to more useful content. It is an unquestionable fact that many actors, especially families, school administrations, teachers, non-governmental organizations, media, local and central administrations, have various duties (Uysal, 2020: 70-85). Implicit attitude related to excessive social media use shows sensitization of the reward behavior and therapists may prevent SMA by considering that behavior (Turel, & Serenko, 2020).

The main contribution of that study is to learn addiction level of social media among students at a different university at a different region of Turkey. As things in social media changes over time with new applications, this study can contribute the science about the changes of SMA.

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APPENDIX

Table 1: Factor Analysis

	Mean	Std. Dev.	Cronbach's Alpha if Item Deleted	Component(Factor Laoadings)			
				1	2	3	4
Occupation Group	Mean=2,6895±0,9153; Eigenvalue=7,823; Variance (%):7,823						
I think a lot about what's happening on social media recently.	2,55	1,140	,977		,710		
If there is something I need to do, I check social media first.	2,56	1,165	,977		,780		
When I do not enter social media for a certain period of time, the thought of entering social media occupies my mind.	2,67	1,170	,977		,825		
I think my life will be boring, empty and unappealing without social media	2,40	1,265	,977		,764		
I think intensely to enter social media when I am not connected to the Internet.	2,51	1,216	,977		,809		
I wonder what's going on social media.	2,89	1,143	,977		,819		
It happens that I spent more time on social media than I thought.	2,95	1,158	,977		,780		
Every time I decide to disconnect from social media, I say to myself a few more minutes.	2,63	1,231	,977		,716		
I cannot stop using social media for a long time.	2,55	1,225	,977		,721		
It happens that I use social media more than I planned.	2,82	1,132	,977		,716		
I cannot understand how time passes when using social media.	3,05	1,160	,977		,680		
I spend a long time on social media-related actions (games, chat, looking at photos, etc.).	2,70	1,219	,977		,729		
Mood Modification Group	Mean=2,5508±1,0319; Eigenvalue=1,080; Variance (%):2,635						
I use social media to forget my personal problems.	2,52	1,251	,977				,843
When I feel lonely, I spend time on social media.	2,90	1,247	,977				,825
I prefer to browse social media to get rid of negative thoughts in my life.	2,66	1,235	,977				,898
When I am overwhelmed by my problems, the best place I take shelter is social media.	2,45	1,240	,977				,860
I forget everything during the time I use social media.	2,23	1,194	,977				,691
Relapse	Mean=2,3413±1,0153; Eigenvalue=1,191; Variance (%):2,635						
It happens if I try to stop the use of social media but fail.	2,39	1,196	,976			,764	
I have a strong desire to control the use of social media.	2,48	1,234	,977			,746	
I make ineffective efforts to stop using social media.	2,27	1,182	,976			,797	
I make ineffective efforts to control the use of social media.	2,25	1,189	,976			,790	
I try to reduce the time I spend on social media, but I fail.	2,32	1,179	,976			,764	
Conflict Group	Mean=2,2742±0,9826; Eigenvalue=21,575; Variance (%):52,622						
Although It has a negative impact on my profession / work, I use social media more.	2,35	1,207	,976	,754			
Due to social media, I give less priority to my hobbies, leisure and recreation activities.	2,44	1,232	,976	,722			

It happens that I neglect spouse or family members due to social media.	2,26	1,203	,976	,798			
I would neglect my friends because of social media.	2,26	1,224	,976	,838			
I cannot finish the activities I started due to social media on time.	2,34	1,199	,976	,805			
I neglect school or business work to spend more time on social media.	2,26	1,249	,976	,842			
I prefer spending time on social media than spending time with my friends.	2,27	1,293	,977	,801			
Table 1: Factor Analysis(Cont.)							
Because of the time I spend on social media, my school work or work is interrupted.	2,31	1,251	,977	,807			
My productivity decreases because of social media.	2,40	1,243	,977	,725			
I prefer spending time on social media than going out with my friends.	2,24	1,289	,977	,704			
People criticize me about the amount of time I spend on social media.	2,26	1,237	,977	,790			
I find myself trying to hide how long I have been on social media.	2,24	1,238	,976	,832			
There are times when I forget to eat because of social media.	1,98	1,191	,977	,848			
Due to the use of social media, I spend less time on my personal care.	2,08	1,248	,977	,830			
There are changes / disturbances in my sleep patterns due to the use of social media.	2,44	1,273	,977	,671			
Due to the use of social media, I experience physical problems (back, head, eye pain, etc.).	2,41	1,244	,977	,709			
The use of social media causes me to have problems in my relations with people who are important to me.	2,19	1,230	,976	,843			
The use of social media creates problems in my life.	2,23	1,195	,976	,782			
The more I need to do, the more I want to use social media.	2,23	1,262	,976	,772			
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.							

Source: Authors' calculations