

## The Relationship between Personality Trait and Social Media Addiction

Research Article

Maylaf Hiruy Alemayehu<sup>1\*</sup>, Tamirie Andualem Adal<sup>2</sup>

<sup>1</sup> Researcher, Information Network Security Agency, Ethiopia.

<sup>2</sup> Associate Professor, School of Psychology, CEBS, Addis Ababa University, Ethiopia.

### Abstract

**Background:** Many empirical studies indicated that social media use has increased substantially from time to time and it becomes an important element of human life. However, social media can become problematic if its use is excessive.

**Objective:** The purpose of this study was to assess the level of social media addiction, and examine the relationship between social media addiction and personality traits.

**Methods:** The study administered standardized and non-standardized questionnaires to 170 employees of Ethiopian Information Network Security Agency. Both descriptive and inferential statistics were used to analyze the data.

**Results:** The findings of the study revealed that the majority of the participants spent 1-2 hours on social media per a day, and they used social media sites (mainly Face book, using phones as a device) for communication purpose. Social media addiction is found to be related to sex and time spent on social media, but not to age. Personality is another variable related to social media addiction explaining as much as one-fifth of it. Hierarchical multiple regression analysis revealed that 27.2% of the variance in social media addiction is explained by both sex and personality traits (openness, conscientiousness, agreeableness, & neuroticism).

**Conclusion:** This study claimed that personality traits and sex play a vital role in determining the level of social media use. Addictive use of social media was related to being a woman, having Openness and Neurotic personality traits and lower Agreeableness. This study provides an empirical contribution to knowledge about the effect of personality traits and individual differences on social media addiction.

**Keywords:** Personality Traits; Big Five Inventory; Social Media Addiction.

### Introduction

The booming in telecommunications made social media an essential part of human daily lives [1]. Social media has become very popular type of media which have many attributes and features that provides a lot of services like a way of communicating, texting, picture sharing, audio and video sharing, quick publishing or posting, learn and share information instantaneously making the world look like a small village [2]. Social media sites allow people to communicate and interact with each other; as a result, the number of social media users has seen rapid growth over the last few years across the earth [3]. Social media sites provide platforms where users can meet and form online communities. Also, marketing professionals are increasingly using social media to connect with audiences. As a result, social media sites have become a new social tool [4].

Over the last few years, the use of social media has become an increasingly popular leisure activity in many countries across the world [2]. Given their social-oriented characteristics, social media sites provide their users with an enjoyable interaction experiences. However, despite these benefits, social media has brought about detrimental side effects to society and these experiences may encourage users to use these platforms extensively and hence results in addictive use behaviors. That the nature of social media is easy, entertaining and cost effective encourages individuals to stay long in it.

Even though there are billions of users on social media every day, the time every user spends on and the levels of dependency vary. The level of dependency refers to the extent to which people have been emotionally connected to social media and the extent

#### \*Corresponding Author:

Maylaf Hiruy Alemayehu,  
Researcher, Information Network Security Agency, Ethiopia.  
E-mail: mayhiruy@gmail.com

**Received:** December 05, 2020

**Accepted:** December 23, 2020

**Published:** December 29, 2020

**Citation:** Maylaf Hiruy Alemayehu, Tamirie Andualem Adal. The Relationship between Personality Trait and Social Media Addiction. *Int J Behav Res Psychol.* 2020;8(2):261-270.  
**doi:** <http://dx.doi.org/10.19070/2332-3000-2000047>

**Copyright:** Maylaf Hiruy Alemayehu<sup>®</sup> 2020. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

to which social media has integrated into people's daily activities [5]. The extent of using social media and its dependency might be related to different factors including personality of people.

Personality is a stable psychological characteristic that predicts a wide range of attitudes and behaviors. The five-factor model of personality is one of the most influential personality theories which differentiate individual differences in five main dimensions: Neuroticism, Extraversion, Openness to experience, Agreeableness and Conscientiousness [6].

Different studies showed that there were associations between types of personality and social media usage [9, 12-16]. Although research findings identify a connection between increased social media use in the young adult population and individuals' personal characteristics in the same population, it is unclear how social media use may be associated with users personality traits. Nevertheless, there was some evidence of that differences in individuals' personality traits determine their online behaviors. Previous studies found out excessive social media use positively associated with Extraversion and negatively associated with Conscientiousness [9]. Addiction, on the other hand, was found to be related positively to Neuroticism and Extraversion, and negatively to Conscientiousness [10]. Other studies found that addictive use of social media positively correlated with all Big five personality traits: openness to experience, agreeableness, Neuroticism, Extraversion and Conscientiousness [4, 11].

Taking the above points as an introduction, let us look into what the major concepts described above. These are social media and its usage, and personality trait and its relationship to use of social media.

## Social Media

Social media first emerged in 1997 with SixDegrees.com being the first, and the top five most popular social media sites are Facebook, LinkedIn, Pinterest, Twitter, and Instagram [8].

Statistics of social media by Digital in 2018 Global Overview indicated that there are 3.196 billion active social media users around the world, which means that almost half of the world's population spends at least part of their day updating their status or story [18].

## Personality Traits: Big Five Model of Personality

The history of the science of personality traits is contained mostly within the twentieth century: the emergence of competing and complementary approaches to personality; the survival of trait and cognitive-behavioural approaches as the viable scientific ways to study personality; the growth of many apparently disparate trait systems, with respect to both the number and nature of traits they contained; and the eventual converging consensus around a relatively small number of broad personality domains [22].

Researchers of Psychology have developed a framework called the Big Five-Factor Model [6, 7], which structures most of the current studies of personality [23]. An influential model from the last two decades of the twentieth century to date is the five factor model. This system which includes five broad traits that can be remembered with the acronym OCEAN: Openness, Consci-

entiousness, Extraversion, Agreeableness, and Neuroticism. Each of the major traits in the Big Five can be divided into facets to give a more fine-grained analysis of someone's personality.

The five-factor model of personality (FFM) is a set of five broad trait dimensions or domains, often referred to as the "OCEAN" for the big five acronym or "Big Five": Extraversion, Agreeableness, Conscientiousness, Neuroticism (sometimes named by its polar opposite, Emotional Stability), and Openness to Experience (sometimes named Intellect). Highly extraverted individuals are assertive and sociable, rather than quiet and reserved. Agreeable individuals are cooperative and polite, rather than antagonistic and rude. Conscientious individuals are task-focused and orderly, rather than distractible and disorganized. Neurotic individuals are prone to experiencing negative emotions, such as anxiety, depression, and irritation, rather than being emotionally resilient. Finally, highly open individuals have a broad rather than narrow range of interests, are sensitive rather than indifferent to art and beauty, and prefer novelty to routine [7].

The Big Five/FFM was developed to represent as much of the variability in individuals' personalities as possible, using only a small set of trait dimensions. Many personality psychologists agree that its five domains capture the most important, basic individual differences in personality traits and that many alternative trait models can be conceptualized in terms of the Big Five/FFM structure. Each factor has also its own several "sub traits" [6].

## Addictive Use of Social Media and Users' Demographics

Studies on social media indicated that there was a sex and age variation in usage and attitudes of social media. A study finding [13] suggested that both boys and girls equally prefer to join online activities. On the contrary another study [11] founded that women were four to five times more likely to use social networking sites than men. Similarly, research has more consistently shown that addictive use of social media is more prevalent among women than men [9, 10], and it has been suggested that women are more inclined to develop addictive behaviours towards activities involving social interaction [10, 2]. Furthermore, studies also report higher scores on social media addiction scales in younger compared to older people [31, 2]. This has good face validity as these online platforms play a crucial role in the leisure and social lives of adolescents and young adults [30]. A study finding [29] showed that a significant difference in the mean frequency use of social media within a week based on age categories:  $[F(2, 297) = 59.485, P < .05]$ ; and overall significant difference among each age categories, especially the 19 to 21 years old students frequently visited SM sites within a week than the other age categories. Young people have quickly become accustomed to being constantly "online", and appear to adapt to new technologies faster than their older counterparts [9]. A study [32] indicated that a significant difference between age and the use of SNS which showed the time spent on SNS decreased as the age of the respondent increased.

## Social Media Usage and Personality traits

Many empirical studies indicate that social media use has increased substantially over the last few years. Previous studies have empirically investigated the relationship between personality traits and user's social media usage or addiction by applying five-factor model of personality which categorizes five dimensions: Extra-

version, Agreeableness, Conscientiousness, Neuroticism and Openness to experience [3, 4, 11, 13]. Yao (2015) examined the relationship between personality and Facebook usage. The study was conducted on 39 college students aged between 19 to 24 years. Results showed that Facebook addiction had negative correlation with Neuroticism, Conscientiousness, Extraversion and Agreeableness; and positively correlate with Openness [3]. Nihan and Burcu (2013) also investigated the relationship between social media and users' personality among 503 university students aged between 18 and 25 years. The researchers employed quantitative research design and used a questionnaire comprising the five-factor model of personality. The results of the study found that personality traits of conscientiousness and openness to experience, and demographic variables of education and income level are significant predictors of social media use. The relationships with the other factors examined were not significant [4]. Wilson et al., (2010) conducted a study on 201 students in an Australian university, (of those, 76% were female and 24 % were males, with a mean age was 19 years) to examine personality factors via the short version of the NEO Personality Inventory, time spent on using Social networking sites, and an Addictive Tendencies Scale [9]. The results of a multiple regression analysis revealed that high extraversion and low conscientiousness scores significantly predicted both addictive tendencies and the time spent using SNPs. The researcher pointed out the relationship between extraversion and addictive tendencies could be explained by the fact that using social network sites satisfies the extraverts' need to socialize. Andreassen et al. (2013) suggested that Facebook Addiction have positive relation with various personality traits (e.g., neuroticism, extraversion), and negatively related to others (e.g., conscientiousness). High scores on the new scale were also associated with going to bed very late and getting up very late [10].

Hwang (2016) examined the influence of personality traits on Facebook addiction among college students. Results from a survey of 235 college students revealed that extraversion and neuroticism positively predicted Facebook usage. The researcher employed quantitative research design and instruments of Big Five inventory and Facebook Addiction scale were used. To investigate the effects of personality traits on SNS addiction, the researcher employed regression analysis [24]. Rabaai et al. (2015) examined the relationship between personality traits and social network platforms (SNPs) addiction [11]. Data was collected from 434 university students. The researchers adapted Young's (1996) Internet Addiction Test and Big Five Inventory (44 item) to measure social network platforms (SNPs) addiction and personality traits respectively.

### Social Media Addiction and Neuroticism

Amichai-Hamburger et al., (2010) indicated that social media addictive tendencies have been positively related to neuroticism [1]. It is assumed that SMS may be a way of seeking support for people in high neuroticism. Yao (2015) suggested that there was a significant correlation between neuroticism and social media addiction [3]. Mark and Ganzach (2014) argued that neuroticism should be positively related to general Internet use [26]. Addictive tendencies have been positively related to neuroticism [13]. It is assumed that social media may be a way of seeking support for people in high neuroticism.

In addition, people with high scores on neuroticism have taken

more time for social connection in their SNS communication compared to face-to-face interaction [23]. Amiel and Sargent (2004) found people high in neuroticism enjoy their time on the social media and spend more time on it [14]. Moreover, Wehrli (2008) argue that people high in neuroticism had greater instant messaging use [15]. That is, people with higher levels of neuroticism are more likely to suffer from social networking addiction. Andreassen et al. (2013) argued that neuroticism may be a general vulnerability factor for the development of psychopathology [10]. The authors also suggested that behavioral addictions may reflect a preference to do something alone to avoid feeling anxious. Wilson et al. (2009) generated a different result and found a negative relationship between levels of the social media usage and neuroticism [9].

### Social Media Addiction and Conscientiousness

Wehrli (2008) reported that there was a significant negative correlation between conscientiousness and social media use [15]. Landers and Lounsbury (2014) also indicated that low conscientiousness scores significantly predicted both addictive tendencies and the time spent using social media [12]. People who score low on conscientiousness tend to use the Internet more frequently than those who score high on this personality trait [9]. The same finding was also suggested by [13] who concluded that conscientiousness is negatively associated with the social media use. Because of characteristics of conscientiousness people who are high in this personality tend to be cautious of being online, which in turn, drives them to meet friends offline [16]. In addition, low conscientiousness scores significantly predicted addictive behaviors [13]. People who score low on conscientiousness are assumed to use SNS as a means of procrastinating [23]. People who are high in conscientiousness have fewer online friends than those people who are low in conscientiousness. Conscientious individuals will refrain from high investments in social media profiles; they will stick to their main goals and try to avoid such sources of distraction. People, who are low in conscientiousness, spend more time on the social media because they are inefficient and disorganized.

### Social Media Addiction and Agreeableness

Yao (2015) showed that non-significant negative correlation between agreeableness and Facebook addiction:  $r(39) = -0.043$ ,  $p > .05$  [3]. Other studies also found no association between agreeableness and social media usage [27]. However, Golbeck et al. (2011) indicated that agreeable individuals have successful friendships [16]. It can be inferred that agreeable people are satisfied with their interpersonal communication in the real life so that they do not necessarily need to seek friendship in the virtual world. While people who are low in agreeableness possess characteristics like pessimistic and has a negative view of human nature, suspicious and paranoid, puts their own interest before others, and unsympathetic tend to be fond of spending more time online where it requires less agreeable behaviours [12].

### Social Media Addiction and Openness

Yao (2015) indicated that the personality trait of Openness and Facebook dependency was positively correlated  $r(39) = 0.185$  [3]. Mark and Ganzach (2014) argued that Openness positively related to general Internet use [26]. Evidence also suggests people who

are open to new experiences are heavier users of social media [27]. Wehrli (2008) suggested that people who are high in this personality trait tend to explore, to experience, and to keep pace with new social networking technologies [15]. It implies that people who are high in openness to experience are associated with high usage of social media. Wehrli (2008) also suggested that the Openness dimension measures the propensity of individuals to display imagination, curiosity, originality and open-mindedness. Low openness scores indicate people who are practical, traditional and down-to-earth [15]. In the context of social media it is expected that individuals with high scores on openness to be more likely to try, to use and to keep up with new social networking platforms. For instance, high openness to experience is reflected in curiosity and novelty-seeking; low levels are evident in preferences for adhering to convention and established patterns [6].

### Social Media Addiction and Extraversion

Mark and Ganzach (2014) argued that extroversion was positively related to general Internet use [26]. Further, Gosling et al. (2003) claimed that extraversion was positively related to social media usage [28]. Ross et al., (2009) also found extraversion was positively related to belonging to social media groups, but there was no association with how they communicated on the site [27]. Wilson et al. (2010) indicated that high extraversion scores significantly predicted both addictive tendencies and the time spent using social media. The study reported extraverted individuals to have higher level of social networking use [9]. Some previous studies insisted that extraversion was positively related to Internet use in general. With respect to SMS, similar findings have been reported; people in high extraversion use SMS more excessively. It is explained that extraverts use SMS for social purposes, while introvert use it for social compensation. Nonetheless, each of them appears to be related to excessive use of SMS [2]. Hughes et al. (2012) suggested in his study that non-significant correlations observed between Facebook Addiction and Extraversion [5]. People who tend to be more anxious, lonely, and introverted used the Internet to compensate their real-world isolation in these early studies of Internet use [1].

The current study is intended to examine the correlation between personality traits and social media addiction. In line with the above empirical studies the researchers employed quantitative research design and the study used university graduate new employees as samples. Instruments of [6] Big Five personality Inventory 44 items version and Young's (1996) Internet Addiction Test consists of 20 items adapted and used to assess employees level of social media addiction and personality types respectively. The reliability and convergent validity of these instruments were high in the previous studies [3, 5, 6].

### Social Media in Ethiopia

Ethiopia started to use basic Internet technology, i.e. storage and e-mail services, in 1993 with the support of the UN Economic Commission for Africa [19]. The daily connection was made via direct dial calls to Green Net's Internet gateway in London. The service was mainly used by international organizations and Non-Governmental Organizations; however, some academics, individuals, and private companies also took advantage, as there was no other service available. During this initial phase it was estimated that up to 1200 people were using the service at its peak [19].

The state owned Ethio-Telecom provides internet service for the country since 1997. Internet services were limited to dial-up access and local website hosting and development [19]. A baseline study on the ICT penetration and usage in Ethiopia, which was conducted in 2002, shows that organizations mainly used Internet technology for e-mail at the time when Internet was first introduced in Ethiopia. The data from internet World state website clearly shows that there is a significant increase in a number of internet users within last 10 years. Within the last five years the change is reasonably dramatic even if the population penetration rate is low. Recently in Ethiopia, Internet, mainly social media is the main parts of political, social and economic spheres of life [20]. Social media is a base for the emergence of various social media to support the changing perspective of the life of society. Recently, in Ethiopia there are 16,437,811 Internet users, and 4,500,000 active Facebook users with 4.3% penetration rate (Internet world stats, 2018). Out of total social media users in the country; 70.66% use Facebook, 11.86% use Pinterest, 11.44% use Youtube, 3.79% use Twitter, and 0.77% use Google+, 0.43% use LinkedIn [21].

In Ethiopia, the number of internet and social media users is increasing due to globalization [17]. Although this has quickly become as a result of globalization and modernization; concerns have been raised regarding the potential addictive use of social media.

In developed countries the issue of differences in individuals' personality traits and users' social media addiction apprehends researchers' attention, but in developing countries like Ethiopia, it is unexplored area and if the area is left unstudied to the future, the problem of social media addiction in the country would get worse. As a result, to the best of our knowledge this study was conducted with the hope to understand and investigate whether personality traits considered as a significant variable in determining users' social media addiction, in joining social media sites and its relationship with social media addiction in Ethiopia context.

### Research Questions

In order to fill the gaps mentioned above and to expand previous researches in Ethiopian context the researchers intended to conduct this study. This study aimed to examine the relationship between personality traits, social media addiction and demographic characteristics among a employees of Information Network Service Agency in Ethiopia.

This study, therefore, is directed to answer the following research questions:

1. What are purposes of employees' use of social media?
2. To what extent do employees' use social media?
3. What is the relationship between personality trait and social media addiction?
4. Is there a statistically significant difference on social media addiction across employees' demographic characteristics (age and sex)?

### Method

This section includes participants and their sampling, variables and their measurement, and the analysis method of the study.



### Participants

The target population of the study was employees of Information Network Security Agency new, who graduated and was directly recruited from different higher education institutions of Ethiopia in 2016/17 academic year. The total number of new recruited employee of the organization in the year 2017 was 320 (213 males and 107 females). Majority of the organization employees are youth (in 20s) who have joined the organization immediately after their graduation.

For this study a total of 170 respondents was taken (52.4% males (N=89) and 47.6% females, N=81). The respondents' ages ranged from 18 to 30 years old. The age range is divided into four categories which are 18-21, 22-25, 26-30, and above 30 years. The majority of the participants, 64.15% (N= 109) are between 22–25 age category. Almost 22% (N=37) of them are between 26-30 age range, 11% (N=18) between 18-21 age range, and 4% (N=6) were above 30 age category. In terms of their education background, 53.5% (N=91) were from social science field of studies, and 46.5% (N=79) were from natural science field of studies.

### Instruments

The researchers used self-report questionnaires as an instrument to collect data from the sample respondents. The scales for measuring social media addiction and personality traits were adopted by the researchers from previous researches and standardized tests [6, 25].

### Big Five Factor Model

The researchers used Big Five model of personality (also known as the Five Factor Model) in order to investigate participants' personality traits. The researcher used 44-item Big Five Inventory (BFI) instrument [8]. The instrument included 10 items for Openness to experience, 9 for Conscientiousness, 8 for Extraversion, 9 for Agreeableness, and 8 for Neuroticism. The survey items was rated on five point Likert scales ranging from “strongly agree” to “strongly disagree” to describe their personality. BFI was scored by adding the answers to a series of eight to ten appropriate questions. Some of the BFI scores were reversed before calculating total scores for each of the measured scale.

Three items from each of Neuroticism and Extraversion, two

items from Openness, four items from each of Agreeableness and Conscientiousness were reverse scored.

### Social Media Addiction Scale

Social Media Addiction Scale [25] is a 20-item survey with six-point scale that range from Never to Always. In order to determine the level of social media addiction, and relate it to personality, the researchers validated the instrument of Social Media Addiction Scale using confirmatory factor analysis (as presented below).

The instrument measuring social media addiction was assessed for its confirmatory factor analysis (using AMOS 23) on the 170 participants indicated above. As presented in the figure above, the instrument's original uni-dimensionality was confirmed ( $\chi^2/df = 1.52$ ; GFI = .88; CFI = .91, RMSEA = .06).

A total of Social Media Addiction score was calculated with the sum of 20 items making the range of the total score from 0 to 100. Total scores that range from 0 to 30 points are considered to reflect a Normal level of social media usage; scores of 31 to 49 indicate the presence of a Moderate level of social media addiction; 50 to 79 reflect the presence of a High level; and scores of 80 to 100 indicate very high or a Severe level dependence upon the social media.

### The Reliability of the Instruments

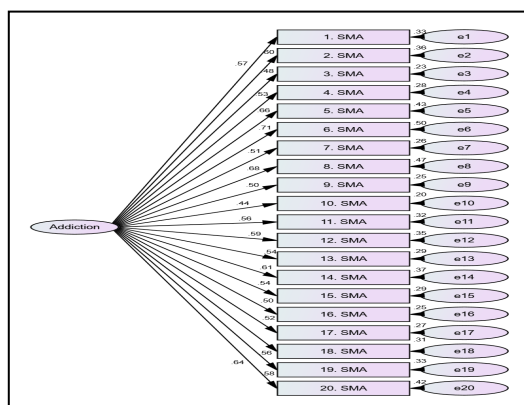
The reliability (Cronbach's alpha) of the instruments (social media addiction and personality traits) was tested two times. One was made on a pilot sample of 40 and the coefficients were varying from 0.77 for Neuroticism, to 0.81 for Conscientiousness, and to 0.90 for Social Media Addiction. The reliability presented below is a result of the second and final sample.

As presented above the reliability for the final study was made on 170 participants and the reliability ranges from 0.79 (Agreeableness) to 0.82 (Openness to experience) to 0.91 (Social Media Addiction). These coefficients are more than the minimum standard (suggested by Nunnally & Bernstein, 1994) [33].

### Data Analysis Techniques

To analyse the data collected through data collection instruments the researchers used both descriptive and inferential statistics.

Figure 1. Confirmatory Factor Analysis of Social Media Addiction. Table 1. Cronbach alpha Reliability Test Result.



Reliability Statistics			
Variables	Tool Name	Number of Items	Cronbach $\alpha$ N=170
Openness to experience	BFI	10	0.819
Conscientiousness	BFI	9	0.811
Extraversion	BFI	8	0.813
Agreeableness	BFI	9	0.789
Neuroticism	BFI	8	0.804
Social Media Addiction	SMAS	20	0.913

Note: \* “BFI”: Big Five Inventory; “SMAS”: Social Media Addiction Scale.

Descriptive statistics such as frequency, cross tabulation and percentages were employed to analyze the socio-demographic characteristics and other basic information of respondents. Second, inferential statistics, like Independent sample t-test was employed to test sex difference on social media addiction. One way ANOVA was applied to examine differences in social media addiction across employees' age categories. Multiple regression analysis was carried out in order to see the relationship of personality traits and sex on social media addiction scores. The necessary assumptions of the statistical test such as linearity, normality, and homogeneity of variance were assessed and found it to be tenable.

Regarding the scoring of the data, the demographic variable, sex was coded 1 for male and 2 for female, whilst age was grouped into four groups, 18-21, 22-25, 26-30, and above 30.

The researchers analysed the data using Statistical Package for Social Sciences (IBM SPSS Version 20) and AMOS 23.

### Ethical Consideration

The researchers considered ethical issues in data collection and data management. Informed consent and confidentiality were some of the ethical considerations observed in the study.

### Results

This section of the study describes the data that are in line with the research questions raised in this research. The purposes and extent of social media usage, the relationship of social media usage with demographic variables and personality traits are presented sequentially.

#### Extent and Purpose of Social Media Usage

As described in the table below, over three fourth of the respondents (77%) reported that they use social media from one to four hours a day.

**Table 2. The Extent and Purpose of Employees' Social Media Usage; Types of Social Media Sites and Devices Used by Employees.**

Categories		Frequency	Percent	
Time spent on social media	Less than 1 hour	17	10	
	1-2 hours	91	53.5	
	3-4 hours	40	23.5	
	5-6 hours	20	11.8	
	7 and above hours	2	1.2	
	Total	170	100	
Purpose of using social media		Responses		Percent of Cases
		Frequency	Percent	
To communicate with friends, families and relatives		131	24.30%	77.10%
To share, post, and look images and video		53	9.90%	31.20%
To gain new information		121	22.50%	71.20%
To gain academic knowledge		114	21.20%	67.10%
To share personal beliefs and other helpful ideas		39	7.20%	22.90%
For entertainment		78	14.50%	45.90%
Others		2	0.40%	1.20%
Total		538	100.00%	316.50%
Types of social media sites	Facebook	158	23.40%	92.90%
	Viber	88	13.00%	51.80%
	Whatsapp	60	8.90%	35.30%
	Twitter	39	5.80%	22.90%
	Youtube	116	17.20%	68.20%
	Imo	44	6.50%	25.90%
	Telegram	84	12.40%	49.40%
	Instagram	42	6.20%	24.70%
	LinkedIn	33	4.90%	19.40%
	Others	12	1.80%	7.10%
	Total	676	100.00%	397.60%
Types of device	Laptop computer	58	23.40%	34.30%
	Phone	143	57.70%	84.60%
	Desktop computers	41	16.50%	24.30%
	Palmtop Computers	6	2.40%	3.60%
	Total	248	100.00%	146.70%

Looking into the data in detail, from among a total of 170 respondents, a high percentage of participants (53.5%, N= 91) spent their time on social media for 1-2 hours. The above table also shows that 23.5% (N=40) of employees use social media for 3-4 hours per day. The remaining twenty three percent of the participants spend less than one hour (10%) and over five hours (13%) of their time in social media.

Regarding the purpose of using social media, respondents were asked to indicate one or more of the purposes of using social media usage. The majority of participants (77.1%) reported to have used to communicate with their friends, families and relatives. Another purpose reported by many participants is searching of new information and gaining academic knowledge (71% and 67%, respectively).

Together with the purpose and frequency of social media usage, respondents were asked to select one or more media sites and devices they used. The most frequently visited social media site was Facebook, frequented by almost 93%. The next highly used media sites are YouTube (frequented by almost 68%), Viber (frequented by almost 52%), & telegram (frequented by almost 49%).

In line with the type of device that the respondents used, majority of participants 84.6% (N=143) accessed social media sites using mobile devices (phones). 34.3% (58) of respondents used laptop computers. 24.3% (41) of respondents used desktop computer and 3.6% (6) of respondents used palmtop computer.

**Differences in Social Media Addiction across Employees Demographic Variables**

The role of the demographic variables in social media addiction is important before explaining it in terms of personality traits. Social media addiction in relation to sex and age are presented in order below.

**Differences in Social Media Addiction across Sex Groups**

The Independent sample t-test [ $t_{168} = -3.385, p < .05, 95\% CI = [-14.731, -3.878]$ ] revealed that there is statistically significant difference between males and females on social media addiction. The average level of social media addiction was significantly high-

er among females (almost 53) than among males (almost 44). This means that females use the social media more than males.

**Differences in Social Media Addiction across Employees' Age Groups**

As one way ANOVA, computed above, shows social media addiction is not related to [ $F_{(3,166)} = 0.332, p = .802, \eta^2 = .006$ ] employees' age which means that social media addiction does not vary across the four age groups [18-21 (M =44.61, SD = 17.942), 22-25 (M =47.99, SD = 18.321), 26-30 (M =49.14, SD = 19.829), >30 (M =51.83, SD = 15.943)].

**The Relationship between Personality Traits and Social Media Addiction**

The main interest of this study was investigating the relationship between personality traits and social media addiction. Pearson's product moment correlation (Bivariate correlations) was utilized to test the correlation between Social media addiction and the five personality traits.

As seen in the table above (the last row), the result of Pearson product momentum correlation revealed that Social media addiction has a statistically significant correlation with Openness [ $r_{(170)} = 0.249, P = .001$ ], Conscientiousness [ $r_{(170)} = -0.206, P = .007$ ], Agreeableness [ $r_{(170)} = -0.258, P = .001$ ], and Neuroticism [ $r_{(170)} = 0.329, P < .001$ ], but not significantly related with Extraversion [ $r_{(170)} = -0.128, P = .097$ ]. From among the significant correlations, the two are positive (with higher values in openness and neuroticism goes with higher level of social media addiction) and the other two are negative (with higher values in conscientiousness and agreeableness goes with lower level of social media addiction).

The researcher also used Pearson's product moment correlation in order to test the inter correlation between the five personality traits. The result of Pearson's product moment correlation coefficient revealed that there was a statistically significant relationship between Openness and Neuroticism [ $r_{(170)} = 0.214, P = .005$ ], Openness and Agreeableness [ $r_{(170)} = 0.270, P < .001$ ], Conscientiousness and Extraversion [ $r_{(170)} = 0.223, p = .003$ ], Conscientiousness and Agreeableness [ $r_{(170)} = 0.271, p < .001$ ], Extraversion

**Table 3. Independent Sample t-test for Sex Difference on Social Media Addiction.**

		N	Mean	SD	df	t	P
SMA	Male	89	43.58	16.98	168	-3.39	0.001
	Female	81	52.89	18.85			

**Table 4. One-way ANOVA of Employees' Age Difference on Social Media Addiction.**

Descriptive Statistics			Inferential Statistics					
Age groups	Mean	SD	Group	SS	Df	MS	F	Sig
18-21	44.61	17.942	Between	342.521	3	114.174	0.332	0.802
22-25	47.99	18.321	Within	57150.426	166	344.28		
26-30	49.14	19.829	Total	57492.947	169			
above 30	51.83	15.943						
Total	48.02	18.444						

**Table 5. Pearson’s Product Moment Correlation of Personality Traits and Social Media Addiction.**

	Mean	SD	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Openness	34.81	5.44					
Conscientiousness	29.66	4.32	0.017				
Extraversion	25.83	3.97	0.067	0.223*			
Agreeableness	31.16	4.49	0.270**	0.271**	0.169*		
Neuroticism	24.02	4.25	0.214**	-0.109	-0.065	-0.022	
Social Media Addiction	48.02	18.44	0.249**	-0.206**	-0.128	-0.258**	0.329**

\*p<.01 (two tailed) \*\* p<.05 (two tailed).

**Table 6. Summary of Hierarchical Multiple Regression of Social Media Addiction on Sex and Personality Traits.**

Model	R	R Square	Adjusted R Square	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
1	.253a	0.064	0.058	0.064	11.46	1	168	0.001
2	.521b	0.272	0.245	0.208	9.302	5	163	0

a. Predictors: (Constant), Sex

b. Predictors: (Constant), Sex, Extraversion, Agreeableness, Neuroticism, Conscientiousness, Openness to experience.

**Table 7. Hierarchical Multiple Regression Analysis on Social Media Addiction, Demographic Variables and Personality Traits.**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	43.584	1.897	0.253	22.97	0.000
	Sex	9.305	2.749		3.385	0.001
2	(Constant)	42.845	15.259		2.808	0.006
	Sex	5.111	2.555	0.139	2	0.047
	Openness	0.93	0.242	0.274	3.837	0.000
	Conscientiousness	-0.365	0.304	-0.085	-1.2	0.232
	Extraversion	-0.264	0.322	-0.057	-0.821	0.413
	Agreeableness	-1.125	0.302	-0.274	-3.73	0.000
	Neuroticism	0.961	0.306	0.221	3.139	0.002

and Agreeableness: [ $r_{(170)} = 0.169, p = .028$ ].

**The Role of Personality Traits and Sex in predicting Social Media Addiction**

To investigate the overall influence (predictive capacity) of personality traits and sex on social media addiction, multiple regression analysis was conducted and presented as follows.

The analysis of social media addiction as a criterion and sex and personality traits as predictor showed that over one fourth (27.2%) of the variance of the dependent variables is explained by the independent variables.

The result of hierarchical multiple regression analysis showed that the contribution of sex to social media addiction is statistically

significant explaining as much as 6.4% of the variability. As presented in the table below the partial effect of sex (when personality trait effects are made constant) on social media addiction is also statistically significant ( $\beta = -.253, p = .001$ ). When the role of sex is controlled the contribution of all the five personality factors amounts as much as 20.8%. As shown in the table below, the four personality traits found to be correlated with statistical significance using Pearson product moment correlation, are not found to be same in the multiple regression result. Personality traits of Agreeableness ( $\beta = -.274, p < .05$ ), Openness ( $\beta = .274, p < .05$ ), and Neuroticism ( $\beta = .221, p < .05$ ) were found to be statistically significant in the prediction of social media addiction. Personality traits of Consciousness ( $\beta = -.085, p = .232$ ), and Extraversion ( $\beta = -.057, p = .413$ ) were not statistically significantly related to the criterion variable. The direction of relationship of each variable is not changed from the bivariate analysis to the multivariate analysis



with openness and neuroticism positively correlated and agreeableness negatively correlated.

## Discussion

The rate of increase of social media usage is faster than one can imagine. In spite of its usefulness the risk associated to it calls for the attention of researchers (for assessing and explaining) and policy makers (for regulating it). Due to this, this study planned to assess and explain social media usage. Particularly, this study investigated the association between individuals' particular personality traits, demographic characteristics and social media addiction in Ethiopia.

The findings of the current study were broadly consistent with previous researches. This study found out that many participants were found to be at high level of addiction. Individuals used social media sites for different purposes, including communication and seeking academic knowledge and new information. Another finding of this study was that personality traits are related to the level of social media use. Openness, Agreeableness, and Neuroticism were found to be significant predictors of the amount of social media use. In addition, sex was associated with social media addiction. The idea that social media addiction is related to sex with females more likely to be addicted than males is consistent with different studies [9, 11]. In relation to the direction of relationship when openness and neuroticism are positively related to social media addiction, agreeableness was related to it in a negative direction consistent with previous studies [1, 3, 5, 9, 14].

Even though the finding of the current study was not as influential as the researchers' prior expectation, it can be taken as a reference when compared with the findings of some previous researches including studies mentioned above.

## Conclusion

The findings of the study revealed that the majority of the participants spent 1-2 hours on social media per a day which might not be taken as a problem at this time, and they used social media sites (mainly Facebook, using phones as a device) for communication purpose.

The level of social media use is found to be related to personality traits and gender, but not to ages of respondents. Women seem to be practicing social media use more than men in the institution. When Openness, Neuroticism and Agreeableness were related to social media use, personality traits of Conscientiousness and Extraversion were not. Openness made the strongest contribution to explain the variance of social media addiction.

As an implication, examining why some people are addicted to social media and others are not may help us to gain understanding of the role of personality and social media usages. The researchers believed that the present study provides an empirical contribution to knowledge about the effect of personality traits and individual differences on social media addiction in Ethiopia.

## Limitation and Future Direction

This research, like any other, had its own set of limitations. The

limitation of this study was predominantly related to the data gathering instrument. The instruments are only partially validated with pilot study and confirmatory factor analysis of only social media addiction. Further validation of the standardized tools seems important for meaningful cross country comparison of the studies.

Another limitation of this study is that the generalizability of the study to Ethiopian setting is not possible. The participants of this study are limited in number of participants, geographical, and cultural setting. The participants could be labeled homogeneous compared to the diversity of the population in Ethiopia.

Another limitation of the study is that the design of the study does not help to make causal analysis of the relationship of personality traits and social media addiction.

## Acknowledgements

We would like to express our sincere thanks to Information Network Security Agency (INSA) and the study participants for their cooperation.

## Ethics Approval and Consent to Participate

This study was reviewed and approved by the Addis Ababa University Faculty of Education and Behavioral Sciences, School of Psychology ad hoc research ethics committee. All study participants were asked for their informed consent to participate.

## References

- [1]. Amichai-Hamburger Y, Vinitzky G. Social network use and personality. *Comput. Hum. Behav.* 2010 Nov 1;26(6):1289-95.
- [2]. Kuss DJ, Griffiths MD. Online social networking and addiction—a review of the psychological literature. *Int. J. Environ. Res. Public Health.* 2011 Sep;8(9):3528-52.
- [3]. Yao Z. The Relationship between Personality and Facebook Usage. 2015.
- [4]. Nihan, Ö. & Burcu, M. The relationship between personality traits and social media use. *Society for Personality Research.* 2013;41(3):517-528.
- [5]. Hughes DJ, Rowe M, Batey M, Lee A. A tale of two sites: Twitter vs. Facebook and the personality predictors of social media usage. *Comput. Hum. Behav.* 2012 Mar 1;28(2):561-9.
- [6]. John OP, Srivastava S. The Big Five trait taxonomy: History, measurement, and theoretical perspectives. *Handbook of personality: Theory and research.* 1999 Mar;2(1999):102-38.
- [7]. McCrae RR, Costa Jr PT. A contemplated revision of the NEO Five-Factor Inventory. *Pers. Individ. Differ.* 2004 Feb 1;36(3):587-96.
- [8]. Boyd DM, Ellison NB. Social network sites: Definition, history, and scholarship. *J. Comput.-Mediat. Commun.* 2007 Oct 1;13(1):210-30.
- [9]. Wilson K, Fornasier S, White KM. Psychological predictors of young adults' use of social networking sites. *Cyberpsychol Behav Soc Netw.* 2010 Apr 1;13(2):173-7.
- [10]. Andreassen CS, Griffiths MD, Gjertsen SR, Krossbakken E, Kvam S, Pallesen S. The relationships between behavioral addictions and the five-factor model of personality. *J. Behav. Addict.* 2013 Jun 1;2(2):90-9.
- [11]. Rabaa'i AA, Zogheib B, AlJamal E. Personality traits as predictors of social networks addiction among university students. *J Emerg Trends Eng Appl Sci.* 2015 Jun 1;6(3):182-95.
- [12]. Landers RN, Lounsbury JW. An investigation of Big Five and narrow personality traits in relation to Internet usage. *Comput. Hum. Behav.* 2006 Mar 1;22(2):283-93.
- [13]. Ryan T, Xenos S. Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. *Comput. Hum. Behav.* 2011 Sep 1;27(5):1658-64.
- [14]. Amiel T, Sargent SL. Individual differences in Internet usage motives. *Comput. Hum. Behav.* 2004 Nov 1;20(6):711-26.
- [15]. Wehrli S. Personality on social network sites: An application of the five factor model. Zurich: ETH Sociology (Working Paper No. 7). 2008 Sep 5.
- [16]. Golbeck J, Robles C, Turner K. Predicting personality with social media.

- InCHI'11 extended abstracts on human factors in computing systems. 2011 May 7 (pp. 253-262).
- [17]. Freedom on the Net. 2014.
- [18]. Global Social Media Statistics. Digital in 2018 global overview. 2018 May 5.
- [19]. Jensen M, Sarroco C. Internet from the horn of Africa: Ethiopia case study. Geneva:ITU. 2002.
- [20]. Internet World Statistics. Internet users' statistics for Africa: Africa Internet Usage, 2018 Population Stats and Facebook Subscribers. Retrieved on May 2018, from <http://www.internetworldstats.com/stats1.htm>
- [21]. Global Stats. Social Media Stats in Ethiopia, April 2017 to April 2017. Retrieved on May 5, 2018, from <http://gs.statcounter.com/social-media-stats/all/ethiopia>
- [22]. Goldberg LR. An alternative "description of personality": the big-five factor structure. *J Pers Soc Psychol.* 1990 Dec;59(6):1216.
- [23]. Correa T, Hinsley AW, De Zuniga HG. Who interacts on the Web?: The intersection of users' personality and social media use. *Comput. Hum. Behav.* 2010 Mar 1;26(2):247-53.
- [24]. Hwang HS. The Influence of personality traits on the Facebook Addiction. *KSII transactions on internet & information systems.* 2016 Feb 1;11(2).
- [25]. Young KS. Pathological Internet use: The emergence of a new clinical disorder. *Cyberpsychol Behav.* 1996 Aug;1(3):237-44.
- [26]. Mark G, Ganzach Y. Personality and Internet usage: A large-scale representative study of young adults. *Comput. Hum. Behav.* 2014 Jul 1;36:274-81.
- [27]. Ross C, Orr ES, Sisc M, Arseneault JM, Simmering MG, Orr RR. Personality and motivations associated with Facebook use. *Computers in human behavior.* 2009 Mar 1;25(2):578-86.
- [28]. Gosling SD, Rentfrow PJ, Swann Jr WB. A very brief measure of the Big-Five personality domains. *J Res Pers.* 2003 Dec 1;37(6):504-28.
- [29]. Ahmed MR. Social Media Usage, Sexual Behavior and Risk Perception among Adolescents' of Some Private High Schools in Addis Ababa. 2014.
- [30]. Allen KA, Ryan T, Gray DL, McNerney DM, Waters L. Social media use and social connectedness in adolescents: The positives and the potential pitfalls. *Aust. Educ. Dev. Psychol.* 2014 Jul 1;31(1):18-31.
- [31]. Andreassen CS. Online social network site addiction: A comprehensive review. *Current Addiction Reports.* 2015 Jun 1;2(2):175-84.
- [32]. Ahmed N. The usage and implications of social networking sites: A survey of college students. *Journal of Interpersonal, intercultural and Mass communication.* 2011;2(1).
- [33]. Nunnally JC. *Psychometric theory* 3E. Tata McGraw-hill education; 1994.