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The Relationship Between Personality Types of High School Students and Their Social Media Addictions

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Abstract

The aim of this study was to determine whether there is a relationship between the personality types of high school students and their social media addictions. A correlational survey model was adopted. A total of 491 high school students who were selected by convenience sampling method participated in the study. "The Social Media Addiction Scale-Student Form" (SMAS-SF), "Enneagram Personality Scale" (EPS), and "Personal Information Form" (PIF) were used as data collection tools. One-way ANOVA and *t*-test were performed to analyze the obtained data. Analysis results showed that there was a significant positive relationship between social media addiction scores and the following Enneagram personality types: helper, individualist, loyalist, enthusiast, and challenger. However, the analysis also found that there was a significant negative relationship between social media addiction scores and the following Enneagram personality types: reformer, achiever, investigator, and peacemaker. It was shown that there were statistically significant differences between the genders in all of the total scores and subscale scores for social media addiction and that the scores of female participants were higher than the scores of males. Besides that, it was found that the total score of social media addiction as well as the scores on all of the subscales differed significantly depending on the preferred social media platform, the frequency with which social media was used, the devices, and the purpose for which it was used. While assistance is offered to personality types for whom positive correlations have been found between scores for addiction to social media and Enneagram personality types, it may be a beneficial idea to formulate interventions according to how these personality types respond when put in stressful circumstances.

Keywords: Social Media Addiction, Enneagram Personality Types, High School Students, Gender

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INTRODUCTION

The English term "addiction" originates from the Latin word "addicere," which means "to be bound by" or "to be enslaved by." (Madduk &Desmond, 2000). It is not easy to condense the concept of addiction into a single statement (Gültekin, 2019). Nevertheless, to define addiction generally, it is the disturbance of a person's balance and order in psychological, physical, and social areas, as well as their difficulty adjusting to their environment as a result of their addiction to drugs, alcohol, or coffee, or the excessive and repeated exhibit of certain behaviors (Karaman &Kurtoğlu, 2009). Addiction may be defined as a person's mental or behavioral repeated acts and their inability to regulate their thoughts and emotions as a result of being too used to something (Byun et al., 2009).

The addition has different typessuch asgambling, computer games, social media, and the internet. Social media addiction evolved among these forms of addiction with the rise in social media usage brought on by technological advancement. The concept of social media, which is the root of this issue, lacks a precise definition in academic literature (Yayman, 2019). Social media is a setting that helps people communicate with other people in the world. Users of social media platforms can connect directly with other users by producing new thoughts and ideas rather than just consuming them.For this reason, social media platforms seem to be places where users may generate their own thoughts and ideas, share them with other users, and engage in conversation (Bilginer, 2020).

While social media usage was once considered a convenience, some users' unrestrained use of it led to social media being addictive. At least 8.5-21.5 hours per week of active social media use is indicative of social media addiction (Yang &Tung, 2007). According to research conducted at the University of Chicago Booth School of Business, social media addiction is more harmful than alcohol and cigarette addiction. The reason for this is that even though the chemical substance discussed may be avoided in the treatment of substance addiction, it is impossible to refrain from using social media in other aspects of life. Therefore, people need additional assistance to overcome their addiction to social media (Tutgun-Ünal, 2015).

It is claimed that social context, socioeconomic status, habits, and psychological traits are related to social media addiction (Dinç, 2020). According to related literature, there is a correlation between personality traits and various forms of addiction (Tutgun-Unal, 2015). In their research, Ross et al. (2009) examined the relationship between Facebook use and personality traits. In this study, the 5 Factor Personality Scale was used. It has been shown that individuals with extroverted personality characteristics join more Facebook groups. Those with a high degree of neuroticism cited the Facebook wall as their favorite feature, but those with a low level of Neuroticism preferred photos. The trait of Openness to Experience has been shown to correlate with online sociality and computer-

mediated communication knowledge. Although it was hypothesized that individuals with the Agreeableness personality characteristic would engage in more online communication, the study's findings did not support this prediction. Furthermore, it was hypothesized that the personality trait of Conscientiousness would be adversely associated with Facebook in order to maintain a balance between academic pursuits and obligations; however, the findings indicated that this was not the case.

Similar studies conducted by Ross et al. (2009) and Amichai-Hamburger and Vinitzky (2010) indicated that individuals who are more extroverted share less personal information on Facebook than those who are less extroverted, whereas those with low and high neuroticism prefer to disclose more basic information than the midrange group. Moreover, individuals with low and high levels of agreeableness tend to post more photos than those with a moderate degree of agreeableness; those with openness to experience share more personal information; and lastly, those with conscientiousness have more friends.

In another research, the emergence of self-esteem and narcissism on Facebook, the social media platform, was examined. Individuals with high narcissistic traits and poor self-esteem participate in more online activities and post more self-promoting information, according to the findings of this research (Mehdizadeh, 2010). In separate research, the predictive effects of fear of missing out, neuroticism, extroversion, and attachment style on social media usage and addiction were investigated. The results of the study revealed that young age, fear of missing out, and neuroticism predict the use of social media (Blackwell, Leaman, Tramposch, Osborne,&Liss, 2017).

Correa, Hinsley, and De Zuniga (2010) explored the association between the three dimensions of the five-factor personality model and social media use (defined as the use of social networking sites and instant messages). They also investigated whether gender and age influenced this dynamic. They discovered that extroversion and openness to experience are positively linked to social media use, however emotional stability (Neuroticism) is a negative predictor that regulates socio-demographic variables and life satisfaction. While extroverted males and females use social media tools more regularly, only males with higher neuroticism levels were more frequent users.

Dinc (2020) found that vulnerable narcissists had greater difficulty regulating their emotions, experienced more cognitive distortions, and have more social media addictions than grandiose narcissists. In Çolak's (2020) study investigating the link between high school students' emotion regulation skills and social media addiction in terms of various variables and personality traits, it was ascertained that personality traits such as agreeableness, neuroticism, conscientiousness, and openness to experience were related to social media addiction. There were low and negative associations between social media addiction and agreeableness and conscientiousness, while there was a low and

positive association between neuroticism and social media addiction and a very low and negative association between openness to experience and social media addiction. In their study, Rıhtım (2020) found a negative relationship between vulnerable narcissism and social media addiction. Ganjayeva (2019) determined that self-confidence and personality traits have an effect on social media addiction. Turhan (2019) found significant correlations between the subscales of social media addiction and the personality qualities of tourism students (as evaluated by a 5-factor personality scale). Çakır (2018) determined a positive-significant correlation between narcissism and social media addiction in adults. Şentürk (2017) determined that there are relationships between social media addiction and avoidant, dependent, passive-aggressive, obsessive-compulsive, antisocial, narcissistic, histrionic, schizoid, paranoid, and borderline personality traits, which are among the sub-dimensions of the personality belief scale. Numerous research in the literature that used the five-factor personality scale found a connection between personality traits and social media addiction. However, only one study (Aca, 2020) about the Enneagram personality scale was observed. In this study, the inclusion of just 11th and 12th graders precluded a comprehensive evaluation of the high school population.

The name enneagram derives from the Greek words enna, which means 'nine,' and grammos, which means 'dots'(Kurt, 2019). Enneagram's examination of nine distinct personality types based on emotion, behavior, and perception patterns enables individuals' limits, value systems, and strengths to be identified (Bland, 2010). The personality types in the enneagram are as follows: Type 1- Perfectionist/Reformer, Type 2 - Helper, Type 3 - Achiever, Type 4- Individualist, Type 5- Investigator, Type 6- Loyalist, Type 7- Enthusiast, Type 8- Challenger, Type 9- Peacemaker (Bland, 2010).

According to the Enneagram, each type can shift towards the right or left. This phenomenon, known as the wing effect, leads each type to generate three distinct subtypes. One aspect of the Enneagram that sets it apart from other scales is its ability to switch to a new personality point when a person finds themselves in settings where they are unable to handle the situation with only the characteristics of their type. The individual will progress towards the state of security when they perceive a greater sense of security than the established norm, conversely, if they experience a higher level of stress than the standard, they will move towards the state of stress. When someone leans toward the security point, they show good traits of their type, but when they lean toward the stress point, they show the negative traits of their type. When the conditions return to normal, the individual also returns to his or her real type. Figure 1 depicts various personality types' of security (growth) and stress points. In the event of stress, the individual moves in the direction of the arrow, while in the case of security, he moves oppositely (Riso & Hudson, 1999; Subaş & Çetin, 2017).

Figure 1. Enneagram

Since the Enneagram does not restrict a person's personality to a single type, unlike other scales, and also weighs in on situations such as the wing effect and shift to security-stress points, it is crucial to look into the relationship between the types defined according to the Enneagram scale and addiction to social media. As indicated before, studies evaluating the association between the five-factor personality scale and social media addiction are often met in the literature. One study using Enneagram (Aca, 2020) was encountered, and in this study, 11 and 12th graders were included. However, the sooner social media addiction is identified, the sooner it may be intervened. If it is confirmed that there is a correlation between Enneagram types and social media addiction, relevant advice may be offered by taking into account the vulnerabilities of the types that cause people to shift under stressful circumstances. In this context, it is anticipated that finding this relationship will contribute to the literature and aid professionals in selecting which counselling will be offered to combat social media addiction. Moreover, young people may assess their personality types and their susceptibility to social media addiction so that they can take the proper actions for themselves. At the same time, it is anticipated that analysing addiction to social media platforms in terms of a variety of different characteristics and drawing parallels with existing research would contribute to the literature. Intervention programs may also be constructed in line with the characteristics proven to be associated with addiction to social media platforms after these variables have been established. Hence, this research aims to investigate whether or not there is a correlation between the scores that high school students receive on various dimensions of their addiction to social media (virtual tolerance, virtual communication, virtual problem, virtual information, and total scores) and the scores that they receive on the Enneagram personality test (reformer/perfectionist, helper, achiever, individualist, investigator, loyalist, enthusiast, challenger, and peacemaker) and to investigate the differences in levels of addiction to social media based on gender, favourite social media platform, amount of time spent on social media, frequency of use, devices used, and reasons for using social media.

METHOD

Research Model

A correlational survey model was adopted in the current study. Correlational surveys are one of the quantitative research designs that disclose the state of change and degree of change of two or more variables together (Karasar, 2007). The study was carried out in the 2020-2021 academic year.

Study Group

This study was conducted in seven public high schools in a city located in the western region of Turkey. The target population of the research is high school students in the Marmara Region in Turkey, and the accessible population is high school students in Balıkesir, Turkey. The high schools were selected by convenience sampling method. The distribution of high school students who voluntarily participated in the study by grade level and gender are given in Table 1.

Table 1

Distribution of High School Students by Grade Level and Gender

		Grade Level				
		9th grade	**10th grade**	**11th grade**	**12thgrade**	**Total**
Gender	**Female**	132	75	86	34	327
	Male	73	52	23	16	164
Total		205	127	109	50	491

A total of 491 high school students including 205 9th grade, 127 10th grade, 109 11th grade, 50 12th grade students, participated in the study. 327 of the students were females and 164 of them were males (Table 1).

Data Collection Instruments

In order to collect data, “Social Media Addiction Scale-Student Form” (SMAS-SF) was used to determine the level of social media addiction, “Enneagram Personality Scale” (EPS) and “Personal Information Form” (PIF) were used to determine personality types. Data collection process were carried out after obtaining the necessary permissions (Annex 1, Annex 2, and Annex 3).

Social Media Addiction Scale-Student Form (SMAS-SF)

It was developed by Şahin (2018) to measure the social media addiction of secondary, high school, and university students. Social Media Addiction Scale is a five-point Likert-type scale including 29 items. It was developed by Şahin (2018) to measure the social media addiction. The

Cronbach alpha reliability was found as .93 by Şahin (2018). There are 4 factors/sub-dimensions of this scale which are virtual tolerance, virtual communication, virtual problem, and virtual information. The scale allows for a maximum of 145 points and a minimum of 29 points to be scored. As per the scoring framework, individuals have been defined with the following parameters: "no addiction", "low addiction level", "moderate addiction level", "high addiction level" and "very high addiction level". Students answered the questions individually. It took approximately ten minutes for each student to answer the measurement tool.

Enneagram Personality Scale (EPS)

"Enneagram Personality Scale" (EPS) developed by Subaş and Çetin (2017) is a 4-point Likert-type scale including 27 items. The Cronbach alpha reliability was found as .90 by Subaş and Çetin (2017).

Personal Information Form (PIF)

"Personal Information Form" was prepared by the researchers of the study. With this form, it was aimed to obtain information about the students' demographic information, as well as the social media platform they prefer, the frequency of social media use, the device they use to access social media, and the purpose of using social media. In addition, information such as students' relationships with their parents, monthly income and school type were also collected.

Data Collection and Analysis

In this study, SMAS-SF was used to determine high school students' social media addiction. EPS was used to determine personality types. Personal information was obtained using PIF.

The data were analyzed via SPSS 23 program. The scores for the Enneagram personality types were calculated by adding the scores for the relevant items. Thus, 9 different scores defining Enneagram personality types were obtained. Since SMAS-SF consists of 4 sub-dimensions, 4 different scores and the SMAS-SF total score were calculated by collecting the relevant scale items. When participants were questioned about the social media program they used most often, five distinct categories included Instagram, YouTube, Twitter, WhatsApp, and others. In the other category, there are applications such as Snapchat, Tumblr, etc. There are 5 categories in the frequency of using social media: never, less than 1 hour a week, 1-5 hours a week, 5-9 hours a week, and more than 9 hours a week. The most often used technological devices fall into three categories: phones, computers, and tablets. There are six purposes for utilizing these devices: schoolwork, social media, communication,

online gaming, research and homework, and other uses. The other category consists of options such as online shopping and listening to music.

The skewness and kurtosis coefficients were used to assess whether the SMAS-SF and EPS scores were normally distributed or not. Normality analysisrevealed that the skewness coefficients ranged from -.365 to .972 and the kurtosis coefficients ranged from -.853 to .545. Since the coefficients of skewness and kurtosis were regularly distributed between -2 and +2,it was concluded that the SMAS-SF and EPS scoreswere normally distributed, and parametric tests were used in analyzes(Garson, 2012; Tabachnick &Fidell, 2013).

FINDINGS

Pearson correlation coefficient was calculated to determine whether there is a significant relationship between social media addiction scores (virtual tolerance, virtual communication, virtual problem, virtual information, and total scores) and scores obtained from Enneagram personality types (reformer/perfectionist, helper, achiever, individualist, investigator, loyalist, enthusiast, challenger, and peacemaker) and the findings obtainedare shown in Table 2.

Table 2

The Relationship between Social Media Addiction Scores and Enneagram Personality Types

Enneagram personality types	Virtual tolerance	Virtual communication	Virtual problem	Virtual information	Total
Reformer/Perfectionist	-.034	-.026	-.100 *	.067	-.033
Helper	.101 *	.074	.087	-.245 **	.146 **
Achiever	-.055	-.057	-.089 *	.056	-.048
Individualist	.114*	.125**	.056	.124 **	.125**
Investigator	-.140 **	-.019	-.110 *	-.133 **	-.115 *
Loyalist	.010	-.024	-.064	.103*	.001
Enthusiast	.175 **	.069	.150 **	.225 **	.179 **
Challenger	.048	.030	.041	.138 **	.073
Peacemaker	-.092 *	-.101*	-.090*	-.027	-.096 *

In Table 2, the association between scores for social media addiction and Enneagram personality types was examined. When interpreting the correlation coefficients,values less than .30 were interpreted as weak, values between .30-.70 were interpreted as moderate,and values more than .70 were considered a high correlation. A positive correlation is indicated by the sign "+" in front of the coefficient, and a negative correlation by the sign "-" (Büyüköztürk et al., 2019). There was a weak and significant negative correlation between the perfectionist/reformer type of the Enneagram and the virtual problem subdimension scores of the social media addiction scale ($r = -0.100$ and $p < 0.05$). The results from the helper type of the Enneagram personality types had a weak, positively significant relationship with the virtual tolerance ($r = 0.101$ and $p < 0.05$), virtual information ($r = 0.245$ and $p < 0.01$) sub-dimensions of the social media addiction scale and overall social media

addiction scores (r = 0.146 and p< 0.01). There was a weak and significant negative correlation between the achiever type of the Enneagram and the virtual problem subdimension scores of the social media addiction scale (r = -0.089 and p< 0.05). There was a weak and positive significant relationship between the scores obtained from the individualist type of Enneagram personality types and the total scores of virtualtolerance (r = 0.114 and p< 0.05), virtual communication (r = 0.125 and p< 0.01), virtual information (r = 0.124 and p < 0.01) and social media addiction total scores (r = 0.125 and p< 0.01). There was a weak, negative, and significant relationship between the scores of investigator type from the Enneagram personality types and the scores of virtualtolerance (r = -0.140 and p< 0.01), virtual problem (r = -0.110 and p< 0.05), virtual information (r = -0.133 and p < 0.01) and overall social media addiction (r = -0.115 and p< 0.5). Moreover, there was a weak, positive, and significant relationship between the scores belonging to the loyalist type of the Enneagram personality types and the virtual information sub-dimension scores of the social media addiction scale (r = 0.103 and p< 0.05). There was a weak, positive, and significant relationship between the scores of enthusiast type of the Enneagram personality types and the scores for virtual tolerance (r = 0.175 and p< 0.01), virtual problem (r = 0.150 and p< 0.01), virtual information (r = 0.225 and p< 0.01), and overall social media addiction (r = 0.179 and p< 0.01). Furthermore, there was a weak, positive, and significant relationship between the scores belonging to the challenger Enneagram personality type and the virtual information sub-dimension scores of the social media addiction scale (r = 0.138 and p< 0.05).Additionally,, there was a weak and negative significant relationship between the scores belonging to peacemaker Enneagram personality type and the virtual tolerance (r = -0.092 and p< 0.05), virtual communication (r = -0.101 and p< 0.05), virtual problem (r = -0.090 and p< 0.05) sub-dimensions of the social media addiction scale and the total scores of social media addiction (r = -0.096 and p< 0.5).

Table 3 presents the results of an independent sample *t*-test conducted to evaluate the differentiation of social media addiction scores by gender, favorite social media platform, frequency of social media use, the devices utilized, and the purpose of use.

Table 3

Examination of Social Media Addiction Scores by Gender

Social media addiction	Gender	N	$\bar{X}$	S	df	t	p
Virtual tolerance	Female	327	13.9450	5.66471	489	5.397	.000
	Male	164	11.3293	4.73612			
Virtual communication	Female	327	20.3761	7.57513	489	2.330	.020
	Male	164	18.8293	6.59765			
Virtual problem	Female	327	17.6269	6.99879	489	2.653	.008
	Male	164	15.9878	6.16540			
Virtual information	Female	327	17.2630	5.53499	489	3.793	.000
	Male	164	15.2683	5.41538			
Total	Female	327	69.2110	21.24705	489	4.120	.000
	Male	164	61.4146	18.99367			

When Table 3 was examined, statistically significant mean differences were found between female and male students in terms of their virtual tolerance[t (491) = 5.397, p<.05], virtual communication [t (491) = 2.330, p<.05], the virtual problem [t (491) = 2.653, p<.05], virtual information scores [t (491) = 3.793, p<.05],and social media addiction total scores [t (491) = 4.120, p<.05] in favor of female ones.

Table 4 and Table 5 present the results of one way ANOVA test performed to assess the differentiation of social media addiction scores according to the favorite social media platform. Post Hoc test was performed to determine between which groups the difference was (The sample size for the comparison of social media addiction scores based on the favorite social media platform was 471 individuals. Because 20 respondents who said they utilized social media neither at all nor very little did not respond to this question, the sample size in this analysis is different from that in other analyses).

Table 4

Descriptive Statistics of Social Media Addiction Scores by Preferred Social Media Platform

Social media addiction	Social Media Platform	N	Mean	SD
Virtual tolerance	instagram	271	14.0849	5.32258
	youtube	125	10.9440	4.50502
	twitter	37	14.9730	5.93243
	whatsapp	14	15.6429	5.24195
	other	24	14.0833	6.35142
	Total	471	13.3673	5.41304
Virtual communication	instagram	271	20.5793	6.76539
	youtube	125	18.0240	6.39741
	twitter	37	23.9189	8.94234
	whatsapp	14	19.4286	4.65278
	other	24	22.2917	10.04113
	Total	471	20.2166	7.17085
Virtual problem	instagram	271	17.6015	6.85105
	youtube	125	15.9440	6.14253
	twitter	37	18.9459	7.03936
	whatsapp	14	18.2143	6.33887
	other	24	19.0417	7.56122
	Total	471	17.3588	6.74937
Virtual information	instagram	271	17.9815	4.94896
	youtube	125	14.2960	5.12273
	twitter	37	18.3514	5.69706
	whatsapp	14	17.2857	5.59435
	other	24	16.4167	6.18495
	Total	471	16.9321	5.37366
Total	instagram	271	70.2472	18.88547
	youtube	125	59.2080	18.56301
	twitter	37	76.1892	22.68974
	whatsapp	14	70.5714	18.47124
	other	24	71.8333	25.55245
	Total	471	67.8747	20.15702

Table 5

Results of Social Media Addiction Scores According To the Preferred Social Media Platform

Social media addiction	Source of Variance	Sum of squares	*df*	Mean square	*F*	*p*	Significant difference
Virtual tolerance	Intergroup	1053.780	4	263.445	9.653	.000	2-1, 2-3, 2-4, 2-5
	Intragroup	12717.677	466	27.291			
	Total	13771.456	470				
Virtual communication	Intergroup	1255.795	4	313.949	6.385	.000	1-2, 1-3, 2-3, 2-5, 3-4
	Intragroup	22912.116	466	49.168			
	Total	24167.911	470				
Virtual problem	Intergroup	437.586	4	109.397	2.431	.047	2-1, 2-3, 2-5
	Intragroup	20972.775	466	45.006			
	Total	21410.361	470				
Virtual information	Intergroup	1249.747	4	312.437	11.816	.000	2-1, 2-3, 2-4
	Intragroup	12322.079	466	26.442			
	Total	13571.826	470				
Total	Intergroup	13950.144	4	3487.536	9.181	.000	2-1, 2-3, 2-4, 2-5
	Intragroup	177013.465	466	379.857			
	Total	190963.609	470				

In the table; 1: Instagram, 2: youtube, 3:twitter, 4: WhatsApp, and 5: other

When Table 4 and Tablo 5 were examined, there was a statistically significant mean difference between virtual tolerance [F (4, 466) = 9.653, p<.05], virtual communication [F (4, 466) = 6.385, p<.05], virtual problem [F (4, 466) = 2.431, p<.05], virtual information [F (4, 466) = 11.816, p<.05] sub-dimensions of social media addiction scalescores and total scores [F (4, 466) = 9.181, p<.05] according to the preferred social media platform.When the cause of the difference was investigated, it was discovered that it was typically caused by differences between those who prefer YouTube and all other groups. YouTube users had lower average scores in all sub-dimensions of social media addiction than all other groups, and their total social media addiction score was also lower.

Table 6 and Table 7 present the results of one way ANOVA test performed to examine the state of differentiation between social media addiction scores and social media use frequency. Post Hoc test was performed to determine between which groups the difference was (1-5 hours of use was not included in the analysis since it was not chosen by the participants).

Table 6

Descriptive Statistics of Social Media Addiction Scores According To Social Media Usage Frequency

Social media addiction	Social media usage frequency	N	Mean	SD
Virtual tolerance	Never	17	5.4706	.71743
	Less than 1 hour	10	7.8000	1.75119
	between 5-9 hours	133	11.1128	4.83148
	more than 9 hours	331	14.4079	5.33313
	Total	491	13.0713	5.50779
Virtual communication	Never	17	10.7059	3.21646
	Less than 1 hour	10	16.7000	5.86989
	between 5-9 hours	133	18.1278	6.52433
	more than 9 hours	331	21.1208	7.28618
	Total	491	19.8595	7.29318
Virtual problem	Never	17	10.1176	2.05798
	Less than 1 hour	10	11.8000	3.61478
	between 5-9 hours	133	15.4586	5.70156
	more than 9 hours	331	18.2477	6.97999
	Total	491	17.0794	6.76997
Virtual information	Never	17	7.4118	2.34678
	Less than 1 hour	10	14.1000	4.20185
	between 5-9 hours	133	15.4887	4.89993
	more than 9 hours	331	17.5891	5.44953
	Total	491	16.5967	5.56999
Total	Never	17	33.7059	7.10427
	Less than 1 hour	10	50.4000	13.42634
	between 5-9 hours	133	60.1880	18.38278
	more than 9 hours	331	71.3656	19.96746
	Total	491	66.6069	20.83027

Table 7

Results of Social Media Addiction Scores According To the Frequency of Social Media Use

Social media addiction	Source of Variance	Sum of squares	*df*	Mean square	*F*	*p*	Significant difference
Virtual tolerance	Intergroup	2361.422	3	787.141	30.659	.000	1-3, 1-4, 2-3, 2-4, 3-4
	Intragroup	12503.083	487	25.674			
	Total	14864.505	490				
Virtual communication	Intergroup	2449.681	3	816.560	16.840	.000	1-2, 1-3, 1-4, 2-4, 3-4
	Intragroup	23613.623	487	48.488			
	Total	26063.303	490				
Virtual problem	Intergroup	1903.829	3	634.610	15.036	.000	1-3, 1-4, 2-4, 3-4
	Intragroup	20554.073	487	42.205			
	Total	22457.902	490				
Virtual information	Intergroup	1985.783	3	661.928	24.391	.000	1-2, 1-3, 1-4, 2-4, 3-4
	Intragroup	13216.372	487	27.138			
	Total	15202.155	490				
Total	Intergroup	34004.139	3	11334.713	30.906	.000	1-2, 1-3, 1-4, 2-4, 3-4
	Intragroup	178606.998	487	366.749			
	Total	212611.136	490				

1: Never, 2: Less than 1 hour, 3: between 5-9 hours, 4: more than 9 hours

When Table 6 and Table 7 were examined, there was a statistically significant mean difference in virtual tolerance, [F (3, 487) = 30.659, p<.05], virtual communication [F (3, 487) = 16.840, p<.05] , virtual problem [F (3, 487) = 15.036, p<.05], virtual information [F (3, 487) = 24.391, p<.05] sub-dimensions of social media addiction scale scores and their total scores [F (3, 487) = 30.906, p<.05] according to the frequency of social media use. Both in subscales and overall scores, it

was discovered that the mean social media addiction scores climbed from never using social media to using it for more than 9 hours, and the variations were typically between those who used them very rarely and those who used them excessively.

The results of the ANOVA test, which shows whether the social media addiction scores differ according to the type of social media device used, are shown in Table 8 and Table 9. Post Hoc test was performed to determine between which groups the difference was.

Table 8

Descriptive Statistics of Social Media Addiction Scores According To the Tool Used

Social media addiction	Used tool	N	Mean	SD
Virtual tolerance	Phone	395	13.6937	5.55771
	Computer	90	10.6333	4.45565
	Tablet	6	8.6667	4.96655
	Total	491	13.0713	5.50779
Virtual communication	Phone	395	20.3392	7.36719
	Computer	90	18.1111	6.77146
	Tablet	6	14.5000	3.44964
	Total	491	19.8595	7.29318
Virtual problem	Phone	395	17.6253	6.93453
	Computer	90	15.0889	5.60226
	Tablet	6	11.0000	2.09762
	Total	491	17.0794	6.76997
Virtual information	Phone	395	17.2481	5.48178
	Computer	90	13.8778	5.10305
	Tablet	6	14.5000	6.09098
	Total	491	16.5967	5.56999
Total	Phone	395	68.9063	20.87183
	Computer	90	57.7111	17.99890
	Tablet	6	48.6667	14.12327
	Total	491	66.6069	20.83027

Table 9

Results of Social Media Addiction Scores According To the Devices Used

Social media addiction	Source of Variance	Sum of squares	*df*	Mean square	*F*	*p*	Significant difference
Virtual tolerance	Intergroup	804.338	2	402.169	13.958	.000	1-2, 1-3
	Intragroup	14060.168	488	28.812			
	Total	14864.505	490				
Virtual communication	Intergroup	538.373	2	269.186	5.146	.006	1-2, 1-3
	Intragroup	25524.931	488	52.305			
	Total	26063.303	490				
Virtual problem	Intergroup	696.067	2	348.033	7.804	.000	1-2, 1-3
	Intragroup	21761.836	488	44.594			
	Total	22457.902	490				
Virtual information	Intergroup	859.313	2	429.657	14.619	.000	1-2
	Intragroup	14342.842	488	29.391			
	Total	15202.155	490				
Total	Intergroup	11141.780	2	5570.890	13.494	.000	1-2
	Intragroup	201469.356	488	412.847			
	Total	212611.136	490				

1: phone, 2: computer 3: tablet

When Table 8 and Table 9 were examined, there was a statistically significant mean difference between virtual tolerance [F (2, 488) = 13.958, p<.05], virtual communication [F (2, 488) = 5.146, p<.05], virtual problem [F (2, 488) = 7.804, p<.05] , virtual information [F (2, 488) = 14.619, p<.05] sub-dimensions of social media addiction scale scores and total scores [F (2, 488) = 13.494, p<.05]according to the type of social media device used. The difference between those who use phones and those who use other devices was shown to be the root of the discrepancies when the cause of the variations was investigated. The mean scores of phone users are greater than those of users of other devices in both subscales and overall scores.

The results of one-way ANOVA test that was used to distinguish between social media addiction scores according to the intended usage were shown in Table 10 and Table 11. Post Hoc test was performed to determine between which groups the difference was.

Table 10

Descriptive Statistics of Social Media Addiction Scores According To the Intended Use of the Tool Used

Social media addiction	Intended Use	N	Mean	SD
Virtual tolerance	School Lessons	201	11.6020	4.76978
	Social Media	150	16.4667	5.47682
	Communication	52	12.4808	4.90494
	Online Gaming	47	11.2340	5.56078
	Research And Homework	18	8.8333	3.34752
	Other	23	12.1739	3.83349
	Total	491	13.0713	5.50779
Virtual communication	School Lessons	201	18.5174	6.84770
	Social Media	150	22.5600	7.64083
	Communication	52	19.2500	6.69174
	Online Gaming	47	19.0426	7.66970
	Research And Homework	18	14.8333	4.59219
	Other	23	20.9565	5.43121
	Total	491	19.8595	7.29318
Virtual problem	School Lessons	201	15.3731	5.99542
	Social Media	150	20.1000	7.34733
	Communication	52	16.2115	4.95207
	Online Gaming	47	17.4681	7.41283
	Research And Homework	18	13.8889	6.09618
	Other	23	15.9565	5.23518
	Total	491	17.0794	6.76997
Virtual information	School Lessons	201	16.3582	5.26793
	Social Media	150	18.5467	4.92574
	Communication	52	17.1923	6.27800
	Online Gaming	47	12.5745	5.75872
	Research And Homework	18	13.0000	4.31141
	Other	23	15.6522	5.09553
	Total	491	16.5967	5.56999
Total	School Lessons	201	61.8507	18.77572
	Social Media	150	77.6733	20.38768
	Communication	52	65.1346	18.19182
	Online Gaming	47	60.3191	23.18274
	Research And Homework	18	50.5556	15.12389
	Other	23	64.7391	15.19335
	Total	491	66.6069	20.83027

Table 11

Results of Social Media Addiction Scores According To the Intended Use of Devices

Social media addiction	Source of Variance	Sum of squares	*df*	Mean square	*F*	*p*	Significant difference
Virtual tolerance	Intergroup	2681.802	5	536.360			1-2, 1-5, 2-3, 2-4, 2-5, 2-6, 3-5, 5-6
	Intragroup	12182.703	485	25.119	21.353	.000	
	Total	14864.505	490				
Virtual communication	Intergroup	1989.033	5	397.807			1-2, 1-5, 2-3, 2-4, 2-5, 3-5, 4-5, 5-6
	Intragroup	24074.270	485	49.638	8.014	.000	
	Total	26063.303	490				
Virtual problem	Intergroup	2212.278	5	442.456			1-2, 1-4, 2-3, 2-4, 2-5, 2-6, 4-5
	Intragroup	20245.624	485	41.744	10.599	.000	
	Total	22457.902	490				
Virtual information	Intergroup	1613.989	5	322.798			1-2, 1-4, 1-5, 2-4, 2-5, 2-6, 3-4, 3-5, 4-6,
	Intragroup	13588.166	485	28.017	11.522	.000	
	Total	15202.155	490				
Total	Intergroup	29605.471	5	5921.094			1-2, 1-5, 2-3, 2-4, 2-5, 2-6, 3-5, 4-5, 5-6
	Intragroup	183005.665	485	377.331	15.692	.000	
	Total	212611.136	490				

1: school lessons, 2: social media, 3: communication, 4: online gaming, 5: research and homework, 6: other

When Table 10 and Table 11 were examined, there was a statistically significant mean difference in virtual tolerance [F (5, 485) = 21.353, p<.05], virtual communication [F (5, 485) = 8.014, p<.05], virtual problem [F (5, 485) = 10.599, p<.05] , virtual information [F (5, 485) = 11.522, p<.05] sub-dimensions of social media addiction scale scores and total scores [F (5, 485) = 15.692,p<.05] according to the intended use of devices. Examining the cause of the differences revealed that they were attributable to variations between groups using the device for social media and all other groups, or between groups using the device for research and homework and all other groups. On all subscales and total scores, students who used devices for social media had higher mean scores than all other groups, but those who used devices for research and homework had lower mean scores than all other groups.

CONCLUSIONS AND DISCUSSION

As a consequence of the study, it was concluded that there was a weak significant positive or negative correlation between social media addiction scores and Enneagram personality type scores. Since research demonstrates that people's social media addiction rises as their scores for the aforementioned personality type increase, particularly in positive relationships, it is essential to develop and offer necessary guidance. The scores of the helper, individualist, loyalist, enthusiast, and challenger types of the Enneagram personality types and their scores for social media addiction were shown to be positively correlated in this context. Hence, experts may thus take the appropriate precautions for these students by postulating that students with the individualist, loyalist, enthusiast, and challenger personality types may be more susceptible to social media addiction. In addition, individuals who have helper personality types tend to shift to the challenger type according to the Enneagram theory in stressful situations. Since the challenger type is self-centred, vindictive,

confrontational, aggressive, authoritarian, and intimidating in unfavourable circumstances, it may be necessary to do research to battle these negative qualities when individuals with the Helper personality type become dependent on social media. Again, according to the Enneagram theory, individuals whose personality type is individualist tend to shift to the helper personality type in stressful situations. The presence of social media addiction among individuals with a strong inclination towards individualism may exacerbate the difficulty in overcoming the manipulative defense mechanisms of helper-type personalities in unsupportive environments. It will be necessary to address these drawbacks when it comes to social media addiction in people with the loyalist personality type because they have a tendency to switch to the achiever personality type under stress and the achiever personality type has a defensive consciousness in unfavourable situations, is workaholic, and is competitive. Since the enthusiast personality type shifts to the perfectionist/reformer personality type under stress and the reformer type reveals critical, impatient, and quick-to-anger behaviour in negative situations, it will be necessary to intervene in these negative situations if individuals with the enthusiast personality type are addicted to social media. In a similar vein, challenger personality type people often switch to the investigator personality type under stress. When it comes to coping with social media addiction in people who have the challenger personality type, it may be essential to deal with these negative characteristics, as the investigator personality type will create a space of trust for themselves by putting distance between themselves and people in negative situations, and will demonstrate behaviours such as being irreconcilable, anxious, nihilistic, and isolated. Therefore, professionals might be of greater assistance to their clients in overcoming addiction by taking into account the aforementioned circumstances while designing guidance programs for those who are addicted to social media. In a similar vein, people can behave appropriately if they are aware of their personality types as well as the negative traits associated with the wings that are likely to shift when they are under pressure. Because the addiction status was assessed as a stress condition and the outcomes of this research were interpreted within this framework.

There are some studies in the literature examining the relationships between social media addiction and the fivefactor personality scale or other personality scales (Ross et al., 2009; Amichai-Hamburger and Vinitzky, 2010; Correa, Hinsley and De Zuniga, 2010; Şentürk, 2017; Ganjayeva, 2019; Turhan, 2019; Çolak, 2020). However, there was a study (Aca, 2020) examining the relationship between social media addiction and the Enneagram personality scale. In this study, only the 11th and 12th grades were included as the study group. In this study conducted by Aca (2020), the type of helper personality was found to predict social network addiction. The finding of significant associations between helper type and social media addiction demonstrates that the findings of this research are congruent with the results of the current study. In contrast to this research, a significant correlation was found between the scores of individualists, loyalist, enthusiast, and challenger

personality types and social media addiction scores in the current study. At this point, the results of the current study differ from the study of Aca (2020). Aca's study (2020) was limited to the 11th and 12th grades; however the current study was carried out at the 9th, 10th, 11th, and 12th grades at high school level.

It was shown that there were significant gender variations in the social media addiction scores of students in high school. Also, it was found that females had a greater propensity for being addicted to social media than males did. In all of the total scores of virtual tolerance, virtual communication, virtual problem, virtual information, and social media addiction, it was observed that the mean scores of females were higher than males. In the scoring made by Şahin (2018), the scores accepted as the limit for a low, moderate, high, and very high level of addiction were determined. Taking into account these scores, the findings of this research indicate that females can be characterized as having a moderate degree of addiction, whilst males may be viewed as having a low level of addiction. The mean score for virtual communication reveals that both male and female participants had a low addiction level. In the virtual problem, the mean score of females can be expressed as low-level addiction while no addiction in male participants. The mean score of virtual information of females shows that they have moderate levels of addiction and males have a low level of addiction. The total mean scores of both male and female participants indicate that they can be expressed as having a low level of addiction. However, the results of the statistical analysis showed that there were significant gender disparities in both the subscales and the overall scores.

Correa, Hinsley, and De Zuniga (2010) discovered that extraversion influences the use of social media favorably in both females and males, however, neuroticism is exclusively linked with the use of social media in male participants, and openness to experience is connected with the use of social media in female. In terms of exposing differences in social media usage between genders, the findings of this research were consistent with the current study. When examining the findings of other research in the literature, various results were discovered. Şentürk (2017), Bilginer (2020), Çolak (2020), and Rıhtım (2020) found that social media addiction did not differ significantly by gender. In addition, in the relevant literature, it has been determined that there is a significant difference between male and female participants in terms of social media addiction, and male participants have more social media addiction than females (Gültekin, 2019; Turhan, 2019; Yang &Tung, 2007). Tutgun-Ünal (2015), Çakır (2018), Yayman (2019), and Aca (2020) revealed that there was a significant difference in social media addiction between genders, with females having a higher level of addiction. The results of the current study is consistent with the results of the studies conducted by Tutgun-Unal (2015), Çakır (2018), Yayman (2019), and Aca (2020). The occurrence of diverse gender-related outcomes in the literature may be explained using different sample groups.

In both subscales and overall scores, the social media addiction scores of high school students varied according to their favourite social media platforms. The difference is due to the users who prefer to use Youtube. All overall ratings for virtual tolerance, virtual communication, virtual problem, virtual information, and social media addiction revealed that YouTube users had lower scores than Instagram, Twitter, and WhatsApp users. According to the findings of Turhan (2019), the social media addictions of the participants varied depending on the type of social media platform they were using at the time of the study. The results of the current research regarding the type of social media were in line with those of this study.

It was observed that high school students' social media addiction scores differed according to their frequency of using social media. This difference results from individuals who use social media less frequently and those who use it more often than 9 hours. It was shown that users who refrained from using social media had considerably lower social media addiction scores than those who used it for less than an hour, between 5 and 9 hours, and more than 9 hours in all virtual tolerance, virtual communication, virtual problem, virtual information scores and the total scores of social media addiction. Furthermore, results of the current study showed that the scores of virtual tolerance, virtual communication, virtual problem, virtual information, and overall social media addiction of users who use social media for more than 9 hours were higher than those who do not use social media, and those who use less than 1 hour and those use it for more than 5-9 hours. In their research, Tutgun-Unal (2015) and Turhan (2019) found that social media addiction varies based on use frequency and that social media addiction increases as usage frequency climbs. The results of these studies are consistent with the current study results.

It was observed that the social media addiction scores of high school students differed according to the devices used. The difference between those who use phones and those who use other devices was shown to be the root of the discrepancies when the cause of the variations was investigated. The mean scores of phone users are greater than those of users of other devices in both subscales and overall scores. Tutgun-Unal (2015) and Turhan (2019) concluded that the device used in their respective studies did not affect social media addiction. The results of these studies and the current study differ in terms of the device used may be due to the study group. In both of these studies, university students comprised the study groups. It may be possible to have a better understanding of the implications of the findings of this study if the number of studies that are carried out with high school students is increased.

The addiction scores of high school students were shown to change depending on the purpose of usage. Examining the cause of the differences revealed that they were attributable to variations between groups using the device for social media and all other groups, or between groups using the

device for research and homework and all other groups. On all subscales and total scores, students who used devices for social media had higher mean scores than all other groups, but those who used devices for research and homework had lower mean scores than all other groups. High school students participating in the study use their devices to connect to social media.

Examining the findings of the research holistically revealed that social media addiction is correlated with Enneagram personality types and varies by gender, favorite social media platform, frequency of social media usage, device utilized, and purpose of use.

RECOMMENDATIONS

Based on the collected results, the following recommendations may be made:

- ✓ It is possible to propose determining the Enneagram personality types of individuals who are addicted to social media and providing relevant counsel that is tailored to personality types.
- ✓ People who do not have social media addiction but have the personality types of helper, individualist, loyalist, enthusiast, and challenger, which are determined to be associated with social media addiction within the scope of the current study, may indeed be able to take preventative measures against social media addiction if they believe they have a propensity for it.
- ✓ The literature on gender differences in social media addiction has produced a variety of findings. To compare the findings of the research carried out in this regard and to compare the effect sizes of the studies, it may be proposed to do meta-analysis studies.
- ✓ The study's results indicated that YouTube users had lower levels of social media addiction. By analyzing the types of social media that their children use, parents may make educated guesses regarding their children's predisposition to addiction.
- ✓ Individuals might attempt to minimize their social media usage to overcome addiction since social media addiction escalates in proportion to the frequency of use. In this sense, using applications that place time limits on social media usage might be a good place to start.
- ✓ The current research revealed that the type of device utilized had an impact on social media addiction. However, studies conducted with university students have revealed that there was no correlation for this variable. It may be advised in this regard to increase the amount of research undertaken with students in high school.
- ✓ This research looked into the connection between social media addiction and Enneagram personality types. Hence, multiple models that include additional characteristics that potentially predict social media addiction can be developed in future research.

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