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# A Study on the Relationship Between Social Media Addiction and Self-Regulation Processes among University Students\*

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## ABSTRACT

In this research, the relationships between social media addiction (SMA) and self-regulation levels among university students were investigated. A sample of 329 (234 women, 95 men) university students with the age range 18-29 were selected. SMA and self-regulation scales were administered to the sample. The multiple regression analysis revealed that SMA was predicted by self-monitoring; self-evaluation and self-reinforcement did not predict SMA. The regression model accounted for 17% of the variance in SMA, while self-regulation predicted the SMA levels and the regression model accounted for 7% of the variance in SMA. Independent sample t test demonstrated that there were no gender differences between the means of SMA and self-regulation. But, there was a significant difference between the means of SMA of working students and non-working students, non-working students SMA mean scores were higher.

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### Keywords.

Y, Z, Alpha generations; social media addiction; self-regulation; self-monitoring; self-evaluation; self-reinforcement

## 1. Introduction

The pandemic has proven how indispensable the use of technology and especially the use of the internet is in all areas of life including social media. Social media is a web-based technology that changes the way people communicate by improving interactive communication (Cabral, 2011). It is defined as any kind of internet media tools that individuals can jointly structure and share content. These tools are blogs, social networking sites like Facebook, Instagram, information and content sharing sites like Wiki(s), and Snapchat, interactive game sites like World of Warcraft, micro blogs such as Twitter (Kuss and Griffiths, 2017). However, it is in a rapid change through new platforms, tools and features added continuously (Van den Eijnden, Lemmens, and Valkenburg, 2016). Another definition is the systems on the internet that let individuals configure a limited or fully open profile within a certain platform, to see the list of other users and to show the connections of other individuals in this platform (Boyd and Ellison, 2007).

The use of such platforms increases year by year. According to the Digital report (January, 2021), while more than 4.66 billion people of 7.83 billion world population have access to the internet (59.5% of the total world population), the rate of internet usage has increased by 7.3% in January 2021 compared to January 2020 (316 million new users, 4.66 billion users in total). The increase in the use of social media is 13.2% (490 million new users), and over 4.20 billion people use social media (53.6% of the total world population). 98.8% of individuals using social media use social media with smart phones. Almost all people or current generations use these platforms, including Y, Z, and Alpha.

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The population called as the Y generation (born between 1981-1994) feels social pressure of being in constant contact with technology, therefore they depend on social media (Cabral, 2011). Beyond that, Generation Y and Z (born between 1995-2010) express their ideas, social identities and instant emotions by finding a "meme" words or images through social media (Ramadlani and Wibisono, 2017), and the Alpha generation (born after 2011) is not different from the Z generation (Nagy and Kölcsey, 2017; Swanzen, 2018). In sum, generations Y, Z and Alpha are using social media with increasing frequency and intensity while the use of social media may turn into a kind of addiction.

### 1.1. Social Media Addiction

Addiction is considered as a behavioral problem and chronic brain disorder (Smith, 2012). Its final definition is "a treatable chronic medical disease that involves complex interactions between brain connections, genetics, environment and the individual's life experiences in the form of performing compulsive and frequent behaviors or taking substances, despite its harmful consequences" (ASAM board of directors, 2019). In this context, addiction includes continuous inability to be deprived, impaired behavioral control, decreased awareness of important problems in behavior and interpersonal relationships, an increased hunger or craving related to rewarding behavior, experience or substance, and dysfunctional emotional responses. (ASAM, 2011; cited in Smith, 2012).

Social media addiction (SMA) is difficult to define, but it is categorized as a type of internet addiction of behavioral addiction in general addiction. In the literature, some synonyms are interchangeably used as online social network site addiction (Andreassen, 2015), SMA (Hou et al., 2019), internet communication disorder (Wegmann et al., 2018). Hou et al. (2019) defines SMA as excessive and intense use of social media applications that suppress life activities and damage "real life", interpersonal relationships and performance. Ostendorf, Wegmann, and Brand (2020) mentioned about SMA as intense social networking, characterized by reduced usage control and adverse consequences. Andreassen and Pallesen (2014) define SMA as social networks as thinking intensely, the urge to use or be online at a high level, social and professional activities, interpersonal relationships, well-being and spending too much time to disrupt health. Similarly, Kuss and Griffiths (2017) define it as the intense and obsessive use of social media platforms, although it causes impairments in all areas in the long term. On the other hand, there are no diagnostic criteria for SMA in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (APA, 2013) and International Classification of Diseases (11<sup>th</sup> revision; ICD-11). However, it has similar symptoms with other addictions including chemical addiction (Andreassen, 2015; Kuss and Griffiths, 2011). Also, internet addiction treatment protocols can be applied in SMA (Andreassen and Pallesen, 2014). In fact, psychotherapeutic and pharmacological treatment approaches can be applied similarly in chemical and behavioral addiction (Grant et al., 2010).

Griffiths (2005; cited in Griffiths, Pontes and Kuss, 2016) states that any behavior can be considered as an addiction if it fulfills six criteria which may be adopted to SMA. These include cognitive salience, mood change, development of tolerance, withdrawal symptoms, conflict, and relapse. *Cognitive salience* includes cognitive distortion and the feeling of craving, obsessively thinking about being on social media. *Mood change* means "high/buzz" go for pleasure or conversely, escape or numbing. *Tolerance* is the desire to spend more time because the time spent on social media is not enough. It also means staying longer than before in order to capture the level of enjoyment (Jo et al., 2019). *Withdrawal symptoms* are unpleasant feelings in case of withdrawal from social media. *Conflict* is the situation in which the person conflicts with the individuals around her/him, "everyday" and compulsory activities, and within herself/himself. *Relapse* is that although he/she "quit" the social media, if he/she "starts" again, the person quickly exhibits SMA symptoms with previous frequency and intensity. It is also possible to talk about loss of control, hiding, escape situations (Kubey, 1996, cited in LaRose, Linn and Eastin, 2003). *Loss of control*, as can be understood from *relapse* and *conflict*, is the inability of the individual to control her/his addiction. *Hiding* is the concealment of addictive behavior from others. *Escape* is trying to run away from dysphoric feelings such as depression, anxiety, guilt.

Considering the comorbidity and the effects of SMA, because of spending much time on social media, it affects the health, sleep quality, relationships, well-being (Andreassen and Pallesen, 2014), and work (Mansi and Levy, 2013). People with SMA may use social media to escape loneliness and depression (Davis, 2001). Social anxiety and depression caused by the necessities of real social life can accompany SMA (Tang and Yogo, 2019; Meena et al., 2015). Similarly, SMA is associated with social anxiety, self-regulation and academic

procrastination (Durak, 2018). In addition, less than 1/4 of people with SMA have depression, anxiety and mania, and more than 1/4 have food addiction and shopping addictions (Tang and Koh, 2017). However, people with SMA may experience anxiety because of missing something online, maintaining relationships, instant social comparisons, and conflicts due to openness to everyone (Fox and Moreland, 2015). Meanwhile, SMA is related to academic procrastination, self-regulation, and social anxiety (Durak, 2018). In addition, university students with low academic success have more SMA symptoms (Baz, 2018; Demir and Kumcağız, 2019).

The impairments related to SMA in professional life (Mansi and Levy, 2013); academic performance, health and social well-being (Ndubuaku et al., 2020), interpersonal relationships, and responsibilities related to social activities (Andreassen and Pallesen, 2014) suggesting that these individuals may have low ability to plan and organize their own lives. In this context, the importance of individual characteristics such as monitoring how often and intensely the person use social media, controlling one's own behavior via evaluating the social media usage, and adjusting self-reinforcement may be important. Similarly, Tang and Koh (2017) stated that people with SMA neglect their personal and professional life and that SMA causes deterioration in social activities, well-being and health, which may mean that the individual loses her control. Neuropsychological research also suggests that the reduction in prefrontal control processes may be evidence of decreased control over excessive internet use (Brand, Young and Laier, 2014). Based on these possible evidences put forward by many researches as in the I-PACE model (Brand et. Al., 2016) which propose impairment in controlling decision-making and self-inhibiting, brings the mind that in the sense of the individual's ability to regulate his/her own behavior via monitoring, evaluating and appropriate reinforcing can be important to cope with SMA.

## 1.2. Self-regulation

Self-regulation means the internal processes in which a person exercises control over the direction, continuity and intensity of his/her thoughts, emotions and actions in order to succeed a goal (Kanfer and Kanfer, 1991), or the planned and cyclically adapted thoughts, feelings and actions produced by the person to achieve personal goals (Zimmerman, 2000). Regulation is the modulation of an individual's thought, affect, behavior, and attention automatically or consciously through specific tools and meta-skills (Karoly, 1993; p. 25). Self-regulation includes a series of intrinsic or transactional processes that guide the individual in achieving her/his goal despite changing time and conditions (Karoly, 1993). In this context, the individual needs to regulate emotions thoughts, behaviors (Sage et al., 2017), and external stimuli, unfolds in conjunction with unconscious factors (Karoly, 1999). The individual with high self-regulation skills can continue on her/his way to reach her/his predetermined goals despite external averting stimuli (Karoly, 1993). Self-regulation includes the motivational and behavioral processes to apply self-efficacy, personal agenda and self-beliefs (Zimmerman, 1995).

Kanfer's (1970) self-regulation model has three stages. Focusing on and monitoring one's own behavior is the *self-monitoring* stage; evaluation of one's own learning and behavior by considering her own criteria and values via comparing her goal and current situation is the *self-evaluation* stage; and using intrinsic or extrinsic reinforcements as motivational tools is *self-reinforcement* stage. Self-monitoring also refers to the attention given to certain aspects of one's own behavior or to environmental events associated with the purpose. Rothbaum, Weisz, and Snyder (1982) mention two processes of self-regulation that constitute adaptation to the life. While the *primary control* is to try to make the environment suitable for himself/herself by changing it; *secondary control* is to try to change himself/herself to adapt to the environment. Self-regulation is largely related to the secondary control. Individuals cannot constantly deal with all aspects of behavior, but they need to be selectively concerned with specific dimensions of behavior and events. With self-monitoring, people learn about other people and situational factors (Kanfer and Kanfer, 1991).

According to Bandura (1986), self-regulation is three-dimensional cyclic interaction process: personal, behavioral and environmental. This process is quite similar to Kanfer's (1970) three-stage self-regulation model. It involves the individual to monitor his/her own behavior (self-monitoring), judge according to personal and social standards (self-judgement), and apply these processes to self-reactions to adjust his/her own behavior (self-reaction) (Bandura, 1991). Zimmerman (2000) reports that self-regulation includes three processes to achieve goals: behavioral, environmental and implicit. While behavioral self-regulation includes self-monitoring and strategically adjusting the performance process; environmental self-regulation involves

observing and adjusting environmental conditions. Implicit self-regulation involves observing and adjusting cognitive and affective states.

Self-regulation of behavior includes setting goals and objectives, and observing and evaluating behavior (Endler and Kocovski, 2000). Errors in self-monitoring hinder healthy self-evaluation (Kanfer and Kanfer, 1991). The individual may have a conflict between her/his goal and his/her behavior, or setting goals or having conflicting goals (Kanfer and Kanfer, 1991; Karoly, 1993; Baumeister, Heatherton and Tice, 1994). This contradiction can cause problems in monitoring behavior. It causes self-evaluating error and as a result self-regulation error.

### 1.3. The present study

As all behavioral addictions, SMA addiction seem to be a growing problem among university students as well as other ages. It sometimes hamper students with SMA to do their educational activities as an addictive behavior. In literature, discontinuing self-monitoring and self-evaluating is considered as a critical problem in addictive behaviors (Endler and Kocovski, 2000). Addictive behaviors can be seen as self-regulation errors, including pathological gambling (Wilson et al., 1989). Indeed, Durak (2018) stated that individuals with low self-regulation levels have higher SMA, Rahman et al. (2020) determined that individuals with high self-regulation levels can control their use of social media. Similarly, there is a relationship between self-regulation errors and pathological internet use (LaRose, Lin and Eastin, 2003). In this context, SMA can also be considered as a self-regulation error.

In the related literature, relationships between internet use and SMA (Hou et al., 2019; Wegmann, Müller, Ostendorf and Brand, 2018; Andreassen and Pallasen, 2014; Kuss and Griffiths, 2017) and SMA and self-regulation (Durak, 2018; Rahman et al., 2020) were examined. However, as far as we reviewed the literature, the relationships between SMA and self-regulation processes, self-monitoring, self-evaluation and self-reinforcement have not been investigated. For this reason, determining how the self-regulation processes are related to SMA may enlighten other researches and SMA intervention programs. Therefore, in this study, it is aimed to examine the relationship between SMA and self-regulation processes.

The study group of this research consists of university students. Examining the relationship between SMA and self-regulation processes of university students may be important in terms of psycho-social support given to them. Most students can easily reach medico-social units and psychological counseling centers at the universities. In these units, it is possible to reach students with SMA. Mental health-care workers may focus on self-regulation processes during the psychological aid with the help of the results of this study. Such a focus may shorten the intervention time and it also may give a better understanding of improving the psychological help process. In this context, it is thought that investigating the predictive relationship between self-regulation processes. For this aim, the following questions were asked within the study:

- Do the scores of self-reinforcement, self-monitoring, and self-evaluation processes predict the total score of SMA?
- Do total scores of SMA and self-regulation statistically differ according to gender and working status?

## 2. Methodology

### 2.1. Research Model

Since the relationships between SMA and self-regulation processes are examined, the model of this research is a relational survey model that aims to determine the change and/or the degree of change between two or more variables within the scope of quantitative research (Karasar, 2013).

### 2.2. Research Sample

The study group was consisted of 329 students (234 women, 95 men; 181 associates, 136 undergraduates, 12 graduates) studying at various universities in Istanbul via convenient sampling (Cohen, Manion and Morrison, 2007; Dörnyei, 2007). Their ages were between 18-29 ( $X=21,2$ ;  $sd=2,3$ ).

### 2.3. Data Collection Tools and Procedure

Demographic information form including gender, working status, social media account information, the SMA Scale - Adult Form and the Self-Regulation Questionnaire were used to collect the data.

**Social Media Addiction Scale - Adult Form (SMAS-AF):** The scale was developed by Şahin and Yağcı (2017) to determine the SMA of individuals aged 18 and over. It consists of 20 items with two sub-scales: virtual tolerance (trying to get pleasure from more social media use) and virtual communication (preferring social media communications rather than other type communications). High scores indicate higher perceived SMA. Confirmatory factor analysis revealed that the scale had a good fit ( $\chi^2=7051,32$ ;  $sd=190$ ,  $p=0,00$ ; fit index values:  $RMSA=.059$ ;  $SRMR=.060$ ;  $NFI=.59$ ;  $CFI=.96$ ;  $GFI=.90$ ;  $AGFI=.88$ ). The factor loads are between .61 and .87. Cronbach Alpha internal consistency coefficient for the overall scale .94; and .92 for the virtual tolerance, and .91 for the virtual communication. Test-retest reliability coefficients for the overall scale.93; .91 for the virtual tolerance and .90 for the virtual communication sub-dimension (Şahin and Yağcı, 2017). For this study, the scores of sub-scales, neither the virtual tolerance nor virtual communication were not calculated, because the aim was related to total SMA scores as a whole.

**Self-Regulation Questionnaire:** The scale was developed by Brown, Miller, and Lawendowski (1999) and adapted into Turkish by Aydın, Keskin and Yel (2014). It consists of 51 items with 3 sub-scales (self-monitoring, self-evaluation and self-reinforcement). The scores of 198 and above from the scale are at a high level; scores between 160 and 197 are moderate, and scores from 159 and below indicates a low level of self-regulation capacity. The factor loads are between .38 and .68. The Cronbach Alpha internal consistency coefficient is .87 for the overall scale, .87 for self-monitoring, .60 for self-evaluation, and .88 for self-reinforcement (Aydın, Keskin and Yel, 2014).

### 2.4. Procedure

#### 2.4.1. Ethical Considerations

Before the research, the permission of Istanbul Kent University Ethics Committee Approval was asked and taken. Later, permissions for the use of scales were obtained via e-mail from the authors. The scales were administered to anonymous university students who voluntarily participated and completed the informed consent form. The measures applied face to face before the pandemic, May 2019. Thus all students were participated voluntarily.

### 2.5. Data Analysis

37 of 366 data were excluded from the analysis because of improper filling. For regression analysis, regression assumptions were checked. Mahalanobis  $D^2$  was calculated and 23 data were removed as outliers. As a result, 306 set of data left. The values of  $VIF$  less than 10 (Myers, 1990) and the  $CI$  less than 30 (Belsley, 1991) indicating there was no multi-collinearity. Also, kurtosis and skewness scores were between -2 and +2, so parametric tests were applied assuming that the sample scores were normally distributed (George and Mallery, 2010). Table 1 shows values related to regression assumptions.

**Table 1.** Results about the Assumptions of Normal Distribution and Regression Analysis

Variables	Skewness	Kurtosis	VIF	CI
SMA	-.09	-.29		1.000
Self-regulation	-.03	.08	1.00	17.83
Self-monitoring	-.25	.11	1.22	9.37
Self-evaluation	-.04	.21	1.1	16.23
Self-reinforcement	-.73	1.09	1.22	27.83

As far as we reviewed the literature, there was no study in the literature to determine to what extent self-monitoring, self-evaluation and self-reinforcement predict SMA. The main purpose of this study was to determine to what extent the processes of self-regulation predict SMA. In this regard, regardless of the sub-scales of the SMA scale, SMA total scores were considered as the dependent and the predicted variable. Therefore, Pearson correlation coefficient was utilized to determine the relationships between variables. Multiple regression analysis was conducted to determine whether self-regulation processes predict SMA or not, and simple linear regression analysis was used to determine whether the total self-regulation scores

predict SMA (Karasar, 2013). Meanwhile, independent samples t-test was applied to determine mean differences according to gender and working status of individuals.

### 3. Findings

As seen Table 2, self-regulation (total) and SMA ( $r=-.26$ ); and self-monitoring and SMA ( $r=-.40$ ) are significantly and negatively correlated. However, significant correlations were found between self-regulation (total) and self-monitoring ( $r=.80$ ), self-regulation (total) and self-evaluation ( $r=-.20$ ), self-regulation (total) and self-reinforcement ( $r=.86$ ); self-monitoring and self-evaluation ( $r=-.25$ ), self-monitoring and self-reinforcement ( $r=.40$ ).

**Table 2.** Descriptive Statistics and Correlations

Variables	1	2	3	4	5
SMA	1				
Self-regulation (total)	-.26**	1			
Self-monitoring	-.40**	.80**	1		
Self-evaluation	.09	-.20**	-.25**	1	
Self-reinforcement	-.07	.86**	.40**	-.25**	1
M	56.37	178.94	60.51	11.19	107.24
SD	13.41	20.17	11.42	2.09	13.31

\*\* $p < 0.01$

As seen Table 3, in the regression model, SMA was predicted by self-monitoring ( $\beta = -0.4, p < 0.01$ ). On the other hand, self-evaluation and self-reinforcement did not predict the SMA. The regression model accounted for 17% of the variance in SMA.

**Table 3.** Summary of Stepwise Regression Analysis for Variables Predicting C-TANC

Dependent/Predicted Variable	Predictive Variable	B	B Standard Error	$\beta$	t	p	F	R <sup>2</sup>
C-TANC (Coping with Teasing and Name Calling)	Step 1							
	Constant	30.07	3.87		7.76	.000	11.68	.04
	Self-esteem	.41	.12	.20	3.42	.001		
	Step2							
	Constant	25.33	3.93		6.45	.000	15.00	.10
	Self-esteem	.04	.15	.02	.23	.82		
	Children's Hope	.58	.14	.31	4.20	.000		

As seen Table 4, in the regression model, SMA was predicted by self-regulation ( $\beta = -0.26, p < 0.01$ ). The regression model accounted for 7% of the variance in SMA.

**Table 4.** Summary of Simple Linear Regression Analysis for variable of self-regulation total scores predicting SMA total scores

Variables	B	SE <sub>B</sub>	$\beta$	t	p	R	R <sup>2</sup>	A <sub>R</sub> <sup>2</sup>
Constant	87.07	6.64		13.12	.000			
Self-regulation	-.17	0.04	-0.26	-4.66	.000	.26	.07	.06

As seen in Table 5, it is found that there was no difference between SMA ( $t=.70, p=.79$ ) and self-regulation mean scores ( $t=.69, p=.50$ ) according to gender, while the SMA mean scores ( $\bar{X}=57.44$ ) of non-working students were significantly higher than that of the working students ( $\bar{X}=51.86; t= -2.90, p= .004$ ).

**Table 5.** The Means, Standard Deviations and *t*-values for the differences in terms of gender and working status

Variables	Gender	N	$\bar{X}$	S	<i>t</i>	<i>p</i>
SMA	Female	217	56.71	13.42	.70	.79
	Male	89	55.53	13.44		
	Working	59	51.86	13.64	-2.90	.004
	Non-working	247	57.44	13.16		
Self-regulation (total)	Female	217	179.45	20.02	.69	.50
	Male	89	177.70	20.58		
	Working	59	177.23	20.01	-.72	.47
	Non-working	247	179.35	20.22		
Self-monitoring	Female	217	60.18	11.79	-.84	.40
	Male	89	61.33	10.47		
	Working	59	61.07	11.18	.42	.68
	Non-working	247	60.38	11.49		
Self-evaluation	Female	217	11.16	2.04	-.33	.75
	Male	89	11.25	2.22		
	Working	59	10.83	1.98	-1.46	.15
	Non-working	247	11.27	2.11		
Self-reinforcement	Female	217	108.11	11.86	1.58	.12
	Male	89	105.12	16.196		
	Working	59	105.34	14.43	-1.22	.22
	Non-working	247	107.70	13.02		

DF= 304

#### 4. Conclusion and Discussion

Internet and social media usage is known to be quite common among adolescents and emerging adults (Mazman and Usluel, 2011; Vannucci, Flannery and Ohannessian, 2017), this study, investigating social media usage among the emerging adult population, examined the relationship between SMA and self-regulation processes, self-monitoring, self-evaluation, and self-reinforcement. The relationship between SMA and total self-regulation scores was also examined. Meanwhile, the mean score differences of SMA and self-regulation in terms of gender and working status were also investigated.

The results revealed that there were no mean score differences of SMA in terms of gender. Although some of the literature shows that women tend to develop more addictions than men in the use of social interacting activities (Andreassen, Pallesen and Griffiths, 2017) and women have a higher risk of developing addiction in their smartphone use behaviors (Van Deursenet al., 2015), some other studies report that there is no relationship between SMA and gender (Alkan and Doğan, 2018; Baz, 2018; Demir and Kumcağız, 2019; Yılmazsoy and Kahraman, 2017). As stated in some studies (Savcı, Ercengiz and Aysan, 2018; Tess, 2013), with the increase of smart phones, social media has started to be widely used regardless of social, cultural and economic differences. Indeed, according to the Digital Report (January, 2021), 91.19% of individuals who access to the internet is using social media in Turkey. Although the gender distribution is unknown, it is possible for both genders to use social media at similar rate and intensity to express themselves in the easiest and fastest way and receive social reinforcements. In line with this, generation Z shows their ideas, social identities and instant emotions (Ramadlani and Wibisono, 2017) and express their ideas (Nagy and Kölcsey, 2017; Swanzen, 2018) through social media. In other words, it can be said that, participants of this research, university students, may prefer social media to convey their social identity, instant feelings and ideas regardless of gender differences. The rapid communication of immediate emotions and ideas can be equally important to both genders. For this reason, both genders may use social media at a close intensity and rate. In this context, in order to prevent SMA for all individuals regardless of gender, it may be important to extent the opportunities for showing social identity and immediate emotions as well as sharing ideas. These extended opportunities can be in conventional ways such as university newspapers, graffiti, art, sports and other cultural activities, including all kinds of self-expression tools, where individuals can express themselves. It may also be important to seek and present opportunities for individuals to express themselves in live/real communities and activities like social drama, theatre etc.

In this study, the SMA scores of the non-working university students were found to be higher than the working students. As far as it can be reached, there was no study related to SMA of working individuals in the literature. But it can be said that non-working university students have more opportunities to be in social media. In other words, working individuals' opportunities to engage with social media may be more limited. As a matter of fact, requirements such as keeping up with the job, fulfilling work-related duties and responsibilities, fulfilling non-work responsibilities, fulfilling school and educational responsibilities, and organizing personal, career, and school relationships can increase the motivation of working university students to regulate themselves in order to complete these tasks. In other words, this kind of intensity may lead the individual to regulate themselves in terms of time, work and educational requirements and responsibilities. Such a self-regulation may prevent SMA among working university students. On the other hand, non-working university students may have a luxury of spreading their school and educational responsibilities over a longer period of time due to their more time. This type of luxury may cause less motivation to organize or regulate themselves. For this reason, SMA mean scores of working university students may have been found to be lower than non-working students.

One other reason might be related to meaningfulness, that is if individuals use their time for earning money, doing something for self-enhancement, they may feel that their time is meaningful. In this regard, Çevik et al. (2020) found that there is a negative relationship between smartphone addiction and meaning and purpose in life. This finding implies that if individuals find meaning and purpose in their life, they may not need to attach themselves to social media. In other words, feeling a meaning and purpose in life may prevent people from SMA. Besides, meaningfulness also may help individual to regulate herself/himself as in the case of working individuals. Moreover, self-enhancement activities and responsibilities may lead individual to have more pleasure from such activities that are meaningful for his/her personal development. For this reason, she/he may not need pleasure-seeking behavior from social media. Because individual have a meaning and pleasure from her/his self-enhancing activities and fulfilling her/his responsibilities. Moreover, some volunteer activities may also give meaning and purpose to the individual. In this regard, use of time in meaningful activities, providing appropriate working opportunities, even volunteer activities for the sake of others may prevent individuals from SMA.

In this study, it was determined that general self-regulation scores were a significant and negative predictor of SMA scores. This finding is in line with the positive correlation between poor self-regulation and internet use among university students (LaRose, Linn and Eastin, 2003). In a study investigating how social-cognitive determinants affect social media use, it was found that inadequate self-regulation and social media use of individuals play an important role in the development of habitual strengths that effectively predict social media use (Khang, Han and Ki, 2014). As mentioned in these studies, university students in this study are likely to experience self-regulation deficiencies as in other cultures. For example, self-regulation means controlling over one's thoughts, feelings and actions to achieve a goal (Kanfer and Kanfer, 1991; Zimmerman, 2000). The participants of this study may have difficulties regulating themselves about many subjects such as managing their time, focusing on personal/social and academic responsibilities, doing their emotional regulation (being able to regulate dysfunctional emotions), and maintain impulse control to achieve their responsibilities, instead they use social media with less control over their behavior. It can be said that SMA scores may have increased with the emergence of such self-regulation inadequacies.

In this study, it was also determined that self-monitoring, one of self-regulation processes, was a significant and negative predictor of SMA. This finding is consistent with the literature that mentions errors in self-regulation, incomplete self-regulation, or problems in self-monitoring are related to addictive behaviors (Kanfer, 1970; Miller, 1987; Wilson et al., 1989; Endler and Kocovski, 2000). Individuals who do not observe or monitor their own behaviors may not be aware of their behaviors, as well as not being aware of the effects of their own behavior. In other words, it will be less likely to evaluate the effects of their behavior.

In this study, no relationship was found between self-evaluation and self-reinforcement and SMA. This situation may have arisen due to the possibility of external resources of individual. In other words, the individual may not need self-evaluation and self-reinforcement, because she/he may take into account the evaluation and reinforcement from external sources. External resources like friend, parents, girl/boy-friend can evaluate and reinforce her/him. In other words, collectivist characteristics of Turkish culture may give external feedback with external evaluation and external reinforcement. In this context, Sahranç, Çelik, Turan



(2017) states that because of the collectivist culture of Turkey, social support can be easily supplied not only by friends and the family, but even by neighbors and extended family. In other words, people around individual may give feedback including evaluation and criticism or reinforcement about individual's social media usage. As a result, the person may not need personal "self" evaluation and reinforcement. Even though the person does not evaluate and reinforce herself/himself, she/he get immediate feedback and she/he may need to focus only observe or monitor her/his own behavior. It also may explain why only self-monitoring is enough for self-regulation about social media usage. The individual may say oneself as "I have been on social media for long hours today, my friends (parents/grandparents/neighbors) will criticize me" and it may lead her /him to stay away from social media without the need for in-depth self-evaluation and self-reinforcement. Therefore, his/her responses to the items related to self-evaluation and self-reinforcement may not have turned into a statistically predictive effect. On the other hand, there may be an increasing need for self-monitoring or observing one's own behavior in order to get frequent and rapid responses as stated by Ramadlani and Wibisono, (2017). The person may observe or monitor her/his own behavior in order to get immediate response, how fast and frequent she/he gets response, and next time do the same without self-evaluation and self-reinforcement.

## **5. Limitations**

To mention some limitations of the study, when evaluating the research findings, it should be taken into account that the findings obtained through the study group can only be generalized to similar groups. Therefore, in future studies, it may be beneficial to use more representative samples and more variables in terms of generalizability of the findings. In this context, SMA and self-regulation relationships can be examined in individuals with a wider range of educational levels and various social groups.

## **6. Recommendations**

The relationship between gender and social media usage can be examined in detail. A quantitative research may reveal whether there are any cultural differences in terms of gender. Moreover, via such a research, the types of reinforcements that both genders taken and the meaning and importance that they attach to these reinforcements can be investigated to check whether there are any reinforcement differences according to the gender. Also, as stated by Ramadlani and Wibisono (2017), Nagy and Kölcsey (2017), and Swanzen (2018), sharing ideas, social identities and instant feelings can be understood according to gender as well as reinforcement immediacy. Besides future research may also investigate whether the SMA of individuals who have extended opportunities via conventional ways such as university newspapers, graffiti, art, sports and other cultural activities, including all kinds of self-expression tools change or not. Meanwhile, the effect of self-regulation can be investigated in the relationship between being in these activities and SMA. Also future studies may also investigate the types of reinforcements that both genders take and the importance they attach to these reinforcements can be investigated, so that gender differences about SMA will be clarified. In order to understand the experiences of the individual during the social media usage can be investigated in-depth research via a qualitative research. It may also give opportunity to understand internal evaluations and reinforcements of individual during the social media usage. Individuals who work in a job, serve in voluntary activities and those who do not work and do not serve in voluntary activities can be chosen to find out SMA differences. Besides, the role of self-regulation in the relationship between working, serving in voluntarily, and not working and SMA among these groups can be addressed.

Besides, in regard with the findings of this study, the effectiveness of various self-regulation programs to be developed for individuals to acquire positive habits that will improve themselves for self-enhancement, to do time management better, to develop a kind of capacity to enjoy functional self-enhancing activities, to focus on their personal/social and academic responsibilities, to focus on emotional regulation and to control their impulse about social media usage can be examined. However, how individuals using social media experience within the processes of self-monitoring, self-evaluation and self-reinforcement can be examined with a qualitative research.

## 7. References

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