

Investigation of The Relationships Between Smartphone Addiction, Perceived Stress and Life Satisfaction Variables in Adults

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ABSTRACT: The aim of this study is to examine the relationship between smartphone addiction, perceived stress level and life satisfaction in adults. In this study, sociodemographic form, Smartphone Addiction Scale-Short Form, Perceived Stress Scale (YDO) and Life Satisfaction Scale were used. In this context, when the effect of sociodemographic data on the variables is examined; it is observed that the amount of income of individuals is effective on the level of perceived stress. The amount of perceived stress differs between those who use smartphones mostly for social media purposes and those who use them for entertainment-photograph-internet purposes. It has been determined that the income levels of individuals are effective on the Life Satisfaction and the satisfaction they get from life is also affected by income level. In addition, the amount of satisfaction from life differs according to age groups. In particular, it has been determined that there are differences between people who spend 2-4 hours on a smart phone and those who use it for 11 hours or more. In order to obtain a more specific result in the literature, it is recommended to develop the study by keeping it limited to elderly individuals or adolescent individuals.

KEYWORDS: *Perceived Stress, Satisfaction with Life, Smartphone Addiction.*

I. INTRODUCTION

With the developing technology, new tools and equipment enter our lives and they offer us both positive and negative innovations. One of the important contributions of technology is smart phones, which are a tool used to access information. Not just their capacity; at the same time, smart phones, whose usage areas are expanding, have an effective power in our daily life, especially because they offer convenience in terms of speed and enable us to access many information at the same time with a small device in our hands. The acquisition of a smartphone by people of almost every age group; it is seen that the time spent in the virtual environment increases, people generally use this time for situations that will affect them negatively rather than for beneficial purposes, their addiction-developing attitudes towards their phones increase and this causes various problems [1]. Studies show that; people with smartphone addiction experience a feeling of restlessness when they are away from the phone, the need to constantly check their phone, and sleep problems depending on these situations [1]. With the increasing frequency of use, the age range of smartphone users is also expanding; that is, the age of use is decreasing. This situation creates a new danger. Individuals develop addiction to smart phones, so they experience problems in both their social and private lives. Although it has many advantages; the increase in the time of use of smartphones also affects people's lives negatively [2]. It is revealed that the usage rates of smartphones are increasing and the age range of users is gradually expanding. Individuals have started to do most of their work through these devices, socialize and have fun over smart phones. This situation creates a new danger. Individuals develop addiction to smart phones, so they experience problems in both their social and private lives. Although there is no precise definition of smartphone addiction; considering the rate of use, it can be considered as a type of addiction [1]. Although it has many advantages; the increase in the usage times of smartphones also affects people's lives negatively [2].

Since the existence of humanity, people have been faced with stress. Although we often witness this concept; stress is a difficult concept to define as it varies from person to person [3]. Stress; it can be defined as the reaction that occurs when an event or action creates a psychological or physical strain on the individual. It has many effects on the individual, such as reducing the person's well-being and reducing his capacity [4]. Stress factor affecting individuals' daily lives, communication skills and productivity; it can mean the work environment for an employee, the status of her child for a mother, or her exams for a student [3]. Stress not only affects the normal functions of the individual, but also causes various health problems in case of prolonged

exposure. In this situation; leads to a decrease in the quality of life of people. Studies reveal that stress has a significant effect on mental health [5]. In other words, stress has a very important role in human life; it is seen that it affects both physical and mental health and daily behaviors of the individual remarkably [5]. Stress; functional up to a certain point. It emerges as a triggering factor for the individual to survive and reach his goals. However, when a certain level is exceeded, stress begins to have negative effects. This situation may cause some psychological or physical results in the person [6]. Perceived stress means the level of stress that a person feels in the face of events or situations in his life. This level varies from person to person under many conditions.

It interprets events subjectively and shows different stress levels in line with the individual's personal characteristics, familial factors, educational status or differences in belief characteristics. In this context; the individual's reaction to the event is called stress, and the way people perceive stress differs from each other. So it's not the event or the setting; how the individual interacts with this event is important [7]. There is a strong relationship between the level of perceived stress on physical and mental health and how this stress is struggled. When the person is exposed to stress for a long time, an increase in anxiety and depression symptoms can be observed [8].

Satisfaction is a part of the concept of life satisfaction and means meeting one's needs, expectations and wishes. Life satisfaction, on the other hand, refers to all life dimensions of the individual and his satisfaction in these dimensions, regardless of a specific situation. It also means that the person's well-being and positive emotions prevail over negative emotions [9]. Life satisfaction is a cognitive process and it is the evaluation of the quality of life by one's own criteria. Person's life satisfaction; the meaning attributed to life is affected by many factors such as the harmony of the individual in reaching his goals, the physical feelings of the individual, economic factors, social relations and security [10]. The concept of life satisfaction, which has subjective characteristics; it means the evaluations of the individuals about their life. The person evaluates his life according to a criterion that he sees fit for himself and creates appropriate criteria. It is important how the individual evaluates the general criteria he has determined in order to feel successful or in other words to be satisfied with his life [11].

The individual evaluates himself cognitively. It is important for every age group and is affected by multiple variables such as age, gender, economic conditions, health, education level, religion, familial and environmental factors. Life satisfaction does not mean the satisfaction of a person in a single area, but the satisfaction of his whole life in general.

In other words, the person determines some criteria and evaluates his whole life in accordance with these criteria; If these criteria match with the expectations from life afterwards, the individual's life satisfaction is high [12].

When it is considered today's conditions, it has been revealed as a result of research that individuals increase the frequency of smartphone use with the advancing technology. It is thought that the perceived stress level, which is affected by many factors, increases due to changing living conditions and this situation may lead to smartphone addiction more. Since it is thought that an individual's level of life satisfaction will decrease with an increase in the perceived stress level; it is anticipated that these concepts may affect each other. Based on this situation, it is thought that there may be a relationship between perceived stress and life satisfaction levels.

As a result of the researches, it is seen that; the concepts of smartphone addiction, perceived stress and life satisfaction are discussed separately in the literature. In the studies carried out to date, it is seen that the relations of these three variables with each other have been examined in a limited way. For this reason; the aim of this study is to directly examine the relationships between the concepts of smartphone addiction, perceived stress level and life satisfaction in adults aged 18 and over.

II. RESEARCH METHODS

2.1. Model of the Research

Relational screening model was used in this study. Whether there is any change or interaction between two or more variables in the relational, in other words, correlational screening model; if there is a change, the level of this change is measured [13].

2.2. Population and Sample

The sample group of the study includes adults aged 18 and over. In order to participate in the research, no criteria other than being 18 years old and volunteering are required. Those who did not meet these two criteria were not included in the study. A total of 216 people, 118 of whom were women, were included in this study. Considering the age groups of the samples in this study, it is seen that the largest population of 29% is between the ages of 18-25. When the marital status of the individuals was examined, it was determined that the majority of them were single with a rate of 45%. In terms of educational status, university graduates constitute the largest group with 44%; it is seen that the population with a financial income of 2000 TL or less constitutes 32% of the sample.

2.3. Data Collection Tools

2.3.1. Personal Information Form: It is given to obtain information about the demographic characteristics of the participants.

2.3.2. Smartphone Addiction Scale-Short Form: This scale, developed by Kwon et al., consists of 10 items and is evaluated with a six-point Likert scale. The adaptation of the scale to Turkish was carried out by Noyan, Darçın, Nurmedov, Yılmaz and Dilbaz in 2015 [14].

2.3.3. Perceived Stress Scale (ASÖ): This scale was developed by Cohen, Kamarck and Mermelste in 1983 and adapted into Turkish by Bilge, Ögce, Genç and Oran in 2007 [15]. The first three items of this five-point Likert-type scale are inverted and five items are straight. In the scale in which both total scores and sub-scores are calculated; a high total score means a high perceived stress level, while high sub-scores mean a negative one.

2.3.4. Satisfaction with Life Scale: The “Satisfaction with Life Scale” (YDO), developed by Diener, Emmons, Larsen, and Griffin in 1985, was adapted into Turkish by Dağlı and Baysal in 2016 [10]. This scale is one-dimensional and has five-item and five-point Likert type features.

2.4. Process and Analysis of Data

Ethical permissions were obtained for the study and the inventories were sent to the sample group via the internet. Before the beginning of the study, the instruction was clearly conveyed to the participants in a clear, understandable and simple way. These data obtained from the participants were analyzed through the SPSS analysis program. Within the scope of the research, correlation analysis was carried out in order to examine the linearity of the relationship between the variables, to determine the direction of this relationship when there is a relationship between them, and to measure the level of this relationship. In this context, after performing the normality tests, the Pearson Correlation Test, ANOVA Test and T-test, which are parametric tests, were applied under the conditions where the normality assumption was met; when the assumption of normality was not met, Spearman-Rank Correlation Test, Kruskal Wallis Test and Mann Whitney U Test, which are nonparametric tests, were used. Finally, Simple Linear Regression was applied.

III. RESULTS

Before proceeding with the correlation analysis, it was checked whether the scales met the normality assumptions and it was aimed to decide on the methods to be applied at this point. The skewness and kurtosis values of the first scale, the Smartphone Addiction Scale-Short Form (ATB), were taken into account. The skewness value for the ATB scale was $-.119$; Kurtosis value was obtained as $-.516$. In this context, it can be observed that the assumption of normality is provided for the ATB scale. The third scale is the life satisfaction scale (YDO) and the skewness value was taken into account. The skewness value for the YDO scale was $-.171$; Kurtosis value was determined as $-.704$. In this context, the assumption of normality was provided for the YDO scale.

Table 1. Spearman's Rank Differences Correlation Coefficient

		ATB_Point	ASO_Point	YDO_Point
ATB_Point	Pearson Correlation	1	-	-.306**
	Sig. (2.tailed)		,398**	,000
	N	216	,000 216	216
ASO_Point	Pearson Correlation	-.398**	1	,622**
	Sig. (2.tailed)	,000		,000
	N	216	216	216
YDO_Point	Pearson Correlation	-.306**	,622**	1
	Sig. (2.tailed)	,000	,000	
	N	216	216	216

As shown in Table 1, there are different correlation values consisting of three different variables. The first of these variables is the correlation between smartphone addiction and perceived stress; its value is $r=.398$ and there is a negative significant relationship between the two variables. When the smartphone addiction and life satisfaction variables were examined, the correlation value was found to be $r=-.306$. It has been revealed that there is a negative significant relationship between these two variables. Considering the life satisfaction and perceived stress variables, the correlation value was determined as $r=-.622$; the relationship between these two variables was found to be positively significant.

3.1. Smartphone addiction and income level in adults for the differences shown according to the qualitative variables

The results of the analysis show that the proposition "H0: Smartphone addiction does not differ according to the income level variable" was found to be statistically accepted. In other words, no significant difference was observed between the two groups ($p = .069$; $p < 0.05$). These data are shown in Table 2 below.

Table 2. Comparison of Participants' Average Scores according to Smartphone Addiction and Income Levels

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1121,374	4	280,344	2,212	,069
Within Groups	26736,288	211	126,712		
Total	27857,662	215			

3.2. Smartphone addiction and gender for the differences shown according to the qualitative variables

Table 3. Levenes' Test Results According to Participants' Smartphone Addiction and Gender

		Levene's Test for Equality of Variances		T-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ATB_Point	Equal variances assumed	,007	,935	-1,675	214	,095	-2,60209	1,55385	-5,66491	,46074
	Equal variances not assumed			-1,679	203,781	,095	-2,60209	1,55014	-5,65845	,45427

In accordance with the analysis, T-test was applied since normality was ensured between the two data, and since the p-value was 0.935, the H0 hypothesis "Smartphone addiction does not differ according to gender" is accepted and the H1 proposition "Smartphone addiction differs according to gender" is rejected (Table 3).

3.3. Smartphone addiction and age group for the differences shown according to the qualitative variables

Table 4. ANOVA Results on Smartphone Addiction and Age Group of Participants

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	296,380	5	59,276	,452	,812
Within Groups	27561,282	210	131,244		
Total	27857,662	215			

When the ANOVA test was performed, it was determined that the data met the normality condition. According to the results of the analysis, the p-value was found to be greater than 0.05. Therefore, there is no difference between the groups. (Table 4). Accordingly, the hypothesis "H0: Smartphone addiction does not differ according to age groups" is accepted.

3.4. Smartphone addiction and the purpose of smartphone use for the differences shown according to the qualitative variables

Table 5. ANOVA Results of the Participants' Smartphone Addiction and the Purpose of Smartphone Use

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3049,754	2	1524,877	13,093	,000
Within Groups	24807,908	213	116,469		
Total	27857,662	215			

While the H0 hypothesis of the smartphone addiction variable "Smartphone addiction does not differ according to the purpose for which the smartphone is used" is rejected; the H1 hypothesis, "Smartphone addiction differs according to the purpose for which the smartphone is used", is accepted considering the

ANOVA test analysis and the p-value is 0.000. Tukey test was applied in order to obtain more detailed information and to determine between which groups the differences were distributed. As a result of this test, there were differences between the groups using smart phones for Communication & Messages and groups using smart phones for Entertainment & Internet & Photography, and the p-value of this difference was 0.000 (Table 5).

3.5. Perceived stress level and income level for the differences shown according to the qualitative variables

Table 6. ANOVA Results of the Participants' Perceived Stress Level and Income Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	277,638	4	69,409	6,344	,000
Within Groups	2308,566	211	10,941		
Total	2586,204	215			

When the perceived stress level differs according to income groups by means of ANOVA test, there is a statistically significant difference. Therefore, the hypothesis "H1: Perceived stress level differs in terms of income groups" is accepted. In this context, analyzes were made by means of the Tukey test in order to reveal the differences in which income level groups. According to the analyzes, the difference between people with income levels between 2000 and below and between 2001 and 4000 was determined and the p-value was found to be 0.021. Another difference is between people with incomes between 2000 and below and 6001-8000, with a p-value of 0.000. . The last difference is between people with incomes between 2000 and below and 6001-8000, with a p-value of 0.019 (Table 6).

3.6. Perceived stress level and gender for the differences shown according to the qualitative variables

Table 7. T-test Results of the Participants' Perceived Stress Level and Gender

	Levene's Test for Equality of Variances		T-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
ATB_Point Equal variances assumed	1,122	,291	1,138	214	,256	,54058	,47510	-,39590	1,47706
Equal variances not assumed			1,124	191,585	,262	,54058	,48090	-,40796	1,48912

As there was normality between the two data according to the results of the analysis, T-test was applied and the p-value was found to be 0.291. In this context, H1 hypothesis "Perceived stress level differs according to gender" is rejected and H0 proposition "Perceived stress level does not differ according to gender" is accepted (Table 7).

3.7. Perceived stress level and age group for the differences shown according to the qualitative variables

Table 8. ANOVA Results of the Participants' Perceived Stress Level and Age Group

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	104,481	5	20,896	1,768	,121
Within Groups	2481,722	210	11,818		
Total	2586,204	215			

Considering the Skewness and Kurtosis values between the two data, it is seen that the assumption of normality is met. At this point, since the p-value is greater than 0.05 according to the ANOVA findings, there is no significant difference between the data (Table 8). Therefore, the hypothesis "H0: Perceived stress does not differ according to age groups" is accepted.

3.8. Perceived stress level and the purpose of using smartphone for the differences shown according to the qualitative variables

Table 9. ANOVA Results of the Participants' Perceived Stress Level and Purpose of Using the Smartphone

	Sum of Squares	df	Mean Square	F	Sig.
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Between Groups	166,422	2	83,211	7,325	,001
Within Groups	2419,782	213	11,360		
Total	2586,204	215			

The H1 hypothesis of the perceived stress level variable, the proposition "Perceived stress level differs according to the purpose for which the smartphone is used" is accepted by considering the ANOVA test analysis and the p-value is calculated as 0.001. According to the Tukey test, which was applied to analyze which groups the differences were distributed, a difference was found between the groups using smartphones for Communication & Messages and the groups using smartphones for Entertainment & Photography & Internet, and the p-value was 0.001. Another difference is seen between those who use smart phones on Social Media and those who use smart phones for Entertainment & Photography & Internet; The p-value is 0.004 (Table 9).

3.9. Life satisfaction level and income level for the differences shown according to the qualitative variables

Table 10. ANOVA Results of the Participants' Level of Life Satisfaction and Income Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	869,113	4	217,278	12,427	,000
Within Groups	3689,105	211	17,484		
Total	4558,218	215			

The H0 hypothesis of the life satisfaction variable, "Life satisfaction level does not differ according to income level", is rejected as seen in the ANOVA findings in Table 10, and since the p-value is less than 0.05, there is a significant difference between the data. In this direction, Tukey test was applied to determine the difference between which groups. According to the results of the analysis, there was a difference between people with income levels between 2000 and below and between 2001 and 4000, and the p-value was 0.013. Differences were also found among people with an income between 2000 and below and 4001-6000, with a p-value of 0.004. Another difference is between people with incomes between 2000 and below and 6001-8000, with a p-value of 0.000. The p-value between 2000 and below and 8000 and above income levels is 0.000. Another difference is between 2001-4000 & 8000 and above income levels. The p-value of this group is 0.007. Finally, it is the difference between 4001-6000 and 8000+ income levels and its p-value is 0.015. There is no significant difference between the other groups.

3.10. Life satisfaction level and gender for the differences shown according to the qualitative variables

Table 11. T-test Results of the Participants' Level of Life Satisfaction and Gender

	Levene's Test for Equality of Variances		T-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
ATB_Point Equal variances assumed	,300	,584	1,479	214	,141	,93075	,62944	-,30995	2,17145
Equal variances not assumed			1,489	198,354	,144	,93075	,63379	-,31915	2,18066

Considering the Skewness and Kurtosis values among the data, it was found that the assumption of normality was met. For this reason, T-test was applied and Levene's test is greater than 0.05, so the equal variance hypothesis is accepted. Based on this hypothesis, the p-value was determined as 0.141 as a result of the t-test. Since this value is greater than 0.05, it is seen that the life satisfaction scale does not show any difference according to gender (Table 11).

3.11. Life satisfaction level and age groups for the differences shown according to the qualitative variables

Table 12. ANOVA Results of the Participants' Level of Life Satisfaction and Age Groups

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	250,871	5	50,174	2,446	,035
Within Groups	4307,346	210	20,511		
Total	4558,218	215			

As a result of the analysis made through the ANOVA test, it was revealed that the data met the normality condition. In this context, the p-value was determined as 0.035, that is, the p-value is less than 0.05. Therefore, there is a significant difference between the groups (Table 12). Accordingly, the hypothesis of "H0: Life satisfaction level does not differ according to age groups" is rejected and the proposition "H1: Life satisfaction level does not differ according to age groups" is accepted. According to this result, Tukey test was applied and no difference was observed between the two groups; but in line with the difference seen in the ANOVA table, another technique, the LSD test, was performed. According to the results of the analysis, the age groups of 18-25 and 41-45 show the highest average level of life satisfaction, and the p-value is 0.017. Another group is the 26-30 and 41-45 age groups, the p-value is 0.013. The p-value is 0.045 between the 26-30 and 45 years old and over groups. Another group showing the average level of life satisfaction is the age range of 36-40 and 41-45 years, and the p-value is 0.016. Finally, the p-value is 0.046 in the 36-40 and over 45 age group. There is no significant difference between the other groups.

3.12. Life satisfaction level and time of smartphone usage in a day for the differences shown according to the qualitative variables

Table 13. ANOVA Results of the Participants' Level of Life Satisfaction and Time of Smartphone Usage per a Day

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	202,316	3	67,439	3,282	,022
Within Groups	4355,902	212	20,547		
Total	4558,218	215			

As a result of the data obtained through the ANOVA test, it is seen that; The data provide the assumption of normality. Accordingly, the p-value was calculated as 0.022. In other words, there is a significant difference between the groups (Table 13). The proposition "H1: The level of life satisfaction differs according to how many hours a day the phone is used" is accepted and the proposition "H0: The level of life satisfaction does not differ according to how many hours a day the phone is used" is rejected. According to the Tukey test applied to determine the difference between the groups, it is between 2-4 hours and 11 hours and the p-value is 0.016, which shows the average of daily smartphone usage hours.

3.13. Regression Analysis

3.13.1. Results of regression analysis between smartphone addiction and perceived stress level

Table 14. Effect of Smartphone Addiction Variable on Perceived Stress Level Regression Validity Score

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	410,007	1	410,007	40,319	,000 ⁱ
	Residual	2176,197	214	10,169		
	Total	2586,204	215			

i: independent variable * $p = ,000$; $p < 0,05$

When the effect of smartphone addiction on the perceived stress level in the first regression equation shown in Table 14 was analyzed, the p-value was found to be less than 0.05; so the regression is meaningful. According to the regression analysis result, $R^2 = 0.159$; $p = 0.155$ was determined. In other words, the independent variable explains 15,5% of the dependent variable. In other words, smartphone addiction represents 15,5% of the perceived stress level.

Table 15. Effect of Smartphone Addiction Variable on Perceived Stress Level Regression Coefficients and Significance Scores of Coefficients

Model		Unstandardized B	Coefficients Std. Hata	Standardized Coefficients Beta	t	p
1	(Constant)	28,388	,756		37,534	,000
	ATB_scale_mean	-,121	,019	-,398	-6,350	

,000

Note:Constant= β_0 ; ATB_scale_score = β_1

As seen in Table 15, it was calculated as $\beta_0 = 28,388$ and $\beta_1 = -0,121$. In this context, both values were found to be statistically significant and the β_0 hypothesis, which is the hypothesis that the coefficient of these two variables is not significant, is rejected ($p = .000$; $p = .000$; $p < 0.05$). In conditions where the ATB_scale_mean variable is not included in the regression, the perceived stress level will be measured as 28,388. When the ATB_scale_mean variable is included in the equation, it is predicted that the perceived stress level variable will decrease by 0.121 for every 1 unit increase, and the perceived stress level variable will tend to increase by 0.121 for every 1 unit decrease in the same direction.

3.13.2. Results of regression analysis between smartphone addiction and life satisfaction level

Table 16. Effect of Smartphone Addiction Variable on Level of Life Satisfaction Regression Validity Score

Model		Sum of Squares	df	MeanSquare	F	Sig.
1	Regression	427,081	1	427,081	22,124	,000 ⁱ
	Residual	4131,136	214	19,304		
	Total	4558,218	215			

i: independent variable * $p = .000$; $p < 0,05$

According to the results of the analysis, when the effect of smartphone addiction on the level of life satisfaction in the second regression equation is examined, the p-value is less than 0.05, so the regression is significant. The reason for this is $R^2 = 0.094$; It is calculated as $p = 0.089$. In this context, smartphone addiction, which is the independent variable, explains 8.9% of the dependent variable, life satisfaction (Table 16).

Table 17. The Effect of Smartphone Addiction Variable on the Level of Life Satisfaction Regression Coefficients and Significance Scores of Coefficients

Model		Unstandardized B	Coefficients Std. Hata	Standardized Coefficients Beta	t	p
1	(Constant)	18,385	1,042		17,643	,000
	ATB_scale_mean	-,124	,026	-,306	-4,704	,000

Note:Constant= β_0 ; ATB_scale_score = β_1

It was calculated as $\beta_0 = 18.385$ and $\beta_1 = -0.124$ and both values are statistically significant. In other words, the hypothesis β_0 , which is the hypothesis that the coefficient of these two variables is not significant, is rejected ($p = .000$; $p = .000$; $p < 0.05$). In conditions where ATB_scale_mean variable is not included in the regression, life satisfaction level will be calculated as 18,385. When the ATB_scale_mean variable is not included in the equation, it is predicted that the life satisfaction level variable will decrease by 0.124 for every 1 unit increase, and in the same direction, the life satisfaction level variable will increase by 0.124 for every 1 unit decrease (Table 17).

3.13.3. Results of regression analysis between perceived stress level and life satisfaction level

Table 18. The Effect of Perceived Stress Level Variable on Life Satisfaction Level Regression Validity Score

Model		Sum of Squares	df	MeanSquare	F	Sig.
1	Regression	322,094	1	322,094	16,271	,000 ⁱ
	Residual	4236,124	214	19,795		
	Total	4558,218	215			

i: independent variable * $p = .000$; $p < 0,05$

In line with the analysis results in Table 15, when the effect of perceived stress level on the level of life satisfaction in the third regression equation is considered, $R^2 = 0.071$; $p = 0.066$ was calculated; It is seen that the p-value is less than 0.005. Therefore, the significance of the regression was determined. In this context, perceived stress level, which is the independent variable, represents 6,6% of the dependent variable, the level of life satisfaction (Table 18).

Tablo 19. The Effect of Perceived Stress Level Variable on Life Satisfaction Regression Coefficients and Significance Scores of Coefficients

Model		Unstandardized	Coefficients	Standardized	t	p
		B	Std. Hata	Beta		
1	(Constant)	22,503	2,452		9,587	,000
	ASO_scale_mean	-,375	,093	-,266	-4,304	,000

Note:Constant= β_0 ; ASO_scale_score = β_1

Looking at Table 19, the β_0 and β_1 coefficients were calculated as 22,503 and -0.375, respectively. That is, these values found are significant ($p=.000$, $p=.000$; $p<0.05$). In cases where the analysis of the perceived stress level variable is not included, the level of life satisfaction becomes 22,503. In the conditions where this variable is included in the analysis, life satisfaction increases by 0.375 with an increase of 1 unit in the perceived stress level; it has been determined that there will be a decrease of 0.375 with a decrease of 1 unit.

As a result; in the light of the analyzes revealed, all three regressions emerged as significant. The first of these is the effect of smartphone addiction on the level of perceived stress, and the other is the effect of smartphone addiction on life satisfaction. The last regression is the equation that includes the effect of perceived stress level on life satisfaction.

IV. CONCLUSION

In this study, an investigation was conducted on whether there is any relationship between smartphone addiction, perceived stress level and life satisfaction variables in adult individuals. In the light of the findings obtained from the participants in the study, in line with the scores obtained from the Smartphone Addiction Scale-Short Form Scale, the Perceived Stress Scale (YDO), and the Life Satisfaction Scale; a weak negative correlation was found between the Smartphone Addiction Scale-Short Form Scale and the Perceived Stress Scale (YDO). In line with this research, it has been determined that the use of smartphones, which has become more and more widespread with the advancement of technology, is mostly used for access to social media. In the study of Göldağ (2019), it was revealed that the use of smartphones is mostly preferred for social media [16]. In other words, the data in Göldağ's (2019) research also support the results obtained in this study [16]. In line with the analyzes, it also reveals that the level of smartphone addiction does not differ in the frequency of use between women and men. The results of Sever's (2019) study also support the findings of this study [17]. Similarly, it is among the findings that smartphone addiction does not differ according to income level, and Göldağ's (2019) study supports this finding [16].

Another finding is that there is no difference between smartphone addiction and age groups. In this study, it was determined that as the perceived stress level increased, smartphone addiction decreased. In the literature review conducted in this direction, there are findings that develop in the opposite direction. According to a study conducted by Karaçorlu et al. (2019) [18]. It was revealed that the level of smartphone addiction increased in parallel with the increase in the level of perceived stress. It is observed that the weak negative linear relationship between the Smartphone Addiction Scale-Short Form Scale and the Perceived Stress Scale (YDO) in the study does not overlap with the literature.

In the study, it was determined that there was a weak negative linear relationship between the Smartphone Addiction Scale-Short Form Scale and the Life Satisfaction Scale. Considering the findings of Karaköse's (2019) research, the findings in this study are supported [19]. To the extent that a person is satisfied with life, the need for and frequency of use of a smart phone tends to decrease in this proportion. However, contrary to this study, it is seen in foreign sources that; there is no direct link between smartphone addiction and life satisfaction [20]. According to the research of Yüksel et al. (2020), there is a negative correlation between the use of social media, which is an important cause of smartphone addiction, and the level of life satisfaction [19]. In this context, individuals with low life satisfaction have a higher need for smartphone use and it is revealed that they have more difficulty in controlling the frequency of use. In another study; according to the decrease in the rate of smartphone addiction, the level of satisfaction with life increases. It means that the negative level of psychological well-being of the person has a significant effect on the increase in the duration of smartphone use. It has been suggested that the reason for this situation is that the increase in the frequency and duration of use results from the restriction of the individuals' relationship with the people around them [22].

According to this study, the level of life satisfaction is related to how many hours a day an individual spends with his/her smartphone. There are differences in life satisfaction between individuals who spend 2-4 hours with their smartphones and those who spend 11 hours or more. According to Göldağ's (2019) research, there is no significant relationship between life satisfaction and the frequency of smartphone use [16]. It is thought that this study will make an important contribution to the literature, since findings that are generally parallel to Göldağ's

research were determined within the scope of the literature review [16]. Looking at the analysis results; a highly positive linear relationship was found between the Perceived Stress Scale (YDO) and the Life Satisfaction Scale. In other words, it is predicted that as the perceived stress level increases, life satisfaction will also show parallelism. As a result of the analyzes made on the level of life satisfaction, it is seen that the income level is effective. Differences were found between people with an income level of 2000 TL and below, and those with an income of 2000 TL and above. According to the study of Özkara et al. (2015), life satisfaction increases in parallel with the income level of the family [23]. The results in the literature support the findings obtained in this study.

In line with the analyzes made, it has been revealed that the levels of life satisfaction differ between age groups. The greatest difference is seen between the age groups of 18-25 and 41-45; significant differences were observed between the 26-30 and 45 years old and over groups, and between the 26-30 and 45 years old and over groups. In this context, similar findings were found in Şirin's (2021) study [24]. It is underlined that people between the ages of 16-21 have a higher level of stress compared to other age groups, and therefore their satisfaction with life decreases. One of the findings of this study is that life satisfaction does not differ according to gender. When the relevant literature research was conducted, overlapping data were obtained. The level of life satisfaction does not change due to the difference in gender among the individuals participating in Ergüner's (2017) study [25]. Again, in line with Ergüner's (2017) study, no significant relationship was found between perceived stress level and life satisfaction [25]. According to the study of Enver et al. (2019), it was revealed that life satisfaction, which includes well-being, is directly affected by perceived stress [26]. When the relevant literature is reviewed, it is not very common to find a study that reveals a negative and significant correlation between the level of perceived stress and the level of life satisfaction. Therefore, it is thought that the results obtained at this point will contribute to the relevant literature. These findings obtained; after the continuity of the increase in the perceived stress level of the individual, depending on the situation the individuals are exposed to, they can start to develop their skills to activate their psychological defense mechanisms; thus, it is thought that even though the stress level is high, it can produce life satisfaction strategies or improve existing strategies.

In line with the results related to the perceived stress level, another qualitative variable, as the income level changes, the stress levels of the individuals also change. Individuals with an income of 2000 TL or less have an increased level of perceived stress compared to those with a higher income level. According to Aydınlı's (2018) study, as the income level of the person decreases, the rate of perceived stress follows the opposite direction [28]. The obtained findings show similar features with the studies in the literature; it shows that the perceived stress level increases with the decreasing income level. In this study, it was revealed that there was no significant relationship between the difference between the sexes and the perceived stress level. Although the results obtained are highly similar to many studies in the literature, there are also studies with opposite results. Altunkol (2011) revealed in his study that the perceived stress level differs significantly between the sexes [29]. In his study, he determined that the perceived stress level in women was higher than in men, and he cited the responsibilities and role of women in society as the reason for this.

In this study, no significant difference was found in the level of perceived stress by age groups. Within the scope of regression analysis; it was found that smartphone addiction predicted perceived stress level. According to the findings of Kavaklı and Yalçın's (2019) study, it was determined that smartphone and thus internet addiction positively affect the stress level of the individual [30]. In other words, in parallel with the frequency of smartphone use, the perceived stress level increases. In this study, however, an inverse correlation was found. In the continuation of the analysis, when the effect of smartphone addiction on life satisfaction is examined, it has been determined that the level of life satisfaction, which is the dependent variable, will follow in the opposite direction of the increase in smartphone addiction, which is the independent variable. According to the study of Yumuşak (2019), people with health problems or individuals with low sleep quality; therefore, the time spent with smartphones by people with less life satisfaction than others increases in parallel with this situation [20]. Therefore, Yumuşak's (2019) study supports this study. In addition, in this study, it was emphasized that life satisfaction was predicted according to the level of perceived stress [20]. The increase in the perceived stress level, which is the independent variable, increases the dependent variable, that is, the level of life satisfaction in the same way. When the field is reviewed, the results show that the opposite of this situation. In Özok's (2018) research, it was determined that as a result of the studies applied to individuals, the decrease in the stress levels of the individuals and the increase in the satisfaction they get from their lives [31]. Therefore, in this study, a difference that will contribute to the literature has been revealed and it has been predicted that individuals' satisfaction with life, that is, their psychological well-being, may increase in parallel with the level of stress they perceive. It is thought that individuals develop their ability to cope with stress over time, so that they can maintain the satisfaction they get from their lives even if their stress levels are high.

As a result; there are some limitations in this study. The first one was limited within the framework of the inventories included in the study. In addition; the analysis results of the research are limited to the sample group in the subject. It is thought that it is possible to expand this study with different variables and different sample groups. Within the scope of the field survey, a study similar to this study was carried out on students;

individuals over the age of 18 were included in this study. In order to obtain a more specific result in the literature, it is recommended to develop the study by keeping it limited to elderly individuals or adolescent individuals. Since it is thought that the fact that the study was carried out during the Covid-19 pandemic period may have an impact on the results; it is also foreseen that the results may change in the daily conditions where the pandemic ends. Therefore; when the pandemic period is over, it is recommended to carry out a new research with similar characteristics to this study.

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