

BOĞAZİÇİ UNIVERSITY

DEPARTMENT OF MANAGEMENT INFORMATION SYSTEMS

**RESEARCH ABOUT UNDERSTANDING DIGITAL
DETOX AMONG STUDENTS**

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1. INTRODUCTION

Traditionally, phones have been used mainly for calling and messaging. However, with the advancement of technology and the introduction of the concept of smartphones into people's lives, the usage area and available functions of phones have diversified. As these advancements become more prevalent in society, daily screen time and social media usage have increased significantly across all age groups. However, this increase is especially emphasized among university students, who often spend several hours a day on smartphones and social platforms.

University students of this era can be considered digital natives, having grown up immersed in mobile technology. They have naturally developed a strong adaptation to the demands of the digital age. Smartphones have become necessary tools for completing and following academic responsibilities, keeping in contact via social media, and accessing unlimited news for university students. They also developed a daily routine that includes checking social media platforms such as Instagram, TikTok, and X; playing games; and watching series or movies across several platforms. By considering all of these functions an average university student has experienced from smartphones, these devices are the fundamental and beneficial objects of this period.

However, these functions can lead students to use their smartphones more than necessary, which may come at a cost. To dive into the costs, a few of them can be mentioned. One of these costs is the lack of attention span. On average, a person aged 18-24 receives 200 notifications per day on their smartphone. These notifications may vary but mainly, they are from messages, social media, and news. These constant notifications make it difficult for university students to concentrate on their tasks. The other cost is the sleep deprivation. Using smartphones before bedtime can damage the sleep cycle and quality. Lack of physical social interaction, physical health problems, and academic outcomes are common among university students.

To cope with the effects of this excessive usage, the concept of "digital detox" has gained significant importance in this era. Digital detox refers to a period of time in which a person consciously steps back from using smartphones or computers. From this perspective, "digital detox" is not only the time limit a person set to his/her smartphone usage, it is also the conscious usage of technology. Activities such as turning off devices

for a certain period, using apps that block distracting platforms, or engaging in offline hobbies can significantly reduce stress and increase mindfulness. Developers who publish applications to the application market have taken a step and developed many digital detoxing apps to fill the gap. The most known examples are “Flipd”, “Forest”, “Moment”, “Offscreen”, and “Opal”. With these applications, people are mainly able to put their phone's flight mode at a specific time, set daily or weekly screen time limits, and close notifications.

From this point of view, a great majority of university students need digital detox and digital detox applications. Even if they want to use any application, they should be aware of their excessive use and the disadvantages that this excessive use brings. This study aims to examine the awareness and knowledge levels regarding digital detox applications; identify the key motivations that encourage students to use such applications, as well as the barriers that prevent adoption; and explore who is more likely to use digital detox apps, for what reasons, and under what conditions. In addition to these, this study also tries to find answers to their awareness, motivational drivers, behavioral barriers, and social influences such as peer behavior and group participation. Moreover, this study will find the answer to how university students can be segmented into distinct groups based on their preferences for detox experiences. After data analysis, two different user profiles (personas) are created in order to better represent user preferences and special user interface designs will be developed for each persona according to their needs. In this way, it is aimed to contribute to the user-oriented development of digital detox applications.

This report presented under several sections next section → discuss section 1-2 subsections

2. LITERATURE REVIEW

2.1 Digital Overload and the Rise of Detox Practices

The accelerating integration of digital technologies into everyday life has intensified concerns about digital fatigue, screen dependency, and social media-induced anxiety, particularly among young adults and university students (Nimrod, 2020; Throuvala et al., 2019). These concerns have led to the emergence of digital detox as a coping strategy aimed at improving mental well-being, restoring focus, and reducing compulsive technology use.

Several studies have examined the effectiveness of digital detox behaviors and interventions. For instance, Wilcockson et al. (2019) found that a 24-hour abstinence from smartphones increased craving levels, although it did not significantly affect anxiety or mood. Similarly, Schmuck (2020) reported that problematic smartphone use was negatively associated with well-being, yet this relationship was less pronounced among users of detox applications.

In a broader synthesis, Radtke et al. (2021) reviewed 21 studies and found inconsistent outcomes for digital detox interventions. While some studies showed improvements in self-control, social connections, and productivity, others reported negligible or even adverse effects. These discrepancies underscore the complex and context-dependent nature of digital detox practices, especially among younger users managing academic pressures and constant online engagement.

The effectiveness of such interventions appears to be influenced not only by behavioral context but also by application design. Almourad et al. (2021) highlighted that features like customization, goal setting, and timely feedback significantly enhance user motivation and app engagement. Building on this, Schmitt et al. (2021) demonstrated that digital detox strategies can mitigate the negative impacts of cognitive overload on job expectations, especially for individuals with high digital dependence.

Moreover, personality traits have also been implicated in shaping detox behaviors, although their influence remains underexplored. Addressing this gap, Nguyen (2022) emphasized that integrating personality frameworks—such as the Five-Factor

Model—with technology acceptance theories like UTAUT can offer a more nuanced understanding of digital detox adoption

2.2 Theoretical framework

The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh et al. (2003), is a widely recognized model for understanding how individuals adopt and use technology. It consolidates constructs from earlier models such as the Technology Acceptance Model (TAM), the Theory of Planned Behavior (TPB), and the Innovation Diffusion Theory (IDT). The UTAUT model consists of four main predictors of behavioral intention and actual usage: performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). Among these, PE refers to the perceived usefulness of a system, while EE captures the perceived ease of use. SI emphasizes the role of social norms and peer behavior in adoption decisions, and FC pertains to the availability of resources and support needed to use the technology. While UTAUT explains environmental and cognitive dimensions, it falls short in accounting for individual psychological predispositions. To bridge this gap, researchers have integrated the Five-Factor Model (FFM) of personality (John & Srivastava, 1999) into technology adoption studies. The FFM includes five core traits: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. These traits influence how users engage with digital platforms and interventions. For instance, individuals high in openness are more inclined to adopt novel technologies like detox apps. Those with high neuroticism may find digital abstinence challenging due to heightened stress or anxiety (Marciano & Camerini, 2021). Extraverts often seek social engagement through apps, whereas agreeable users are more likely to comply with behavioral recommendations.

Drawing inspiration from Nguyen's integrative model (2022), the current study adopts a combined framework of UTAUT and FFM to examine predictors of detox app adoption. Eight Likert-scale items were aligned with core constructs from both models and used in statistical analysis. Multiple regression analysis identified facilitating conditions, openness to experience, and agreeableness as significant predictors of behavioral intention. In contrast, neuroticism and extraversion did not show a notable effect. Complementary K-means cluster analysis revealed two distinct user profiles: “Independent Resisters” (low intention, individualistic traits) and “Socially-Driven Acceptors” (high intention, strong social influence). These findings extend Nguyen’s

framework into a new demographic context, contributing valuable insights into how personality traits interact with behavioral predictors in shaping detox app adoption.

3. METHODOLOGY

This study aims to find university students' level of awareness of digital detox practices, their motivational factors to do digital detox, barriers they face, and application preferences. In order to find these objectives, quantitative methods such as Spearman Correlation Analysis, Chi-Square Test, and Kruskal-Wallis test were preferred. Also, this research utilized theoretical frameworks such as UTAUT and the Five Factor Personality Model (FFM). The reasons for choosing these methods are that they allow us to analyze statistical relationships between different variables, and they are suitable for measuring factors such as social influence, motivations, and personality traits that shape students' preferences. Thus, this study's aim is to reach conclusions on students' awareness and knowledge levels regarding digital detox applications, key motivations that encourage students to use such applications, as well as the barriers that prevent adoption, and the reasons and conditions that make students utilize digital detox applications.

3.1 SURVEY

This survey aims to understand in detail the demographic information, daily digital habits, and personal preferences of the target audience for digital detox practices. First, basic demographic information such as age range, gender, and whether they are university students or not is collected. Then, digital habits such as daily screen time, the purpose for which they use the phone the most, and the frequency of checking the phone before going to sleep or getting up in the morning are questioned. Participants' psychological habits are also measured, such as their interest in the concept of digital detox, whether they have tried it before, which types of digital detox activities they find more appealing, and the emotions that motivate them in this process. User expectations are analyzed in detail by taking the opinions of the participants about the features they would like to see in the ideal digital detox app and the solutions they would like to see in the future. There were also Likert Questions that aimed to assess individuals' attitudes toward digital detox practices, social media addiction levels, openness to environmental influences, and personality traits. The participants were asked to give their opinions on whether digital detox applications would help them stay away from social media, the usefulness of screen time tracking applications, and how their interest in such applications might change with the influence of the social environment by scaling from 1 to 5. It also measures their psychological and social orientations, such as whether they

like life without social media, their level of trust in people, their desire to interact in social environments, and their intention to do a digital detox in the future.

3.2 PARTICIPANTS

The target sample of the survey consisted of university students from various universities in Turkey. A total of 172 respondents contributed to the survey. Most of the participants correspond to 55.8% part of the respondents were female and 44.2% part of the respondents were male participants.

3.3 DATA COLLECTION TOOL AND PROCEDURE

A comprehensive survey was prepared according to the literature review. The survey was prepared on Google Forms in April 2025 and sent to the participants. It was sent by communication channels such as WhatsApp and Telegram of various universities. The process of gathering data lasted approximately one month and after the one month, the survey was closed for responses. In the survey, the respondents were asked to answer the questions according to their demographic structure, digital detox perception, mobile phone usage and purposes, and digital detox application preferences. In addition, there were 26 questions in the survey. The survey was composed of different types of questions such as the Likert Scale and Multiple Choice Questions.

3.4 MEASURES

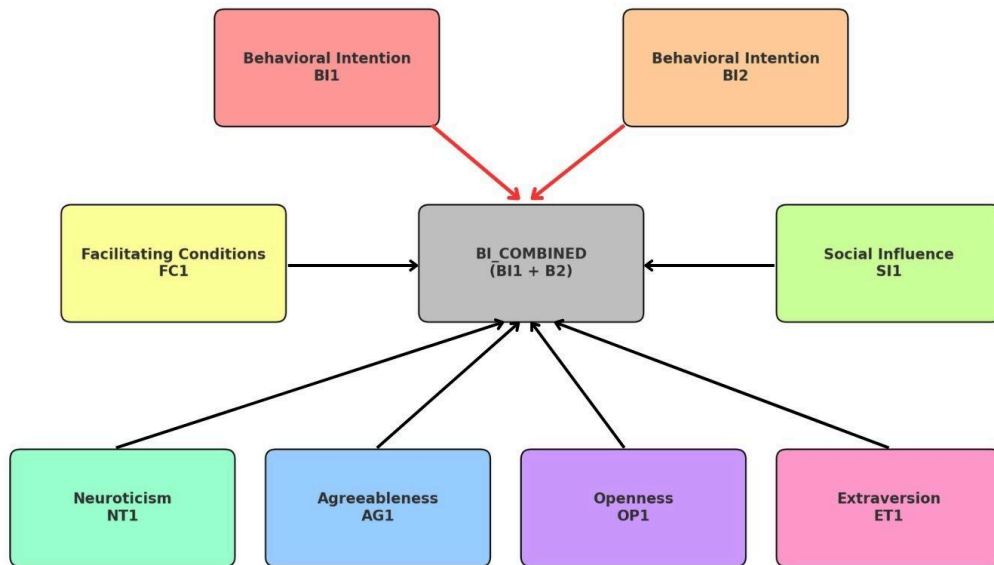
The measurement instrument for this study was constructed by integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Five-Factor Model (FFM) of personality traits. Eight items were designed to capture both technological and psychological predictors of digital detox app adoption among university students.

All items were evaluated on a 5-point Likert scale ranging from 1 (“Strongly Disagree”) to 5 (“Strongly Agree”). Respondents indicated their level of agreement with each item based on their attitudes and behaviors toward digital detoxification.

Construct	Code	Item Statement
Behavioral Intention	BI1	I think using a digital detox app would help me stay away from social media.
Behavioral Intention	BI2	I intend to use a digital detox app within the next six months.
Behavioral Intention	BI_COMBINED	Composite score based on BI1 and BI2, used as the outcome variable in analysis.
Facilitating Conditions	FC1	I find it useful to track my daily screen time using detox-related tools.
Social Influence	SI1	If people I care about use such an app, I'm more likely to try it too.
Neuroticism	NT1	I often overthink and feel mentally overloaded.
Agreeableness	AG1	I easily trust others and rarely think people are malicious.
Openness to Experience	OP1	I enjoy living independently from social media platforms.
Extraversion	ET1	I like interacting with people and participating in social activities.

Table 3.1 Constructs and corresponding Likert items used in the study

LIKERT QUESTIONS ANALYSIS FRAMEWORK



UTAUT Constructs

Behavioral Intention: (BI)

Represents the user's willingness to adopt digital detox applications.

Facilitating Conditions (FC) : Reflects the perceived availability of technological resources and support.

Social Influence (SI): Indicates the effect of peer norms on app usage decisions.

Five-Factor Model (FFM) Personality Traits

Neuroticism (NT): Captures stress sensitivity and emotional instability.

Agreeableness (AG): Reflects trust and cooperativeness in interpersonal behavior.

Openness to Experience (OP): Represents independence and novelty-seeking in digital habits.

Extraversion (ET): Indicates sociability and preference for interactive environments.

4. DATA ANALYSIS

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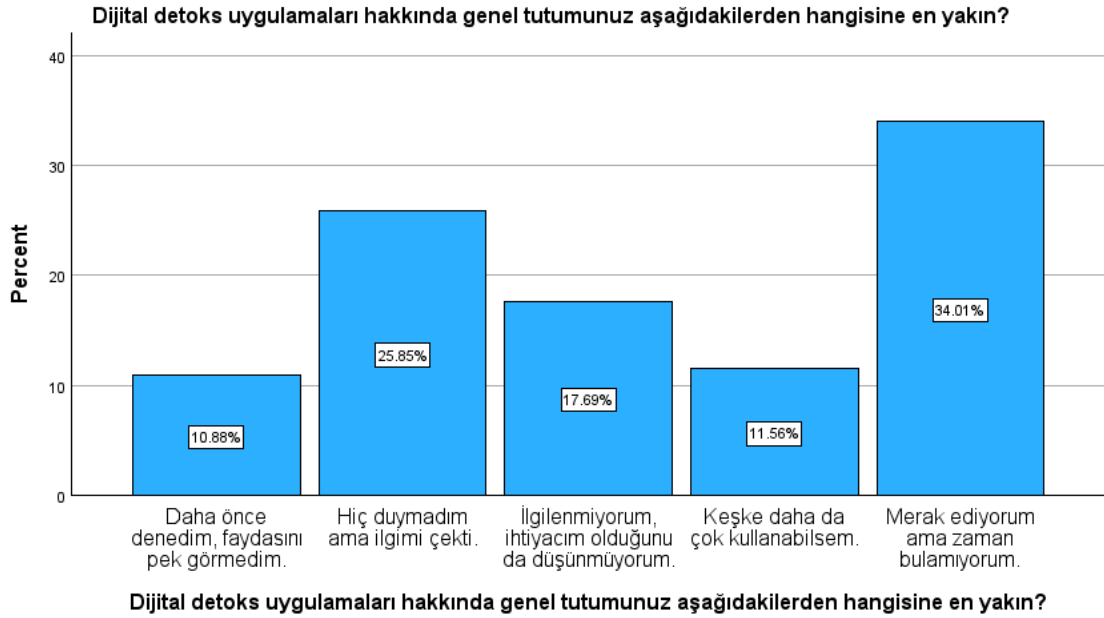


Figure 4.1 General Attitude Towards Digital Detox Applications Frequencies

This question shows the general attitude toward digital detox applications among university students. The answers “I’ve never heard of it, but I’m interested” with a rate of 25.85%, and “I’m curious, but I can’t find the time” with a rate of 34.01% indicate that more than 59.86% of the respondents are aware of and interested in the concept of digital detox. “I have tried it before” with a rate of 10.88% and “I wish I could use it more” with a rate of 11.56% only 22.44% in total. This shows that the rate of students who have had real contact with the application is low. The majority of participants are interested in digital detox apps, but the rate of active users remains low.

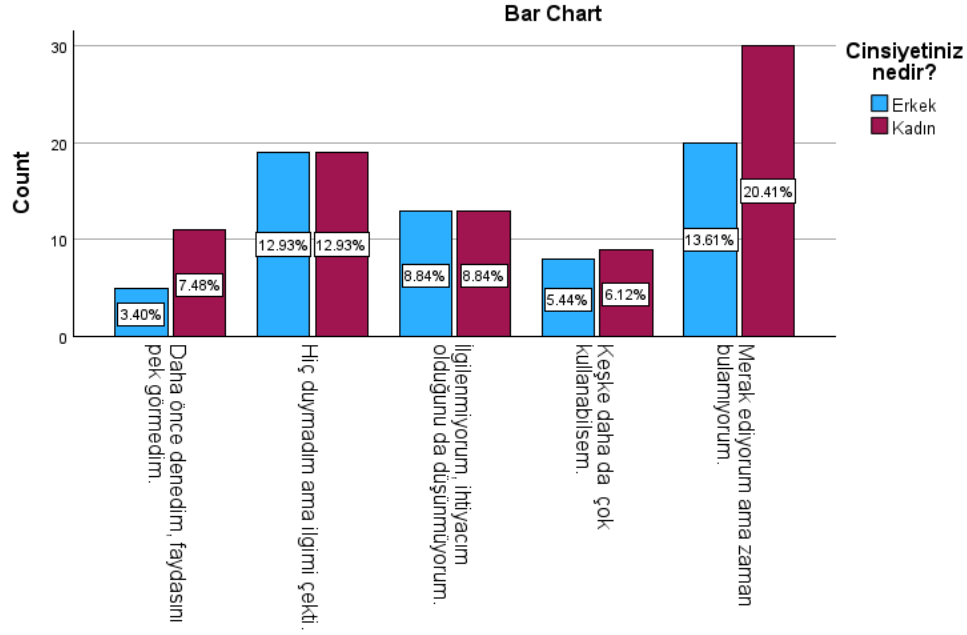


Figure 4.2 Gender Variable and Its Relation With General Attitude

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.375 ^a	4	.667
Likelihood Ratio	2.408	4	.661
N of Valid Cases	147		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.07.

Figure 4.3 Chi-Square Tests for Gender Variable and General Attitude

In this analysis, it was examined whether there was a significant relationship between gender and interest in using digital detox applications. As a result of the Chi-Square test, no statistically significant relationship was found between the gender of the participants and their general attitudes towards digital detox practices ($\chi^2(4) = 2.375$, $p = 0.667$). Although women showed higher awareness or experience in some categories, these differences were not significant. Hence, gender variables are not a factor that alone explains digital detox awareness.

\$detoks_yontemleri Frequencies

		Responses		Percent of Cases
		N	Percent	
\$detoks_yontemleri ^a	Belirli sosyal medya(Instagram,Facebook,X vs.) uygulamalarını belirli saatlerde engellemek	69	19.2%	46.9%
	Düzenli aralıklarla telefonu fiziksel olarak uzak bir yere koymak	72	20.1%	49.0%
	Belirli saatlerde "Uyku Modu / "Sessiz Moda geçmek	43	12.0%	29.3%
	Cihazsız zamanlar ve mekanlar planlamak (örneğin: dijital detoks saatleri	48	13.4%	32.7%
	telefon-free alanlar)	48	13.4%	32.7%
	Ekran süresi sınırlamaları koymak (Telefon ekranına toplamda günde 2 saatten fazla bakmamak	50	13.9%	34.0%
	Üçüncü parti dijital detoks uygulamaları kullanmak (örneğin: Forest	29	8.1%	19.7%
Total		359	100.0%	244.2%

a. Dichotomy group tabulated at value 1.

Figure 4.4 Detox Methods Frequencies

This analysis shows motivational drivers that encourage university students to engage with digital detox tools and experiences. The most preferred digital detox methods among university students were “physically removing phone” (49.0%) and “blocking some social media apps at certain hours” (46.9%). Generally, the majority of the participants chose two or more methods together, and this shows multidimensional awareness toward digital detox.

Correlations							
		BI_COMBINED	Genelde kafamda bin tilki döner, biraz fazla düşünürüm.	Sevdiğim insanlar bu tür bir uygulamayı kullanırsa, ben de merak edip kullanma eğiliminde oluyorum.	İnsanlara kolay güvenirim, kötü niyetli olduklarını düşünmem.	Sosyal medyaya bağlı kalmadan, ondan bağımsız yaşamayı seviyorum.	İnsanlarla etkileşimde olmak ve sosyal ortamlarda aktif rol almak bana keyif verir.
Spearman's rho	BI_COMBINED	Correlation Coefficient	1.000	-.028	.326**	.389**	.216**
		Sig. (2-tailed)	.	.733	<.001	<.001	.009
		N	147	147	147	147	147
	Genelde kafamda bin tilki döner, biraz fazla düşünürüm.	Correlation Coefficient	-.028	1.000	.106	-.073	.003
		Sig. (2-tailed)	.733	.	.201	.382	.974
		N	147	147	147	147	147
	Sevdiğim insanlar bu tür bir uygulamayı kullanırsa, ben de merak edip kullanma eğiliminde oluyorum.	Correlation Coefficient	.326**	.106	1.000	.349**	.074
		Sig. (2-tailed)	<.001	.201	.	<.001	.371
		N	147	147	147	147	147
	İnsanlara kolay güvenirim, kötü niyetli olduklarını düşünmem.	Correlation Coefficient	.389**	-.073	.349**	1.000	.015
		Sig. (2-tailed)	<.001	.382	<.001	.	.860
		N	147	147	147	147	147
	Sosyal medyaya bağlı kalmadan, ondan bağımsız yaşamayı seviyorum.	Correlation Coefficient	.216**	.003	.074	.015	1.000
		Sig. (2-tailed)	.009	.974	.371	.860	.
		N	147	147	147	147	147
	İnsanlarla etkileşimde olmak ve sosyal ortamlarda aktif rol almak bana keyif verir.	Correlation Coefficient	.204*	.031	.334**	.327**	-0.074
		Sig. (2-tailed)	.013	.713	<.001	<.001	.371
		N	147	147	147	147	147

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Figure 4.5 Correlation for Behavioral Intention

In this analysis, behavioral intention is examined. Every single Likert question was matched with UTAUT ve FFM models. BI_COMBINED and SI showed a significant and positive correlation ($p = 0.326$ and $p < .001$) which means social influence increases the behavioral intention toward digital detox applications. BI_COMBINED and AG1 showed the strongest correlation ($p = 0.389$ and $p < .001$) which means people who find trusting people easy are more willing to use digital detox applications. BI_COMBINED and OP1 showed a significant and positive correlation ($p = 0.216$ and $p = 0.009$) which means those who are positive about living independently from social media are more likely to use a digital detox application. BI_COMBINED and ET1 showed a significant and positive correlation ($p = 0.204$ and $p = .013$). According to the Spearman correlation analysis results, intention to use a digital detox app is statistically significantly and positively correlated with social influence.

\$motivation_emotion Frequencies

		Responses		Percent of Cases
		N	Percent	
\$motivation_emotion ^a	Sakinleşme ve huzur hissi	64	14.2%	43.5%
	Sosyal medyadan uzak kalma arzusu (kıyaslama	70	15.6%	47.6%
	kıskançlık ve anksiyete gibi duygulardan uzaklaşma isteği)	70	15.6%	47.6%
	Kendime meydan okuyarak başarma duygusunu yaşama arzusu	63	14.0%	42.9%
	Konsantrasyonumu artırma ihtiyacı	83	18.4%	56.5%
	Bağımlı olmadığımı kanıtlama isteği	62	13.8%	42.2%
	Uykumu düzenleme isteği	36	8.0%	24.5%
	Telefonun varlığını unutturması	1	0.2%	0.7%
	Gereksiz şeylere zaman ayırmak istememek	1	0.2%	0.7%
	Total	450	100.0%	306.1%

a. Dichotomy group tabulated at value 1.

Figure 4.6 Motivational Emotion Frequencies

This analysis demonstrates students' motivational emotions and reasons for using digital detox apps. The most preferred choice was “the need to increase concentration” (56.5%). This choice is followed by “the desire to stay away from social media” (%47.6) and “the desire for calm and tranquility” (%43.5). These results show that internal emotional motivations such as focusing, psychological relaxation, and protection from social pressures are the most preferred orientations to digital detox tools.

Ranks			
	detox_preference	N	Mean Rank
BI_COMBINED	1.00	38	76.78
	2.00	16	74.97
	3.00	26	38.71
	4.00	50	88.61
	5.00	17	77.88
	Total	147	

Figure 4.7 Ranks for BI_COMBINED and Detox Preferences

Test Statistics ^{a,b}	
	BI_COMBINED
Kruskal-Wallis H	24.455
df	4
Asymp. Sig.	<.001
a. Kruskal Wallis Test	
b. Grouping Variable: detox_preference	

Figure 4.8 Kruskal-Wallis Test Statistics for BI_COMBINED and Detox Preferences

According to the Kruskal-Wallis test result, there are statistically significant differences between the general attitude groups towards digital detox apps in the intention to use such an app in the next 6 months ($\chi^2(4) = 24.455$, $p < .001$). Participants' attitudes towards digital detox apps significantly affect their intentions to use such apps in the future. In particular, it is seen that individuals who are “curious but cannot find time” and “want to use more” show a higher intention to use apps, whereas individuals who state that they are “not interested” have significantly lower intentions.

Aşağıdakilerden hangisi, dijital detoks sürecinde seni en çok zorlayan duygu ya da durum olurdu?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Sıkıldım, şimdi ne yapacağım?" hissi ve zamanın yavaş geçmesi korkusu	35	23.8	23.8	23.8
	Açıkçası böyle şeyler beni çok da zorlamaz	25	17.0	17.0	40.8
	Bir şeyleri kaçırmıyor olma korkusu (FOMO)	38	25.9	25.9	66.7
	İnsanlarla iletişim kuramamak beni gerer	20	13.6	13.6	80.3
	Kendi düşüncelerimle baş başa kalmak beni huzursuz eder	29	19.7	19.7	100.0
	Total	147	100.0	100.0	

Figure 4.9 Hard Emotions Frequencies While Detoxing

This question is about the hard feelings or situations that students feel while they are in a digital detox period. 25.85% of the participants indicated that “FOMO (Fear of Missing Out) is the most compelling emotion. This emotion is followed by “Fear of boredom and the slow passage of time” with a 23.81% rate and “restlessness to be alone with their thoughts” with a 19.73% rate. These results indicate that loss of social connection, content deprivation, and feelings of inner emptiness play an important role in students' resistance to digital detox.

Günlük dijital hedeflere ulaştıkça puan kazanmak ve dijital detoks sürecinizi arkadaşlarınızla paylaşmak veya onlarla yarışmak size ne kadar çekici gelir?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Az çekici	33	22.4	22.4	22.4
	Çekici	56	38.1	38.1	60.5
	Çok çekici	15	10.2	10.2	70.7
	Hiç çekici gelmez	20	13.6	13.6	84.4
	Kararsızım	23	15.6	15.6	100.0
	Total	147	100.0	100.0	

Figure 4.10 Frequency Analysis for Social Influence

This question aims to determine whether participants' attitudes and social influences, such as peer behavior and group participation, affect students' willingness to adopt digital detox applications. Almost half of the participants stated that social elements like sharing goals with their friends, having a challenge with them, and gaining points against a friend are attractive to them with a 48.3% rate. This result shows social influences and gamification mechanisms are important in motivating students toward digital detox applications. On the other hand, one out of every 7 students stated that these features are not attractive.

Correlations				
			BI_COMBINED	social_influence
Spearman's rho	BI_COMBINED	Correlation Coefficient	1.000	.205*
		Sig. (2-tailed)	.	.022
		N	147	124
	social_influence	Correlation Coefficient	.205*	1.000
		Sig. (2-tailed)	.022	.
		N	124	124

*. Correlation is significant at the 0.05 level (2-tailed).

Figure 4.11 Correlation Between BI_COMBINED and Social Influence

This Spearman's rho correlation analysis examined the correlation between behavioral intention to use digital detox applications and social influence. In this analysis, participants who identified themselves as indecisive were excluded. As a result of the analysis, a statistically significant and weak positive relationship was found between these two variables ($\rho = .205$, $n = 124$, $p = .022$). This result shows that individuals are willing to use digital detox apps by being influenced by the behavior of their friends.

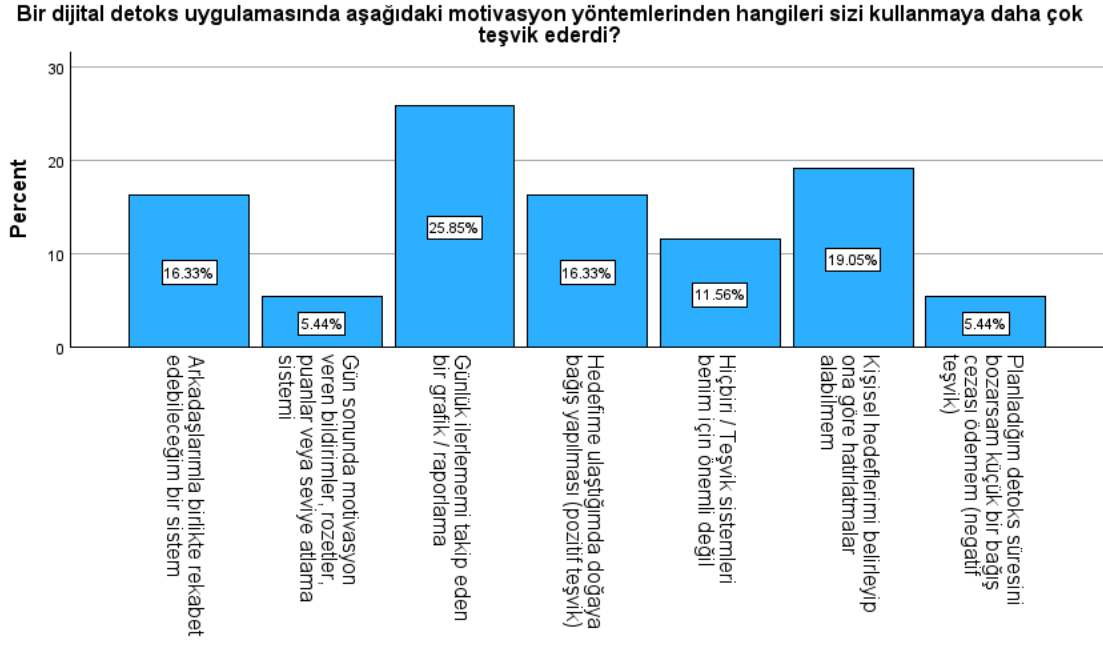


Figure 4.12 Motivational Methods That Encourage Students

This analysis shows the motivators that motivate students to use digital detox applications. 25.85% of the participants stated that “charting/reporting systems that track daily progress” is the most encouraging motivator. This is followed by “reminders based on personal goals” with a rate of 19.05%, “social competition” and “positive donation incentive” with a rate of 16.33% in both. On the other hand, “classic gamification elements such as badges and points” and “negative incentives (paying fees)” were the least motivator factors with a rate of 5.44%. These findings indicate that students are more interested in motivational systems that are personalized, data-driven, and have social meaning.

Correlations				
	Günlük ekran süremi takip eden uygulamaları faydalı buluyorum.		Günlük ekran süremi takip eden uygulamaları faydalı buluyorum.	average_screen_time
Spearman's rho	Günlük ekran süremi takip eden uygulamaları faydalı buluyorum.	Correlation Coefficient	1.000	.071
		Sig. (2-tailed)	.	.497
		N	147	95
	average_screen_time	Correlation Coefficient	.071	1.000
		Sig. (2-tailed)	.497	.
		N	95	95

Figure 4.13 Correlation Analysis for Average Screen Time and Finding Apps That Track Daily Screen Time Useful

This analysis was made to find whether there is a statistically significant relationship between “average screen time” and “I find apps that track my daily screen time useful”. However, there is no statistically significant relationship between these two variables. The correlation coefficient is positive but very weak and does not indicate a significant link between these two variables.

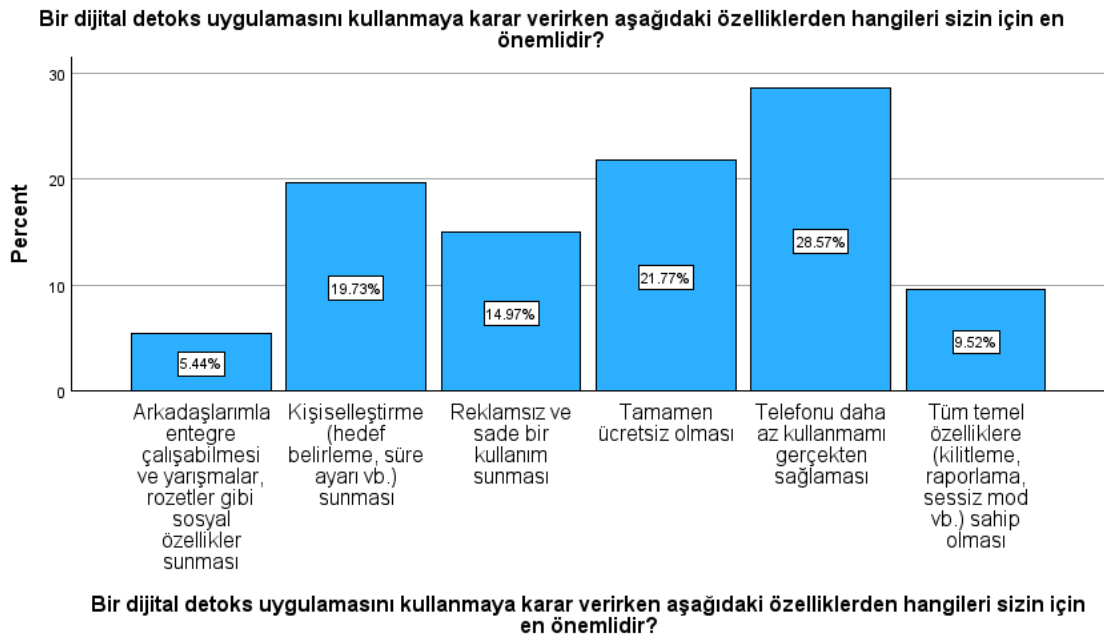


Figure 4.14 Important Features While Deciding to Use a Digital Detox Application

The most important features while deciding to use a digital detox application were asked of participants. 28.57% of the participants stated that “to have an impact that will

actually reduce the use of mobile phones” is the most important feature. This is followed by “free of charge” with a rate of 21.77% and “personalization features” with a rate of 19.73%. These results indicate that university students prioritize factors such as effectiveness, accessibility, and personalization more in their decision to adopt an app.

Ranks			
	motivation_choice	N	Mean Rank
BI_COMBINED	1.00	24	87.04
	2.00	8	74.25
	3.00	38	86.99
	4.00	24	59.08
	5.00	8	73.69
	6.00	28	71.91
	7.00	17	51.09
	Total	147	

Figure 4.15 Ranks for Important Features and BI_COMBINED

Test Statistics ^{a,b}	
	BI_COMBINED
Kruskal-Wallis H	13.950
df	6
Asymp. Sig.	.030
a. Kruskal Wallis Test	
b. Grouping Variable: motivation_choice	

Figure 4.16 Kruskal-Wallis Test Statistics for BI_COMBINED and Important Features

The relation between the behavioral intention to use digital detox applications and motivational factors is examined in this analysis. According to the Kruskal-Wallis test, there are statistically significant differences between the motivational factor and their behavioral intention ($\chi^2(6) = 13.950$, $p = 0.030$). While the participants who chose features like “positive donation” and “charting/reporting systems that track daily progress” have the strongest behavioral intention, the participants who chose “incentive systems are not important to me” These findings indicate that meaningful and intrinsic motivational systems play an important role in increasing interest in digital detox practices.

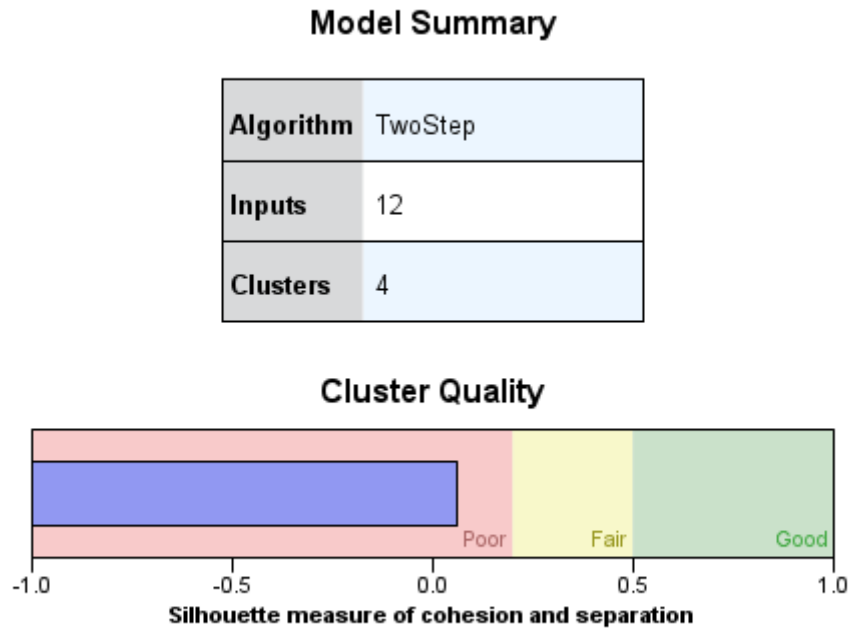


Figure 4.16 Silhouette Measure of Cohesion and Separation

In this analysis, 12 inputs were analyzed. These were about motivational emotions, features the participants wanted to see in future applications and motivational methods. As a result of the TwoStep Cluster analysis, the participants were divided into 2 clusters. However, since the silhouette value of the model (≈ 0.2) is low, the separation between clusters is weak and classified as “Poor”. The profile similarities between participants may be high or the selected variables may not distinguish the clusters well.

Final Cluster Centers		
	Cluster	
	1	2
BI_COMBINED	2,25	3,78
Kolaylaştırıcı Koşullar	3	4
Nevrotiklik	4	4
Sosyal Etki	3	4
Uyumluluk	2	4
Açıklık	3	4
Dışadönüklük	3	4

Figure 4.17 Final Cluster Centers

The final cluster centers reveal distinct behavioral profiles across two segments: Cluster 1 exhibited a low average score in BI_COMBINED (≈ 2.25), with minimal scores in Facilitating Conditions (≈ 1.0), Social Influence (≈ 1.0), and low openness and agreeableness. Cluster 2 showed a high average BI_COMBINED score (≈ 3.78), along with high Social Influence (≈ 4.0), high Openness (≈ 5.0), and maximum Facilitating Conditions (≈ 5.0). Statistically, these centers reflect contrasting user attitudes toward digital detox app adoption, separating disengaged individuals from those psychologically and socially predisposed to usage.

ANOVA						
	Cluster		Error			
	Mean Square	df	Mean Square	df	F	Sig.
BI_COMBINED	84,938	1	,745	145	113,935	<,001
Kolaylaştırıcı Koşullar	82,453	1	1,149	145	71,736	<,001
Nevrotiklik	,175	1	1,223	145	,143	,706
Sosyal Etki	74,613	1	1,223	145	61,028	<,001
Uyumluluk	67,667	1	1,258	145	53,787	<,001
Açıklık	19,120	1	1,551	145	12,329	<,001
Dışadönüklük	45,536	1	1,086	145	41,933	<,001

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Figure 4.18 ANOVA Results Between Clusters

An ANOVA test was conducted to determine if the cluster assignments significantly differed across Likert-based variables. Behavioral Intention ($F = \text{high}$, $p < 0.001$), Facilitating Conditions ($F = \text{high}$, $p < 0.001$), Social Influence ($F = \text{high}$, $p < 0.001$). Agreeableness, Openness, and Extraversion also showed significant variance between groups. Neuroticism did not show significance ($p = .706$). These results suggest that app design elements related to social and functional support, as well as personality openness, are key drivers of cluster distinction.

Number of Cases in each Cluster		
Cluster	1	64,000
	2	83,000
Valid		147,000
Missing		,000

Figure 4.19 Cluster Sizes

Cluster membership distribution:

Cluster 1: 64 participants (43.5%), Cluster 2: 83 participants (56.5%)

Although nearly balanced, Cluster 2 (adoption-prone group) is slightly more populated, indicating a general openness to detox app usage among surveyed university students.

Distances between Final Cluster Centers		
Cluster	1	2
1		3,219
2	3,219	

Figure 4.20 Distances between Final Cluster Centers

The Euclidean distance between final cluster centers was 3.219. In clustering, a distance above 2.5 typically reflects a meaningful separation in multivariate space. This value confirms strong dissimilarity between the two user groups in terms of their intentions, behaviors, and personal traits.

Cluster 1 Independent Resisters

Characteristics: Low behavioral intention, low social influence, low openness.

Traits: Prefer autonomy, skeptical about app utility, weak social conformity.

Design Insight: Gamification and personal goal-based feedback can nudge usage.

Cluster 2 Socially-Driven Acceptors

Characteristics: High behavioral intention, strong influence from peers, high openness and agreeableness.

Traits: Collaborative, exploratory, motivated by feedback and peer usage.

Design Insight: Social features (leaderboards, community goals) are ideal for engagement.

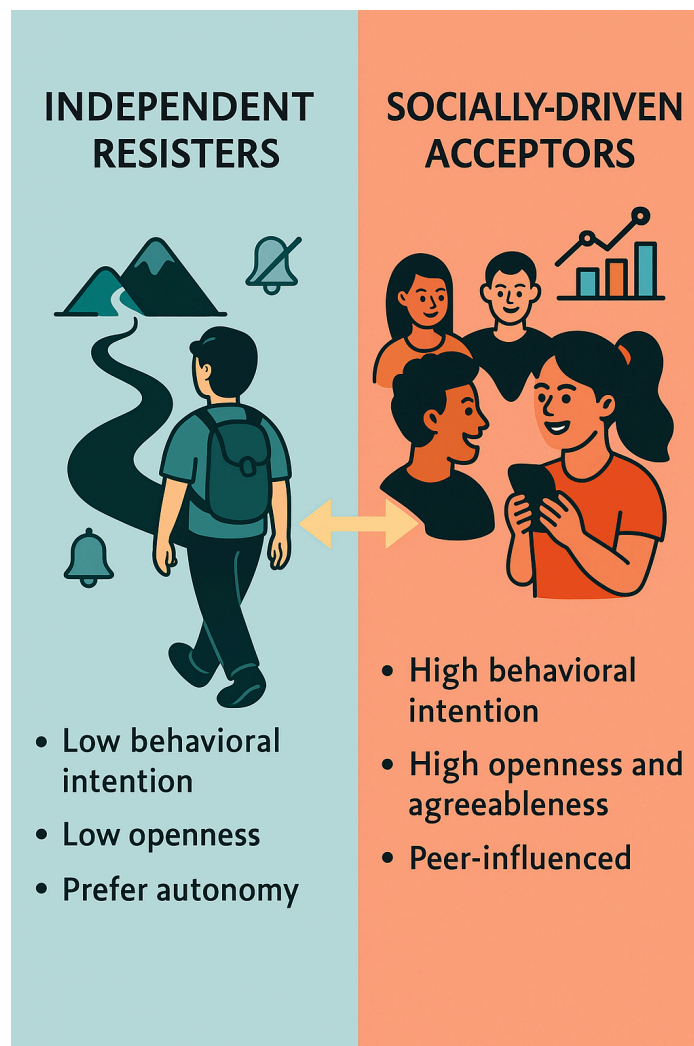


Figure 4.21 Cluster Persona Framework

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,630 ^a	,396	,371	,91227

a. Predictors: (Constant), Dışadönüklük, Nevrotiklik, Kolaylaştırıcı Koşullar, Açıklık, Sosyal Etki, Uyumluluk

Figure 4.20 Model Summary

The regression analysis model achieved an R value of 0.630, indicating a moderately strong positive relationship between predictors and BI_COMBINED. The R^2 value of 0.396 shows that the model explains 39.6% of the variance in behavioral intention. The adjusted R^2 value of 0.371 confirms the model's generalizability across similar samples. The standard error of estimate is 0.91, suggesting relatively low prediction error.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76,521	6	12,754	15,324	<,001 ^b
	Residual	116,513	140	,832		
	Total	193,034	146			

a. Dependent Variable: BI_COMBINED

b. Predictors: (Constant), Dışadönüklük, Nevrotiklik, Kolaylaştırıcı Koşullar, Açıklık, Sosyal Etki, Uyumluluk

Figure 4.21 ANOVA Significance

The ANOVA results yielded an F-value of 15.324 and a significance level of $p < .001$. This confirms that the overall model is statistically significant, meaning that the predictors collectively explain meaningful variance in the behavioral intention to use digital detox apps.

Coefficients ^a								
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	,380	,484		,784	,434		
	Kolaylaştırıcı Koşullar	,370	,061	,420	6,023	<,001	,887	1,127
	Nevrotiklik	-,069	,070	-,066	-,991	,323	,962	1,040
	Sosyal Etki	,129	,066	,147	1,937	,055	,747	1,338
	Uyumluluk	,159	,067	,181	2,379	,019	,746	1,340
	Açıklık	,154	,060	,173	2,579	,011	,954	1,048
	Dışadönüklük	,040	,072	,041	,562	,575	,798	1,253

a. Dependent Variable: BI_COMBINED

Figure 4.22 Beta Coefficients and Interpretation

The strongest predictor was Facilitating Conditions ($\beta = 0.420$, $p < .001$), indicating that ease of use and feature support are critical motivators. Openness ($\beta = 0.173$, $p = .011$) and Agreeableness ($\beta = 0.181$, $p = .019$) were also significant. Social Influence was marginally significant ($\beta = 0.147$, $p = .055$), while Neuroticism ($\beta = -0.066$, $p = .323$) and Extraversion ($\beta = 0.041$, $p = .575$) were not statistically significant predictors.

Collinearity Diagnostics ^a										
			Condition Index	Variance Proportions						
Model	Dimension	Eigenvalue		(Constant)	Kolaylaştırıcı Koşullar	Nevrotiklik	Sosyal Etki	Uyumluluk	Açıklık	Dışadönüklük
1	1	6,500	1,000	,00	,00	,00	,00	,00	,00	,00
	2	,155	6,486	,00	,00	,02	,04	,20	,40	,03
	3	,109	7,736	,01	,02	,24	,00	,24	,29	,03
	4	,088	8,604	,00	,87	,00	,03	,02	,14	,05
	5	,070	9,613	,01	,00	,04	,89	,22	,01	,03
	6	,060	10,419	,00	,04	,27	,03	,30	,01	,57
	7	,019	18,615	,97	,06	,43	,01	,01	,15	,29

a. Dependent Variable: BI_COMBINED

Figure 4.23 Collinearity Diagnostics

Variance Inflation Factor (VIF) values for all predictors were below 5, and the highest Condition Index was 18.615, indicating no multicollinearity problems. The predictors are sufficiently independent, and the model results are statistically robust.

RQ(1): What is the level of awareness and familiarity among university students regarding digital detox practices and applications?

More than 59.86% of the respondents are aware of and interested in the concept of digital detox, as seen by the responses "I've never heard of it, but I'm interested" (25.85%) and "I'm curious, but I can't find the time" with a rate of 34.01%. The combined percentage of "I wish I could use it more" with a rate of 11.56% and "I have tried it before" with a rate of 10.88% was only 22.44%. This indicates that a small percentage of participants have interacted with the application. Although the majority of participants express interest in digital detox apps, there are still relatively few active users.

RQ(2): What are the main motivational drivers that encourage students to engage with digital detox tools and experiences?

The most preferred motivational driver that encourages students to engage with digital detox tools and experience is “the need to increase concentration” with a rate of 56.5%. This situation indicates that students perceive digital detox as a means of increasing motivation and efficiency. The second but most important one is “the desire to stay away from social media” with a rate of 47.6%. This result shows that social media is not only killing time but also creating emotional energy consumption. The other motivational drivers are “the desire for calm and tranquility” with a rate of 43.5% and “wanting to prove that I am not addicted” with a rate of 42.2%. It reveals that users have goals such as achieving inner balance and regaining control. The other motivational driver is “the desire to experience a sense of achievement by challenging myself” with a rate of 42.9%. This shows that digital detox is perceived not only as avoidance but also as self-improvement, self-discipline, and a test of willpower. Less preferred motivations are “the desire to regulate sleep”, “make you forget the existence of the phone”, and “not spending time on unnecessary things”. The main motivations for students to turn to digital detox practices are shaped around the desire to focus, to get away from the

feelings of comparison and anxiety caused by social media, to seek inner peace, and to seek personal development.

RQ(3): What psychological and behavioral barriers inhibit students from adopting digital detox strategies?

The most common psychological barrier that inhibits students from adopting digital detox strategies is “FOMO (Fear of Missing Out) with a rate of 25.9%. This situation shows students experience psychological emptiness when they can not access the contents of social media, current developments, and digital connection flow. This is followed by “‘I'm bored, what am I going to do now?’ and fear of time passing slowly” with a rate of 23.8%. This shows that students experience the disability of spending a productive or delightful time outside of digital tools and that the detox process creates a sense of emptiness. 19.7% of the participants stated that being alone with one's own thoughts creates restlessness. The “Fear of not being able to communicate with people” with a rate of 13.6% shows digital detox period creates the feeling of being socially disconnected because mobile phones are the means of communication. On the other hand, 17% of the participants stated this period was not challenging for them. This shows that these participants are ready to digital detox, and show little addiction or find a balance between the digital world and the real world.

RQ(4): Which application features and design elements are perceived as most effective or engaging by students?

The application features and design elements that are perceived as most effective or engaging by students examined. 28.6% of the participants, corresponding to 42 of them, stated that “really makes me use the phone less” is the most important feature. It is followed by “free of charge” with a rate of 21.8% and “personalization” with a rate of 19.7%. Also, for 15% of the participants, the application should be “ad-free and simple to use”. These results show that participants are interested in ease of use and tangible benefits. In addition, “charting/reporting systems that track daily progress” with a rate

of 25.9%, and “reminders based on personal goals” with a rate of 19% are perceived among the most effective features. Also, gamification is an important feature for the participants. With a total rate of 21.7%, the participants were affected by “a system where I can compete with my friends” and “a system of motivational certificates, badges, points or level-ups at the end of the day”. Furthermore, “donating nature when goals are achieved” was preferred by 16.3%, indicating that some students are open to motivational systems that involve meaningful contributions. In conclusion, in order to increase students’ engagement with digital detox applications, keeping basic functions simple, personalization, visualization, no-charging, and social incentives are important.

RQ(5): How do social influences, such as peer behavior and group participation, affect students’ willingness to adopt digital detox applications?

Peer behavior and group participation have little influence on students’ willingness to adopt digital detox applications. Among the motivational factors and methods, “a system where I can compete with my friends” was chosen by 16.33% of the participants. So, it is not a primary source of motivation in that case. However, it is not unimportant. To make a deeper analysis, the answer to this question is examined: “How attractive is it to earn points as you achieve daily goals and share the process with friends?”. 38.1% of participants found it “attractive” and 22.4% of participants found it “less attractive”. In total, more than 60% of participants found social influences are effective. In conclusion, social influences can increase students’ willingness to adopt digital detox applications.

RQ(6): Can university students be clustered into distinct user groups based on their behavioral intentions, motivational profiles, and preferences for digital detox application preferences?

