FACTORS AFFECTING EXPECTATIONS AND INTENTIONS OF

UNIVERSITY STUDENTS' MOBILE PHONE USE

IN EDUCATIONAL CONTEXTS

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Thesis Abstract

Davut Dişci, "Factors Affecting Expectations and Intentions of University

Students' Mobile Phone Use in Educational Contexts"

The aim of this study is to find the factors affecting expectations and intentions of

university students' mobile phone use in educational contexts. According to the

literature, Mobile Addiction, Parental Surveillance- Safety/Security, Social

Relations, and Mobile Behavior are mainly used terms for defining mobile use.

Therefore these variables are tried to be measured to find and estimate their effects

on expectations and intentions of university studentsusing mobile phone in

educational contexts. 421 university students participated in this study and there were

229 female and 192 male students. For the purpose of examining the mobile behavior

and educational expectations and intentions, a questionnaire is prepared and applied

to the participants who had to answer all the questions online. Furthermore,

responses to close-ended questions are analyzed by using The Statistical Package

for Social Sciences(SPSS) software, reliabilities aremeasured by Cronbach's Alpha

analysis and hypothesis are examined via using Multiple Regression and Linear

Regression analyses and the model is tested with Structural Equation Modeling

(SEM) technique. Besides these responses, open-ended questions arealsotaken into

consideration. When analyzing data gathered from close-ended questions, it is found

that Mobile Addiction, Parental Surveillance, Social Relations and Frequency of

Using Mobile Phone Applications are affecting the mobile behavior of the

participants in educational contexts. Moreover, as for open-ended questions,

participants stated that they use many mobile applications in their learning

environment in terms of contacting with friends, watching educational videos,

finding course material via internet.

Tez Özeti

Davut Dişci, "Üniversite Öğrencilerinin Mobil Telefonları Eğitimde Kullanma

Beklentilerini ve Amaçlarını Etkileyen Faktörler"

Bu çalışmanın amacı üniversite öğrencilerinin mobil telefonları eğitimde kullanma

beklentilerini ve amaçlarını etkileyen faktörleri bulmaya çalışmaktır. Bu bağlamda

yapılan literature çalışmalarında insanların mobil telefonları kullanım alışkanlıkları

içerisinde Mobil Bağımlılık, Ailesel Gözlem Emniyet/Güvenlik, Sosyal İlişkiler ve

Mobil Davranışlar/Karakterler göze çarpanlar arasında yer almaktadır. Bu yüzden, bu

değişkenler üniversite öğrencilerinin mobil telefonları eğitimde kullanma

beklentilerini ve amaçlarını etkileyen faktörleri ölçmek için kullanılmıştır. 229 kız ve

192 erkek olmak üzere toplamda 421 öğrenci çalışmaya katılmıştır. Katılımcıların

anketin tüm sorularına cevap vermesi sağlanarak istenilen değerler ölçülmeye

çalışılmıştır. Kapalı uçlu soruların cevapları SPSS yazılımı kullanılarak ve İç

Tutarlılık Katsayısı Analizi uygulanarak, hipotezler ise Çoklu Regresyon, Doğrusal

Regresyon ve Yapısal Eşitlik Modellemesi analizlerinden yararlanılarak test

edilmiştir. Kapalı uçlu soruların yanında açık uçlu sorular da incelenmiştir. Kapalı

uçlu sorular üzerinde yapılan analiz sonuçlarına göre Mobil Bağımlılığın, Ailesel

Gözlem-Emniyet/Güvenliğin, ve Sosyal İlişkilerin mobil davranışlar/karakterler

üzerinde etkisi olduğu saptanmıştır. Aynı şekilde mobil davranışın ya da karakterin

katılımcıların mobil cihazları eğitimde kullanma algısına etki ettiği bulunmuştur.

Bunula birlikte, açık uçlu sorular incelendiğinde, katılımcıların öğrenme

ortamlarında mobil telefonları arkadaşları ile iletişim kurmak için, eğitimsel videolar

izlemek için, ve internet üzerinden ders materyallerini bulmak için kullandıkları

belirlenmiştir. Katılımcılar mobil telefonların hayatlarına büyük bir rahatlık getirdiği

konusunda da hemfikirdirler.

ACKNOWLEDGEMENTS

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ABBREVIATIONS

DG: Frequency of Using Mobile Phone Applications in Factor Analysis

DGO: Frequency of Using Mobile Phone Applications Scale Items' Average in Regression Analysis under Demographics

EE: Educational Expectations and Intentions to Use Mobile Phone in Factor Analysis

EEO: Educational Expectations and Intention of Using Mobile Phone In Educational Context Scale Items' Average in Regression Analysis

MA: Mobile Addiction in Factor Analysis

MACP: Compulsion/Persistence Subscale Items' Average in Regression Analysis of Mobile Addiction Scale

MAO: Mobile Addiction Scale Items' Average in Regression Analysis

MATMLD: Time Management/ Life Dysfunction Subscale Items' Average in Regression Analysis of Mobile Addiction Scale

MB: Mobile Behavior in Factor Analysis

MBEOL: Ease of Life Subscale Scale Items' Average in Regression Analysis of in Mobile Behavior Scale

MBISR: Image of Status/Relaxation Subscale Scale Items' Average in Regression Analysis of in Mobile Behavior Scale

MBNMT: Necessity In Modern Times Subscale Scale Items' Average in Regression Analysis of in Mobile Behavior Scale

MBO: Mobile Behavior Scale Items' Average in Regression Analysis

PR: Parental Surveillance and Safety/Security in Factor Analysis

PRO: Parental Surveillance- Safety/Security Scale Items' Average in Regression Analysis

PRSO: Parental Surveillance Subscale Items' Average in Regression Analysis of "Parental Surveillance- Safety/Security Scale"

PRSSO: Safety/Security Subscale Items' Average in Regression Analysis of "Parental Surveillance- Safety/Security Scale"

SEM: Structural Equation Modeling

SR: Socail Relations in Factor Analysis

SRO: Social Relations Scale Items' Average in Regression Analysis

CHAPTER 1

INTRODUCTION

As time passes, technology becomes very important in people's daily lives in terms of simplifying what they do. Mobile phones constitute enormous amount of this technology. Almost all people have mobile phones exploiting in different ways such as socialization, contacting with parents, handling business activities. Therefore, it can be said that mobile phones have become widespread all over the world day by day for different age groups. Actually, they are seen as the new form of communication technology especially among college students trying to establish the social environment of themselves (Aoki &Downes, 2003).

As the popularity of mobile phone is increased, it is used for different purposes by the diverse age groups. Young people show difference compared to the old in that they use mobile phones for playing mobile games, forming social circles and using text messaging to contact with anyone. It may be stated that mobile phones are used more by the young so that we may present a new learning tool to them in their school studies because mobile is very efficient in terms of accessing the information instantly.

Parallel to the changing needs of people, mobile phones are not only used for sending text messages or talking, it is now well-liked in playing mobile games, social networking, internet access, multimedia messaging, arranging meetings (Salehan&Negahban, 2013). This wide variety of mobile phone usage, helps people to create their mobile behavior as it is seen as the new form of self image by providing the human interaction. This influence of mobile phones may be

channelized into new environments like schools. Since almost all the students already have the mobile phones with them, it can be used for the educational purposes in terms of increasing learning process.

It is an inevitable fact that mobile phones are now a part of people's personality. They feel distressed without them so that if they are far away from their mobile phones they start to be in a negative mood (Igarashi et al., 2008) even showing psychological problems of not being connected to the outside world. People are also categorized according to their usage of mobile phones. For instance, extraverts are spending much time with their phone, making more phone calls, changing the appearance of their mobile phones frequently. These kinds of usages make them responsible in their social environment so that they may organize their environment with the help of their mobile phones.

Moreover, before the mobile phones people had to use the land line phones in order to contact with their parents, causing loss of hours when connecting. With the mobile phone technology, connection is very fast, cheaper, and easier while trying to establish connection with parents. And also, parents are feeling safer about their children when they are outside in terms of reaching them anywhere and anytime. This situation helps parents to decide about permitting their children to go outside at night, making them more social in their circles away from parents. When thinking the helpfulness of mobile phones in terms of parental perspective, it can be stated that mobile phones help people to form their mobile behavior faster than previous years.

People who use their mobile phones extensively, may start to show some addiction problems in their environments. In the past, addiction is linked to playing online internet games, but now it is correlated to the usage of mobile phone for different

purposes like playing mobile games and using social network tools intensively. Even some school principals believe that academic problems of children spring from the result of mobile addiction (Hong et al., 2012). Moreover, extensive usage of mobile phones sometimes results in isolation and exclusion from the social environment. People who hesitate what they want to tell to their social environment, are easily stating their ideas via mobile phones while they are not physically present in their friendship environment, which causes a new form of mobile addiction. In the same way, people who are gathering in any physical environment, use their mobile phones almost every second, not talking to each other, or having a conversation. They are physically together but separated socially and mentally.

Witnessing the evolvement of mobile phone technology in terms of socialization, parental perspective, and mobile addiction, it should clearly be stated that it is closely connected to the learning environment of schools. Mobil phone brings new form of technology mediated learning environment to students' lives. Students are using mobile phones extensively, separating them from the previous generation who are exposed to the learning environment via text books and journals (Mellow, 2005). It can also be clarified that mobile phones bring greater flexibility to students' lives in terms of reaching course materials, using learning management systems, communicating with friends, using internet to access the information.

Mobile phones help students in a learning environment, to interact with teachers and friends by creating a medium that actively involves in the learning process. As it is seen, mobile phones have many advantages while using in educational areas. For instance, almost every student has a mobile phone; therefore they are very open to use it in a learning environment. In this way, mobile phone is going to help the students to broaden the interaction and keeping it continuous in a

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learning environment. And also learners who use mobile phones may collaborate with the teachers and other students to cover the course topics better.

Mobile learning is seen as more accountable and measurable because it gets the right training to the right people as quickly as possible, and it measures the results to ensure that mobile learning is achieving its goals (Leung & Chan, 2003). However, it forces us to think that mobile learning will substitute traditional classroom-based learning. In the traditional classroom, people can get to know each other and develop contacts. Because students will be spending more time for understanding and gathering information rather than interacting face to face, this medium naturally suits more social people. By using mobile devices in educational area, learners may need to ask questions to other learners and their instructors and they need to receive guidance from their instructors (Leung & Chan, 2003). In this way, they can find alternative ways to increase their achievement in class by using mobile phone devices.

This study is carried out to measure the effects of mobile phone on social and parental lives, addiction, behavior of students and their educational expectations/intentions to use mobile phone. To be able to achieve this purpose, a questionnaire is developed and adapted to find students' preferences of using mobile phone by conducting at Boğaziçi University, Turkey. Analyses are performed according to the questionnaire results of the study in order to measure the effects of mobile phones on the lives of the students in a wide perspective.

The thesis is composed of following chapters: Chapter I is related to the introduction of the study. Chapter II covers the literature review of mobile phones in terms of mobile learning, mobile addiction, parental perspective, social environment and some mobile phone statistics. In Chapter III the goal of the study and statement

of the problem are presented. Chapter IV contains the methodology of the study

including the design, instruments, participants, etc. And Chapter V incorporates the

results, findings and the statistical analyses that were made in the study. Finally,

Chapter VI incorporates the conclusion in which the limitations of the study and

future research suggestions are mentioned.

CHAPTER 2

REVIEW OF LITERATURE

General View of Mobile

Mobile phones are getting very popular in the world for different age groups in many ways. They are accepted as the super way of communication technology by the people who establish and increase their social environment. As this popularity increases, it will be very common to witness the usage of this technology in a wide variety of contexts, such as schools, restaurants, public transports, shopping,in terms of its functionality and efficiency (Turner et al., 2008). With this popularity and the simplicity of use, this technology helps people to adopt it into their lives easily in many areas. In adopting mobile phone technologies, specifically in terms of wireless-connection, social influences, usefulness, and perceived ease of use are seen as important factors of intention to adopt (Lu et al., 2005). This coincides with the Media Dependency Theory. This theory states that if a mass media helps people to fulfill their tasks, goals and needs, it becomes more significant in their life. As being significant part of people's life, mobile phone has changed how, when, where, how often, with whom, and about what people communicate, opening social world and connecting people regardless of time and place, influencing the way they live and behave in their environment (Lacohee et al., 2003).

Effects of Mobile Phone

Today a new universal form of mobile communication cultureemerges: the area of

everyday usage of mobile phones includes some form of variations from traditional

modes of socialization and parental cultures (Oksman&Turtiainen, 2004). These

variations are helping people to spread the information they need in their daily

routines. It creates a pyramid structure to transfer the information from one to

another (Ling, 2000). It means one interacts with three people who are connecting

with nine. As mobile comes into existence, people's lives have become information

oriented, meaning people are more prone to the new in case of learning the unknown

things they face in their social environment. Therefore, by considering its

effectiveness in daily life usage, mobile phones play a key role in social relations,

information searching, learning, and arranging time efficiently (Oksman, 2006).

As they make the life of people information oriented, mobile phones have an

effect on different contexts of people's lives. It changes thelifestyles of people from

many perspectives that are necessary to do the daily essentials. Parallel to this,

Haddon (2000) positions mobile phone usage in three dimensions; parent-child

relationship, changing manner of time division, and the reaction of using mobile

phones in public places. It can be referred from this passage that people's attitudes,

their social relations, family ties are being transformed into a new phase like

mobility.

Changing the needs of people in usage of mobile phone related to attitudes

and behaviors, exploitation of this technology differs from person to person.Young

people are different from adults in adopting mobile phones into their life via text

messaging, mobile games, and internet based communication channels. Therefore,

mobile phones create various environments for different age levels and for diverse contexts. As it becomes vital for social relations of people, it is used for different needs. The important ones are personal safety, information access, social interaction, parental contacts, time management/coordination, dependency, and privacy management (Aoki &Downes, 2003). These needs have been classified into different categories to determine the effects of mobile phone on personal lives of people. Katz (1997) classifies some of the effects as follows:

- Fundamental effects: personal security and safety

- Secondary effects: ability to contact with friendship environment, closeness to the information

- Third degree effects: innovativeness in use, social interactions in relations

These effects are taken into consideration according to the level of needs. Firstly, people use their mobile phones for personal safety and security that are the most fundamental issues in their lives. And then other needs come into existence related to the mobile phone usage. When the basic needs are handled, people are trying to use mobile phones for information searching and then to create social environments, making their life easier to live. As in the same way, Ling and Yttri (1999) divide the adoption of cell phone usage in the new form of interaction thatis called "micro-coordination" and "hyper-coordination". The former is used for people to arrange the hours of meeting and places as needed. The latter is used for people, exceeding the micro one, to have social and emotional communication resulting in the new form of self-image. This self-image is becoming more important for people in terms of presenting themselves to their social environments.

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Socialization

Mobile phones enable people to have very efficient and effective ways of communication that needs steady connection with others because this technology provides faster, easier and more continuous connection according to other types of communication technologies (Salehan&Negahban, 2013). Thishelps people to increase their communication and interaction with their environments that result in healthier relationships in terms of keeping in touch with their circles anytime. However, Chen (2005) contradicts to the common belief that while the connection is provided very well, college students create a few contacts with their friends on mobile phone even though their phonebook includes a significant number of people.

When the effect of mobile phone on communication, interaction and basically the socialization, it is personalized according to the characteristic usages. Parallel to this, many researchers agree with the characterization of mobile phones in that they are pointed byuse of SMS, bomb calls, mobile games, personalization, gendering, socially oriented communication with friends, e-mail and picture messaging, parental surveillance, school rules, addiction therapy, high and problem use (Syed &Nurullah, 2012; Pertierra, 2005). These characteristics are seen as the way to define the scope of mobile phones' effect on the lives of people so that it can easily be stated that mobile phone becomes an inevitable part of their life in many respects.

Age Related Manners

Keeping its popularity of use in society, mobile phones are widely used by younger people. The reason is that in the beginning younger people do not use mobile phones

for the purpose of social interaction. However as time passes by and this new

technology becomes part of their life, they see this device as a means of staying in

touch with friends in terms of keeping social environment alive. Young people may

exchange silent messages anywhere and anytime, answering each other very fast, and

forming the idea of being connected continually (Kamran, 2010). This connectedness

makes them more open to the outside world by using the effective features of mobile

phones. Moreover, the young mostly provide mobile connection with their friends

via text messaging (Humphreys, 2008; Kim &Mitomo, 2006). In many social

environments, text messages are used more than phone calls while they have many

advantages over e-mail of which recipient may choose when and whether to answer

and they are more accessible (Lacohee et al., 2003). Although its screen design

inefficiency, and multiple key pressing for even one or two words, text messaging

increases its usage (Spolsky, 2004; Netsafe, 2005; Green, 2002; Ito, 2005). Text

messaging helps people to get out of silence and making conversations with their

friendship environment easily. It enables young people, who are hesitating because

of shyness, to communicate with their environment without being embarrassed

(Plant, 2000). Text messaging is mostly preferred by people to create a contact with

their social environment expressing themselves to others easily (Syed &Nurullah,

2012; Netsafe, 2005). On the other hand, the age factor is a determining element for

people using texting on mobile phones so that older people are not eligible to use the

SMS function of mobile phones compared to the young (Bianchi & Philips, 2005).

They mostly prefer mobile phones to use other features like calling, and making

themselvesphysically comfortable.

The most used characteristic of mobile phones is undoubtedly text messaging.

This usage of messaging feature may cause unsuitable problem situations.Supporting

the above idea, if message response time is long, it creates problems in relations of young people. When the youth is unable to return a message simultaneously, the social interaction and expectations have been violated (Ito, 2005). The social connection may be harmed in case of responding the social contact at different times with a delay. Contrary to the common belief, some researchers do not think that using specific features of mobile phones increase the interaction of social environments. Ling (2004) states that mobile phone calls and text messaging do not help people to expand their social connections. Actually it maintains the existing relationships and empowers social ties and connections.

Simplifying People's Life

With this new mobile phone technology, the other mobile devices such as pocket PCs and tablets increase their popularity and usage areas. Witnessing the evolvement of this mobile phone technology, it can be stated that mobile phones are not just used for talking and texting; it is now popular in internet access, multimedia messaging, broadcasting, playing games, and social networking (Salehan&Negahban, 2013). This popularity is important in using mobile phones and their significant features to develop an identity and convert it from public to the personal image. Moreover, Ozcan and Kocak (2003) state the reasons why the young prefer mobile phones as; self-identity, social status related to their age groups, interpersonal interactions, entertainment and social relationships. Humphreys (2008) supports the previous idea by stating that mobile phones are one of the important communication channels easing social connections. Even, it is now accepted as a social tool beside it is defined previously as a technological tool (Campbell, 2005; Srivastava, 2005), as in

the same way Ling (2004) points out that mobile phone has the impact on human interaction and human relationships in many aspects. On the one hand, the young are seen more easily adoptable to mobile technology as a means of using it in terms of social communication and interaction with their environments (Aoki &Downes, 2003). They feel that they are loved, cared and valued when they are in contact with their social environment by using mobile phone (Walsh et al., 2010). They record the positive messages of their social contacts in order to reread them at other times (Srivastava, 2005). This proves the idea that mobile phones help people to be happy in their social environments by using the efficient characteristics, simplifying the connection of social contacts.

Examples of Socialization Tools

Many applications have been created to increase the social connections of mobile phone users. Friendlee is one of them allowing users to browse their contacts and even their friends' contacts in order to establish social communication environment (Ankolekar et al., 2009). Friendlee makes an analysis of the calls and message history in order to find suitable match of the user based on duration, frequency of using mobile phone features. This even has an effect on the relations to be established in terms people who do not know each other, simplifying the connection to help them for meeting. What is more, "Dodgeball" is another form of establishing social relationships with others. Dodgeball uses location-based information of mobile phone owners by sending the relevant information with text messages to the Dodgeball network, not using GPS services of phone owners (Humphreys, 2008). Users of this network are alerted if this data is available on their network or location.

By the help of this software, coordination between members is facilitated so that diverse places are becoming the third places to congregate for people in terms of feeling relaxed and expanding the social network (Palen et al., 2000).

Personality/Behavior Related Manners

Using mobile phones in different social contexts is now accepted as a way of addressing the behavior of a mobile user in terms of its personalized nature (Srivastava, 2005). The model of the phone, the ring tone and wallpaper used maydefine personal characteristics related to the behavior. If people are kept away from their mobile phones, they start to have negative feelings because of not connecting with their friends, and initiating psychological problems (Igarashi et al., 2008). In parallel to this, the study by Butt and Philips (2008) shows that some personal characteristics define the area of mobile phone use with specific features. For instance, extraverts spend more time on their mobile phones, receiving more calls from their social environments, and periodically changing the appearance of their mobile phones. This situation sometimes helps people to create social responsibility when they try to behave in their social environment by using phones. In the meantime, mobile phones make people more responsible for their actions and attitudes toward their environment (Geser, 2006). The ability to use mobile phones for various jobs causes people to think when they responsibly form social control of their environment. In other respects, boys are using mobile phones in order to manage their daily life as organizing and having control on their environment. Contrary to the boys, girls make the most of the mobile phones in order to reach

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people, parents, relatives who are geographically distant (Oksman&Turtiainen, 2004).

The digital characteristics of mobile phones are used in different contexts for various jobs. For instance, people have seen the camera feature of mobile phone as the inevitable part, actually standard feature, of it. By using camera features, users may take pictures of everyday events, celebrities, important moments of days, and even in class to capture the writings on the board (Srivastava, 2005). This brings some problems to the owners of mobile phones. By capturing photos of a person without asking his/her permission violates the privacy of other people.

Health and Other Problems

It is argued that mobile phone owning may cause some health issues. These health issues are derived from many contexts when using mobile phones for different purposes. For instance, mobile games anywhere and anytime (Srivastava, 2005), ordering food, texting in place of face to face conversation are seen as the side effects of mobile phones, leading to passiveness and imagination loss. It can be concluded that mobile phones cause some people to live passively and this brings serious health problems such as obesity and heart related problems.

Its effect on human life as an inevitable passivity, mobile phones are perceived as the new form of "at home" environment independent from the physical place that the owner is seen as a person that can be reached regardless of where he/she is (Srivastava, 2005). Therefore, mobile phone enlarges the social interactions by helping people to reach each other in any place without being present at that place (Geser, 2006). This situation sometimes causes some social relationship problems. In

the past, people did arrange meetings at exact times and exact locations. Now using mobile phones,people easily change the place orpostpone the time by sending text messages to their friends. And this constitutes an undesirable situation for both sides in terms of keeping social relations continuous. This situation leads to the other person's schedule change so that saving for one person's time causes the delay of the other person's schedule by making him/her waiting (Palen et al., 2000).

Location Independency and Location Based Usage Styles

Mobile phones are used in a wide variety of contexts including schools, homes, buses, trains, shopping malls, restaurants and cafes. However, with the usage of mobile phones any time and at any place, people may not think that they may be disturbing other people. Especially in public places no attention is paid while using mobile phones in relation to disturbing people (Haddon, 2000; Palen et al., 2000). For instance, talking loudly on the phone may cause other peoplelisten to your conversations even if it is not meant to be. Sometimes this kind of act is related to the personality of the person who is talking loudly on the phone in public places (Love &Kewley, 2003). People usually do not know how to behave in public in terms of using their mobile phones in order not to disturb others. According to the research by Monk et al. (2004), exposing the third party mobile phone conversations is more irritating than hearing face to face conversations even in the same level of sound levels. The reason for this is that people do not know the third person and they are exposed to the unwanted, even private conversations of that person. However, the use of mobile phones differs from culture to culture. The study of Ito (2005) points out that Japanese youth use mobile phone in trains, subways, buses where almost all

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are involved in text messaging. When there is a voice call, they immediately finish

the call or speak in a very low voice mostly keeping their hands over their mouths.

Therefore researchers state that in public places one of the most important answering

techniques without disrupting the others is mobile e-mailing that is slightly

disturbing, and concealable (Ito, 2005).

Simplifying the Functionality of Everyday Usage Areas

Mobile phones have been creating the way we do our daily jobs with the help of

multifunctional characteristics. For instance significant number of people uses

mobile phones as their alarm clock, as meeting arrangement tools or for researching

in school activities (Srivastava, 2005). Furthermore, by using "mobile ticketing", the

commercial identity of users are formed, providing customers an easier way of

shopping and trading. Even the banking systems are mobilized so that users perform

their daily banking transactions very fast, do grocery shopping online via using

mobile phones. Therefore, mobile phone companies are taking the requests of users

into consideration for their technological innovations. The requests of users are

varied from entertainment, education, communication, lifestyle, media, music, and

even religion. As an example, religious issues are now taken care of in designing

new form of mobile applications. For instance, they develop mobile phones and their

applications helping Muslim users to find the location of Mecca with the help of their

compass feature for praying. Mobile phones are also used in political institutions

changing hierarchical structures of bureaucracy by voting in elections, or stating

complaints directly to the authorities (Srivastava, 2005). Many political parties send

their campaign messages via mobile phones to their members. It is hard to gather all

the members of the parties into one place. Therefore, members are informed with text messages easily so they are informed about the activities of the parties, independent from time and place.

Parental Perspective

Chen and Katz (2009) indicate that there is a relation between the usage of mobile phone by children and their parents at home. In the past, children had to use landlines in order to contact with their parents when they were outside. And this was very hard to do because the cost, reaching time of lines, and limited place of landlines were the obstacles. Now with the help of mobile phones connection is very easy, cheap and fast, bringing the new form of healthy communication between parents and children. This form sometimes called "umbilical cord" that is seen as the life saver for families to reach their children. When the children are away from their home, parents were anxious about what their children were doing. In order to be informed about their children they try to find new ways to reach them. They make the most of mobile phones to contact with their children for getting news any time and any place for their security (Aoki &Downes, 2003; Ling, 2000). It can clearly be stated that mobile phones lead people positively to get rid of the limits of their home. It means children do not have to be together with their family even at their home. By talking with their friends late at night and texting during dinner, bath, ordoinghomework makes them feel free out of their family environment at their home (Ito, 2005).

Moreover, children entering the university away from their parents are using mobile phones more compared to the past. This is correlated to the change in living

area, change in social environment and support that is needed from the parents (DeBaillon& Rockwell, 2005). This helps children to use mobile phones more in order to reach out their parents in terms of what they do in university. With this technology, children utilize mobile phones in order to share their experiences in school, get all kinds of support from their parents (Chen & Katz, 2009; Ito, 2005). However, away from their parents, children are developing resistance in terms of control in their own relations and providing more independence from their parents by not answering their calls and not telling the truth about what they do (Ling, 2004). The reason is that they want to build more connections with their social environment in schools and feel free in terms of getting new relations in their personal circles. Coinciding with this, Oksman and Turtiainen (2004) indicate that children have seen mobile phones as the way of increasing freedom in their relationships with their parents, even expanding their social networks from home to a new context. They usually start to enter new social environments in which parents are not informed about what they do by increasing their freedom out of their families. Mobile phone usage changes according to gender. For instance, boys and girls are different from each other in that males are more prone to contact with their friends compared to contacting with their family than females.

<div align="center">Mobile Addiction</div>

Before mobile phone's expansion in the market, internet is widely used by the people on their laptops or desktop PCs. And people, especially the young, show addiction of internet usage in terms of playing online games and using other communication tools. While shifting from PCs to mobile phones, the addiction transforms itself from

internet usage to mobile usage in the number of text messages-calls and phone-talk time (Billieux et al., 2008). These addictions may be seen as the most important ones that should be taken into consideration. The different frequency levels of using mobile phones and making use of different features of them in different levels are in connection with addiction levels too. These usages may be correlated to the self-esteem, age, and extraversiveness (Bianchi & Philips, 2005) indicating that younger people are spending more time using mobile phones compared to the older. And as mobile phone usage increases, the mobile addiction increases, too. This addiction is correlated with the mobile phone involvement and can be measured with the frequency of using mobile phone in many contexts (Walsh et al., 2010). These contexts are changing from social environments to parental ones and to schools. Therefore it can be exemplified that academic problems of children in schools and time management issues may be seen as the result of mobile addiction (Hong et al., 2012). Moreover, one of the problem usages of mobile phone in terms of addiction is driving, even if it is legally forbidden, creating harmful situation both for the driver and for others, also it is socially inappropriate (Salehan&Negahban, 2013). The reason why using mobile phone is seen as an addiction while driving is texting and calling in dangerous situations. Therefore, the text-message feature of mobile phone is highly accepted as an addictive tool during driving.

Although text messages are used efficiently for resuming the relationships, they may also cause isolation and exclusion in friendship network environments (Igarashi et al., 2008). The reason of this is that in social environments, people do not even notice how addictively they are using some features of their mobile phones especially chatting applications like "WhatsApp" and "SMS". In this kind of social environments, people who are gathering to interact and communicate with each other

are actually separating themselves from each other. Without interaction people start

to be strangers to each other because they do not share any common things. It can be

seen as the result of mobile addiction causing the relationships to be damaged, and

being stressed (Kamran, 2010). The many features of mobile phones that people use

make them addictive in their social environment, causing friendships to be broken.

Mobile Learning

The nature of learning is closely linked to the concept of mobility (Naismith et al.,

2004). This mobility is related to the concept of "mobile learning". Mobile learning

is the formation of educational technology, e-learning and distance education

focusing on learning through context and learning with mobile technologies (M-

Learning, 2013). As mobile learning is concerned, there are many forms of mobile

learning devices covering mobile phones, personal digital assistants (PDAs),

sometimes tablet PCs but not desktop PCs. Among those, mobile phones are one of

the most efficient and effective devices simplifying the learning environment for

students.

Easing People's Life in Schools

Past and present students have so many differences in terms of the amount and

variety of the mobile media they are exposed to as they grow up. Phones are no

longer for just using as game playing, or communication tools. Whether we like it or

not, whether we are ready for it or not, mobile devices that are used in learning

environments enable new generation of teaching such as technology mediated

learning. This means that new students are growing up with an extension of mobile media use and these separate them from previous generation whose learning experience was dominated by journals and text books(Mellow, 2005).

In terms of learning, mobile phone provides easier and faster reach to the information "any time" and "anywhere" (Selwyn, 2003). This brings greater flexibility to students' life in terms of using mobile in many respects. For instance, students communicate with each other at places like library, computer labs, parental contexts, public transport, walking, shopping, etc. via using features of mobile phones (Kamran, 2010). In the past students were trying to communicate with each other by talking, exchanging notes, using signals of hand, etc. The quicker and faster development of mobile phone technology changes the way of communication and interaction in class (Ling, 2000). It increases the interaction among students to broaden interactivity of learning environment. Parallel to this, mobile learning has increased students' interest and they are actively involved in the learning process in which mobile has a positive impact to keep that interest continuous (Pollara& Broussard, 2011). However, schools show resistance to the technological advances like personal computers, televisions, cinevisions and mobile phones because they think they may not control the students in school in case of letting students to use those technological devices. As in the same way, Ferry (2008) investigated that classroom management issues are problem and continuing to increase when using unfamiliar equipment like mobile devices. And this resistance to new educational technologies has been stroked by mobile technologies especially by mobile phones in a way to form efficient learning environments. Almost every student in college uses mobile phones so that school principals should think the usage of mobile in education seriously to attract students' attention and increase the method of teaching

to reach the students who are learning differently. By supporting the above idea it is stated that the ability to control the classroom environments and diversifying teaching methods could be increased by using mobile devices (Wright et al., 2011). Moreover, mobile phones have transformed themselves from mere functional to multifunctional devices in a wide range of areas such as different screen sizes, wireless connection, interface.   Comparing the computers and the small screen sizes of mobile phones, there are many advantages of using them in educational contexts (Abas et al., 2009). The advantages can be stated as follows:

- Almost every learner has mobile phones when compared to having laptops and PCs.

- Mobile phones are cheaper than the computers and they are getting cheaper as new characteristics started to be added.

- Mobile phones are used almost everywhere because they are small to keep in hand and lighter to carry (Abas et al., 2009).

Educationalists see mobile phones as a passing fashion in a limited time but they do not see the increased amount of its usage in the area of accessing information via world-wide-web (Selwyn, 2003). This fashion is harmed by everyday usage of mobile phones creating mobilization of information for simplifying lives of people. As of this mobilization, personalized nature and global reaches are the powerful reasons of adopting mobile phones into the life. Holmes and Russell (1999) states that ignoring the reasons of adopting mobile phone into life settings will bring educators and parents facing each other over this huge technological gap; and new steps of closing this gap will not be enough to close this gap. The attitudes of school principals will determine whether to close this gap or not. In this issue schools are seen as the mechanism to control the students and surveillance over students through

the classes within the boundaries of the school area. Schools' behavior about mobile

phone usage decreases the interaction between teacher-student and student-student.

However, one of the most important social effects of mobile technologies is to

increase the scope of interaction and widening it in all possible ways (Holmes &

Russell; 1999).

To some researchers, mobile phone technology helps students learn the

concepts in various ways. It affects how they learn, where they learn and controlling

what they learn on the context of school environment (Holmes & Russell, 1999).

Mobile learning is also seen as the alternative way of embedding contents of learning

process into daily life (Ting, 2005; Sharples et al., 2007). As already implied that

mobile phones change the way that students learn, the critical factors which are

important for mobile technologies to embed into learning should be taken into

consideration. Naismith and Corlett (2006) propose five success factors of mobile

learning in the educational context: access to technology, ownership, connectivity,

integration, and institutional support. The most problematic part of these factors is

the institutional support because principals are regulating the usage of phone out of

the class and this prevents educationalists to integrate mobile phones into curriculum

and restricts the wireless connection inside the borders of school district.

Mobile Learning Areas and Some Usage Examples

Mobile phoneshave a strong impact on learning environments.They can be used as

supporting tools in terms of easing the collaborative activities. Students may

cooperate with each other by using mobile phones in their classroom activities. They

help organization of learning materials in the learning environment by supporting

communication and interaction between student groups and enabling strong

coordination between activities related to learning materials about courses (Abas et

al., 2009). Besides, mobile learning meets the learning needs of the students that are

changing continually. Learners who use mobile phones can collaborate with

instructors and other learners in order to learn subjects better. They can deliver

learning materials in multimedia formats via a fast and cost effective way to teach

learners in need (Leung & Chan, 2003).

Liu and his friends (2003) found that WIreless and mobile Technology

Enhanced Classroom(WITEC) with some form of mobile help students engage in

learning activities, facilitating group based learning in efficient time intervals. In this

way, students can attend different learning activities with their own mobile learning

devices depending on their needs. Also in these kinds of classroom settings in which

these mobile devices are used, students could actively make an interaction with other

students. WITEC can facilitate the students' learning effectively.

As compared to the past, mobile phones have advanced features in terms of

mobile learning, including video streaming of educational databases, internet

browsing, developed form of screen displays and compatibility with the desktop

applications, making learning practical (Ting, 2005). For instance, in United

Kingdom, mobile phones are used for educational purposes. It can be stated that

there are many application areas of mobile phone in lifelong learning, like

MyArtSpace project. MyArtSpace,a mobile learning project, helps school children

on school visits to galleries and museums by giving them mobile phones with

running applications including media content and previous exhibits that are attended.

In this project students, could take pictures, record their voices about museum visit,

keep notes on the phone, and running apps that help them upload their works onto

website (Sharples et al., 2007). After this project a teacher stated that "The mobile phone was very easy to use and children were making their own collection of information about the museum. I have not seen pupils so engaged or eager on a museum visit before".MyArtSpace project is based on the theory of context-aware learning that means gathering information from the environment to provide an insight about what is going on around the student and mobile phone device (Naismith et al., 2004). Mobile learning is mostly suitable for context-aware learning. The reason why mobile phones are well suited for context-aware learning is that they are available for a different and particular context, as in the nature of mobility.

Moreover, there is a study about "Opinion Metrics" that is the mobile device students' use in class. In this study students are given a Wi-Fi equipped mobile device. The interface (display screen) of these mobile devices has three selection buttons, "Applause", "Bored", and "Lost". The students will use these buttons when they wish to express their feelings to the teacher, such as if they could not understand the lecture. Then, teacher will catch the message and change his lecture style for better. In the end of lesson session, students answered that they had an easier way to reflect their understanding of instructional material by using the Opinion Metrics devices (Sung et al., 2003).

Simplifying the Learning Environment of Teachers and School Principals WithProblemsAbout Using Mobile Phone in Educational Contexts

In today's developing technological age, not to keep up with mobile phone technology in terms of learning is not an option anymore because it has changed the pedagogical infrastructure of learning (Oller, 2012). This new form of pedagogical

structure that is beneficial for learning environments is not taken into consideration by the school principals. Although schools are not capable of adopting mobile phone technology into the curriculum, the mobile generation does not need schools to facilitate their use of information communication technologies in terms of getting technical support and guidance in their acts (Holmes & Russell, 1999). This makes using mobile phone in educational context very significant for the students to learn many things by themselves. If principals are not resistant in adopting mobile technologies into schools, the acquisition of information and knowledge may be performed well in terms of simplifying the lives of students. As a beginning, mobile devices can be used by the teachers in doing so many things such as taking attendance reports, accessing school data, managing their school schedule, providing additional course material, assignment date tracking of student homework (Naismith et al., 2004). Furthermore, Leung and Chan (2003) found that mobile learning activity managements can help evaluating the needs of the student in a particular situation so that this may allow teachers to arrange course material delivery accordingly, which resulted improving and enhancing the students' learning processes by using mobile phone learning devices efficiently.

Contrary to the common belief, some researchers think that using mobile phone in school context leads to loss of concentration of students in class. And also it is seen as the way of interrupting students from their student roles while in class and studying, resulting in negative educational outcomes (Campbell, 2005). Similarly, it is thought that using mobile phone in class disturbs the concentration, distructsthe attention, and causes others to use phone in class (Kamran, 2010). Similarly, access to mobile computing technologies may result in the decrease of students' motivation in class and engagement in learning activities with mobile computing devices (Swan

et al., 2005).Many schools forbid mobile phone usage in class, but students are continuing to use some features of mobile phones such as text-messaging, e-mail and other features for different purposes that may not draw the attention of teachers (Ito, 2005). As an example, students perceive text messages and mobile e-mail usage as making their "dead time" more productive between taking notes and teachers' writing on the boards (Oksman&Turtiainen, 2004; Ito, 2005). Keegan (2004) thinks that using SMS feature of mobile phones in terms of teaching, is seen as a well prepared academic reinforcement that helps students to concentrate on the learning content. It also enables students actively involved in the actual learning process of teaching environment. The fact that students already make use of many features of mobile phones even if they are restricted, in school use should be considered seriously in education.

Today almost every student uses mobile phone in their daily life, and thiscan help us to strengthen the learning environment. Some mobile phone communication mechanisms help make mobile learning stronger in teaching environments: These are voice communication enabling connection between learner and the teacher; access to internet browsing providing continuous support for the learning content; text messaging enabling teachers to send reminders and alerts to the students about the learning content (Ting, 2005). On the other hand, in order to be able to use mobile phone in learning, instructional design of mobile learning should support learners to gain an understanding via conversations, use technology to enrich the conversations with their teachers, and support the transitions through the learning contexts (Sharples et al., 2007).

Statistics of Educational Mobile Applications Used in Mobile Phones

The mobile operating systems are offering enormous amount of educational applications to the mobile phone owners. As of July 2014, iTunes application store of Apple Company has offered 120,664 apps in the education category occupying 19.50% of all apps available in the store (Appstore Metrics, 2014). In the same way, as of July 2014, the total number of educational apps that Android Market has offered to the customers is 94,653 (Android Market Categories, 2014). Therefore, mobile phone usage in learning environments should definitely be thought in terms of continuity of learning. And the educational applications of mobile operating systems are going to facilitate the teaching environment in the way of continuous supporting tool in classes.

Success of Mobile Phones in Learning Environments

In order for mobile learning to be successful in classroom environment, mobility of learners, covering formal and informal learning, involving in social process, and suitability with classroom theories, workplace and lifelong learning should be taken into consideration (Sharples et al., 2005). Similarly to the previous idea, while integrating mobile phone into learning, one must take the following issues into account: learning needs, knowledge requirements, mobilization of learning environment, interactivity of learning process, defining the instructional activities, and integrating them into the content of teaching (Chen et al., 2003). Correspondingly, integrating mobile phoneswith the wireless internetcommunication and network, this phenomenon may help teachers and students on:

- reducing the time for tedious work,

- helping students to be actively involved in the learning process,

- enabling teachers to observe learning of the students,

- facilitating collaborative learning in terms of group activities, and

- applying the technology-learning activities seamlessly (Liu et al., 2003).

Mobile Phones in Educational Context

Why people are eager to adopt themselves to the mobile phone usage is that it includes avoiding boredom, staying updated every time, performing multi jobs in the meantime of doing other things, creating a personal space of their own, global interaction, relaxation, being interested in "time-killing activities", and social interaction (Leung & Wei, 2000; Syed &Nurullah, 2012). By taking these into account the usage of mobile phones in educational context should be considered seriously.

In order to understand the capability of mobile phones to achieve this purpose, it should be considered that adoptability of mobile phones in terms of educational environments may be examined not just from the view of its popularity or impact on relationships or societal values, but also from the view of its impact on the individual and its relation to the individual characteristics.

In order to be able to classify the terms that are cited in the literature reviewed here, a chart of topics and their related literature is prepared as in Table 1.

Table 1. Terms Stated in Literature

Widespread Usage and Popularity	Mobile phones have become widespread and popular all over the world	Aoki &Downes, 2003; Turner et al., 2008
Effect of mobile phone	The usage of mobile phone has changed the way people live	Oksman&Turtiainen, 2004; Ling, 2000
Classification of needs	Mobile phones help people to classify their needs when using them	Katz, 1997; Ling and Yttri, 1999
Socialization	Mobile phones have an effect on people's socialization in their environment	Kamran, 2010; Humphreys, 2008; Kim &Mitomo, 2006; Plant, 2000; Syed &Nurullah, 2012; Netsafe, 2005; Ozcan&Kocak, 2003; Humphreys, 2008; Campbell, 2005; Srivastava, 2005
Mobile Behavior	Mobile phones sometimes constitute the users' mobile behavior	Srivastava, 2005; Igarashi et al., 2008; Butt & Philips, 2008; Geser, 2006
Problem Relations	Mobile phones make people more flexible in their life causing delay of their meeting with their friends	Palen et al., 2000; Love &Kewley, 2003; Ling, 2004
Location Independency	Mobile phones enable people to think connected to the outside world independent from location	Ito, 2005; Turner et al., 2008;
Location based usage	It is not paid attention to the usage of mobile phones in case of disturbing people	Haddon, 2000; Palen et al., 2000; Love &Kewley; 2003
Functionality of Everyday Usage	Mobile phones have been developing the way we are in to do the daily jobs	Srivastava, 2005 ; Salehan&Negahban, 2013; Humphreys, 2008
Parental Perspective	Parents are connected to their children easily with the help of mobile phones	Chen & Katz, 2009; Aoki &Downes, 2003; Ling, 2000; Oksman&Turtiainen, 2004

Table1. Continued		
Security	People feel secure when they have mobile phones with them	Aoki &Downes, 2003; Ling, 2000
Mobile Addiction	Mobile phone causes people to carelessly overuse it, leading to addiction	Billieux et al., 2008; Walsh et al., 2010; Hong et al., 2012; Salehan&Negahban, 2013; Igarashi et al., 2008; Kamran, 2010
Mobile Learning	The nature of learning is closely linked to the concept of mobility and may be enlarged with mobile phones leading new form of learning	Naismith et al., 2004; Traxler, 2005; Mellow, 2005; Selwyn, 2003; Kamran, 2010; Pollara& Broussard, 2011; Wright et al., 2011; Naismith &Corlett, 2006; Abas et al., 2009; Leung & Chan, 2003

CHAPTER 3

GOAL OF THE STUDY AND STATEMENT OF THE PROBLEM

As it is discussed in Chapter 2, mobile phones are inevitable part of people's life.

They are used in a wide variety of contexts like school environment, social circles,

trips, etc. Showing the resistance to the development of this technology prevents

people from what they are doing in their lives because it basically simplifies many

things in daily routines.

Taking the geometric development of mobile phone technology into account,

we prepare the goal showing the effect of mobile phone on people's behavior, their

educational use, social environment, and parental relations to prove they should be

exploited in many areas. In this way, it is desired to demonstrate that mobile phones,

that are indispensible part of what we do in our lives and addressing our personality,

may be used in a learning environment as in our social environment. Today mobile

phones change almost everything about our works, studies, relations, and even

preferences of food. If the effect of mobile phone technology is carefully examined,

students maybe provided to use mobile in educational context efficiently, increasing

the learning process.

When studying articles about mobile phones, researchers look at it in terms of

mobile addiction, parental surveillance, security/safety, social relations, and mobile

learning apart from each other. For instance, the effect of mobile phone on parental

relations is studied in one study and it is not handled deeply as in our thesis.

Moreover, to be able to examine the effectiveness of mobile phones in educational

context, they create a medium of software by using mobile phones. They may not make a research about what influences the educational use of mobile phones. Mostly, there is a need to analyze the terms "purposes of mobile phone usage" together with "educational use of mobile phones in school contexts". One of the primary aims of this study is to inspect the mobile behavior of university students and its effect on using mobile phones in their educational studies since if mobile phone usage preferences of studentsare understood well, more useful and effective learning environments can be designed for the future.

In the literature, the theories are stated differently to be able to see the use of mobile phones. For instance, "the mobile addiction" is handled in one study, "social aspects", and "parental issues" in the other. However, in our study we design a model in which the use of mobile phones with purposes like social, parental, and behavior related manners is examined all together and we want to propose that this usage affects the educational expectations of using mobile phones in terms of learning. Therefore, it is aimed to conduct a questionnaire about the preferences of students related to the mobile phone usage. It is highly believed that with the model that is presented in this study, we are going to help the educational authorities, teachers, students, school principles, even people who prepare the educational mobile software.

CHAPTER 4

METHODOLOGY

Overall Design of the Study

Research of this study will be performed by using survey questionnaire to test the

research questions. Our research process is to examine the relationships between the

variables of research questions and their effect on each other. In the study, users are

going to be given questionnaires about the variables "mobile behavior", "social

relations", "parental surveillance", "frequency of using mobile phone application",

"security/safety", "mobile addiction" and "educational expectations and intentions of

using mobile phones in educational context". The relationship between these

variables and how they affect each other are going to be examined.
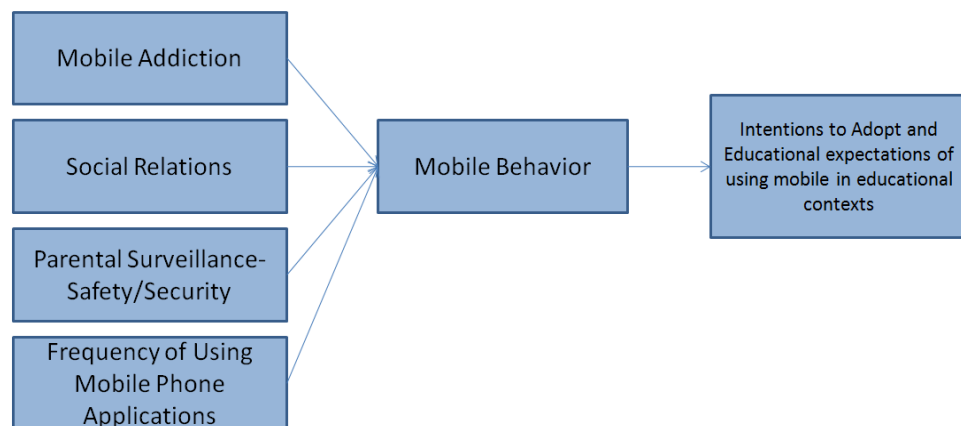
Figure 1. The research model

The research model is shown in Figure 1. In this model, there are six variables that

are expected to be correlated. And also there are sub variables of these variables that

may affect the relationships between main variables. The sub variables are found in mobile addiction, mobile behavior, parental surveilance/safety and security, and educational expectations/intentions to use mobile phone in educational context.

Mobile Addiction: Mobile addiction has sub variables that are "Time Management and Life Dysfunction" and "Compulsion/Persistence". Hong, Chiu and Huang (2012) give importance to "Time Management" in order to be able to examine mobile addiction because they think that mobile addiction is highly integrated to time arrangements, like the problems of overusing it, and issues of people in their environment; whereas Koo (2009) defines the mobile addiction by categorizing them as "Life Dysfunction" and "Compulsion/Persistence". The reason why he categorized mobile addiction into these headings is that he indicates problems of using mobile phone as disturbing the way people live and seeing it as an inevitable part of their life, meaning not being away from mobile phone anytime and anywhere. Many research articles try to mention about these variables deeply and they are accepted by influencers (Igarashi et al., 2008; Kamran, 2010).

Mobile Behavior: Mobilebehaviorhas three sub variables that are "Ease of Life", "Necessity in Modern Times" and "Status/Relaxation". These variables define the behaviors of mobile phone users in their life and this mobile phone usage is expected to shape their characteristics (Aoki &Downes, 2003; Lu et al., 2005).

Parental Surveilance/Safety and Security: This section is categorized into two parts mainly Parental Surveilance and Safety/Security. People who use mobile phones in their life use it in order to inform their parents about where they are (Aoki &Downes, 2003). Moreover, mobile phones help people to feel comfortable and safe in their actions because when they are outside, they easily tell their parents or friends about their location any time (Ozcan&Kocak, 2003).

Educational Expectations/Intentions to Use Mobile Phone in Educational Context:
Mobile phone is expected to be used in the educational context because it is an inevitable part of people's life now. In this study, we tried to measure whether people want to use it in educational context or not .Therefore their expectations are handled according to the study of Kim and friends (2013) and intentions are dealt with from the study of Ismail, Idrus, Ziden, and Rosli (2010).

Primary purpose of this study is to constitute an umbrella model of expectations/intentions of using mobile phones in educational context. And while forming this model, the most effective characteristics of using mobile phones and their relationship between each other and between educational expectations of mobile phones in educational contexts are determined. This study tries to show the effect of mobile behavior on expectations of students in terms of mobile learning.

The study has been applied to the Boğaziçi University students from different departments and faculties.

Brief Information About the Model Items

Mobile Addiction: Starting to become an inevitable part of our lives, mobile phones make people addictive in terms of different usages and for different purposes (Walsh et al., 2010). Especially students are open to the new mobile technologies so that they become addictive users of mobile phones (Hong et al., 2012). They always carry their mobile phones, and check it frequently even when there is no notification.

Parental Surveillance/Safety-Security: When mobile phones started to come into existence, it simplified the people's life in many aspects (Oksman&Turtiainen, 2004). For instance, in the past, students who want to connect with their parents had

to use the landlines and this was causing them to wait near the phone or it was costly. And also, for security reasons mobile phones are very popular now because students inform whoever they want about the time and the place. This makes them feel safe and being informed by their parents in their actions.

Socialization: Especially university students are using many social networks to interact with their friends. They have been taking advice, giving comments to their friends, being informed about their friends anytime and anywhere (Kamran, 2010). With the emergence of mobile phones, university students are constantly online and they connect to each other anytime, making them social in their friendship environment (Ozcan&Kocak, 2003).

Mobile Behavior: Researchers like Pertierra (2005) mention about mobile behavior as a connection of mobile addiction. This is true in some ways but now people have more control over mobile phone usage and they may be able to shape their mobile behavior on their own. The reason why this is stated is that when different usage areas are coming into existence, people have been choosing what they need and know what they do with their mobile phones (Butt & Philips, 2008).

Expectations and Intentions of Using Mobile Phone in Educational Context: Educational use of mobile phones is very popular in these days. However, mobile phones are seen as a destructive tools in class by some school principals (Selwyn, 2003; Campbell, 2005). On the other hand, almost every university student has a mobile phone and they are using their mobile phones even in class (Holmes & Russell; 1999). The aim here is to show the necessity of using mobile phones in educational context (Leung & Chan, 2003) instead of banning it from using it in classes. If the expectations and intentions are known well, mobile learning environments can be designed in order to be used as assistive tools in classes.

Statement of the Hypotheses

The hypotheses of the research are:

1. There is a significant effect of students' mobile behavior on their expectations/intentions of using mobile phone in educational context

    a) There is a significant effect of mobile phones' ease of life feature on students' expectations/ intentions of using mobile phone in educational context

    b) There is a significant effect of mobile phones' necessity in modern times on students' expectations/intentions of using mobile phone in educational context

    c) There is a significant effect of mobile phones' image of status/relaxation on students' expectations/intentions of using mobile phone in educational context

2. There is a significant effect of mobile addiction signs on students' expectations/intentions of using mobile phone in educational context

    a) There is a significant effect of time management/life dysfunction of using mobile phone on students' expectations/intentions of using mobile phone in educational context

    b) There is a significant effect of compulsion/persistence of using mobile phone on students' expectations/intentions of using mobile phone in educational context

3. There is a significant effect of students' use of mobile phone for the purpose of socialization on their expectations/intentions of using mobile phone in educational context

4. There is a significant effect of students' use of mobile phone for the purpose of parental surveillance, safety/security on their expectations/intentions of using mobile phone in educational context

   a) There is a significant effect of students' use of mobile phone for parental surveillance ontheir expectations/intentions of using mobile phone in educational context

   b) There is a significant effect of students' use of mobile phone for security/safety issues and their expectations of using mobile phone in educational context

5. There are actors influencing students' mobile behavior together such as socialization, mobile addiction, parental surveillance, safety/security, frequent use of mobile phone applications.

6. Students' frequency of using their mobile phones' applications affect their mobile behavior.

7. There is a significant effect of students' use of mobile phone for the purpose of parental surveillance, safety/security on their mobile behavior.

8. There is a significant effect of students' use of mobile phone for the purpose of socialization on their mobile behavior.

9. There is a significant effect of students' mobile addiction signs on their mobile behavior.

Definitions and Measurements of Variables

In this study the variables that are correlated to each other are "Mobile Addiction", "Mobile Behavior", "Parental Surveillance/Safety-Security", "Socialization",

"Demographics" and "Expectations/Intentions of Using Mobile Phone in Educational Context".

There many research areas of these variables. To correlate between these variables, questionnaires are used by taking their literature use into consideration in terms of validity and reliability. The items that are selected for the parental safety and security issues are examined in terms of their acceptability. These items include being safe and secure. Scale reliabilities in terms of internal consistency measures were examined by researchers and the Cronbach's coefficient alpha was found 0.77 as compared with the recommended threshold of 0.70 (Aoki &Downes, 2003). Therefore these items whose inner item correlations and reliability checks are made were used in our study to determine the research questions related Parental Surveillance and Security.

Moreover, to be able to look at the mobile addiction, Time Management, Life Dysfunction and Compulsion/Persistence is determined as a framework to study the inner items of it. Time Management is one part of the mobile addiction scale of Hong, Chiu and Huang (2012). And as a whole, alpha coefficient of Mobile Phone Addiction Scale is 0.86. Partly the Time Management coefficient is 0.83contributing the acceptability of this reliability scale. Besides this, Koo (2009) states the Compulsion/Persistence and Life Dysfunction addiction items' Cronbach's alpha coefficient as a whole 0.92 proving the reliability of the items in terms of mobile addiction.

The items in the Social Relation section are determined according to the views of the experts GüniziKartal and YavuzAkpınar. Each expert modified the items apart from each other and made a valuable contribution.

Furthermore, the items of Mobile Behavior section were handled carefully to determine the validity and reliability. This section is divided into three sub categories that are "Ease of Life", "Necessity in Modern Times" and "Status/Relaxation". In terms of Ease of Life, Lu, Yao and Yu (2005) used Cronbach's alpha coefficient to ensure that the variables are internally consistent. Internal consistency of variables range from the 0.80 to 0.93 that are above the acceptable level of reliability check. And also to be able to reduce the non-random errors in terms of ensuring the content validity a pilot study was made to examine the questionnaire for validity, completeness, and readability/understandability for increasing the validity. The second part of Mobile Behavior is "Necessity in Modern Times" consisting of variables Time Management and Positive Image of Person. The overall items in which "Necessity in Modern Times" items are included are found to be 0.81 in terms of coefficient alpha (Aoki &Downes, 2003). The last part of Mobile Behavior section is "Status/Relaxation". Ozcan and Kocak (2003) contributes to the face validity of this section by giving eight experts to check and the comments of these experts are taken into consideration based on inner-item correlations and reliability checks. On the other hand, "Educational expectations and intentions to use mobile phone in class" section has inner items correlated to each other. Kim and friends (2013) have made questionnaires to determine the students' perceptions about using mobile phone in learning and they created questions related to their study. By giving class projects available for mobile learning, students try to use mobile phone in order to do the assignments. Therefore, students collaborate and communicate with each other by using their mobile phones in terms of giving answers to questions and feedbacks to each other. Some of the items are related to how students use mobile phone in educational context and their perceptions. We use those items in our study

to correlate with the other items. And also, the frequently used feature of mobile phone in learning is SMS function. With this function, teachers are reaching the students wherever they are and giving them information about course assignments, materials. By looking at the SMS characteristic of mobile phones in terms of their usability in educational contexts, the intentions of students who are expected to use mobile phone in learning can be guessed (Ismail et al., 2010). Therefore we decided to use the items of the studyof Ismail, Idrus, Ziden and Rosli (2010) by taking the reliability measure of their items as determined 0.93 into consideration. The summary of the literature on questionnaire items is shown in Table 2.

<u>Expert Views</u>

Firstly, the items used in this study are asked to the two experts in terms of finding what is aimed to be measured. They deleted and added some items according to their expertise and performed necessary modifications. Moreover, items used in this questionnaire were too long to apply to the respondents. Therefore we had to shorten the number of items to get healthier responses from the students because when the number of items is too many, they may get bored and give unrelated answers to the questions. By taking the thoughts of the experts into consideration, necessary changes were made about the questionnaire.

Table 2. Sources of Items in the Questionnaire

Scale Items	Number of Items	References
Parental Surveilance/Safety And Security		
Parental Surveilance	3	Aoki and Downes (2003)
Safety/Security	3	Özcan and Kocak (2003)
Mobile Addiction		
Time Management	3	Hong, Chiu and Huang (2012)
Life Dysfunction	2	Koo (2009)
Compulsion/Persistence	4	Koo (2009)
Mobile Behaviour		
Ease of Life	4	Adapted from Lu, Yao, and Yu (2005)
Necessity in modern times	4	Aoki and Downes (2003)
Status/Relaxation	6	Özcan and Kocak (2003)
Social Relations		
Social Relations	7	Adapted from Özcan and Kocak(2003), Aoki and Downes(2003)
Educational expectations and intentions to use mobile phone in class		
Perceptions/Expectation of using Mobile phone in Education	6	Kim, Rueckert, Kim and Seo (2013)
Intentions to use mobile phone in educational context	7	Ismail, Idrus, Ziden, and Rosli (2010)

Instruments And Materials

Instruments that are used to test the research hypothesis statements are mentioned below. We prepare a questionnaire with different sections to be able to look at the items' inner correlations and the relationship between the variables. The sections in the questionnaire are as follows:

a) Demographic information: This section of the questionnaire includes information concerning the participant's age, grade, and department. And also they are required to answer about thefrequency of using their mobile phone applications and the type pf their mobile phones.

b) Educational expectations and intentions to use mobile phone in educational context: This section has 13 items to determine the students' perceptions and educational intentions about mobile learning, with a 5-point Likert scale where 1 is strongly disagree and 5 is strongly agree.

c) Mobile Addiction: Students have become addictive in time by using mobile phone and they see mobile phones as their inevitable part of life. By considering this, 9 items are asked to students to look at the level of addiction scale using a 5-point Likert scale where 1 is strongly disagree and 5 is strongly agree.

d) Mobile Behavior: Students create a new form of identity in their environment as a result of using mobile phone in their daily life extensively. Why, When or Where they use mobile phones, contributes to their self-image. In order to deeply examine this self-image, mobile behavior scale having 14 items, using a 5-point Likert scale where 1 is strongly disagree and 5 is strongly agree, are prepared for the participants.

e) Parental Surveillance and Safety/Security: Students away from their parents in university establish connection with them via their mobile phones. How mobile phones are used to establish parental surveillance and safety/security is examined with a 5-point Likert scale where 1 is strongly disagree and 5 is strongly agree, having 6 items correlating within each other.

f) Social Relations: When students have their mobile phone, they mostly make use of this device for the purpose of socialization leading to the new form mobile behavior. And we wanted to find whether there is a relationship between social use of mobile phone and mobile behavior by preparing the sociality scale of 7 items, using a 5-point Likert scale where 1 is strongly disagree and 5 is strongly agree.

Open Ended Questions: Students are asked to answer open ended questions about their use of mobile phone in terms of learning. Also, the features they like about their

mobile phone related to learning is asked to determine if mobile phone is already

being used for educational activities.

Subjects

The population of this study is Boğaziçi University (Istanbul, Turkey) students from

all departments. Departments are ranging from Computer Education and Educational

Technology to Sociology as it can be seen in Table 3. The sample of the study is 421

students in the university that is a public one and the language of education is

English. The instructional term is 2013-2014 Spring. The reason why Boğaziçi

University is selected is that, the items in questionnaire are prepared in English and

they have good validity and reliability in terms of applying to the students. The

Questionnaire, that is prepared by Google Forms, is kept online for the students for a

duration of 37 days. Firstly it was announced via social media platforms and almost

180 students answered the questions and then an e-mail was sent by the university's

communication office which resulted in 240 more results. And also there is no

missing data in the questionnaire because all the fields of the form were required.

Table 3. The Departments that are Included in this Study

Faculties and Departments	Number of Participants
Faculty of Arts and Sciences	*80*
Department of Chemistry	
Department of History	
Department of Mathematics	
Department of Molecular Biology and Genetics	
Department of Philosophy	
Department of Physics	
Department of Psychology	
Department of Sociology	
Dept. of Translation and Interpretation Studies	
Department of Turkish Language and Literature	
Department of Western Languages and Literatures	
Turkish Language Courses Coordination Unit	
Faculty of Economics and Administrative Sciences	*27*
Department of Economics	
Department of Management	
Department of Political Science and International Relations	
Faculty of Education	*219*
Dept. of Computer Edu. and Educational Technology	
Department of Educational Sciences	
Department of Foreign Language Education	
Department of Primary Education	
Dept. of Sec. School Sciences and Math. Edu	
Faculty of Engineering	*50*
Department of Chemical Engineering	
Department of Civil Engineering	
Department of Computer Engineering	
Dept. of Electrical and Electronics Engineering	
Department of Industrial Engineering	
Department of Mechanical Engineering	
The School of Applied Disciplines	*45*
Department of International Trade	
Department of Management Information Systems	
Department of Tourism Administration	

CHAPTER 5

RESULTS AND FINDINGS

In this part of the study, descriptive statistics of the findings, reliability analysis of the item scales, regression analysis between the variables of the questionnaire (See Appendix A), multiple regressions between the variables, factor analysis, and Structural Equation Modeling (SEM) analysis was performed and results are interpreted. IBM SPSS 20-21 was used to test the hypothesis given in the study. Moreover, the questionnaire is performed via Google Forms so that the answers are collected in the form of Microsoft Excel document. The data from this document is firstly modified for the SPSS infrastructure and then copied to that medium.

Descriptive analysis is done for the following sections:
- Demographic Characteristics
- Frequency of Using Mobile Phone Applications Scale
- Social Relations Scale
- Mobile Addiction Scale
- Parental Surveillance, Safety/Security Scale
- Mobile Behavior Scale
- Educational Intentions and Expectations of Using Mobile Phone in Educational Context Scale

Reliability of the survey items, Social Relations Scale, Mobile Addiction Scale, Parental Surveillance, Safety/Security Scale, Mobile Behavior Scale, Educational Intentions and Expectations of Using Mobile Phone, Frequency of Using Mobile Phone Applications Scalehas been analyzed by using the SPSS reliability analysis Cronbach's Alpha.

Linear Regression analysis has been used to find out the effects of mobile behavior on the intentions and expectations of using mobile phone in educational context. And also the sub variables of Mobile Behavior Scale are analyzed with Linear Regression analysis. Multiple Regression analysis is conducted to discover what affects the mobile behavior of the students. Independent variables are Social Relations, Parental Surveillance Safety and Security, Mobile Addiction and Frequency of using mobile phone applications. Dependent variable is Mobile Behavior.

Group Differences of Participants related to their mobile behavior are going to be stated deeply. And also, Factor Analysis was conducted to find the inner item correlations of the scales to be able to group them into categories. After quantitative analysis, we wanted to find some qualitative answers of the participants. Therefore, answers of the participants to the open ended questions were examined at the last part of this chapter. Finally, SEM analysis was used to test the theoretical model of our study. And the AMOS plug-in of SPSS program was exploited.

Descriptive Findings

Descriptive statistics are to be analyzed in this part about the participants. Table 4 shows that 54.4% of the respondents are female and 45.6% of them are male. Sample consists of the university students from different grade levels. 4.8% of the students are preparation, 18.8% of them are first grade, 15.2% of them are second grade, 20.9% of them are third grade, 25.4% of them are fourth grade and 14.9% of the students are graduate level students. Moreover, 41.3% of the participants are using their mobile phone for 3 to 5 hours in a day. 34.6% of them are using under 3

hours and 23.9% of the participants use their mobile phones for more than 5 hours

daily as seen in Table 4.

Table 4. Demographic Profile of the Respondents

Gender		
	Frequency	Percent
Female	229	54.4
Male	192	45.6
Total	421	100
Year in College(Grade)		
	Frequency	Percent
Preperation	20	4.8
Freshman	79	18.8
Sophomore	64	15.2
Junior	88	20.9
Senior	107	25.4
Master	46	10.9
Doctorate	17	4.0
Total	421	100.0
Average Hours of Using Mobile Phone in a Day		
0-2	146	34.7
3-5	174	41.3
>5	101	24.0
Total	421	100.0
Operating System of Mobile Phone		
IOS	87	20.7
Android	262	62.2
Windows Phone	44	10.4
Not Stated	28	6.7
Total	421	100.0

This part of the questionnaire attempts to measure the tendency of respondents' use of mobile phone for the stated applications (Table 5). There are 9 items in the scale. Respondents were asked to answer the questions on a 5-point frequencyscale(1:Never, 2:Rarely, 3:Occasionally, 4:Frequently, 5:Always)

Participants stated that they use their mobile phones for accessing email or text messaging. As a result, respondents have tendency to be willing to use the mobile applications for different purposes as seen in Table 5.

Table 5. Mean Values of Frequency of Using Mobile Applications

	Mean (Over 5)	Std. Deviation
Accessing email or text messaging	3.81	0.558
Searching for information	3.63	0.775
Social networking	3.53	0.857
Communication about coursework	3.11	0.991
Getting news alerts	3.09	1.054
Reading content (e.g., e-books, articles,course materials)	3.01	1.005
Getting directions	2.98	1.026
Watching educational videos	2.41	1.007
Completing coursework or participating in lectures	2.11	1.019
Valid N (listwise) = 421		

Descriptive Statistics for Expectations and Intentions to use Mobile Phone in Educational Context

This part of the questionnaire attempts to measure the respondents' expectations and intentions to use mobile phone in educational context. Items are asked to the

respondents about their use of mobile phone with the questions in Table 6.There are

13 items in this scale.

Table 6. Mean Values of Educational Expectations and Intentions

	Mean (Over 5)	Std. Deviation
The use of mobile phones can increase flexibility of access to resources (like slides, notes, YouTube videos, course materials etc.).	4.28	0.821
Mobile phones with Internet offer seamless access to digital information in Schools	3.79	0.929
Mobile phones can be used for educational purposes	3.76	1.031
I feel comfortable when using mobile phones so I would want to use it in school studies.	3.62	1.096
Communication with and feedback from teacher by using mobile phone can be easy.	3.62	0.992
The use of the mobile phone can improve communication with teachers and classmates.	3.57	1.122
Using mobile phone, it is easy for me to access course content.	3.54	1.047
I may listen audio and video lectures on my mobile phone	3.47	1.147
With mobile phones I do not need to depend on desktops to reach course informations	3.34	1.251
I can easily remember the term that I checked on my mobile phone	3.17	1.030
The use of the mobile phones can improve the learning (pedagogic) value of the course and courses are more recommendable to others.	3.11	1.043
I would be fine to study any course I take with mobile phone access	3.01	1.178
Course learning objectives can be met by doing coursework on my mobile phone	2.75	1.107
Valid N (listwise) = 421		

Respondents were asked to answer the questions on a 5-point agreement scale (1:Strongly Disagree, 2:Disagree, 3:Moderate, 4:Agree, 5:Strongly Agree)

As a result, respondents' educational expectations and intentions to use mobile phone in educational context is above the average level. However, one item (Course learning objectives can be met by doing coursework on my mobile phone) is below the average level of agreement. Respondents think that objective may not be met by using mobile phone.

Descriptive Statistics for Mobile Addiction

This part of the questionnaire attempts to measure the mobile addiction levels of the respondents. Participants state their ideas about the questions shown in Table 7.

Mobile addiction is measured into two categories. These are Time Management/Life Dysfunction and Compulsion/Persistence. There are 9 items in this scale. Respondents were asked to answer the questions on a 5-point agreement scale (1:Strongly Disagree, 2:Disagree, 3:Moderate, 4:Agree, 5:Strongly Agree).

As a result, respondents' mobile addiction levels are slightly above the average. Respondents are thought to be slightly addictive users of mobile phones. However, some items are below the average. The item (I feel pain in my head, eyes, thumbs and hands because of using my mobile phone) is below the average so that we can conclude respondents may arrange their time of using mobile phone when it comes to their health issues. Moreover, respondents think that they can decrease mobile phone usage time as seen in Table 7.

Table 7. Mean Values of Mobile Addiction Scale Items

	Mean (Over 5)	Std. Deviation
I never turn off my mobile phone throughout the day.	3.95	1.261
I immediately answer calls and reply to text messages.	3.48	1.050
While using mobile phones, I would think ''just a few more minutes...''	3.06	1.114
Using mobile phone at night influences my sleep.	2.96	1.298
I use my mobile phone even when talking or eating with others.	2.91	1.199
I can't concentrate on studying because of sending and receiving text messages, or playing games with my mobile phone.	2.86	1.257
I feel like my phone is ringing and vibrating even if I am not called.	2.64	1.205
I have tried to decrease mobile phone usage time, but have failed.	2.41	1.116
I feel pain in my head, eyes, thumbs and hands because of using my mobile phone.	2.38	1.180
Valid N (listwise) = 421		

Descriptive Statistics for Mobile Behaviour

This part of the questionnaire attempts to measure the respondents' answer according to their perceptions of using mobile phone as if it is the part of their behavior. Mobile Behavior scale has three parts. They are "Ease of Life", "Necessity in Modern Times" and "Status/Relaxation". With this scale it is aimed to measure how important mobile phone is in respondents' lives. There are 14 items in this scale. Respondents were asked to answer the questions on a 5-point agreement scale (1:Strongly Disagree, 2:Disagree, 3:Moderate, 4:Agree, 5:Strongly Agree).

As a result, the mobile behavior scale values of respondents are above the average level (Table 8). Respondents think that mobile phone is the part of their personality. Ease of Life part is strongly above the average level so that we may think mobile phones ease the life of respondents in their actions. In the second part, according to the values, respondents think that mobile phone is the necessity in this modern life meaning that it should be used for different activities. However, in the last part, the similar means of the respondents are a little bit low so that participants disagree with the items by saying mobile phone is not the symbol of the status of relaxation.

Table 8. Mean Values of Mobile Behavior Scale

	Mean (Over 5)	Std. Deviation
Overall, I find Mobile phones easy to use.	4.13	0.754
My interaction with mobile phones is clear and understandable.	3.87	0.768
I find it easy to get mobile phones to do what I want it to do.	3.83	0.881
Interacting with mobile phones does not require a lot of my mental effort.	3.59	0.938
A mobile phone allows me to do two things at once	3.46	1.031
We need a mobile phone to be successful in the world today	3.26	1.168
I often use my mobile phone to schedule or reschedule an appointment at the last minute	3.26	1.103
I use my mobile phone to make use of time that otherwise would be wasted	3.13	1.072
I call people when I am bored	2.91	1.207
It matches my lifestyle (Relaxation, Enjoyment etc).	2.84	1.193
Having the most recent technology model makes me happy.	2.77	1.307
Everyone has one, why shouldn't I?	2.44	1.191
I look old fashioned without it.	2.11	1.083
I like showing features of my phone to people around me.	2.10	1.107
Valid N (listwise) = 421		

This part of the questionnaire tries to measure the respondents' answers related to their safety perceptions and parental surveillance. Mobile phone is used for the security issues in terms of reaching parents to inform them according to the items of this scale. There are 6 items in this scale. Respondents were asked to answer the questions on a 5-point agreement scale (1:Strongly Disagree, 2:Disagree, 3:Moderate, 4:Agree, 5:Strongly Agree).

As a result, since all the values of the items are above the moderate level, it can be concluded that respondents use mobile phone for the purpose of security/safety issues and for the parental surveillance at least by giving their agreement (Table 9).

Table 9. Mean Values of Parental Surveillance, Safety/Security Scale

	Mean (Over 5)	Std. Deviation
I use it for emergencies anywhere and anytime	3.97	0.943
My parents wanted me to have a mobile phone so I can get in touch with them if necessary	3.79	1.103
I can be located when I am needed.	3.75	0.993
I use my mobile phone to keep my parent from worrying about me	3.72	1.056
Having a mobile phone makes me feel safe while I am walking alone at different times	3.48	1.168
It provides me with a feeling of security.	3.43	1.129
Valid N (listwise) = 421		

<u>Descriptive Statistics for Social Relations</u>

This part of the questionnaire tries to figure out how respondents use mobile phone for social relations. This scale attempts to measure respondents use of mobile phone

for keeping and increasing social bonds with their friendship environment. There are 7 items in this scale. Respondents were asked to answer the questions on a 5-point agreement scale (1:Strongly Disagree, 2:Disagree, 3:Moderate, 4:Agree, 5:Strongly Agree).

As a result, we can understand that participants' thoughts about the use of mobile for social relations are positive (Table 10). Respondents think that they can exploit mobile phone for helping their friends, trying to contact with them any time. However, respondents deny that mobile phone helps them to contact anyone even if they are shy to contact face to face.

Table 10. Mean Values of Social Relations Scale Items

	Mean (Over5)	Std. Deviation
Mobile phone helps me to interact with my social environment in many ways with applications such as WhatsApp, Facebook, SMS, Twitter.	4.05	0.996
By using mobile phone I am giving advice or emotional support to my friends who are far away from me	3.88	1.009
I may always be informed about my social environment when using mobile phone	3.52	1.018
I may use many features (Camera, Instagram, Snapchat, Facebook etc.) of mobile phones to share my personal things in my social environment	3.43	1.298
I may start a new social relations easily via mobile phone	3.04	1.130
Mobile phone helps me to contact anyone even if I am shy to contact face to face	2.92	1.214
I feel valued by my friend when connecting with them by using mobile phone	2.83	1.089
Valid N (listwise= 421)		

Reliability/Internal Consistency of the Survey Items and Scales

Reliability of the survey items including 5 scales have been checked by

Cronbach'sAlpha(Table 11).

Table 11. ReliabilityValues of Scales

Variables	*Number of Items*	*Cronbach's Alpha*
Frequency of Using Mobile Applications (DG)	9	0.855
ExpectationsandIntentionstoUse Mobile Phone in EducationalContext(EE)	13	0.895
Mobile Addiction (MA)	9	0.804
Mobile Behavior (MB)	14	0.775
ParentalSurveillance, Safety/Security(PR)	6	0.821
SocialRelations(SR)	7	0.816

Reliability Analysis for Frequency of Using Mobile Phone Applications Scale

Cronbach's Alpha value of Frequency of Using Mobile Phone Applications Scale is

0.855 which is greater than 0.7 as seen in Table 11. This result shows that items in

this scale are consistent with each other for measuring the frequency of using mobile

applications. See Appendix B.1 for detailed information and SPSS results.

Reliability Analysis for Expectations and Intentions to Use Mobile Phone in

Educational Context Scale

Cronbach's Alpha value of Expectations and Intentions to Use Mobile Phone in

Educational Context Scale is 0.895 that is greater than 0.7 as seen in Table 11. This

result shows that items in this scale are consistent with each other for measuring the

expectations and intentions to use mobile phone in educational context. See

Appendix B.2 for detailed information and SPSS results.

Reliability Analysis for Mobile Addiction Scale

Cronbach's Alpha value of Mobile Addiction Scale is 0.804 that is greater than 0.7

as seen in Table 11. This result shows that items in this scale are consistent with each

other for measuring mobile addiction.See Appendix B.3 for detailed information and

SPSS results.

Reliability Analysis for Mobile Behavior Scale

Cronbach's Alpha value of Mobile Behavior Scale is 0.775 that is greater than 0.7 as

seen in Table 11. This result shows that items in this scale are consistent with each

other for measuring the Mobile Behavior. See Appendix B.4 for detailed information

and SPSS results.

Reliability Analysis for Parental Surveillance, Safety/Security Scale

Cronbach's Alpha value of Parental Surveillance, Safety/Security Scale is 0.821 that

is greater than 0.7 seen in Table 11. This result shows that items in this scale are

consistent with each other for measuring the parental surveillance, safety/security

scale. See Appendix B.5 for detailed information and SPSS results.

Cronbach's Alpha value of Social Relations Scale is 0.816 that is greater than 0.7 seen in Table 11. This result shows that items in this scale are consistent with each other for measuring the Mobile Behavior. See Appendix B.6 for detailed information and SPSS results.

Results of Hypotheses Testing
Regression Analyses

Regression analysis is conducted to obtain the relationship between the variables that are proposed in this study as dependent and independent variables (Seein Appendix C).

Hypothesis1:Thereis a significant effect of students' mobile behavior (MBO) on their expectations/intentions of using mobile phone in educational context. In order to test this hypothesis, linear regression analysis was conducted.

Table12. Model Summary for Hypothesis 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.497[a]	0.247	0.246	0.61566
a. Predictors: (Constant), MBO				

Model summary in Table 12 shows that R value is 0.497 and R square value is 0.247 which means regression result is satisfying but it is required to check the significance levels.

Table 13. ANOVA for Hypothesis 1

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.196	1	52.196	137.707	.000[b]
	Residual	158.818	419	0.379		
	Total	211.015	420			
a. Dependent Variable: EEO(Educational Expectation/Intention)						
b. Predictors: (Constant), MBO(Mobile Behavior)						

Anova result shows that significance level of predictor Mobile Behavior is under 0.05 so it is significant (Table 13). This means that, there is a strong positive relationship between mobile behavior of the participants and their educational expectations and intentions to use mobile phone in educational context.

Table 14. Coefficients for Hypothesis 1

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.427	.176		8.093	.000
	MBO	.653	.056	.497	11.735	.000
a. Dependent Variable: EEO						

From the coefficient table(Table 14), coefficient of mobile behavior of students is significant so it can be used in an equation as a predictor of educational expectations and intentions. Thus Hypothesis 1 is supported. Equation can be written as:Educational Expectation/Intention=a+0.497 * MBO (Table 14)

Hypothesis 1a: There is a significant effect of mobile phones' ease of life(MBEOL) feature on students' expectations/ intentions of using mobile phone in

educational context. In order to test this hypothesis, linear regression analysis was conducted.

Table15. Model Summary for Hypothesis 1a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.330[a]	0.109	0.107	0.66979
a. Predictors: (Constant), MBEOL				

Model summary in Table 15 shows that R value is 0.330 and R square value is 0.109 which means regression result is satisfying but it is required to check the significance levels.

Table 16. ANOVA for Hypothesis 1a

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.043	1	23.043	51.365	.000[b]
	Residual	187.971	419	.449		
	Total	211.015	420			
a. Dependent Variable: EEO						
b. Predictors: (Constant), MBEOL						

Anova result in Table 16 shows that significance level of predictor Mobile Behavior Ease of Life(MBEOL)is under 0.05, so it is significant. This means that, there is a strong positive relationship between mobile behavior ease of life feature of the participants and their educational expectations and intentions to use mobile phone in educational context.

Table 17. Coefficients for Hypothesis 1a

Model		B	Std. Error	Beta	t	Sig.
		Unstandardized Coefficients		Standardized Coefficients		
1	(Constant)	1.953	.214		9.147	.000
	MBEOL	.392	.055	.330	7.167	.000
a. Dependent Variable: EEO						

From the coefficient table(Table 17), coefficient of mobile behavior ease of life feature is significant so it can be used in an equation as a predictor of educational expectations and intentions. Thus Hypothesis 1a is supported. Equation can be written as:

Educational Expectation/Intention=a+0.330 * MBEOL(Table17)

Hypothesis 1b: There is a significant effect of mobile phones' necessity in modern times on students' expectations/intentions of using mobile phone in educational context. In order to test this hypothesis, linear regression analysis was conducted.

Table18. Model Summary for Hypothesis 1b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.488[a]	.238	.237	.61930
a. Predictors: (Constant), MBNMT				

Model summary in Table 18 shows that R value is 0.488 and R square value is 0.238 which means regression result is satisfying but it is require checking significance levels.

Table 19. ANOVA for Hypothesis 1b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	50.317	1	50.317	131.195	.000[b]
Residual	160.698	419	.384		
Total	211.015	420			
a. Dependent Variable: EEO					
b. Predictors: (Constant), MBNMT					

Anova result in Table 19 shows that significance level of predictor Mobile Behavior Necessity in Modern Times(MBNMT) is under 0.05, so it is significant. This means that, there is a strong positive relationship between mobile behavior necessity in modern times feature of the participants and their educational expectations and intentions to use mobile phone in educational context.

Table 20. Coefficients for Hypothesis 1b

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	1.980	.133		14.871	.000
MBNMT	.453	.040	.488	11.454	.000
a. Dependent Variable: EEO					

From the coefficient table(Table 20), coefficient of mobile behavior necessity in modern times(MBNMT) feature is significant so it can be used in an equation as a predictor of educational expectations and intentions. Thus Hypothesis 1b is supported. Equation can be written as:

Educational Expectation/Intention=a+0.488 * MBNMT(Table 20)

Hypothesis 1c: There is a significant effect of mobile phones' image of status/relaxation (MBISR) on students' expectations/intentions of using mobile phone in educational context. In order to test this hypothesis, linear regression analysis was conducted.

Table 21. Model Summary for Hypothesis 1c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.303[a]	.092	.089	.67639
a. Predictors: (Constant), MBISR				

Model summary in Table 21 shows that R value is 0.303 and R square value is 0.092 which means regression result is satisfying but it is required to check the significance levels.

Table 22. ANOVA for Hypothesis 1c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.321	1	19.321	42.230	.000[b]
	Residual	191.694	419	.458		
	Total	211.015	420			
a. Dependent Variable: EEO						
b. Predictors: (Constant), MBISR						

Anova result in Table 22 shows that significance level of predictor Mobile Behavior Image of Status/Relaxation(MBISR) is under 0.05, so it is significant. This means that, there is a strong positive relationship between mobile behavior image of status/relaxation feature of the participants and their educational expectations and intentions to use mobile phone in educational context.

Table 23. Coefficients for Hypothesis 1c

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.800	.107		26.049	.000
	MBISR	.263	.040	.303	6.498	.000
a. Dependent Variable: EEO						

From the coefficient table(Table 23), coefficient of mobile behavior image of status/relaxation(MBISR) feature is significant so it can be used in an equation as a predictor of educational expectations and intentions. Thus Hypothesis 1c is supported. Equation can be written as:

Educational Expectation/Intention=a+0.303 *MBISR (Table 23)

Hypothesis 2: There is a significant effect of mobile addiction (MAO)on students' expectations/intentions of using mobile phone in educational context. In order to test this hypothesis, linear regression analysis was conducted.

Table 24. Model Summary for Hypothesis 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.278[a]	0.077	0.075	0.68168
a. Predictors: (Constant), MAO				

Model summary in Table 24 shows that R value is 0.278 and R square value is 0.075 which means regression result is slightly satisfying but it is required to check the significance levels.

Table 25. ANOVA for Hypothesis 2

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.309	1	16.309	35.096	.000[b]
	Residual	194.706	419	0.465		
	Total	211.015	420			
a. Dependent Variable: EEO						
b. Predictors: (Constant), MAO						

Anova result in Table 25 shows that significance level of predictor Mobile

Addiction(MAO) is under 0.05, so it is significant. This means that, there is a strong

positive relationship between mobile addiction of the participants and their

educational expectations and intentions to use mobile phone in educational context.

Table 26. Coefficients for Hypothesis 2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.679	0.137		19.587	0.000
	MAO	0.266	0.045	0.278	5.924	0.000
a. Dependent Variable: EEO						

From the coefficient table(Table 26), coefficient of mobile addiction(MAO) feature

is significant so it can be used in an equation as a predictor of educational

expectations and intentions. Thus Hypothesis 2 is supported. Equation can be written

as:

Educational Expectation/Intention=a+0.278 *MAO (Table26)

Hypothesis 2a: There is a significant effect of time management/life

dysfunction (MATMLD) of using mobile phone on students'

expectations/intentions of using mobile phone in educational context. In order to test

this hypothesis, linear regression analysis was conducted.

Table 27. Model Summary for Hypothesis 2a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.226[a]	0.051	0.049	0.69137
a. Predictors: (Constant), MATMLD				

Model summary in Table 27 shows that R value is 0.226 and R square value is 0.051

which means regression result is slightly satisfying but it is required to check the

significance levels.

Table 28. ANOVA for Hypothesis 2a

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	10.737	1	10.737	22.463	.000[b]
	Residual	200.278	419	0.478		
1	Total	211.015	420			
a. Dependent Variable: EEO						
b. Predictors: (Constant), MATMLD						

Anova result in Table 28 shows that significance level of predictor Mobile Addiction

of Time Management and Life Dysfunction (MATMLD) is under 0.05, so it is

significant. This means that, there is a strong positive relationship between mobile

addiction of Time Management and Life Dysfunction of the participants and their

educational expectations and intentions to use mobile phone in educational context.

Table 29. Coefficients for Hypothesis 2a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.963	0.111		26.645	0.000
	MATMLD	0.184	0.039	0.226	4.739	0.000
a. Dependent Variable: EEO						

From the coefficient table (Table 29), coefficient of mobile addiction time management and life dysfunction(MATMLD) feature is significant so it can be used in an equation as a predictor of educational expectations and intentions. Thus Hypothesis 2a is supported. Equation can be written as:

Educational Expectation/Intention=a+0.226 * MATMLD (Table 29)

Hypothesis 2b: There is a significant effect of compulsion/persistence (MACP) of using mobile phone on students' expectations/intentions of using mobile phone in educational context. In order to test this hypothesis, linear regression analysis was conducted.

Table 30. Model Summary for Hypothesis 2b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.256[a]	0.066	0.063	0.68602
a. Predictors: (Constant), MACP				

Model summary in Table 30 shows that R value is 0.256 and R square value is 0.066 which means regression result is slightly satisfying but it is required to check the significance levels.

Table 31. ANOVA for Hypothesis 2b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.822	1	13.822	29.368	.000[b]
	Residual	197.193	419	0.471		
	Total	211.015	420			
a. Dependent Variable: EEO						
b. Predictors: (Constant), MACP						

Anova result in Table 31 shows that significance level of predictor Mobile Addiction of Compulsion/Persistence (MACP) is under 0.05, so it is significant. This means that, there is a strong positive relationship between mobile addiction of compulsion/persistence feature of the participants and their educational expectations and intentions to use mobile phone in educational context.

Table 32. Coefficients for Hypothesis 2b

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.776	0.131		21.128	0.000
	MACP	0.212	0.039	0.256	5.419	0.000
a. Dependent Variable: EEO						

From the coefficient table(Table 32), coefficient of mobile addiction compulsion/persistence(MACP) feature is significant so it can be used in an equation as a predictor of educational expectations and intentions. Thus Hypothesis 2b is supported. Equation can be written as:

Educational Expectation/Intention=a+0.256 *MACP(Table 32)

Hypothesis 3: There is a significant effect of students' use of mobile phone for the purpose of socialization (SRO) on their expectations/intentions of using mobile phone in educational context. In order to test this hypothesis, linear regression analysis was conducted.

Table 33. Model Summary for Hypothesis 3

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.477[a]	0.227	0.226	0.62378
a. Predictors: (Constant), SRO				

Model summary in Table 33 shows that R value is 0.477 and R square value is 0.227 which means regression result is slightly satisfying but it is required to check the significance levels.

Table 34. ANOVA for Hypothesis 3

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	47.98	1	47.98	123.307	.000[b]
	Residual	163.035	419	0.389		
1	Total	211.015	420			
a. Dependent Variable: EEO						
b. Predictors: (Constant), SRO						

Anova result in Table 34 shows that significance level of predictor socialization(SRO) is under 0.05, so it is significant. This means that, there is a strong positive relationship between social relationsof the participants and their educational expectations and intentions to use mobile phone in educational context.

Table 35. Coefficients for Hypothesis 3

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.974	0.138		14.344	0.000
	SRO	0.441	0.04	0.477	11.104	0.000
a. Dependent Variable: EEO						

From the coefficient table(Table 35), coefficient of socialization(SRO) feature is significant so it can be used in an equation as a predictor of educational expectations and intentions. Thus Hypothesis 3 is supported. Equation can be written as:

Educational Expectation/Intention=a+0.477* SRO(Table 35)

Hypothesis 4: There is a significant effect of students' use of mobile phone for the purpose of parental surveillance, safety/security (PRO) on their expectations/intentions of using mobile phone in educational context. In order to test this hypothesis, linear regression analysis was conducted.

Table 36. Model Summary for Hypothesis 4

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.317[a]	0.1	0.098	0.67306
a. Predictors: (Constant), PRO				

Model summary in Table 36 shows that R value is 0.317 and R square value is 0.1 which means regression result is slightly satisfying but it is required to check the significance levels.

Table 37. ANOVA for Hypothesis 4

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.203	1	21.203	46.804	.000[b]
	Residual	189.812	419	0.453		
	Total	211.015	420			
a. Dependent Variable: EEO						
b. Predictors: (Constant), PRO						

Anova result in Table 37 shows that significance level of predictor Parental Surveilance, Safety/Security(PRO) is under 0.05, so it is significant. This means that, there is a strong positive relationship between parental surveilance, safety/security perceptionsof the participants and their educational expectations and intentions to use mobile phone in educational context.

Table 38. Coefficients for Hypothesis 4

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.396	0.16		15.009	0.000
	PRO	0.29	0.042	0.317	6.841	0.000
a. Dependent Variable: EEO						

From the coefficient table(Table 38), parental surveilance, safety/security perception(PRO) is significant so it can be used in an equation as a predictor of educational expectations and intentions. Thus Hypothesis 4 is supported. Equation can be written as:

Educational Expectation/Intention=a+0.477 * PRO(Table38)

Hypothesis 4a: There is a significant effect of students' use of mobile phone for parental surveillance (PRSO) ontheir expectations/intentions of using mobile phone in educational context. In order to test this hypothesis, linear regression analysis was conducted.

Table 39. Model Summary for Hypothesis 4a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.254[a]	0.064	0.062	0.6864
a. Predictors: (Constant), PRSO				

Model summary in Table 39 shows that R value is 0.254 and R square value is 0.064 which means regression result is a little satisfying but it is required to check the significance levels.

Table 40. ANOVA for Hypothesis 4a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.606	1	13.606	28.879	.000[b]
	Residual	197.408	419	0.471		
	Total	211.015	420			
a. Dependent Variable: EEO						
b. Predictors: (Constant), PRSO						

Anova result in Table 40 shows that significance level of predictor Parental Surveilance(PRSO) is under 0.05, so it is significant. This means that, there is a strong positive relationship between parental surveilance perceptions of the participants and their educational expectations and intentions to use mobile phone in educational context.

Table 41. Coefficients for Hypothesis 4a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.715	0.144		18.918	0.000
	PRSO	0.205	0.038	0.254	5.374	0.000
a. Dependent Variable: EEO						

From the coefficient table(Table 41), parental surveilance (PRSO) is significant so it can be used in an equation as a predictor of educational expectations and intentions. Thus Hypothesis 4a is supported. Equation can be written as:

Educational Expectation/Intention=a+0.254 * PRSO(Table41)

Hypothesis 4b: There is a significant effect of students' use of mobile phone for security/safety issues (PRSSO) and their expectations of using mobile phone in educational context. In order to test this hypothesis, linear regression analysis was conducted.

Table 42. Model Summary for Hypothesis 4b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.327[a]	0.107	0.105	0.67062
a. Predictors: (Constant), PRSSO				

Model summary in Table 42 shows that R value is 0.327 and R square value is 0.107 which means regression result is a little satisfying but it is required to check the significance levels.

Table 43. ANOVA for Hypothesis 4b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.577	1	22.577	50.2	.000[b]
	Residual	188.438	419	0.45		
	Total	211.015	420			
a. Dependent Variable: EEO						
b. Predictors: (Constant), PRSS0						

Anova result in Table 43 shows that significance level of predictor Safety andSecurity(PRSSO) is under 0.05, so it is significant. This means that, there is a strong positive relationship between safety security perceptions of the participants and their educational expectations and intentions to use mobile phone in educational context.

Table 44. Coefficients for Hypothesis 4b

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.417	0.152		15.952	0.000
	PRSS0	0.282	0.04	0.327	7.085	0.000
a. Dependent Variable: EEO						

From the coefficient table(Table 44), safety security (PRSSO) is significant so it can be used in an equation as a predictor of educational expectations and intentions. Thus Hypothesis 4b is supported. Equation can be written as:

Educational Expectation/Intention=a+0.327* PRSSO(Table 44)

Hypothesis 5: There are actors influencing students' mobile behavior together such as socialization, mobile addiction, parental surveillance, safety/security,

frequent use of mobile phone applications. In order to test this hypothesis, multiple

regression analysis was conducted.

Table 45. Model Summary for Hypothesis 5

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.634[a]	0.402	0.396	0.41948
a. Predictors: (Constant), SRO, PRO, MAO, DGO				

Model summary in Table 45 shows that R value is 0.634 and R square value is 0.402

which means multiple regression result is highly satisfying but it is required to check

the significance levels.

Table 46. ANOVA for Hypothesis 5

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.194	4	12.298	69.891	.000[b]
	Residual	73.202	416	0.176		
	Total	122.396	420			
a. Dependent Variable: MBO						
b. Predictors: (Constant), SRO, PRO, MAO, DGO						

Anova result in Table 46 shows that significance level of predictors SRO, PRO,

MAO, and DGO is under 0.05, so it is significant. This means that, there is a strong

positive relationship between SRO, PRO, MAO, and DGO perceptions of the

participants and their mobile behavior.

Table 47. Multiple Regression Results for Hypothesis 5(Coefficient Statistics)

Predictor Variable	Standardized Coefficient(Beta)	t-value(p-level)
Frequent Use of mobile phone Applications(DGO)	0.201	4.560(0.000)
Mobile Addiction(MAO)	0.101	2.297(0.022)
Parental Surveilance, Safety/Security(PRO)	0.221	5.097(0.000)
Social Relations(SRO)	0.312	6.130(0.000)
F(p-values)=69.891(0.000) R Square(Adjusted R Square)=0.402(0.396)		

Table 47 shows that standardised coefficient of predictor variables are significant (<0.05) so it can be said that there is a predictor variable that explains the mobile behavior as %40. Equation is as follows:

Mobile Behavior=a+ 0.201 * DGO+0.101 * MAO+0.221 * PRO+0.312 * SRO (Table 47)

Hypothesis 6: Students' frequency of usingtheir mobile phones' applications (DGO) affect their mobile behavior. In order to test this hypothesis, linear regression analysis was conducted.

Table 48. Model Summary for Hypothesis 6

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.440[a]	0.193	0.191	0.48546
a. Predictors: (Constant), DGO				

Model summary in Table 48 shows that R value is 0.440 and R square value is 0.193 which means linear regression result is satisfying but it is required to check the significance levels.

Table 49. ANOVA for Hypothesis 6

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.648	1	23.648	100.344	.000[b]
	Residual	98.747	419	0.236		
	Total	122.396	420			
a. Dependent Variable: MBO						
b. Predictors: (Constant), DGO						

Anova result in Table 49 shows that significance level of predictor frequent use of mobile phone's application(DGO)is under 0.05, so it is significant. This means that, there is a strong positive relationship between frequent use of mobile phone's application and participants' mobile behavior.

Table 50. Coefficients for Hypothesis 6

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.974	0.117		16.881	0.000
	DGO	0.373	0.037	0.44	10.017	0.000
a. Dependent Variable: MBO						

From the coefficient table (Table 50), frequent use mobile phone's application(DGO) is significant so it can be used in an equation as a predictor of mobile behavior. Thus Hypothesis 6is supported. Equation can be written as:

Mobile Behavior=a+0.44 * DGO(Table 50)

Hypothesis7: There is a significant effect of students' use of mobile phone for the purpose of parental surveillance, safety/security on their mobile behavior. In order to test this hypothesis, linear regression analysis was conducted.

Table 51. Model Summary for Hypothesis 7

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.444[a]	0.197	0.195	0.48429
a. Predictors: (Constant), PRO				

Model summary in Table 51 shows that R value is 0.444 and R square value is 0.197 which means linear regression result is satisfying but it is required to check the significance levels.

Anova result in Table 52 shows that significance level of predictor Parental Surveilance and Safety/Security (PRO) is under 0.05, so it is significant. This means that, there is a strong positive relationship between parental surveilance and safety/security and participants' mobile behavior.

Table 52. ANOVA for Hypothesis 7

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	24.125	1	24.125	102.862	.000[b]
	Residual	98.271	419	0.235		
1	Total	122.396	420			
a. Dependent Variable: MBO						
b. Predictors: (Constant), PRO						

From the coefficient table (Table 53) Parental Surveillance and Safety/Security (PRO) is significant so it can be used in an equation as a predictor of mobile behavior. Thus Hypothesis 7 is supported. Equation can be written as below:

Mobile Behavior = a + 0.444 * PRO (Table 53)

Table 53. Coefficients for Hypothesis 7

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.981	0.115		17.248	0.000
	PRO	0.309	0.03	0.444	10.142	0.000
a. Dependent Variable: MBO						

Hypothesis 8: There is a significant effect of students' use of mobile phone for the purpose of socialization on their mobile behavior. In order to test this hypothesis, linear regression analysis was conducted.

Table 54. Model Summary for Hypothesis8

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.565[a]	0.32	0.318	0.44584
a. Predictors: (Constant), SRO				

Model summary in Table 54 shows that R value is 0.565 and R square value is 0.32 which means linear regression result is satisfying but it is required to check the significance levels.

Table 55. ANOVA for Hypothesis 8

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.109	1	39.109	196.747	.000[b]
	Residual	83.287	419	0.199		
	Total	122.396	420			
a. Dependent Variable: MBO						
b. Predictors: (Constant), SRO						

Anova result in Table 55 shows that significance level of predictor Social

Relations(SRO) is under 0.05, so it is significant. This means that, there is a strong

positive relationship between social relations(socialization) and participants' mobile

behavior.

Table 56. Coefficients for Hypothesis 8

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.776	0.098		18.049	0.000
	SRO	0.398	0.028	0.565	14.027	0.000
a. Dependent Variable: MBO						

From the coefficient table (Table 56) Social Relations (SRO) is significant so it can

be used in an equation as a predictor of mobile behavior. Thus Hypothesis 8 is

supported. Equation can be written as:

Mobile Behavior = a + 0.565 * SRO (Table 56)

Hypothesis 9: There is a significant effect of students' mobile addiction signs on

their mobile behavior. In order to test this hypothesis, linear regression analysis was

conducted.

Table 57. Model Summary for Hypothesis 9

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.387[a]	0.15	0.148	0.4984
a. Predictors: (Constant), MAO				

Model summary in Table 57 shows that R value is 0.387 and R square value is 0.15 which means linear regression result is satisfying but it is required to check the significance levels.

Table 58. ANOVA for Hypothesis 9

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.316	1	18.316	73.738	.000[b]
	Residual	104.079	419	0.248		
	Total	122.396	420			
a. Dependent Variable: MBO						
b. Predictors: (Constant), MAO						

Anova result in Table 58 shows that significance level of predictor Mobile Addiction(MAO) is under 0.05, so it is significant. This means that, there is a strong positive relationship between mobile addiction and participants' mobile behavior.

Table 59. Coefficients for Hypothesis 9

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.289	0.1		22.884	0.00
	MAO	0.281	0.033	0.387	8.587	0.00
a. Dependent Variable: MBO						

From the coefficient table (Table 59) Mobile Addiction(MAO) is significant so it can be used in an equation as a predictor of mobile behavior. Thus Hypothesis 9 is supported. Equation can be written as:

Mobile Behavior = a + 0.387 * MAO (Table 59)

T-test for Gender Difference on Mobile Behavior

When taking the T-test results of gender into account, the average score of
participants on mobile behavior scale, is very close to each other(Table 60).

Table 60. GroupStatistics of Gender

	Gender	N	Mean	Std. Deviation
MobileBehavior Average	Female	229	3.1599	0.56564
	Male	192	3.0759	0.50501

When examining whether there is a difference between mobile behavior perceptions
of the students related to gender, there is no difference coming out like Significance
is not smaller than the accepted value of 0.05(Table 61).

Table 61. IndependentSamplesT-TestforGenderDifference

		Levene's Test forEquality of Variances		t-test forEquality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
MobileBehavior Average	Equalvariances assumed	2.636	0.105	1.593	419	0.112
	Equalvariances not assumed			1.609	417.32	0.108

AnovaFor"Year in College/Grade"Difference on Mobile Behavior

When we try to look at the group difference of Year in College variable , on mobile
behavior, We have six groups and according to their Anova result, there is no

significant difference between these groups on mobile behavior because Sig. value is greater than the accepted value of 0.05(Table 62).

Table 62.ANOVAResultForYear in CollegeGroupDifference

	df	MeanSquare	F	Sig.
BetweenGroups	6	0.169	0.577	0.749
WithinGroups	414	0.293		
Total	420			

ANOVAfortheBrand Operating Systemon Mobile Behavior

We wanted to look at the mobile behavior perceptions of the participants according to their mobile phone operating system. In this way we have a chance to examine the relationship between the model of the phone and their brand operating system. According to the Anova result in Table 63, there is no significant difference between the mobile behavior perceptions of the participants who us edifferent kind of mobile phone and operating system.

Table 63. ANOVAResultfor Operating SystemsGroupDifference

	df	MeanSquare	F	Sig.
BetweenGroups	3	0.301	1.033	0.378
WithinGroups	417	0.291		
Total	420			

<u>Factor Analysis(See in Appendix D)</u>

<u>Factor Analysis of Frequency of Using Mobile Phone Applications(DG)</u>

According to the factor analysis that is made for the frequency of using mobile phone applications, 2 meaningful factors come into existence.

Table 64. Factor Analysis of DG

	Component	
	1	2
DG1	0.772	
DG4	0.763	
DG5	0.762	
DG3	0.642	
DG6	0.585	
DG2	0.56	0.52
DG8		0.865
DG7		0.807
DG9		0.577

From Table 64 it can be seen that the items 2, 7, 8, and 9 are related to the educational environment. And they are correlated in factor analysis. In the first factor group participants mainly use mobile phone for social reasons and information searching.

<u>Factor Analysis of Mobile Addiction(MA)</u>

When preparing this mobile addiction scale items we categorized them into two different sections. First section is Time Management/Life Dysfunction and covering

the first 5 items. Second part is Compulsion/Persistence incorporating items 6,7,8, and 9.

Table 65. Factor Analysis of MA

	Component	
	1	2
MA3	0.756	
MA4	0.738	
MA2	0.72	
MA5	0.683	0.328
MA1	0.599	0.346
MA7		0.752
MA6		0.732
MA8	0.351	0.725
MA9	0.341	0.545

According to the Table 65 factor analysis is consistent with our grouping of items according to where they belong to. 2 groupsare created and they are Time Management/Life Dysfunction and Compulsion/Persistence.

Factor Analysis of Parental Surveillance, Safety/Security(PR)

When doing factor analysis there is just one factor coming into existence. However in the first place, we had thought that there are two parts. And they are Parental Surveillance and Safety/Security. Factor analysis takes these as just one variable to measure. We think the reason for this is that items in these two parts are resembling to each other in terms of security and safety.

<u>Factor Analysis of Social Relations(SR)</u>

When doing factor analysis there is just one factor coming into existence. Consistently, in the first place, we had thought that there is one part only and measuring the socialization perceptions of the participants. Mainly, participants keep in contact with their friends in this section of items.

<u>Factor Analysis of Mobile Behaviour(MB)</u>

When preparing the Mobile Behavior scale items, we have divided them into three categories. These categories are "Ease of Life" covering first 4 items, "Necessity in Modern Times" including items 5,6,7,8, and "Status/Relaxation" covering last 6 items.

According to Table 66, factor analysis gives us three groups. And these groups are consistent with our first definitions. In the first factor, Status/Relaxation is considered as one group. However, 14th item (I call people when I am bored) is slightly(0.379) correlated with this first factor. The reason for this is that participant may not think that this item is the image of Status/Relaxation. Moreover, second factor covers items 5, 6, 7, and 8 as in the first place of category of "Necessity in Modern Times". Lastly, Factor 3 covers the first four questions consistently as in our study of "Ease of Life" part.

Table 66. Factor Analysis of MB

	Component		
	1	2	3
MB11	0.809		
MB10	0.77		
MB13	0.731		
MB12	0.726		
MB9	0.62		
MB14	0.379		
MB5		0.73	
MB7		0.703	
MB6	0.312	0.664	
MB8		0.531	
MB1			0.733
MB2			0.703
MB4		0.357	0.675
MB3		0.375	0.648

Factor Analysis of Educational Expectations and Intentions of Using Mobile

Phone in Educational Context(EE)

When preparing this scale we had thought that there are two parts for using mobile

phone in terms of education. For the first 6 items we tried to measure the perceptions

of students' preferences of using mobile phone in education. Therefore, we have

called this part as "Perceptions/Expectation of Using Mobile Phone in Education".

Moreover, in the second part (last 7 items), we mention the usage areas of mobile

phones in education as "Intentions to Use Mobile Phone in Educational Context".

Table 67. Factor Analysis of EE

	Component	
	1	2
EE11	0.835	
EE5	0.702	
EE12	0.701	
EE13	0.69	0.319
EE7	0.662	
EE10	0.573	
EE9	0.55	0.458
EE4	0.496	0.351
EE2		0.817
EE1		0.742
EE3	0.494	0.576
EE8	0.445	0.575
EE6	0.32	0.565

According to factor analysis shown inTable 67, there is a slight change compared to

our categorization. Firstly, the second factor covers items 1, 2, 3, 6, and 8. When

looking at these items in terms of factor analysis category we have found that these

items are related to the access to information and course content. Moreover, first

factor includes items 4, 5, 7, 9, 10, 11, 12, and 13. When carefully examined, we see

that items are related to the learning environment mainly and therefore it is consistent

with "Intentions to use mobile phone in educational context".

<u>Responses to Open-Ended Questions</u>

<u>What applications of your mobile phone do you use most in educational activities?</u>

Participants stated the applications of their mobile phones as: Dictionary, Microsoft Office, PDF Reader, Youtube, TedTalk, Calendar, Internet, Facebook, Google Chrome, Ibook, Whatsapp, Dropbox, Gdrive, Duolingo, Tureng, Gmail, Wikipedia, Flipboard, SMS, Evernote, Voice Recording, Zargan, Camera.

According to these stated applications, students are using Facebook, Whatsapp, Mail, and SMS to contact with each other about the course or things related to the course. Moreover, they use, Microsoft Office, Evernote, and Voice Recording applications to take notes about the course that is told. They are also using Dropbox, and Gdrive type applications to upload their materials online and share with their friends. They are exploiting the Youtube, TEDx, and TEDTalk applications to watch educational videos about their courses. What's more, they frequently use Dictionary, Zargan, Duolingo, and Tureng type applications in terms of finding unknown words that are faced in class. Participants are making the most of PDF reader, Ibook and Wikipedia type applications to read materials about their course contents.

<u>What do you appreciate the most about using mobile phone and its applications in terms of helping you for the classes?</u>

The answers for this question are:

- "In the Spanish class it is so useful to look at the word which I don't know the meaning of "

- "It has Internet access which makes me feel connected to digital word(LMS, Soppus, Knowledge Forum, Horde Mail, etc.)."
- "We can connect to Internet to learn a concept in the class."
- "Providing information flow in creating groups of Facebook"
- "I generally use phone's calculator in labs."
- "It provides us to reach the educational tool everywhere."
- "They protect us from waste of time, make my work easy."
- "They help me reach the documents about classes any time easily."
- "Accessibility is very important these days. Looking at where my lectures are, sending an e-mail to the instructor, visiting the website when the problem solvings are, watching videos about my courses, looking for information via Wikipedia app. and the last one, translating words are very easy through my mobile phone."
- "Learning my homeworks from LMS, taking e-mails from instructors, developing a project with my team on class via WhatsApp, sharing documents or links with different communication ways."
- "Discussion about courses on social network"
- "I can read articles from phone without printing them."
- "One can use those applications when in bed or in toilet, places where PC is not so useful."
- "It reduces the weight of the school supplies that I need. I can instantly take photos of the board and notes. I can instantly check my mails for urgent notifications."
- "Helps me not to forget the class times and assignment deadlines."
- "If I have to read an article for my group works, I can find and read it in the class. We can be in touch with my group members after class via Whatsapp."

Mobile phones are the fact that participants use for their educational studies. According to their answers, we can see that they use mobile phone, for searching information, accessing the course content, watching educational videos, communicating with friends, arranging meetings, reading materials via Internet, etc.

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When taking the answers of the participants into consideration, we can think that mobile phone is useful in learning environment.

Structural Equation Modeling(SEM) Results

SEM is a kind of umbrella of statistical models that help us to explain the relationship between variables of models. It is very similar to multiple regression equations. SEM examines all kind of relationships between the constructs which are unobservable variables or latent factors presented by multi variables. This model is one of the most convenient ways of doing dependence relationships among constructs(variables). SEM is different from the other modeling techniques in that it helps to estimate multiple and interrelated relationships, to correct for measurement errors and develop a model to explain the whole model of the relationships (Hooper, Coughlan, & Mullen, 2008).

There are two steps in SEM analysis. The first one is Measurement Model and the second one is Structural Model. Measurement Model examines all the relationships between variables and their indicators. In order to use the model in Structural Equation it should be firstly inspected with the measurement model.

There are guidelines in Structural Equation modeling in terms of examining fitness of the model. They are as follows:

1) Normality: All the values of normality test should be between -2 and +2
2) Standardised Residual Covariance Matrix: Values should be between -2 and +2
3) Factor loadings (Standardised Regression Weights): All the values should be greater than 0.5. Otherwise, some variables must be deleted
4) Model Fit: CFI >= 0.90, NFI >= 0.90, RMSEA < 0.08
5) Construct Reliability

6) Average Variance Explained   (Hair et al., 2009)

We tested our model by using SPSS AMOS software with Structural

EquationModeling. The model is shown in Figure 2and Figure 3. In this model

Probability Level of Significance and Chi Square values are shown in Table 68

Continuingly, we should evaluate fit indexes such as Root Mean Square Error

Approximation (RMSEA), Normed Fit Index (NFI), and Comparative Fit Index

(CFI) according to their acceptable values.
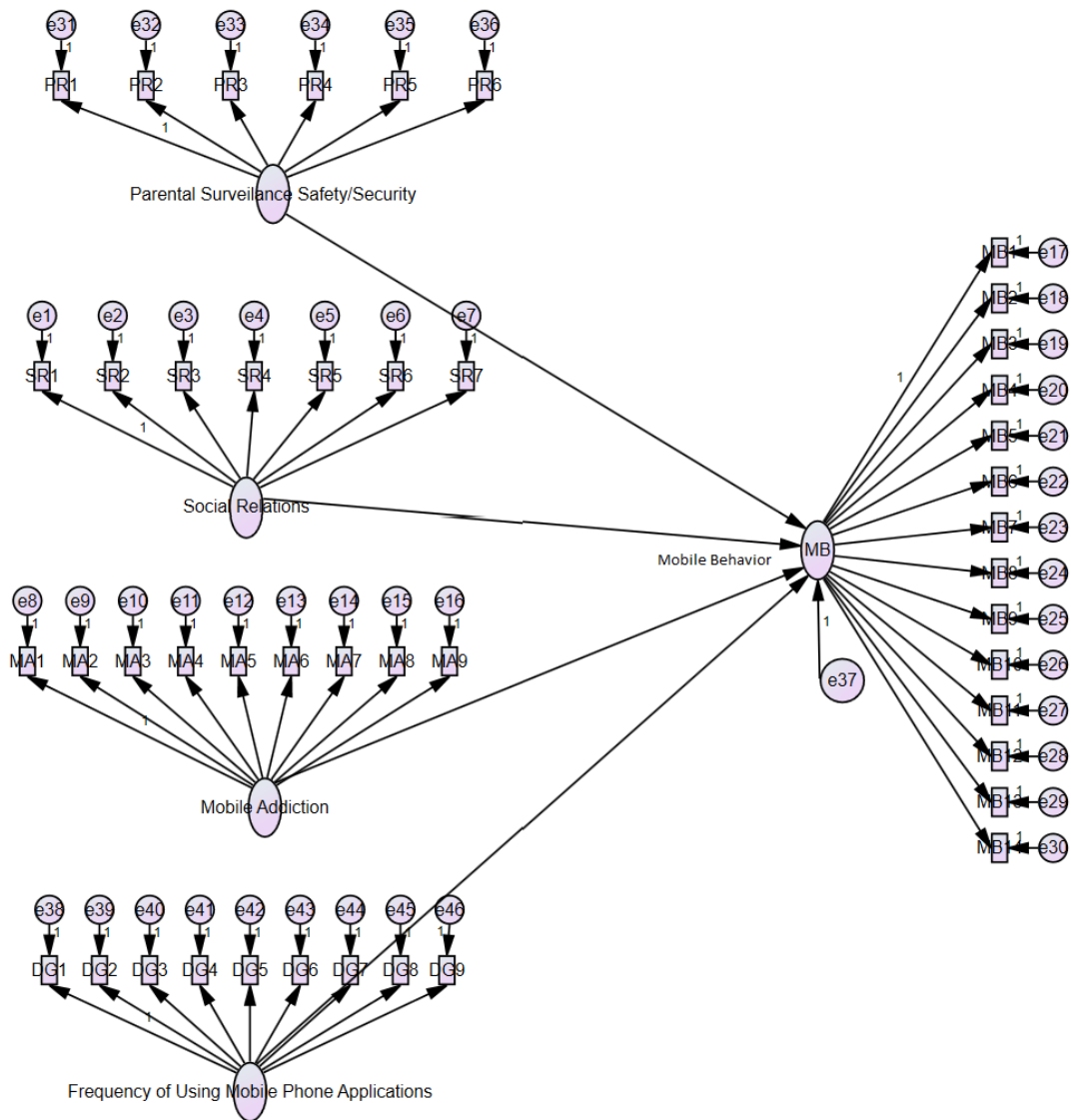
Figure 2.Part1 of the SEM Model of whole dependence and relationships of items
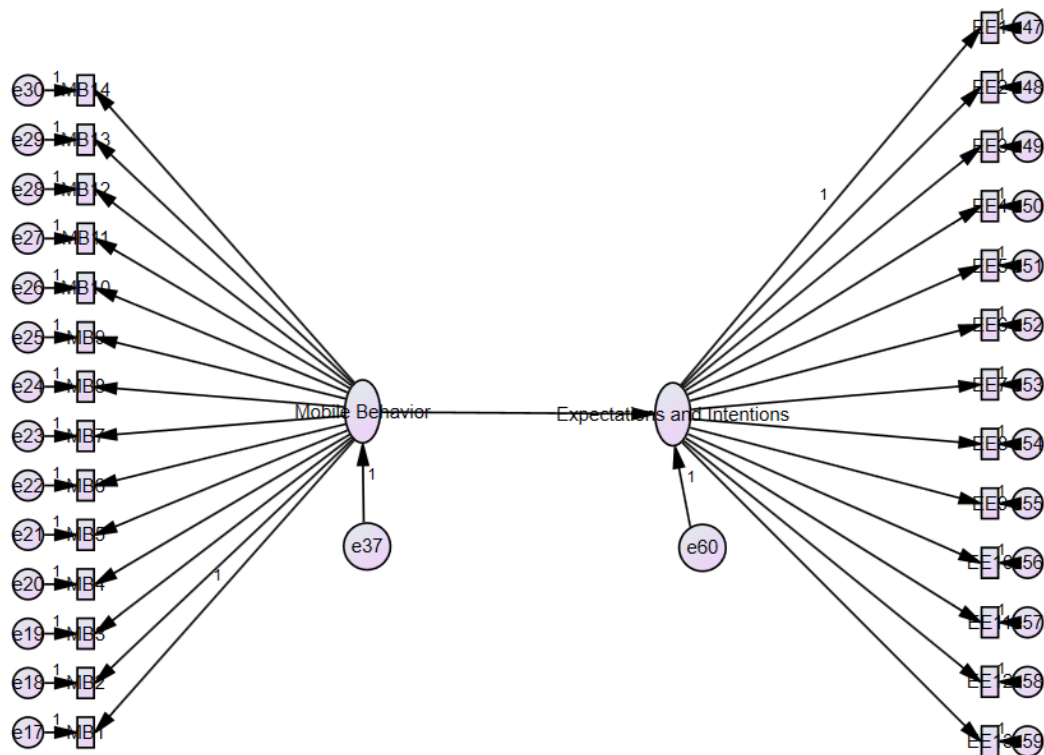
Figure 3.Part2 of the SEM Model of whole dependence and relationships of items

Table 68.Significancy Statistics of SEM Model1

Chi-square	3873.324
Degrees of freedom	1584
Probability level	0.000

Model Fit (See Appendix E)

RMSEA=0.059   (it must be smaller than 0.060)   Suitable

NFI=0.646 (it must be greater than or equal to 0.90)   Not Suitable

CFI=0.754 (it must be greater than or equal to 0.90)   Not Suitable

To be able to use SEM analysis in Structural Model, we first use measurement

model. In this model normality values were acceptable. And Standardised Residual

Covariance Matrix values were in the desirable level. However, Factor Loadings and

Model Fit values show that the model shown in Figure 2 and Figure 3 is not

supported in Structural Equation Modeling Analysis as in Appendix E. When trying

to optimize the factor loadings, our model was started to be broken down. Also

Model Fit values are important in terms of explaining the model in SEM. In our

analysis, CFI and NFI values are not suitable for supporting the model. Therefore,

we could not support this model in this technique even if it was acceptable in

Multiple Regression Anlaysis.

Even if the model is not supported in Structural Equation Modeling, AMOS software examines the degree of effect of variables on each other. And it gives the relational effect values. According to this phenomenon, equations can be written as follows:

MB= Parental Surveillance * 0.25+ Social Relations * 0.38+ Frequency of

UsingMobile Phone Applications * 0.23+Mobile Addiction * 0.08

Educational Expectations/Intentions to use mobile phone in

education=Mobile Behavior * 0.62

CHAPTER 6

CONCLUSION

Mobile phones are now inevitable part of our lives so that they help people in every phases of their lives. As time passes, the needs of people are changed as well. Mobile phones help people to keep up with these changes. Today, this very modern and enormously developed world has offered people more interactions, more connections and more privacy than before.No one denies that mobile phones simplify the functionality of everyday usage because people exploit their mobile phones in various ways. For instance, they buy tickets for concerts, use banking transactions, use online shopping via using mobile phones. Even political votes are stated or campaigns of parties are sent to people via mobile phones.

On the other hand, mobile phones are highly argued in educational environment. Whether to use them or not is discussed in terms of its effects on the studies of the students. It brings greater flexibility to students in connecting with their classmates, reaching course material, reading eBooks, etc. Almost every student in college use their mobile phones so that their usage in education should be considered seriously with the aim to attract students' attention and increase the methods of teaching to reach the students who are learning differently. As already implied that mobile phones change the way that students learn, the critical factors which are important for mobile technologies to embed into learning should be taken into consideration.

This study is initiated to examine the effects of mobile phones in educational contexts. A questionnaire is prepared with this aim in mind andapplied to 229 female and 192 male Boğaziçi University students.

Some descriptive statistics of students' usage of mobile phone is defined according to their answers. Even if they do not use mobile phone for educational activities much, they watch educational videos and complete courseworkas Yu-Liang (2005) stated that mobile phones have advanced features coming to the mobile learning incorporating video streaming, internet browsing. When it comes to educational expectations/intentions scale all items are above the moderate level of mean. The most preferred answer with the highest mean is "The use of mobile phones can increase flexibility of access to resources (e.g. slides, notes, YouTube videos, course materials)", similar to Naismith, Lonsdale, Vavoula, and Sharples, (2004) stating the many features of mobile phone can help to reach the sources of anything.

As for Mobile Addiction Scale, some items are below the average mean. They are mostly about using mobile phone consciously. Participants think that they use mobile phone carefully and decrease the time whenever they want. Therefore, the least averaged answer of mobile addiction is "I have tried to decrease mobile phone usage time, but have failed." We can say that participants arrange and control the time of using their mobile phones.

When we think about the Mobile Behavior Scale, the mean average of items are above moderate level but items that are related to the status/relaxation is a little bit low. The reason why this is so is that students may not think that mobile phone addresses their status in terms of personality characteristics. For example, some of the items that low average mean is "I like showing features of my phone to people around me.", "I look old fashioned without it." and "Everyone has one, why shouldn't I?".

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Coming to the Parental Surveillance and Safety/Security scale, all questions that are asked have similar means because the items are nearly the core aim of the mobile phones. It means mobile phone is used for security issues, for instance in the evening to feel secure. Almost every student use mobile phone in order to contact with their parentsas Ling (2000) stated the similar idea. Therefore, they give high points to this scale questions. The most highly averaged items are "My parents wanted me to have a mobile phone so I can get in touch with them if necessary" and "I use it for emergencies anywhere and anytime".

Social Relations Scale is used to measure the students' mobile phone usage in terms of their socialization. In this scale students are asked about their social use of mobile phone. And almost all items are above the moderate level of mean. The most preferred answer is "Mobile phone helps me to interact with my social environment in many ways with applications such as WhatsApp, Facebook, SMS, Twitter"as Syed and Nurullah (2012) stated that mobile phone applications help people to create the social environment. And also students give advice to each other by using mobile phone when they are far away from each other.

On the other hand, reliability of the scales that we used in this study are above the acceptable level of 0.70. It means, items in each scale are highly correlated within each scale.

When it comes to the hypotheses that are proposed in this study, regression analysis is used. The variables that are "Mobile Addiction", "Frequency of Using Mobile Phone Applications", "Parental Surveillance, Safety/Security", "Social Relations", "Mobile Behavior" and "Educational Expectations/Intentions to Use Mobile Phone in Educational Context " are examined to find their effects on each other.

The effects of "Mobile Behavior on Educational Expectation/Intention" is measured and results are in the acceptable level. And also the variables in Mobile Behavior Scale are examined to find their effects. These are "Ease of Life", "Necessity in Modern Times" and "Image of Status/Relaxation". Thesevariables'effect on "Educational Expectations/Intentions to Use Mobile Phone in Educational Context" are significant and accepted.

And also, the effects of "Mobile Addiction", "Parental Surveillance-Safety/Security", "Social Relations", "Frequency of Using Mobile Phone Applications" on "Educational Expectations /Intentions to Use Mobile Phone" are examined apart from each other. And the results come significant according to the regression analysis of SPSS program.

We thought that "Mobile Addiction", "Parental Surveillance-Safety/Security", "Social Relations", "Frequency of Using Mobile Phone Applications" affect "Mobile Behavior" of the students and create new personality. Therefore we measured the effects of these independent variables on "Mobile Behavior" and results were significant in regression analysis with ANOVA.

According to the multiple regression results, the effect of independent variables that are "Mobile Addiction", "Parental Surveillance-Safety/Security", "Social Relations", "Frequency of Using Mobile Phone Applications" on the dependent variable "Mobile Behavior" was significant and p-value comes under the acceptable level of 0.05.

According to the open-ended questions, participants stated that they generally use applications helping them in many educational activities. For instance, they use Facebook, Twitter to contact with each other, and using Office, Evernote to take notes about the course, exploit Youtube, TED in order to watch educational videos.

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The applications that mobile phones have offered to people simplifies the school learning environment in many aspects.

Participants appreciated the mobile phone in some issues in terms of helping them in educational context. It helps people to search for any unknown word faced in the class, to use it in class, to reach the course materials, and to contact with teachers easily.

According to the SEM analysis of the model 1, it has poor fit in terms of CFI and NFI indexes and factor loading does not let use to test the model. Therefore, by using AMOS software in SEM analysis, our model is stated as not supported.

Discussion

In this research, students' use of mobile phone is examined deeply to find their preferences. Students have their mobile phone for different purposes in many areas. In our study, they benefit mobile phone for accessing e-mail or text messages to connect with their friends as Lacohee, Wakeford, and Pearson (2003) stated that the reason for using text messages and e-mail feature is that in social environments it is more advantageous because of accessibility. The other use of mobile phone is for information seeking just like Selwyn (2003) stated that people use it for this purpose via world-wide-web. However, it is thought that when using mobile phone for different needs like information searching, attention and concentration of the students may be disturbed (Kamran, 2010). Furthermore, social networking is one of the most preferred activities that students choose when using mobile phone as Humpreys (2008) stated the same thing. There is a slight danger for students using their mobile phone for social networking. If response time between the users of social network is

long, social connection may be harmed (Ito, 2005). Therefore, instant answering of social networks is very significant.

Students answered that they slightly watch educational videos and completing coursework with their mobile phones. The reason why this phenomenon preferred is that schools show resistance to the usage of mobile phone in terms of using it for educational purposes in class (Ferry, 2008). However, many researchers agree with the permission of using mobile phone in educational context because mobile phone provides easier and faster reach to the information (Selwyn, 2003), changes the way of communication and interaction in class (Ling, 2000; Holmes & Russell, 1999), increases students' interest to the learning process (Pollara& Broussard, 2011) diversifies teaching methods (Wright et al., 2011), and enables strong coordination between activities related to learning materials about courses (Abas et al., 2009). Parallel to these, our study reveals that students thought that use of mobile phones can increase flexibility of access to resources (like slides, notes, YouTube videos, course materials etc.), mobile phones with Internet offer seamless access to digital information, and mobile phones can be used for educational purposes. On the other hand, students stated that they slightly agree with the sentences "I would be fine to study any course I take with mobile phone access" and "course learning objectives can be met by doing coursework on my mobile phone". We think that the reason for they said like this is that the screen sizes of mobile phones sometimes may not help students making their everything, related to the course of educational context, learning practical (Ting, 2005).

The study shows that students are cautious about using mobile phone related to the addiction. They stated thatt hey are trying to decrease their usage time, never turning off their mobile phone throughout the day and answering calls and text

messages immediately. In the same way, young people may exchange silent messages and phone calls anywhere and anytime, answering each other very fast, and forming the idea of being connected continually, not causing addiction if they are careful (Kamran, 2010). Moreover, mobile addiction is correlated with the mobile phone involvement and can be measured with the frequency of using mobile phone in many contexts (Walsh et al., 2010) however, in our study addiction is not correlated to the involvement and frequency because students are arranging their use of mobile phone time for their needs.

According to the answers of the students to the questions they find mobile phone easy to use to interact and communicate with their social circle as Oksman (2006) stated that mobile phone use may be defined for interaction in social relations. However, this must be well prepared in terms of destructing the attention of the students because sometimes students use mobile phone excessively so that their concentration is lost in many school activities. Furthermore, they think that mobile phone is a necessity in today's world. They stated they need a mobile phone to be successful in the world today as it is true that Pertierra (2005) stated mobile phone is the inevitable part of our life in terms of performing what we do. In the same way, students in this study think that mobile phone does not address their lifestyle, behavior or their status. However, many researchers are opposite of what we have found like Palen, Salzman, and Youngs (2000), Leung and Wei (2000), Kocak (2003). They mostly stated that mobile phone is the symbol of our lifestyle and status in social environment.

Students mostly prefer to use mobile phones for parental surveillance and safety/security. In the meantime, they use mobile phones for emergency situations as Ling (2000) stated that mobile phones first exploited for announcing the emergent

situations that people face in their life. Continually, they think that mobile phones

provide them with a feeling of security in many respects especially in dangerous

situations as Kamran (2010) offers the same phenomenon. When mobile phones

were invented, this phenomenon was very important, because families have a feeling

of distressed about knowing their children' places and about their security. With the

help of mobile phones, students think that, as they answer the questions, they can get

in touch with their families if necessary and keep them from worrying about

themselves as DeBaillon and Rockwell (2005), Chen and Katz (2009) stated the

same idea. However, mobile phones cause children to get rid of their family bonds in

a way. Because they are far away from their parents, they feel free of whatever they

do without noticing of them just like Ling (2004) said that away from their parents,

children are developing relations providing more independence from their parents by

not answering their calls and not telling the truth about what they do.

Mobile phones are used for social relations as well. In our study, students

think that mobile phone helps them to interact with their social environment in many

ways with applications such as WhatsApp, Facebook, SMS, Twitter. Furthermore,

they slightly agree with that mobile phone helps them to contact anyone even if they

are shy to contact face to face. This is opposite to the idea of Kocak (2003) who

defines that connecting with the help of mobile phone helps people to overcome the

feelings of shyness and embarrassment.

Lastly, the reason why we did this research is that there was a need to find the

mobile use of university students for different needs. In this way, we can create new

learning environments in educational contexts and find students' mobile behavior.

By taking the mobile behavior of the students into consideration, their preferences

can be guessed and more effective and efficient educational environment or mobile

applications that are helpful to that environment may be designed. And also, the preferences of using mobile phone for social reasons help us to define the students in their friendship environment. In this way, we can help them to coordinate, communicate and interact with their friends in educational contexts. Parental issues are also important for the students in terms of informing them about their university life. By using the scale of parental surveillance, we can help students to contact with their parents about their course success and we can ease the connection between each other.

Limitations of the Study

In this study, some of the items were too long so that participants got bored while doing it. Therefore, there is a possibility of answering questions very fast. This may cause a measurement error. Moreover, this study is appliedeonly to Boğaziçi University students. In this university students are more social, using mobile phones for various activities, etc. If we performed this study in more than one university, we may generalize our results more clearly to the population. In literature, researchers use mobile phones for just one kind of phenomena to be able to examine. However, we took many variables that may affect the participants altogether. Therefore, in order to test the model, we could decrease the items and variables which are to be measured.

On the other hand, because Boğaziçi University offers courses in English, we prepared the items in English. However, when we were ready to answer the unknown English words, students asked many questions and we answered. However, the study was open to all Boğaziçi students and they may not understand some of the items causing them to recklessly fill these kind of items.

Suggestions for Future Research

In our study we tried to find the expectations and intentions of students in terms of using mobile phone in educational contexts. According to the answers of the students, the most useful mobile phone features may be taken into consideration in order to create efficient learning environment. In this way students may use mobile phones in their studies. Moreover, as a future research the attitudes of the school principals may be examined and according to their answers some educational tools that is acceptable by them could be developed.

Participants stated that they use many mobile phone applications in their school studies. In the future, the effectiveness and efficiency of these educational mobile phone applications could be discussed to design new learning applications. And also, working in coordination with school authorities, some educationalists may develop new mobile learning environments for the students to get more benefits. Furthermore, mobile phones can be used for the crowded classrooms to ask questions to the teachers. There may be a system that students ask anything to their teacher via mobile phones and the questions that are asked may be sent simultaneously to the mobile phone or tablet pc of the teacher to be able to asnwer.

Appendix A :Questionnaire Form of the Study

Boğaziçi University Questionnaire About Mobile Usage Preferences and Mobile Learning Perceptions

This questionnaire aims to gather information about you, and your preferences about using mobile phones. Collected information will be kept anonymous.

* Required

Gender *

- o ○ Male

- o ○ Female

Year in College(Grade) *

- o ○ Preperation

- o ○ 1

- o ○ 2

- o ○ 3

- o ○ 4

- o ○ Master

- o ○ Doctorate

What is your department *

[   ]

What is the brand and model of your mobile phone? *

[   ]

To what degree Do you use your mobile phone for the following activities? *

	Never	Rarely	Occasionally	Frequently	Always
Social Networking	○	○	○	○	○
Reading content (e.g., e-books, articles,course materials etc.)	○	○	○	○	○
Getting news alerts	○	○	○	○	○

	Never	Rarely	Occasionally	Frequently	Always
Accessing email or text messaging	○	○	○	○	○
Searching for information	○	○	○	○	○
Getting directions	○	○	○	○	○
Watching educational videos	○	○	○	○	○
Completing coursework or participating in lectures	○	○	○	○	○
Communication about coursework	○	○	○	○	○

How many hours in average do you use mobile phone in a day? *

[ ]

Would you be willing/able to purchase a new mobile device if you thought it would improve your performance at school? *

- ○ Yes

- ○ No

Educational Expectations and Intentions to use Mobile phone *
Please select one of the 5 options for each item in the list. Options are changing from Strongly Disagree to Strongly Agree

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
Mobile phones with Internet offer seamless access to digital information in Schools	○	○	○	○	○
The use of mobile phones can increase flexibility of access to resources (like slides, notes, YouTube videos, course materials etc.).	○	○	○	○	○

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
I feel comfortable when using mobile phones so I would want to use it in school studies.	○	○	○	○	○
The use of the mobile phone can improve communication with teachers and classmates.	○	○	○	○	○
The use of the mobile phones can improve the learning (pedagogic) value of the course and courses are more recommendable to others.	○	○	○	○	○
With mobile phones I do not need to depend on desktops to reach course informations	○	○	○	○	○
Course learning objectives can be met by doing coursework on my mobile phone	○	○	○	○	○
Using mobile phone, it is easy for me to access course content.	○	○	○	○	○
Communication with and feedback from teacher by using mobile	○	○	○	○	○

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
phone can be easy.					
I may listen audio and video lectures on my mobile phone	○	○	○	○	○
I would be fine to study any course I take with mobile phone access	○	○	○	○	○
I can easily remember the term that I checked on my mobile phone	○	○	○	○	○
Mobile phones can be used for educational purposes	○	○	○	○	○

Mobile Addiction *
Please select one of the 5 options for each item in the list. Options are changing from Strongly Disagree to Strongly Agree

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
While using mobile phones, I would think ''just a few more minutes...''	○	○	○	○	○
I have tried to decrease mobile phone usage time, but have failed.	○	○	○	○	○
Using mobile phone at night influences my sleep	○	○	○	○	○
I feel pain	○	○	○	○	○

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
in my head, eyes, thumbs and hands because of using my mobile phone					
I can't concentrate on studying because of sending and receiving text messages, or playing games with my mobile phone.	○	○	○	○	○
I never turn off my mobile phone throughout the day.	○	○	○	○	○
I immediately answer calls and reply to text messages	○	○	○	○	○
I use my mobile phone even when talking or eating with others.	○	○	○	○	○
I feel like my phone is ringing and vibrating even if not called.	○	○	○	○	○

* Required

Mobile Behavior*

Please select one of the 5 options for each item in the list. Options are changing from Strongly Disagree to Strongly Agree

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
My interaction with mobile phones is clear and understandable.	○	○	○	○	○
Interacting with mobile phones does not require a lot of my mental effort.	○	○	○	○	○
I find it easy to get mobile phones to do what I want it to do.	○	○	○	○	○
Overall, I find Mobile phones easy to use.	○	○	○	○	○
I use my mobile phone to make use of time that otherwise would be wasted	○	○	○	○	○
We need a mobile phone to be successful in the world today	○	○	○	○	○
A mobile phone allows me to do two things at once	○	○	○	○	○
I often use my mobile phone to schedule or reschedule an appointment at the last minute	○	○	○	○	○

Mobile Behavior*

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	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
I like showing features of my phone to people around me.	○	○	○	○	○
Everyone has one, why shouldn't I?	○	○	○	○	○
I look old fashioned without it.	○	○	○	○	○
It matches my lifestyle(Relaxation, Enjoyment etc).	○	○	○	○	○
Having the most recent technology model makes me happy.	○	○	○	○	○
I call people when I am bored	○	○	○	○	○

Parental Surveillance and Safety/Security *

Please select one of the 5 options for each item in the list. Options are changing from Strongly Disagree to Strongly Agree

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
Having a mobile phone makes me feel safe while I am walking alone at different times	○	○	○	○	○
My parents wanted me to have a	○	○	○	○	○

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
mobile phone so I can get in touch with them if necessary					
I use my mobile phone to keep my parent from worrying about me	○	○	○	○	○
It provides me with a feeling of security.	○	○	○	○	○
I use it for emergencies anywhere and anytime.	○	○	○	○	○
I can be located when I am needed.	○	○	○	○	○

Social Relations *

Please select one of the 5 options for each item in the list. Options are changing from Strongly Disagree to Strongly Agree

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
I may start a new social relations easily via mobile phone	○	○	○	○	○

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
I may always be informed about my social environment when using mobile phone	○	○	○	○	○
I feel valued by my friend when connecting with them by using mobile phone	○	○	○	○	○
Mobile phone helps me to contact anyone even if I am shy to contact face to face	○	○	○	○	○
Mobile phone helps me o interact with my social environment in many ways with applications such as WhatsApp, Facebook,SMS, Twitter.	○	○	○	○	○
By using mobile phone I am giving advice or emotional support to my friends who are far away from me	○	○	○	○	○
I may use many features(Camera, Instagram, Snapchat, Facebook etc.)	○	○	○	○	○

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
of mobile phones to share my personal things in my social environment					

What applications of your mobile phone do you use most in educational activities? *

What do you appreciate the most about using mobile phone and its applications in terms of helping you on the classes? *

Appendix B : Reliability Analysis Outputs

1.Reliability Analysis for Frequency of Using Mobile Applications(DG) Scale

Reliability Statistics

Cronbach's Alpha	N of Items
0.855	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
DG1	24.15	26.883	.578	.840
DG2	24.67	25.073	.664	.831
DG3	24.60	25.237	.605	.838
DG4	23.88	29.475	.490	.850
DG5	24.06	26.689	.683	.832
DG6	24.71	25.437	.606	.837
DG7	25.27	25.328	.633	.834
DG8	25.57	26.307	.518	.847
DG9	24.58	26.735	.492	.849

2. Reliability Analysis for Expectations and Intentions to use Mobile Phone in Educational Context Scale(EE)

Reliability Statistics

Cronbach's Alpha	N of Items
.895	13

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EE1	41.26	76.559	.456	.893
EE2	40.76	76.176	.557	.889
EE3	41.42	71.178	.673	.883
EE4	41.47	73.383	.530	.890
EE5	41.94	71.932	.668	.883
EE6	41.70	72.120	.525	.891
EE7	42.29	71.904	.623	.885
EE8	41.50	72.365	.638	.885
EE9	41.42	72.859	.649	.884
EE10	41.57	72.783	.548	.889
EE11	42.04	71.037	.625	.885
EE12	41.87	73.653	.572	.888
EE13	41.28	72.008	.672	.883

3. Reliability Analysis for Mobile Addiction Scale(MA)

Reliability Statistics

Cronbach's Alpha	N of Items
.804	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MA1	23.58	35.968	.551	.778
MA2	24.23	35.874	.558	.777
MA3	23.68	35.595	.471	.788
MA4	24.26	36.699	.454	.790
MA5	23.78	34.079	.608	.769
MA6	22.69	37.867	.330	.807
MA7	23.16	38.025	.421	.794
MA8	23.73	34.549	.610	.769
MA9	24.00	36.121	.484	.786

4. Reliability Analysis for MobileBehaviour Scale(MB)

Reliability Statistics

Cronbach's Alpha	N of Items
.775	14

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MB1	39.83	54.893	.141	.779
MB2	40.11	54.479	.125	.782
MB3	39.87	51.212	.405	.761
MB4	39.57	52.765	.343	.766
MB5	40.57	50.816	.336	.766
MB6	40.44	48.052	.474	.753
MB7	40.24	49.374	.459	.755
MB8	40.44	50.180	.364	.764
MB9	41.60	48.469	.480	.753
MB10	41.26	47.652	.488	.752
MB11	41.59	48.709	.477	.753
MB12	40.86	46.299	.577	.742
MB13	40.93	46.148	.520	.748
MB14	40.79	52.058	.205	.780

5. Reliability Analysis for Parental Surveillance, Safety/Security Scale(PR)

Reliability Statistics

Cronbach's Alpha	N of Items
.821	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PR1	18.67	15.013	.587	.794
PR2	18.37	15.713	.545	.802
PR3	18.43	15.488	.613	.787
PR4	18.72	14.321	.714	.764
PR5	18.18	16.244	.600	.792
PR6	18.40	16.850	.473	.815

6. Reliability Analysis for Social Relations(SR)

Reliability Statistics

Cronbach's Alpha	N of Items
.816	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SR1	20.64	21.703	.555	.791
SR2	20.15	21.631	.651	.777
SR3	20.84	22.660	.480	.804
SR4	20.75	21.725	.497	.803
SR5	19.62	22.127	.609	.784
SR6	19.79	22.572	.546	.793
SR7	20.24	20.379	.577	.789

Appendix C : Hypothesis and Regression Analysis Outputs

Hypothesis 1:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.497[a]	.247	.246	.61566

a. Predictors: (Constant). MBO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.196	1	52.196	137.707	.000[b]
	Residual	158.818	419	.379		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), MBO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.427	.176		8.093	.000
	MBO	.653	.056	.497	11.735	.000

a. Dependent Variable: EEO

Hypothesis 1a:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.330[a]	.109	.107	.66979

a. Predictors: (Constant), MBEOL

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.043	1	23.043	51.365	.000[b]
	Residual	187.971	419	.449		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), MBEOL

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.953	.214		9.147	.000
	MBEOL	.392	.055	.330	7.167	.000

a. Dependent Variable: EEO

Hypothesis 1b:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.488^a	.238	.237	.61930

a. Predictors: (Constant), MBNMT

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	50.317	1	50.317	131.195	.000^b
	Residual	160.698	419	.384		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), MBNMT

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.980	.133		14.871	.000
	MBNMT	.453	.040	.488	11.454	.000

a. Dependent Variable: EEO

Hypothesis 1c:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.303^a	.092	.089	.67639

a. Predictors: (Constant), MBISR

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ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.321	1	19.321	42.230	.000[b]
	Residual	191.694	419	.458		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), MBISR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.800	.107		26.049	.000
	MBISR	.263	.040	.303	6.498	.000

a. Dependent Variable: EEO

Hypothesis2:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.278[a]	.077	.075	.68168

a. Predictors: (Constant), MAO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.309	1	16.309	35.096	.000[b]
	Residual	194.706	419	.465		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), MAO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.679	.137		19.587	.000
	MAO	.266	.045	.278	5.924	.000

a. Dependent Variable: EEO

Hypothesis 2a:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.226[a]	.051	.049	.69137

a. Predictors: (Constant), MATMLD

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.737	1	10.737	22.463	.000[b]
	Residual	200.278	419	.478		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), MATMLD

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.963	.111		26.645	.000
	MATMLD	.184	.039	.226	4.739	.000

a. Dependent Variable: EEO

Hypothesis 2b:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.256[a]	.066	.063	.68602

a. Predictors: (Constant), MACP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.822	1	13.822	29.368	.000[b]
	Residual	197.193	419	.471		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), MACP

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.776	.131		21.128	.000
	MACP	.212	.039	.256	5.419	.000

a. Dependent Variable: EEO

Hypothesis 3:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.477^a	.227	.226	.62378

a. Predictors: (Constant), SRO

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.980	1	47.980	123.307	.000^b
	Residual	163.035	419	.389		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), SRO

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.974	.138		14.344	.000
	SRO	.441	.040	.477	11.104	.000

a. Dependent Variable: EEO

Hypothesis 4:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.317^a	.100	.098	.67306

a. Predictors: (Constant), PRO

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ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.203	1	21.203	46.804	.000^b
	Residual	189.812	419	.453		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), PRO

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.396	.160		15.009	.000
	PRO	.290	.042	.317	6.841	.000

a. Dependent Variable: EEO

Hypothesis 4a:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.254^a	.064	.062	.68640

a. Predictors: (Constant), PRSO

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.606	1	13.606	28.879	.000^b
	Residual	197.408	419	.471		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), PRSO

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.715	.144		18.918	.000
	PRSO	.205	.038	.254	5.374	.000

a. Dependent Variable: EEO

Hypothesis 4b:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.327[a]	.107	.105	.67062

a. Predictors: (Constant), PRSS0

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.577	1	22.577	50.200	.000[b]
	Residual	188.438	419	.450		
	Total	211.015	420			

a. Dependent Variable: EEO

b. Predictors: (Constant), PRSS0

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.417	.152		15.952	.000
	PRSS0	.282	.040	.327	7.085	.000

a. Dependent Variable: EEO

Hypothesis 5:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.634[a]	.402	.396	.41948

a. Predictors: (Constant), SRO, PRO, MAO, DGO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.194	4	12.298	69.891	.000[b]
	Residual	73.202	416	.176		
	Total	122.396	420			

a. Dependent Variable: MBO

b. Predictors: (Constant), SRO, PRO, MAO, DGO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.069	.132		8.130	.000
	DGO	.171	.037	.201	4.560	.000
	MAO	.073	.032	.101	2.297	.022
	PRO	.154	.030	.221	5.097	.000
	SRO	.220	.036	.312	6.130	.000

a. Dependent Variable: MBO

Hypothesis 6:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.440[a]	.193	.191	.48546

a. Predictors: (Constant), DGO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.648	1	23.648	100.344	.000[b]
	Residual	98.747	419	.236		
	Total	122.396	420			

a. Dependent Variable: MBO

b. Predictors: (Constant), DGO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.974	.117		16.881	.000
	DGO	.373	.037	.440	10.017	.000

a. Dependent Variable: MBO

Hypothesis 7:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.444[a]	.197	.195	.48429

a. Predictors: (Constant), PRO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.125	1	24.125	102.862	.000[b]
	Residual	98.271	419	.235		
	Total	122.396	420			

a. Dependent Variable: MBO

b. Predictors: (Constant), PRO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.981	.115		17.248	.000
	PRO	.309	.030	.444	10.142	.000

a. Dependent Variable: MBO

Hypothesis 8:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.565[a]	.320	.318	.44584

a. Predictors: (Constant), SRO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.109	1	39.109	196.747	.000[b]
	Residual	83.287	419	.199		
	Total	122.396	420			

a. Dependent Variable: MBO

b. Predictors: (Constant), SRO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.776	.098		18.049	.000
	SRO	.398	.028	.565	14.027	.000

a. Dependent Variable: MBO

Hypothesis 9:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.387[a]	.150	.148	.49840

a. Predictors: (Constant), MAO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.316	1	18.316	73.738	.000[b]
	Residual	104.079	419	.248		
	Total	122.396	420			

a. Dependent Variable: MBO

b. Predictors: (Constant), MAO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.289	.100		22.884	.000
	MAO	.281	.033	.387	8.587	.000

a. Dependent Variable: MBO

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Appendix D : Factor Analysis Outputs

1.Factor Analysis of Frequenc of using Mobile Phone Applications(DG)

Rotated Component Matrix[a]

	Component	
	1	2
DG1	.772	
DG4	.763	
DG5	.762	.319
DG3	.642	.337
DG6	.585	.407
DG2	.560	.520
DG8		.865
DG7		.807
DG9		.577

Extraction Method: Principal

Component Analysis.

Rotation Method: Varimax with

Kaiser Normalization.

a. Rotation converged in 3

iterations.

Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.974	33.045	33.045
2	2.410	26.776	59.822

Extraction Method: Principal Component Analysis.

Component Transformation Matrix

Component	1	2
1	.767	.641
2	-.641	.767

Extraction Method: Principal Component

Analysis.

Rotation Method: Varimax with Kaiser

Normalization.

2. Factor Analysis of Mobile Addiction(MA)

Rotated Component Matrix[a]

	Component 1	Component 2
MA3	.756	
MA4	.738	
MA2	.720	
MA5	.683	.328
MA1	.599	.346
MA7		.752
MA6		.732
MA8	.351	.725
MA9	.341	.545

Extraction Method: Principal
Component Analysis.
 Rotation Method: Varimax with
Kaiser Normalization.
a. Rotation converged in 3
iterations.

Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.708	30.085	30.085
2	2.202	24.472	54.557

Extraction Method: Principal Component Analysis.

Component Transformation Matrix

Component	1	2
1	.783	.623
2	-.623	.783

Extraction Method: Principal Component
Analysis.
 Rotation Method: Varimax with Kaiser
Normalization.

3. Factor Analysis of Mobile Behaviour(MB)

Rotated Component Matrix[a]

	Component		
	1	2	3
MB11	.809		
MB10	.770		
MB13	.731		
MB12	.726		
MB9	.620		
MB14	.379		
MB5		.730	
MB7		.703	
MB6	.312	.664	
MB8		.531	
MB1			.733
MB2			.703
MB4		.357	.675
MB3		.375	.648

Extraction Method: Principal Component
Analysis.
 Rotation Method: Varimax with Kaiser
Normalization.
a. Rotation converged in 5 iterations.

Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	3.022	21.586	21.586
2	2.141	15.292	36.878
3	2.042	14.582	51.460

Extraction Method: Principal Component Analysis.

Component Transformation Matrix

Component	1	2	3
1	.776	.567	.277
2	-.518	.320	.793
3	.361	-.759	.542

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.

4. Factor Analysis of Educational Expectations and Intentions of Using Mobile Phone in Educational Context(EE)

Rotated Component Matrix^a

	Component	
	1	2
EE11	.835	
EE5	.702	
EE12	.701	
EE13	.690	.319
EE7	.662	
EE10	.573	
EE9	.550	.458
EE4	.496	.351
EE2		.817
EE1		.742
EE3	.494	.576
EE8	.445	.575
EE6	.320	.565

Extraction Method: Principal

Component Analysis.

Rotation Method: Varimax with

Kaiser Normalization.

a. Rotation converged in 3

iterations.

Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	4.054	31.185	31.185
2	2.902	22.326	53.511

Extraction Method: Principal Component Analysis.

Component Transformation Matrix

Component	1	2
1	.789	.614
2	-.614	.789

Extraction Method: Principal Component

Analysis.

Rotation Method: Varimax with Kaiser

Normalization.

1. **SEM With All the Items in the Study**

Computation of degrees of freedom (Default model)

Number of distinct sample moments:	1711
Number of distinct parameters to be estimated:	127
Degrees of freedom (1711 - 127):	1584

Result (Default model)

Minimum was achieved
Chi-square = 3873.324
Degrees of freedom = 1584
Probability level = .000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	127	3873.324	1584	.000	2.445
Saturated model	1711	.000	0		
Independence model	58	10943.829	1653	.000	6.621

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.083	.727	.705	.673
Saturated model	.000	1.000		
Independence model	.259	.250	.224	.242

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.646	.631	.755	.743	.754
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.958	.619	.722
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	2289.324	2110.456	2475.792
Saturated model	.000	.000	.000
Independence model	9290.829	8963.251	9625.024

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	9.222	5.451	5.025	5.895
Saturated model	.000	.000	.000	.000
Independence model	26.057	22.121	21.341	22.917

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.059	.056	.061	.000
Independence model	.116	.114	.118	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	4127.324	4168.836	4640.738	4767.738
Saturated model	3422.000	3981.274	10338.945	12049.945
Independence model	11059.829	11078.787	11294.301	11352.301

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	9.827	9.401	10.271	9.926
Saturated model	8.148	8.148	8.148	9.479
Independence model	26.333	25.553	27.129	26.378

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	182	187
Independence model	68	69

Appendix F: Group Differences Related to Mobile Behavior

T-Test ForGenderDifference on Mobile Behavior

GroupStatistics

	Gender	N	Mean	Std. Deviation	Std. ErrorMean
MobileBehavior Average	Female	229	3.1599	.56564	.03738
	Male	192	3.0759	.50501	.03645

Independent Samples Test

		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	
MobileBehavior Average	Equal variances assumed	2,636	,105	1,593	419	,112	,08398	,05273	-,01967	,18762	
	Equal variances not assumed			1,609	417,328	,108	,08398	,05221	-,01864	,18659	

OnewayAnovaFor Year in College Difference on Mobile Behavior

ANOVA

MobileBehaviorAverage

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.015	6	.169	.577	.749
Within Groups	121.381	414	.293		
Total	122.396	420			

MobileBehaviorAverage

Tukey HSD

Year in College(Grade)	N	Subset for alpha = 0.05
		1
6	17	3.0171
2	64	3.0492
0	20	3.0605
5	46	3.1104
1	79	3.1142
3	88	3.1559
4	107	3.1750
Sig.		.857

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 38.985.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Multiple Comparisons Post-Hoc

Dependent Variable: MobileBehaviorAverage

Tukey HSD

(I) Year in College(Grade)	(J) Year in College(Grade)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0	1	-,05368	,13554	1,000	-,4553	,3479
	2	,01128	,13871	1,000	-,3997	,4223
	3	-,09541	,13413	,992	-,4928	,3020
	4	-,11455	,13191	,977	-,5054	,2763
	5	-,04993	,14503	1,000	-,4796	,3798
	6	,04344	,17862	1,000	-,4858	,5727
1	0	,05368	,13554	1,000	-,3479	,4553
	2	,06496	,09106	,992	-,2049	,3348
	3	-,04173	,08392	,999	-,2904	,2069
	4	-,06087	,08032	,989	-,2989	,1771
	5	,00374	,10042	1,000	-,2938	,3013
	6	,09712	,14477	,994	-,3318	,5261
2	0	-,01128	,13871	1,000	-,4223	,3997
	1	-,06496	,09106	,992	-,3348	,2049
	3	-,10669	,08895	,894	-,3703	,1569
	4	-,12583	,08556	,762	-,3793	,1277
	5	-,06122	,10467	,997	-,3713	,2489
	6	,03216	,14774	1,000	-,4056	,4699
3	0	,09541	,13413	,992	-,3020	,4928
	1	,04173	,08392	,999	-,2069	,2904
	2	,10669	,08895	,894	-,1569	,3703
	4	-,01914	,07792	1,000	-,2500	,2117
	5	,04547	,09852	,999	-,2464	,3374
	6	,13885	,14345	,961	-,2862	,5639
4	0	,11455	,13191	,977	-,2763	,5054
	1	,06087	,08032	,989	-,1771	,2989
	2	,12583	,08556	,762	-,1277	,3793
	3	,01914	,07792	1,000	-,2117	,2500
	5	,06461	,09547	,994	-,2182	,3475
	6	,15799	,14137	,923	-,2609	,5769
5	0	,04993	,14503	1,000	-,3798	,4796
	1	-,00374	,10042	1,000	-,3013	,2938
	2	,06122	,10467	,997	-,2489	,3713
	3	-,04547	,09852	,999	-,3374	,2464
	4	-,06461	,09547	,994	-,3475	,2182
	6	,09338	,15369	,997	-,3620	,5487
6	0	-,04344	,17862	1,000	-,5727	,4858
	1	-,09712	,14477	,994	-,5261	,3318
	2	-,03216	,14774	1,000	-,4699	,4056
	3	-,13885	,14345	,961	-,5639	,2862
	4	-,15799	,14137	,923	-,5769	,2609
	5	-,09338	,15369	,997	-,5487	,3620

Oneway for The Model and Brand Used Group Differences on Mobile Behavior

ANOVA

MobileBehaviorAverage

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.903	3	.301	1.033	.378
Within Groups	121.493	417	.291		
Total	122.396	420			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: MobileBehaviorAverage

Tukey HSD

(I) ModelofPhone	(J) ModelofPhone	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Not stated	Ios	.20061	.11728	.319	-.1019	.5031
	Android	.17676	.10732	.353	-.1001	.4536
	Windows Phone	.17221	.13049	.551	-.1644	.5088
Ios	Not stated	-.20061	.11728	.319	-.5031	.1019
	Android	-.02385	.06679	.984	-.1961	.1484
	Windows Phone	-.02840	.09985	.992	-.2860	.2292
Android	Not stated	-.17676	.10732	.353	-.4536	.1001
	Ios	.02385	.06679	.984	-.1484	.1961
	Windows Phone	-.00455	.08794	1.000	-.2314	.2223
Windows Phone	Not stated	-.17221	.13049	.551	-.5088	.1644
	Ios	.02840	.09985	.992	-.2292	.2860
	Android	.00455	.08794	1.000	-.2223	.2314

Homogeneous Subsets

MobileBehaviorAverage

Tukey HSD

ModelofPhone	N	Subset for alpha = 0.05
		1
Ios	87	3.0905
Android	262	3.1143
Windows Phone	44	3.1189
Not stated	28	3.2911
Sig.		.215

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54.235.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

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