Impact of Mobile Phone Game Addiction on Sri Lankan Teenagers: An Exploratory Study

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Authors' contributions

This work was carried out in collaboration with all authors. Author DDKSK designed the study, helped with the thematic analysis and conducted the final editing of the manuscript. Author RAARP wrote the literature review, collected the data, and conducted the thematic analysis. Author NDUV wrote the first draft of the article, the discussion section and completed the references. All authors read and approved the final manuscript.

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ABSTRACT

Technology has become an essential part of human life and it has significantly changed the behaviors of individuals. One of the popular applications of technology is the smartphone and it has an inseparable relationship with modern teenagers. With the improvement of technology, many teenagers use their mobile phones for playing games. Teenagers use these games for multiple purposes such as a hobby, for relaxation, to be adventurous, and for gambling. Most of the time it is started as a hobby but sometimes it becomes an addiction. The current study examined the impact of mobile phone game addiction on Sri Lankan teenagers. The main objectives were to identify how mobile phone game addiction affected their academic performance, aggression, self-identity, physical health, mental health, and family relationships. The study was conducted according to the qualitative research method. Six teenage participants were interviewed using semi-structured interviews and data were analyzed using thematic analysis. The results show that the influence of mobile phone game addiction differs according to the amount of time they play. From the participants' point of view, mobile phone gaming is a major barrier for academics and

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physical health and it increased their aggression. Results show that it has no powerful effect on self-identity and mental well being. Its effect on family relationships is neutral. Most of the participants wanted to stop playing games but a few didn't see anything wrong with playing mobile games. More research is needed to identify reasons as to why they are addicted to games and how to rescue them from mobile phone game addiction.

Keywords: Mobile phone games; addiction; teenager.

1. INTRODUCTION AND LITERATURE REVIEW

Mobile phone games are one of the most popular modes of entertainment in modern society. The first mobile phone game was introduced in 1994 [1]. After that, step by step mobile phone gaming technology increased. The evolution of mobile gaming in the last two decades is incredible. Nowadays, smartphone owners worldwide spend 200 million minutes per day playing games.

Many reports indicate that mobile phone subscribers are rising with the development of technology. Inrecent years, playing more and more mobile games are increasing within the local community. This lead to Sri Lanka facing a threat of mobile game addiction, especially among the vulnerable teenagers. Teenagers have become like robots and they are trying to cling to mobile phone games. This behavior impacts the teenager's life as well as society.

1.1 Mobile Phone

Cell phone is a telephone with access to a cellular radio system so it can be used over a wide area without a physical connection to a network [2]. Also, a cell phone is known as a portable telephone which uses cellular network technology to make and receive calls. It is all about the technology used to transmit calls, rather than what the handset itself can or cannot do. A cell phone is a phone that can transmit a signal to a cellular network and a cell phone is also called a cellular phone and a mobile phone. A smartphone is a cell phone but is like a mini-computer because it can be used to send SMS messages, and can organize your day to day activities other than being used to make calls. Often, when talking about mobile phones, a cell phone is used to describe a simple feature phone, but a smartphone is used to describe more advanced touch screen phones. The very early mobile devices could be used to only give calls and receive them. But, today it has many more features such as a browser to navigate the internet, a camera to take photos, a video player to play videos, a GPS for navigation, and most importantly as a console to play games. There is a debate about whether a mobile phone is different from smartphones, but technically, every mobile phone, from the latest Android handset to the simplest feature phone, is a cell phone.

1.2 Teenagers

A teenager, or teen, is a young person whose age falls within the range of 13 and 19. [3] They are called teenagers because their age number ends with "teen". Usage by ordinary people and in different societies varies. During puberty, rapid mental and physical development occurs. This transition period where a person is neither a child nor an adult is named Adolescence. This stage is an experimental age stage because in this stage adolescents are exposed to society and new experiences.

1.3 Mobile Games

According to IGI Global [4] mobile games are defined as games designed for mobile devices, such as smartphones, feature phones, pocket PCs, personal digital assistants (PDA), tablet PCs, and portable media players. There are basic mobile games such as Snake and three-dimensional ones that have real-world like experiences. The smartphones can be connected to other devices and the internet by Bluetooth, Wi-Fi connectivity, and 4G and in some countries even 5G. The advantage of these connectivity features is that it enables players to participate in games with other players, mostly two but can be multiple. In general, the games were played on specialized gaming computers with high capacities. The revolution in technology has helped to transfer these technologies to the advanced mobile phones that now have efficient and speedy central processing units (CPU), coupled with bigger random processing memory (RAM), and display screens that are unbelievably high-resolution. The world population in 2020 is 7.8 billion. Mobile gaming industry reports show that a whopping 2.4 billion are mobile game players – that is about 30.7% of the world's population [5].

1.4 Addiction

According to Horvath et al. [6], the meaning of the term *Addiction* brings different meanings to people. According to their opinion addiction can be described as the repeated involvement with a substance or activity, despite the substantial harm it now causes, because that involvement was (and may continue to be) pleasurable or valuable [6]. It is a condition that results when a person ingests a substance (e.g. alcohol, cocaine, nicotine) or engages in an activity (e.g. gambling, sex, shopping) that can be pleasurable but the continuation of which becomes compulsive and interferes with ordinary responsibilities and concerns, such as work, relationships, or health. People who have developed an addiction may not be aware that their behavior is out of control and causing problems for themselves and others [7]. There are four factors of addiction and they are classified as follows: Addiction includes both substances and activities (such as sex and gambling); Addiction leads to substantial harm; Addiction is repeated involvement despite substantial harm; and Addiction continues because it was, or is, pleasurable and/or valuable [8,9]. People with addictive disorders may be aware of their problem, but are unable to stop it even if they want to. The addiction may cause health problems as well as problems at work and with family members and friends [8, 10].

1.4.1 Mobile phone addiction

Mobile phone usage has dramatically increased in recent years and so too are the reports of mobile phone addiction. However, while many studies are supporting the idea of media addictions to television and the internet, research on mobile phone addiction is very scarce. The criteria used to determine media addiction include a "craving or compulsion, loss of control, and persistence in the behavior despite accruing adverse consequences" [11]. A few of these adverse effects include isolating their users from others [12], deleteriously affecting their users' finances, turning their users into criminals and, negatively impacting academic performance [13]. Some psychiatrists believe that mobile phone addiction is no different from any other type of addiction (drugs, the internet) and that mobile phone addiction has become one of the most prevalent non-drug addictions. Several scholars have reported that some users are more dependent on their mobile phones than they are

aware of. Terms such as *Smartphone addiction* [14], *mobile phone addiction* [15,16,17], *problematic mobile phone use* [18,19], *mobile phone dependence* [20,21], *compulsive mobile phone use* [22], and *mobile phone overuse* [23], have all been used to describe more or less the same phenomenon, that is, individuals engrossed in their Smartphone use to the extent that they neglect other areas of life. The most commonly used terms to describe this kind of addiction are *mobile phone addiction* and, recently, *Smartphone addiction*.

1.4.2 Research on Mobile Phone addiction

Around the world, technology has come to denote a significant role in our lives. The current trend of society is to adopt every change in the field of communication technology. Mobile phones are the boon of this century. The mobile phone is considered as an important communication tool and had become an integral part of society, it is not only a communication device but it also provides many entertainments such as games. Jones [24] from the strategic Communication department of Elon University conducted research about "Students' Cell Phone Addiction and Their Opinions". She conducted field observations to examine Elon students' behavior while walking around campus, along with an online survey. The level of engagement Elon students have towards each other and with their devices in face-to-face interactions were measured by her survey and field observations. She noticed a somewhat surprising result from her observation of close to 200 students. Only 68 students (35.6%) did not have their cell phones out while the great majority (64.4%) were doing something with their phones. 83 students (43.5%) of the sample were texting with their cell phones, 14.1% were listening using their earbuds and 6.8% were talking on the phone. The overall opinion of the majority of students surveyed was that they are aware of the behaviors of themselves and their peers. It appears that cell phone addiction is real.

Mobile phone game developers target a variety of people of different ages. Most of the time mobile games are marketed at teenagers because teenagers are children who are living at a critical age and like to experiment with novelty. Research shows that teenagers are most susceptible to video game addiction since many in this age group generally lack the self-discipline needed to limit the amount of time they spend playing games. So they have a higher risk of addiction to mobile phone games.

The brain's reward system is highly susceptible to dopamine and addictions release dopamine in huge quantities. That is why when we play mobile phone games we feel happy. Mobile phone game addiction can be defined as craving or compulsion, loss of control, and persistence in the playing behavior despite accruing adverse consequences [25].

In 2011, Sri Lanka had an estimated eighteen million, three thousand, four hundred and forty-seven (18,003,447) mobile phone subscribers. By the end of December 2012, the number was 20.3 million [26]. Nowadays in Sri Lanka, most teenagers either have a mobile phone or have access to one and they like to play mobile phone games on their devices. More than half of mobile gamers are addicts at present [27]. Everywhere we can see teenagers playing mobile phone games on their smartphones. It is rapidly increasing day by day and has become a huge problem in society. Years ago, those who struggled with game addiction either have to stay at home or visit arcades to fuel their addiction. Today, addicted gamers can feed their addiction conveniently at any time directly from their mobile devices because gamers can log in to play at work, at school, and at times usually reserved for close friends and family. Also, they can play while standing in line, waiting for a bus, or in the bathroom. This addictive behavior can impact a teenager's life. Therefore, it is important to study how mobile phone games impact their life.

According to Munasinghe [28], studied Factors influencing Smartphone Addiction among Students of the North Central Province in Sri Lanka. Data analysis indicated that all the independent variables positively affected the addiction to smartphones. Loneliness and the gender of students had a high impact on the addiction. The advancement of technology serves the growth of children's educations but parents have to place considerable attention to the use of technology by their children because addiction to smartphones would reduce their children's academic performance. The addiction to technology such as smartphones can be reduced when students are trained to think rationally from their childhood.

Ahmed, Qazi, and Perji [16] have done a study on the addiction of Mobilephone by youngsters in Hailey College of Commerce, University of the Punjab, Pakistan. To ascertain their degree of addiction the authors explored the pattern of mobile phone usage among these youngsters from Pakistan. Research findings suggest that majority of young mobile phone users are those who do not take longer than intended calls; do not ignore their face-to-face interactions with friends to use the mobile phone, don't believe that their usage is excessive, are not less productive due to their cell phone use, do not have sleep deprivation because of their mobile phone use, and are not prone to be anxious or depressed if they are separated from their cell phones often. Only a very few exhibited extreme addictive behaviors and the majority were not frequently involved in addictive usage patterns. Similarly, very few respondents agreed that they have addictive behaviors such as being lost out of the real world while being with their cell phone, using cell phone everywhere without considering the decorum of that place, avoiding keeping their cell on silent or vibration mode due to fear of missing the incoming alerts of calls or text messages.

Mehroof and Griffiths [29] tried to find out the relationship between online gaming addiction and personality factors. The several personality factors studied were sensation seeking, self-control, aggression, neuroticism, state anxiety, and trait anxiety. Five out of the six straits studied displayed a statistically significant relationship with online video game addiction. They were: neuroticism, sensation seeking, trait anxiety, state anxiety, and aggression. This research suggests that certain personality traits may be important in the acquisition, development, and maintenance of online game addiction.

Wang and Zhu [30] conducted research on Online Game Addiction among University Students. The results were divided into four themes; health, family relationships, friend relationships, and school performance. They came up with these themes by looking at their transcription and found that interviewees all had problems with sleep and with their diet (health theme), as well as having problems with most of their social relationships such as friends and family thus they made it into two themes (relationship with family & relationships with friends) and lastly that any addiction can have impacts on current studies or work assignments.

2. METHODOLOGY

Participants for the study were selected using a purposive sample technique. All the participants

were teenagers who played mobile phone games for more than two hours a day. A sample of 06 participants was chosen from several Districts in Sri Lanka. One (01) of them were female, and the other (05) were male. Under the Qualitative method, the data were collected using semi-structured interviews. For this study, the phenomenon under examination was how mobile phone addiction impacted Sri Lankan teenagers.

Data were collected to examine how mobile phone gaming addiction affects academic performance, aggression, self-identity, physical health, mental well-being, and family relationships. Individual 30-40 minute semi-structured interviews were conducted with the participants using the set of questions on the interview guide. The interviews were conducted in Sinhala so that participants were able to express themselves in the language that they are most fluent and familiar with.

3. RESULTS

The data analysis was done under the following themes: How mobile phone game addiction influence teenagers' Academic Performance; Aggression; Self Identity; Physical Health; Mental Health; and Family Relationships. Analysis of those categories measured how mobile phone games impact Sri Lankan teenagers.

3.1 How Mobile Phone Game Addiction Influences Teenager's Academic Performance

The findings of the research revealed that their attitudes were mixed. Three participants out of

six believe that mobile phone gaming has a positive effect on their academic performance. Others have a negative idea about mobile phone gaming on their academic performance. Some of the positive participants stated that mobile phone gaming helps them with academic work by relaxing their mind from academic stress and that mobile phone gaming was never an obstacle for their academic performances.

> *Participant No 01: I never make games an interruption for my schoolwork and classroom work. Sometimes it helps me with my studies too. It helps me to relax my mind, when I get stuck with some things in my studies or when I get tired doing studies.*

Also, half of the participants mentioned that mobile phone gaming reduces their academic performance and it hurts their studies.

> *Participant No 02: There's been a lot of times when I haven't done schoolwork because of the games. Even when there is schoolwork I can do easily or quickly I leave it without doing it and keep playing games.*

Also, one of the participants pointed out that, sometimes he pretends fake illnesses to avoid school and classes.

> *Participants 06: If I play till morning, I don't want to get up from the bed. Sometimes I pretend to be ill to stay home from school.*

The impact of mobile phone game addiction on teenager's Academic performance is mixed with equal negative and positive attitudes.

Table 1. Participants' responses to the questions

	Academic performance		Aggression		Self-Identity		Physical health		Mental health		Family relationship
	Q1	Q2	Q1		Q1	Q2	Q1	Q2	Q1	Q2	Q1
P 01	+	+	-		+	+	-	-	-	+	-
P 02	-	-	-		-	+	-	-	-	-	-
P 03	+	+	+		+	+	-	-	*	+	+
P 04	+	+	-		+	+	-	-	-	-	-
P 05				-	+							-
P 06				-		+						-

P= Participant
Q = Question
+ = Positive (Positive Impact)
-= Negative (Negative Impact)
***=** No positive or negative Impact

3.2 How Mobile Phone Game Addiction Influences Teenager's Aggression

Five out of six participants of the study mentioned that mobile phone addiction constitutes a significant risk factor for later aggression. They stated that if they get defeated in a game again and again or if someone disturbs the game it is a reason for aggression and that aggression will continue for a few hours. Also, it can be taken out on someone. So, mobile phone game addiction negatively affected the aggression of most teenagers.

> *Participant No 01: When I play a game I need to play it as much as I want. whenever I was called for something I go for that after I finished playing.*

> *Participant No 02: I get very angry when I'm out from a game or the car gets crashed in car games. At those times I feel like throwing the phone on the ground and break it.*

In the modern world, there are so many online games. It has steadily increased over the last decade. Online games have both single players and multiplayer and it needs an internet connection. According to participants if they lose the internet connection they get angry.

> *Participant No 04: If the internet connection collapses while playing I get furious. It's because I'll lose trophies if the connection is lost.*

One participant out of six stated that mobile game addiction is never a reason for aggression because games are artificial things.

> *Participant No 03: Oh no I don't get angry. It's just a game and I play it for fun. I don't take it seriously.*

3.3 How Mobile Phone Game Addiction Influences Teenager's Self-Identity

All the participants stated that mobile phone game addiction only positively impacts Self-identity. When considering their responses, they have different ideas about the level of impact mobile phone game addiction has on self-identity.

> *Participant No 02: The feeling I get from winning a game after playing for a long time*

encouragesme the whole day. It makes me feel like I'm a hero.

> *Participant No 04: I think it depends on the person. I can balance my work with this. The game I play is "Clash of Clans". Most of the participants in that game are foreigners. So, I have to chat with them in English. From that, I can improve my English knowledge too.*

3.4 How Mobile Phone Game Addiction Influences Teenager's Physical Health

All the participants unanimously stated that playing mobile games continuously harms physical health. According to them, playing mobile games for many hours weaken their vision and their back.
Participant No 04: Sometimes I playtill 2 or 3 in the morning. The next day I do my stuff being sleepy. I get very tired too.

> *Participant No 05: My eyesight decreased after I started to play games. It's because I'm looking at the phone covered with a blanket for so many hours instead of sleeping.*

> *Participant No 02: I went to a funeral one day with one of my friends and I played games there with him for hours. Finally, after the phone switched off because the battery died we got up from where we were sitting. It was hard for me to get up as I got back pain since I was sitting for hours without moving.*

3.5 How Mobile Phone Game Addiction Influences Teenager's Mental Well-being

Four out of six participants stated that mobile phone gaming negatively impacts a teenager's mental health such as reducing memory and attention, and increasing laziness. They believed from their experiences that playing mobile phone games for a long time negatively affects a teenager's mental health.

> *Participant No 02: For a week or two I feel like I missed one or two of the tasks that I'm delegated by my mother or someone else. I don't know if it's an illness in my body or something else.*

> *Participant No 05: Yep! it has a great influence. Thinking power is reduced. Some things are forgotten. It's because I'm playing*

games all the time. I think about the game even when I'm eating or bathing.

Two out of the six participants mentioned that there weren't any negative effects on mental health and that they believed that mobile phone gaming is helping them to reduce stress.

Participant No 01: Gaming is worth all the time for facing problems or if there's something that I want to forget. It's a good way to boost the mind when it's emotionally down.

3.6 How Mobile Phone Game Addiction Influences Teenager's Family Relationships

Five participants out of six firmly suggested that mobile phone game addiction negatively affected their family relationships. Since they are always playing games their relationships with the family became distant. Their responses suggest that they play mobile games with the time that they normally reserved to spend with family members. They think sometimes they discriminate against family members and escape their responsibilities because of mobile phone gaming.

Participant No 01: Sometimes to play games I spend an hour or two that I used to spend with my family members.

Participant No 02: If my parents tell me something while I'm playing I get angry. At those times I scold them and they get angry too. Sometimes when my brothers come and disturb me while I'm playing I shout at them with foul words, hit them, and ask them to leave.

One participant stated that playing mobile games is never an obstacle for family relationships and that he believed it is a reason for improved family relationships.

Participant No 03: Sometimes when there's my brother, both of us play games together. Itincreases our bond. If everyone in our family is having a chat I stop playing games and join them.

The findings of the research were grouped under six themes. Those findings are mixed with both positive and negative responses. Both positive and negative attitudes can be seen equally when considering mobile phone game addiction on

academic performance. Except for one participant, all other participants accepted that aggression increased because of playing mobile phone games. According to participants, there is no significant impact of playing mobile phone games on their self-identity. But the majority accepted that their physical and mental well being is decreased by mobile phone gaming. Also, except for one participant, all other participants believed that mobile phone game addiction negatively impacts their family relationships.

4. DISCUSSION

People are introduced to mobile phone games at a very young age. For some people, playing mobile games is simply a leisure activity, for others, it is a hobby, and some even stop playing mobile games after a particular age. However, some do not stop playing games on their smartphone once they start, which is very common among teenagers. It becomes an obsession and unfortunately can become addictive. In the modern world, mobile phone games are becoming increasingly multifaceted with more realistic characters, better graphics, and more tactical challenges than they used to. These gaming advances, in turn, make gaming more addictive. Also, mobile games are designed to be just challenging enough for players to be able to achieve small feats that force them to continue to play. Game designers are always searching for more ways to make their games more fascinating to increase the amount of time spent playing them. In turn, mobile phone games are almost designed to be addictive in the sense that designers want players to want to keep playing and buying their games. Teenagers have a great vulnerability to easily become addicts to mobile phone games.

The findings of the research study revealed that there is a considerable impact on mobile phone game addiction on Sri Lankan teenagers with more negative impacts than positive impacts. All participants accepted that mobile phone game addiction negatively impacts physical health. Attitudes about academic performance were mixed with both negative and positive attitudes. Mobile phone game addiction only positively impacted Self-identity. Furthermore, they have both negative and positive attitudes towards their addiction to mobile games and they don't have an idea of stop playing mobile phone games. Through discussing themes in the research, we can identify how much they are addicted to mobile phone games and what causes it.

4.1 Mobile Phone Game Addiction on Teenagers' Academic Performance

Participants have both negative and positive attitudes on how mobile phone game playing impact their academic performance. According to three participants, it is helpful to play games for high academic performance. The reason for their positive attitude is playing games relaxes their minds when they have academic workloads. When considering these findings, we can identify that playing mobile games is the participants' only method of releasing the mind from academic stress and it can be a cause for their lack of participation in extracurricular activities. The findings show that some days they carry mobile phones to school and play games there as well. These findings revealed that it is a barrier to improve their high academic performances even though their attitudes are positive.

For the rest of the participants', their addiction to mobile phone games is an obstacle to their academic performances. Although they play mobile games they perceive it as a barrier. But, because they play multiplayer games with their friends, they are unable to stop the addiction. Another reason for their addiction to mobile phone games and keeping away from academics is that they do not have huge pressure from anyone from their immediate family to stop playing games and they always have unlimited freedom. Finally, the findings revealed that although teenagers perceive that mobile phone game addiction impacts their academic performance both negatively and positively it is, in reality, a barrier to their academic performance.

4.2 Mobile Phone Game Addiction on Teenagers' Aggression

All the participants except one stated that mobile phone game addiction increases their aggression. They mentioned two main reasons as to why. Those are, getting defeated again and again or being disturbed while they are playing. The important thing here is that they are aggressive even after playing the game and they try to release their aggression towards others. It is a major negative impact on their lives [31]. There were five males and one female participant in this study and results show that all the male teenage participants prefer to play violent, aggressive games. It can also be a reason for their violent and aggressive behaviors in their regular lives and with their peers (Also,

most of the time they play mobile phone games with a goal, and therefore, they give their full attention to the game.

However, one participant stated that playing games do not increase his aggression. Furthermore, that participant stated that he is playing mobile phone games to gain pleasure and that he is not foolish enough to release his aggression towards others. As this particular participant mentioned, if the players can play games with good understanding, it does not lead to an increase in aggression, and, therefore, they do not have to release it to others.

4.3 Mobile Phone Game Addiction on Teenagers' Self-Identity

One of the reasons for the positive impact of mobile game addiction is its ability to enhance players' self-identity. All the participants believe that they can enhance their self-identity through mobile phone games. According to findings, they get an opportunity to discuss android and IOS games with friends and to show themselves as a gamer. They never hide from others that they are playing games and they never have guilty feelings or feel shy about playing games most of the time. Players are playing the role of hero in the games such as *Shadow Fighter* and *Temple Run*. Through playing they imaging themselves as a hero and develop a positive self-identity. The findings reveal that these games also help to improve the knowledge of different languages, especially English, and that also helps them build their self-identity. In addition, playing mobile phone games through the internet help to build new social relationships that are necessary to develop self-identity. Findings revealed that playing the game help teenagers develop qualities such as decision making, responsibility, and obeying rules and those qualities help enhance their self-identity.

4.4 Mobile Phone Game Addiction on Teenagers' Physical Health

The majority of studies examining physical and mental health effects of cell phone radiation have targeted the potential of cell technologies to cause cancer, nervous system disorders, and adverse effects on procreation. According to Hardell et al, [32] for people who have used these devices for 10 years or longer, and when they are used mainly on one side of the head, the risk of malignant brain tumor is doubled for

adults and is even higher for persons with first use before the age of 20 years.

Participants stated that mobile phone game addiction had a high negative impact on their physical health. Its impact was centered mainly on the players' eyes and spine. Looking at a phone screen for a long time and sitting in the same position for hours can be the main reason for it. Further, it leads to obesity because mobile phone game players give up their time on exercise or walking to play mobile phone games. The first need of the Sri Lankan teenagers is to purchase a smart mobile phone when they become a teen. Once they buy the device, they develop a huge interest to download and play mobile games nonstop. It can be one of the main reasons for reducing the physical health of teenagers'. Radiation in mobile phones can cause cancers and also illnesses in the nervous system. The participants don't seem to know about the negative impact of radiation from smartphone usage. The findings reveal that mobile phone game addiction negatively impacts the overall physical health of teenagers.

4.5 Mobile Phone Game Addiction on Teenagers' Mental Well Being

According to Panova and Lleras [33] claimed that people who self-described as having addictive-style behaviors toward the Internet and cellphones scored much higher on depression and anxiety scales. As a developing country, Sri Lanka has a lack of knowledge about mental health as well as mental illnesses [34]. Teenagers' perspective on the impact of mobile phone games on mental health reveals that there is a negative connection between these two factors. But, they don't have a broad comprehension of how mobile phone games impact their mental health. Mobile phone addiction impact to decrease memory, decrease attention, and also increase the laziness of teenagers. According to some participants, not playing a mobile phone game at least once each day is like living without meals. Not playing mobile games can be a cause for them to have anxiety, depression, frustration, and aggression [35,36,37,31]. Teenagers develop a lack of social relationships because of mobile phone games and it can lead to social phobia. Furthermore, there is a chance to develop learning disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and sleeping disorders. Also, participants play games the whole night. Sleeping better can improve the mental outlook the next day as well

as improve the mood. Conversely, playing games the whole night may reduce their mental outlook and decrease their mood. The major problem is that there is a lack of awareness among teenagers about the negative impact of mobile phone games on their mental health.

4.6 Mobile Phone Game Addiction on Teenagers' Family Relationships

As with earlier research findings the results show that mobile phone game addiction impacts negatively on family relationships [38,39]. The participants don't spend time with their family members because of the regular playing of mobile phone games. According to five out of six participants, it can be a reason to decrease their family relationships. Their evading the responsibilities and duties of their family leads to a decrease in relationships among family members. The lack of knowledge about mobile phone game addiction among other family members also negatively impacts to decrease the relationship with these teenagers. This can be alleviated by providing knowledge to teenagers about addiction and to get them to join common family work. Family members have a huge responsibility for it [40]. Parents also should think about these things before they buy mobile phones for their children. The findings revealed that mobile phone game addiction negatively impacts family relationships.

5. CONCLUSION

The overall findings of teenagers' attitudes towards mobile phone game addiction show that there are both negative and positive attitudes about it. While some participants know that there are negative impacts of the addiction and they want to stop it, other participants do not think that there are any negative impacts from it. They see playing mobile games as a major need of a person. The participants who believe mobile phone game addiction has negative impacts mentioned that their addiction is a huge problem for themselves as well as their social relationships. According to them, mobile phone game addiction hurts their academic performance, increase their aggression, and decrease their physical health, mental health, and family relationship. In addition, wasting money and time were identified as negative impacts of the addiction to mobile games. According to teenagers who positively see mobile phone game addiction, there are many advantages to it. They mentioned that it provides

entertainment, reduces feelings of loneliness, helps them forget their feelings of sorrow, and enhances their self-identity. They also mentioned that game addiction is better than getting addicted to drugs and alcohol.

In the present study, the majority of teenagers were born in the 21st century. They are users of technology from the very beginning of their lives. Most of them have tried buying a smartphone and play games as soon as they become teenagers. Their parents spend very busy lives. Therefore, they don't have time to even talk with their children properly. It's difficult to rescue teenagers from mobile phone game addiction without the help of their parents. Overall, the findings reveal that mobile phone game addiction impacts Sri Lankan teenagers negatively but a few participants saw some aspects of it positively.

CONSENT

The participants were offered a detailed explanation of the research topic and its main focus, before asking for their consent to participate in the research.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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