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## Knowledge and Reported Practices of Mothers about Smart Phone Addiction among their School-Age Children

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### Abstract

Despite the benefits of smartphones, a growing number of studies highlight the adverse effects and potential risks on the cognitive development of school-age children. The objective of this research was to assess the level of understanding and observed behavior of mothers about smartphone addiction in their school-age children. **Design** This study used a descriptive research approach. A sample of 78 mothers, fulfill the following requirements: 1) Having school-age children using smartphones, 2) Their children are between 6 and 12 years old, mothers of children who don't have Smartphones were excluded from the study. The settings included elementary schools, including both private, public, and foreign institutions. The study investigators devised a questionnaire for structured interviews. **Results** indicated that most of the mothers own a higher education degree, and every single one of them utilizes smartphones. In the case of smartphones, most of the children included in the study own a smartphone and/or tablet. All mothers had precise awareness of the detrimental consequences of excessive smartphone use, although they were unaware of the optimal duration for children to utilize smartphones or tablets. **Conclusion** that the predictive factors of smartphone addiction were daily smartphone and social networking service use duration and the awareness of game overuse. **Recommendations:** Mothers should limit their children's smartphone use to a maximum of one hour each day. It is essential to monitor the frequency of children's smartphone usage since frequent, brief periods of smartphone use may indicate the presence of smartphone addiction.

**Keywords:** Mothers' Knowledge, Reported practices, Smartphone Addiction, school age children.

## Introduction

By 2021, it is expected that the global population of smartphone users will reach 3.8 billion and continue to grow. A smartphone is a portable computing device that can connect to the Internet. Smartphone applications (apps) are computer programs that are specifically intended to serve a particular purpose. The rapid adoption of smartphones as a necessity in daily life is a direct consequence of the widespread availability of convenient internet access through applications. Smartphones are utilized to facilitate work, study, information acquisition and sharing, social relations, and leisure activities (O'Dea, 2022).

However, a growing body of material emphasizes the negative consequences and possible dangers associated with Smartphones, notwithstanding their **benefits (Panova & Carbonell, 2018)**. Problematic smartphone use (PSU) refers to the adverse effects of excessive or unregulated smartphone use, including fixation, neglect of other responsibilities, and continued use despite potential harm (Sohn et al., 2021). Moreover, the use of PSU may have adverse effects on the physical and psychological welfare of children, as well as their social engagements and cognitive growth. Excessive smartphone use has been associated with problems such as visual impairment, poor sleep quality, and psychological dependence (Fischer-Grote et al., 2019).

Children may not engage with other kids or people around them. They may also struggle with deep thought and focus since many smartphone applications are intuitive and enable quick switching between options to get fascinating information. This may impair

brain growth and schooling. Excessive use of entertainment apps such as gaming, instant messengers, social networking services (SNS), and prolonged and frequent smartphone usage is associated with problematic smartphone use (PSU) throughout middle and late childhood (Elhai et al., 2017).

In addition, the PSU of children has been seen to have a negative impact on their overall quality of life, the quality of their friendships, and their mental health results (Choi et al., 2017). Recent studies indicate that, mothers must supervise their children's smartphone usage to ensure appropriate use, and maternal guidance should be provided for social media usage and watching video clips. In addition, mothers should carefully facilitate positive communication with their children throughout this process (Lee & Kim, 2021). Early development of improper smartphone use habits might significantly affect a child's future. Previous research studies have shown that preschool-aged children had an average total screen usage of 4.1 hours daily, above the recommended amount. Moreover, excessive screen time among preschoolers may elevate their susceptibility to experiencing attention-related difficulties (Napitupulu et al., 2020).

Nevertheless, there is a lack of research on the effects of excessive smartphone usage in preschool-aged children. Furthermore, a staggering 99.4% of those who use the Internet have done so using wireless means, with the majority (94.1%) utilizing smartphones. The incidence of problematic smartphone usage (PSU) among children under the age of 10 in South Korea increased from 17.9% in 2016 to 20.7% in

2018, representing the highest growth rate compared to other age groups (**Lu et al., 2019**).

Smartphones are more readily available and widely used by young children than other technology. Hence, it is crucial to recognize the use patterns of smartphones and the socio-demographic variables that contribute to problematic smartphone use (PSU) in preschool children. Gaining insight into PSU. (Problematic Screen Use) and its related aspects in preschool children are crucial for the development of effective preventative methods (**Kim et al., 2018**). Problematic smartphone usage is often characterized by the excessive and prolonged use of a smartphone, resulting in impaired social or vocational functioning.

The psychopathology components often studied in relation to problematic smartphone use and use frequency include assessments of stress, depression, anxiety, and low self-esteem (**Elhai et al., 2017**). Some evidence indicates a bidirectional relationship in which the severity of depression and anxiety can be influenced by problematic smartphone use and the other way around (**Lu et al., 2019**). Significance of the study An issue is that the studies were conducted at a period when smartphones were widely used. Thus, the phrase "screen time" might refer to both smartphones and TVs or personal computers, even if the latter is now more often understood as a smartphone. Another restriction is that prolonged usage is usually believed to be hazardous, even though this may not always be the case (**Jones et al., 2019**).

The contradictory findings may be due, in part, to the fact that certain types of behavior associated with smartphone usage are

related to poor mental health rather than smartphone use per se. Both researchers and the popular media have mentioned smartphone addiction, yet there is debate among academics about this matter (**Panova & Carbonell, 2018**).

There is a high correlation between problem gambling and prevalent mental disorders like depression, as opposed to occasional gambling. It would be beneficial to identify children who have a problematic pattern of smartphone use and maybe treat them therapeutically if it can be shown that this pattern is associated with harm. It is appropriate to evaluate the data, given that there has been a substantial increase in research studies utilizing methods to measure the prevalence of PSU and examine its relationship with mental health (**Bowden-Jones, 2017**).

#### **Aim of the study**

To assess knowledge and reported practices of mothers about smart phone addiction among their school-age children.

#### **Research question**

What is the level of mothers' Knowledge about Smart Phone Addiction among their School-Age Children?

#### **Subjects and Methods**

##### **Research design**

A descriptive research design was utilized to achieve the aim of the current study.

##### **Subjects**

A Purposive sample of 78 mothers fits with the study's aim

##### **Inclusion criteria:**

Mothers participating in the current study should fulfill the following requirements: 1) Having school-age children using smartphones, 2) Their children are between 6 and 12 years old.

**Exclusion criteria:**

Mothers of children who don't have Smartphones were excluded from the study

**Setting**

The proposed study was conducted at governmental and private schools in Maan-Jordan.

**Sampling method**

A purposive sample was utilized in the current study to select the subject

**Data collection tools: -**

The necessary data was gathered using the following instruments: -

Mothers' knowledge about smart phone usage: A structure interview questionnaire was used consists of three components: The 1st section comprises inquiries on the personal information of the mothers' school-age children, including their age, employment, level of education, number of children in the household. The 2<sup>nd</sup> section includes questions about personal data about the child, such as the type of school and name of the school. The 3rd section also contains questions that assess the reported practice of the mothers.

**Data Collection Procedures**

The study was carried out in two phases: the preparatory phase and the implementation phase.

**1- Preparatory Phase:**

This phase involved the construction and preparation of data collection tools. Then, this phase was ended by the conduction of the pilot study.

**2- Implementation Phase**

After approvals were obtained from the authorized personnel in the Faculty of Nursing at Alblqaa University, the study was conducted. After that, the researchers were divided into three groups for three

different schools in Maan – Jordan: private, governmental, and international schools. Then, the researchers interviewed the mothers at the end of school time to fulfill the interview questionnaire and complete the desired number of study subjects after explaining the purpose of the study. After completing the proposed number of study subjects, the data was collected to produce the result.

**Ethical considerations**

The research ethics committee granted first clearance. The mothers of school-age children were provided with a detailed explanation of the goal and nature of the research, and their verbal agreement was sought in order to secure their acceptance and participation. Mothers were notified that their participation in the study was optional, and they could withdraw from the trial at any time without explaining. Each mother was guaranteed confidentiality.

**Results**

**Table (1):** Mothers' demographic characteristics. Reveals that more than half of the mothers (51.2%) are between 31-40 years old and that more than three quarters (87.2%) are working mothers. The majority of the mothers (85.6%) have a university education level, while the minority of them (14.4%) has high school.

**Table (2):** Number and percentage of study sample according to knowledge and reported practice of mothers about smartphone addiction among their school-age children. Shows more than half (61.5%) of their children spend more than four hours using a Smartphone/tablet per day, more than three quarters (79.5%) of their children use Smartphones/tablets during meals, more than two-thirds (71.8%) use

Smartphones/tablet after homework. Also more than three quarters (84.6%) use Smartphone/tablets during social visits, more than half (56.4%) use Smartphone/tablets at bedtime, more than three quarters (84.6%) of their children become angry/sad when mothers take phones/tablet from them, as regards to time spent using Smartphone/tablet they all play games (100%), more than three quarters (76.9%) their children access on the Internet when using Smartphone/tablet. Also, more than half (53.8%) of their children use Smartphones/tablets. At the same time, there is a friend or another child with them, as regards the mothers' knowledge about the harmful effects of excessive use of Smartphones (100%), and more than half (69.2%) don't know the maximum period for children to use the Smartphone/tablet.

**Table (1):** Mothers' demographic characteristics (n=78).

<b>Demographic characteristics of mothers</b>	<b>No</b>	<b>%</b>
<b>Age (years)</b>		
20-30	32	41.0
31-40	40	51.3
41-50	6	7.7
<b>Occupation</b>		
Working	68	87.2
Housewife	10	12.8
<b>Qualification</b>		
High school	14	14.4
University	64	85.6
<b>No. of children in the family</b>		
One	28	35.9
Two	38	48.7
Three or more	12	15.4

**Table (2):** Number and percentage of study sample according to knowledge and reported practice of mothers about smartphone addiction among their school-age children (n=78).

<b>knowledge and reported practice of mothers</b>	<b>No</b>	<b>%</b>
<b>What is the number of hours your child spends using a smartphone/tablet?</b>		
1-<2 hrs/day	6	7.7
2-<3 hrs/day	14	18
3-<4 hrs/day	10	12.8
>4 hrs/day	48	61.5
<b>Does your child use a Smartphone/tablet during meals?</b>		
Yes	62	79.5
No	16	20.5
<b>Does your child use the Smartphone/tablet after doing the homework?</b>		
Yes	56	71.8
No	22	28.2
<b>Does your child use a Smartphone/tablet during social visits?</b>		
Yes	66	84.6
No	12	15.4
<b>Does your child use a Smartphone/tablet at bedtime?</b>		
Yes	44	56.4
No	34	43.6
<b>When you take the Smartphone/tablet from your child, does he become angry/sad?</b>		
Yes	66	84.6
No	12	15.4
<b>Does your child spend most of the time using a smartphone/tablet?</b>		
Play games	78	100
<b>When your child uses a Smartphone/tablet, does he access the Internet?</b>		
Yes	60	76.9
No	18	23.1
<b>When there are friends or children with your child, does he prefer to?</b>		
Use Smartphone/ tablet	42	53.8
Play with them	36	46.2
<b>Do you know about the harmful effects of excessive smartphone use?</b>		
Yes	78	100
<b>Do you know the maximum period for children to use the Smartphone?</b>		
Yes	24	30.8
No	54	69.2

## Discussion

This study aimed to assess knowledge and reported practices of mothers about smart phone addiction among their school-age children. The interpretation and discussion of the current study are presented in two main sections: the first section is related to mothers' demographic characteristics; the second section answers the stated research question.

**Section one:** findings related to mothers' demographic characteristics.

Regarding age, the current study revealed that, more than half of the studied sample aged between (31-40) years old. According to occupation the majority of the mothers' are working and their qualifications are university. Regarding to number of children in the family, less than half of the studied sample have two children in the family.

**Section two:** findings answering the research question stated: what is the knowledge and reported practices of mothers about smart phone addiction among their school-age children?

Regarding to number of hours mothers' child spends using a smartphone/tablet, the current study revealed that more than three fifth of the studied sample spend more than 4 hours a day using smart phone. This findings agreed with **Kibria et al. (2024)**, who studied "Urban-rural differences in factors associated with smartphone addiction among preschoolers in Dhaka district, Bangladesh: a cross-sectional investigation" and revealed that more than half (52.4%) of the children spend more than one hour a day using smartphone. Regarding to mothers' child using a Smartphone/tablet during meals, the present study revealed that more than three quarters use Smartphone/tablet during meals. This findings agreed with **Assathiany et al. (2018)**, who

studied " Children and screens: A survey by French pediatricians" and they reported that more than half (56%) of toddlers watch screen at the time of taking meal. Regarding to the child use the Smartphone/tablet after doing the homework, the current study showed that more than two third of the children use the Smartphone/tablet after doing the homework. Regarding to child use a Smartphone/tablet during social visits, the present study showed that majority of children use the Smartphone/tablet during social visits. From the investigators point of view this is because of smartphone addiction at this age group.

According to child use a Smartphone/tablet at bedtime, the current study showed that more than half of the children use Smartphone/tablet at bedtime. This findings agreed with **Yamamoto et al. (2022)**, who studied " Association between media use and bedtime delays in young children: An adjunct study of the Japan environment and children's study" who stated that more than half (53.8%) used two or more devices. For all four devices, multi-device users were more likely to delay bedtime compared with non-device users. Regarding to child spend most of the time using a smartphone/tablet, the current study showed that all the children spending time playing games while using the smartphone. This findings disagreed with **Kibria et al. (2024)**, who studied "Urban-rural differences in factors associated with smartphone addiction among preschoolers in Dhaka district, Bangladesh: a cross-sectional investigation" and showed that less than half (41.8%) of the children main purpose of smartphone use is cartoon watching. Regarding to mothers' knowledge about the harmful effects of excessive smartphone use on children, this study showed that all the



mothers know the harmful effects of excessive smartphone use. This findings disagreed with **Omnia et al. (2021)**, who studied " Mothers' awareness regarding technology addiction for preschool children" and showed that more than two third (71%) of mothers regarding their total knowledge score about technology addiction for preschool children was unsatisfactory. Regarding to knowledge of the maximum period for children to use the Smartphone the current study showed that less than two third of the mothers didn't know the maximum period for children to use the Smartphone. This findings agreed with **Park & Park (2021)**, who studied " Smartphone use patterns and problematic smartphone use among preschool children" and concluded that information should be provided to caregivers on how to set rules for total screen time and to suggest activities to replace children's smartphone use.

### **Conclusion and Recommendations**

The current study revealed a high occurrence of smartphone addiction among children of school age, indicating the need to monitor smartphone use among young children closely. The primary use pattern linked to Smartphone addiction was the total length of smartphone usage. It is recommended that children limit their smartphone usage to one hour per day and maintain a balance between educational and recreational activities for healthy usage. It is essential to monitor the frequency of children's smartphone usage since it might indicate smartphone addiction. Additionally, mothers may not be aware of their children's addictive behavior towards smartphones.

This study recommended that children limit their daily smartphone use to one hour and ensure that they strike a balance between using

it for educational purposes and entertainment in order to maintain a healthy usage pattern. It is essential to monitor the frequency of children's smartphone usage since frequent, brief periods of smartphone use may indicate smartphone addiction. The use of TV/video applications may be associated with the carers' inclination to let children watch TV episodes or videos on smartphones without establishing rules on restricting screen time. To reduce the development of excessive Smartphone use in young children, carers should establish guidelines on the total amount of screen time and actively encourage children to engage in physical activities. Additionally, carers should be given knowledge on how to establish procedures for the time children spend using screens and to provide other activities to replace their use of smartphones. Furthermore, to enhance children's ability to control their usage of smartphones, Consistent discipline is required.

### **Statements and Declarations**

- **Acknowledgments:** Not applicable
- **Data availability:** The data used in this research are available from the senior author upon any reasonable request.
- **Conflict of interest:** The authors have no relevant financial or non-financial interests to disclose.
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