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A Study to Assess the Smartphone Related Behavioral Changes among Preschooler as Reported by their Parents in Selected Community of District Fazilka, Punjab

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ABSTRACT

Smartphones are becoming widely popular and the number of user is significantly increasing the children begin to use a smartphone at earlier stage. Earlier and higher exposure of multimedia is known to have negative effects on children's physical and mental status. Preschooler children are increasingly expose to smartphone often use for entertainment, education are as a mean of communication. Excessive or problematic smartphone use can lead to various issues, including visual impairment, sleep problems, difficulties with social interactions and potential delays in cognitive and emotional development.

Materials and Methods: The research approach adopted for the study was quantative research approach. The research design adopted for the study was cross-sectional descriptive research design. Convenient sampling technique was used. The data was collected through the tool which is prepared by the investigator. The sample consists of the 100 parents of preschooler children. Collected data analyzed by using descriptive and inferential statistics in terms of frequency, percentage, mean, standard deviation.

Result: Findings of the study revealed that out of 100 of preschooler children 79% have the extreme behavioral changes and 21% have significant behavioral changes.

Conclusion: Study concluded that parents of children in the district Fazilka was well aware of the negative effects caused on children use of smartphones.

KEYWORDS: *Assess behavioral changes, preschoolers, parents of preschooler.*

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INTRODUCTION

Since long ago, communication has had a significant impact on our civilization. Over time, its tools and equipment have improved, enabling us to communicate with others more quickly and easily. A smartphone has recently taken the top spot among communication devices in people's daily lives. Regardless of age, gender, or area, mobile phone improvements from simple, basic phones to featured phones and smartphones led to the spread of technology among various categories of people [1]. Smartphone use has increased significantly among today's children and young people during the past ten years, concurrently with an uptick in mental illness in this population. At the same time, media attention is focused on the possibility of "smartphone addiction" or inappropriate smartphone use [2]. The rise in human-machine interactions is largely due to smartphones, which has several benefits. But as smartphone use becomes more widespread, it has also resulted in addiction and misuse [3]. In the highly computerized modern environment that defines the 21st century, smartphones have integrated themselves into the daily lives of pre-schoolers. In addition to their many benefits, smartphones could lead to excessive usage and addictive behaviors [4]. Smartphone addiction has been linked to physical health issues, which can result in sleep abnormalities, musculoskeletal issues, and neurological issues.

Additionally, smartphone addiction was significantly correlated with poor academic performance, procrastination, impulsivity, self-esteem, decreased social contact, solitude, and suicide [5]. Since many years ago, studies on smartphone use and its effects on all pre-schoolers have been conducted. It is by no means a recent problem. However, pre-schooler psychological and physical health is declining, and cell phone addiction is on the rise. Some researcher examined psychological behavior and social relationships with mobile phone addiction. Some researchers looked at pre-schoolers physical health or academic performance with smartphone addiction [6]. The scores from the Smartphone Addiction Proneness Scale indicated 1261 (69.1%) as the usual user group and 563 (30.9%) as a risk group for smartphone addiction. The usage of mobile messengers by pre-schoolers was followed by Internet browsing, gaming, and social networking service use for the longest periods of time [7]. With the Coronavirus Disease 2019 (COVID-19) outbreak, more people worldwide are playing video games and using the Internet. As a result, worries regarding pre-schoolers acquiring behavioral addiction have been raised. The majority of pre-schoolers have smartphones and access to the Internet [8]. Therefore, it is of interest to document the smartphone obsession linked behavioral changes among Indian pre-schooler.

Smartphone offer entertainment and socialization opportunities such as playing online games, surfing web and browsing social media, as well as make life easier with their convenient software applications.

Nowdays, smartphone users rapidly growing worldwide. According to Statista in 2022, about 83.72% of the world's population, over 6 billion people uses smartphone. This figure started increasing significantly from 2016, when there were just 3.67 billion smartphone users around the globe, or 49.40%bof the world's population. The number of smartphone users almost doubled during 2016 and 2022.

According to the Global System for Mobile Communications association (GSMA) projection, 62% of mobile phone users have smartphone in 2025.

Previous studies reported that the average age of first exposure to a smartphone is 3-5 years, which significant stage in the cognitive, linguistic and psychosocial development of preschooler children and the age exposure is gradually decreasing among the preschoolers.

According to global hypothesis and recommendations by the American Academy of Pediatrics, World Health Organization, the American Psychosocial Association, the American Academy of Child and Adolescent Psychiatry, Department of Health and Aged Care of Australian Government, the Ministry of Health of New Zealand, Canadian Sedentary Behavior Guidelines, and many other literatures, preschoolers may use 1 hour of smartphone daily, however, more than the recommended usage time may pushes them into problematic user of smartphone.

Preschooler children's average cumulative screen time per day is higher than the recommended amount of time in many countries including USA, Canada, China, Korea, India, Finland and Thailand, indicates that preschooler children are turning into more problematic user of smartphone.

METHODOLOGY

This chapter deals with the description of the research methodology adopted by the researcher. The methodology of the research indicates the general pattern of organizing valid and reliable data for the purpose of investigation.

The steps under taken for gathering and organizing the data collected work, research approach, research design, selection and description of setting , population of the study, sample and sample technique, selection and development of tool , content validity, tryout of tool/ reliability of the tool, ethical consideration, pilot study, plan and procedure for data collection, plan for data analysis and summary.

The study was arrived at determine the smartphone related behavioral changes among preschooler as reported by their parents.

RESEARCH APPROACH

A quantitate research approach was chosen for the present study in order to assess the smartphone related behavioral changes among preschooler as reported by their parents.

RESEARCH DESIGN

Research design refers to the researcher's overall plan for obtaining answers to the research question and it spells out strategies researcher adopts to develop information that is accurate, objectives and interpretable (Polit DF and Hungler, 2004)

The study design select for present study was cross-sectional descriptive research design in order to assess the smartphone related behavioral changes among preschooler as reported by their parents.

SELECTION AND DESCRIPTION OF SETTING

Setting refers to the area where the research conducted; it may be natural setting or laboratory setting depending upon the study topic and researcher's choice. (Polit DF and Hungler, 2004)

The present study was conducted at:
Selected community area of District Fazilika - An approximately 1,180,483 population and about 11% of the total population in Fazilika is under 6 years of age.

Selected community area of Jalalabad, District Fazilika - An estimated population of 356,027 and about 13% of the total population in Jalalabad is under 3-6 years of age.

POPULATION OF THE STUDY

Accessible Population - Population of preschooler in selected community area of District Fazilika

Target Population –Parents of children of age 3-6 who are available and willing participate

SAMPLE TECHNIQUE AND SAMPLING SIZE

Sample technique for the present study included convenient sampling of community of District Fazilika. The sample size was 100 parents of preschooler of age group 3-6 years on the basis of availability and their willingness to participate in the study.

Inclusive Criteria

- Parents of preschooler who are willing to participate.
- Structured interview schedule for parents.
- Parents who using smartphone.

Exclusive Criteria

- Parents who are not willing to participate.
- Parents and their children's who doesn't use smartphone.

SELECTION AND DEVELOPMENT OF TOOL

Self-Structured Interview Schedule / Questionnaires were made in order to assess the behavioral changes among preschooler as reported by their parents.

The following steps were carried out in the preparation of the tool,

- Review of literature.
- Preparation of blue print.
- Formal and informal discussion with guide and co guide and subjects experts.
- Establishing the validity and reliability

DESCRIPTION OF THE TOOL

Section A: Socio demographic profile for sample characteristics include age , sex , education of preschooler, parent's education and occupation , area of living , number of siblings , number of smartphone in the house , playground near by the house.

Section B: Structured interview schedule and self-structured questionnaire to access the behavior changes among the preschooler reported by their parents.

It includes four parameters:-

1. Behavioral problems
2. Sleep Disturbance
3. Social Skills Disturbance
4. Physical Activity Disturbance

On the basis of developed framework to achieve the objectives of the study. A Self-Structured Interview Schedule / Questionnaires containing 42 questions were constructed for assessing the behavioral changes among preschooler as reported by their parents.

Interpretation of scores of self-structured interview schedule / questionnaire regarding behavioral changes among preschooler.
Subtle: 155-210
Significant: 99-154
Extreme: <98

CONTENT VALIDITY OF THE TOOL

The tool was submitted to 13 experts in the field of nursing, pediatric including one language expert. This was done in order to ascertain the appropriateness, clarity and relevance of tool. The experts were chosen on the basis of expertise, experience and interest in problem area. A letter requesting for validation of the tool by personally visited twice for the purpose. After examine the statement of problem, objectives of study and tool the experts delivered their opinion on appropriateness and clarity of item.

TRY OUT OF TOOL

The try out was done on parents of preschooler of community Jalalabad, District Fazilka. It was conducted to confirm the appropriateness and relevance of each item of tool and to note for each complete schedule.

RELIABILITY OF TOOL

Reliability of an instrument is the degree of consistency with which it measures the attributes it is supposed to measure. (Polit DF and Hungler, 2004)

Reliability analysis allows studying the properties of measurement scales and the items that make up them. The reliability analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationship between the individual items in the scale.

Reliability of the tool was calculated with Karl Pearson's test retest method. Tool was found to be reliable(r=0.988)

FEASIBILITY OF STUDY

To assess the feasibility of the study, an informal observation was carried out in the order to assess the availability of the study subjects, to assess the feasibility and practicability of tool, to refine methodology and to find out means for analysis and interpretation of data.

It was found the study was feasible to conduct, as there was adequate availability of required study subjects. The needed slight changes, which were consulted with the guide and co guide and changes were made accordingly, methodology found appropriate for the study.

ETHICAL CONSIDERATION

Study approval was taken from ethical committee of University Institute of Nursing, Jalalabad are Mr. Sunil Kumar Garg (Professor cum Principal), Mrs. Gurpreet Kaur Brar (Associate Professor), Mr. Rizwan Khan (Assistant Professor), Mrs. Parminder Kaur (Nursing Demonstrator), Mrs. Harpreet Kaur (Nursing Tutor). Keeping the rights of the subjects in mind, only those subjects who were willing to participate were included in the study. Study procedure was explained and written information was also given to the participants. Informed written consents from the participants were taken. Anonymity of the study subjects and confidentiality was maintained.

PILOT STUDY

Pilot study was conducted at community area of Jalalabad, District Fazilika. Prior permission for conducting pilot study was obtained from Municipal cooperation of Jalalabad. Pilot study was conducted on 10 parents of preschooler to see the effectiveness of criteria measure, to find the feasibility of tool and methodology, to obtain information regarding improvement of tool and decide upon statistical analysis.

Each study subject took 20-25 minutes to take interview to assess the smartphone related behavioral changes among preschooler as reported by their parents.

PERMISSION FOR DATA COLLECTION

The permission for conducting the study was obtained from municipal cooperation of Jalalabad, District Fazilika. The data was planned to be collected of parents of preschooler of community District Fazilika, Punjab.

DATA COLLECTION PROCEDURE

Data collection was done from 6 May, 2025 to 15 May, 2025. Purpose of the study was explained and written informed consent was obtained. Tool was administered by self by taking interview of parents and it took 20-25 minutes to fill the tool by each parent's interview.

PROBLEM FACED DURING DATA COLLECTION

- Most of the parents are working and not available at home.
- Some parents do not agree to be interviewed.
- Many parents refuse for that their children not use smartphone.

PLAN FOR DATA ANALYSIS

Data analysis done as per the objective of the study. The data had been analyzed by descriptive statistics calculation of mean standard deviation and inferential statistics. Karl Pearson's chi-square test was computed to find out relationship between variables. Data had been represented in the form of tables, bar and pie diagrams. Data analysis was done with the use of statistical software SPSS 19.0.

SUMMARY

The chapter dealt with research approach, research design, selection and description of setting, population, sample and sampling, selection and development of tool, content validity of tool, description of final tool, language validity of tool, reliability of tool, ethical consideration, pilot study, plan and procedure of data collection and plan for data analysis. The next chapter dealt with the analysis and interpretation.

DISCUSSION

The present study was conducted to assess smartphone related behavioral changes among preschoolers (3–6 years) as reported by their parents in selected communities of District Fazilka, Punjab. The discussion is organized according to the objectives and major findings of the study and is supported by findings from earlier research.

Overall Smartphone-Related Behavioral Changes

The findings of the present study revealed that a majority of preschoolers (79%) exhibited an extreme level of smartphone related behavioral changes, while the remaining children showed a significant level of changes. This clearly indicates that excessive smartphone use has a considerable negative influence on preschool children's behavior, sleep, social skills, and physical activity.

These findings are consistent with studies conducted by Karim (2021) and Serra et al. (2021), which reported that excessive smartphone use leads to emotional, behavioral, and social difficulties among young children. Increased screen exposure at an early age reduces opportunities for real-life interaction, creative play, and physical engagement, which are crucial for healthy development.

Behavioral Problems

In the present study, 77% of preschoolers showed extreme behavioral problems, such as temper tantrums, irritability, disobedience, boredom without smartphones, and reduced interest in hobbies. Parents reported that children became restless and

emotionally upset when smartphones were withdrawn.

These findings are supported by Lee & Chae (2015) and Jain (2025), who reported a strong association between smartphone addiction and hyperactive, distractible, and oppositional behavior in preschool children. Excessive smartphone use limits self-regulation skills and increases dependency, leading to maladaptive behaviors.

Sleep Disturbances

The study showed that 59% of preschoolers had significant sleep disturbances, including difficulty falling asleep, frequent night awakenings, daytime sleepiness, and tiredness. Prolonged exposure to screens, especially before bedtime, disrupts circadian rhythm and suppresses melatonin secretion.

These findings are in line with Alanzi et al. (2021) and Chang et al. (2022), who reported that children using smartphones for longer durations experience poor sleep quality, nightmares, and fatigue. Sleep deprivation in early childhood can negatively affect attention, emotional control, and overall growth.

Social Skill Problems

The results of the present study revealed that 71% of preschoolers had extreme social skill disturbances, such as difficulty making friends, introverted behavior, reduced communication, and limited interaction with peers and family members.

These findings are supported by Jain (2025) and Zhu et al. (2025), who found that excessive smartphone use reduces face-to-face communication, empathy, and cooperative play among preschool children. Children spending more time on smartphones often prefer virtual engagement over real-life relationships, leading to social withdrawal.

Physical Activity Disturbances

The present study found that 79% of preschoolers experienced extreme physical activity disturbances, including reduced outdoor play, decreased interest in sports, eye strain, body pain, and sedentary lifestyle habits.

Similar findings were reported by Mokhtarinia et al. (2022) and Amri-Al et al. (2023), who observed a significant association between smartphone addiction and musculoskeletal discomfort, reduced physical activity, and poor fitness levels. Smartphones replace active play with passive screen-based activities, increasing the risk of obesity and delayed motor development.

Association with Socio-Demographic Variables

The study found a statistically significant association between smartphone related behavioral changes and selected socio-demographic variables such as:

- Place of living (urban area)
- Parental education
- Number of smartphones in the household
- Availability of playground near home

Preschoolers living in urban areas showed higher behavioral disturbances due to easy accessibility and affordability of smartphones. Highly educated parents often have busy work schedules and may use smartphones as a convenient tool to occupy children. Similar findings were reported by Kibria & Islam (2024) and Park & Park (2021), highlighting the role of environmental and parental factors in smartphone overuse.

Lack of playground facilities further increased screen time, reducing opportunities for physical activity and peer interaction.

Recommendations

- It is preferable to rationalize the child's acquisition and use of smartphones in preschoolers.
- Strengthening the role of parents in educating children about the harm caused by smartphones.
- Parents allocate a specific time completion of his academic and social requirements.
- Providing sports, social and scientific activities from his time and reduce his use of these devices to occupy his free time.

Conclusion

Parents of children in the district Fazilka are well aware of the negative effects caused on children use of smartphones. The use of smartphones has negative effects on children's social skills, behavioral changes, physical activity and sleep pattern from the parents' point of view. The use of smartphone causes the child to become lazy and lethargic. Child growth and development affected negatively by usage of smartphones. There is an effect of smartphone devices in weakening the child's skills in communicating with others; it makes him shy, introverted and somewhat careless.

Summary

This chapter dealt with summary, discussion with references to similar studies, conclusion drawn, implications, recommendations and limitations based on findings of study.

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Table no.1:- Percentage distribution of subjects according to socio `demographic variables.

S. NO.	Variables		Percentage (%)
1	Age of the child	3-4 year	23
		4-5 year	44
		5-6 year	33
2	Gender of the child	Boy	50
		Girl	50
3	Place of living	Rural	14
		Urban	86
4	Class of child	No school	3
		Nursery	26
		L.K.G	34
		U.K.G	25
		1st class	12
5	Education status of parents mother/ father	Illiterate	7
		Primary	15
		Secondary	24
		Graduation	21
		Post graduation and above	33
6	Occupation of parents mother/ father	Labor	10
		Government/Private Employee	30
		Business / Self employee	17
		Unemployed	2
		Housewife	41
7	Gender of reporting parents	Father	36
		Mother	64
8	Family type	Nuclear	44
		Joint	56
9	Number of sibling	1	67
		2	27
		3 or more	6
10	Number of smartphone	1	19
		2	38
		More than 2	43
11	Playground near home	Yes	64
		No	36

Table no.2:- Bar graph showing percentage distribution of preschooler children behavioral changes according to their parents.