



# **Correlate the Level of Internet Dependence and Associated Behavioral Problems among the Preschooler Children in the Selected Urban Area of Wardha District**

**Raju Ikhar <sup>a</sup>, Khushbu Meshram <sup>a\*</sup>, Tanuja Tembhare <sup>b</sup>, Poonam Dani <sup>a</sup>,  
Pratiksha Dabhekar <sup>a</sup> and Prawartan Bhujade <sup>a</sup>**

<sup>a</sup>Smt. Radhikabai Meghe Memorial College of Nursing' Datta Meghe Institute of Medical Sciences  
(Deemed to be University) Sawangi (Meghe) Wardha, Maharashtra, India.

<sup>b</sup>Child Health Nursing Department, Smt. Radhikabai Meghe Memorial College of Nursing' Datta  
Meghe Institute of Medical Sciences (Deemed to be University) Sawangi (Meghe) Wardha,  
Maharashtra, India.

## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

## **Article Information**

DOI: 10.9734/JPRI/2021/v33i52B33595

### Editor(s):

(1) Dr. Aurora Martínez Romero, Juarez University, Mexico.  
(2) Prof. John Yahya I. Elshimali, UCLA School of Medicine & Charles R. Drew University of Medicine and Science, USA.

### Reviewers:

(1) Marcelo Simões Mendes, Anhanguera University of Sao Paulo, Brazil.  
(2) Tilahun Kassew, University of Gondar, Ethiopia.  
(3) Hsien-Yuan Lane, Taiwan.

Complete Peer review History, details of the editor(s), Reviewers and additional Reviewers are available here:  
<https://www.sdiarticle5.com/review-history/74230>

**Original Research Article**

**Received 22 September 2021**

**Accepted 22 October 2021**

**Published 30 November 2021**

## **ABSTRACT**

India is seeing an increase in internet usage, particularly among young and children, as a result of the low cost and easy availability to touch screen mobile phones, tablet devices, and Wi-Fi. Since the previous decade, Internet use in India has grown at an exponential rate, resulting in a generation of gloomy anxiety about it, which has progressed to the point of becoming a hazardous addiction. Behavioral problems are arising due to internet dependence such as temper tantrum, aggression, thought problems, attention problems and rule breaking behaviors in the children and youth people too.

**Aim:** To correlate the level of internet dependence and level of associated behavioral problems

among the preschooler children.

**Materials and Methods:** Descriptive correlation research design was used to conduct this study. A non-probability Convenience sampling was used to select the samples. This research study included 100 preschooler children from the Gajanan nagar (Arvi Naka) selected area of wardha district. Samples must select according to the inclusion and exclusion criteria. Young's Internet Addiction Test and behavioral scale was used to assess the level of internet dependence and also the level of associated behavioral problems of internet dependence.

**Results:** The level of internet dependence: 3% of the preschooler children were disagree that they had internet dependence 4% had not sure, 80% had agree and 13% of them had strongly agree. Minimum Internet dependence score was 28 and maximum internet dependence score was 64. Mean Internet dependence score was  $54.70 \pm 6.84$  and mean percentage of Internet dependence score was  $72.93 \pm 9.12$ . and associated Behavioural problems are 2% of the preschooler children were disagree that they had behavioral problem, 3% had not sure, 77% had agree and 18% of them had strongly agree. Minimum associated behavioral problem score was 37 and maximum associated behavioral problem score was 87. Mean associated behavioral problem score was  $75.26 \pm 8.07$  and mean percentage of associated behavioral problem score was  $75.26 \pm 8.7$ . The hypothesis is tested statistically with association between internet dependence and behavioral problem.

**Conclusion:** Parents and schools should educate their children on how to use the internet responsibly and how to balance time between online surfing, schoolwork, and outside physical activity. This study shows that there is a correlation-ship between the levels of internet dependency and associated behavioral issues in preschoolers. The situation is serious, and it will soon develop to an addicted state. Interventions such as setting limits and identifying early warning indications of underlying psychopathology are necessary.

*Keywords: Behavioral problems Internet dependence; internet addiction scale; preschooler children.*

## 1. INTRODUCTION

In recent years, the usage of the internet on school campuses and in society has risen rapidly. While educational usage of the internet is largely for study and research, the internet has become an integral component of student life [1]. The number of hours using the web has been drastically increased but the rationale wasn't limited to educational purposes only. Internet addiction was linked to melancholy, anxiety symptoms, behavioural difficulties, hyperactivity/attention deficit disorder, suicidal thoughts, and suicide attempts, according to a multicentric research done in 11 European countries [18]. In the Brazilian paediatric population, there is no evidence of a link between internet addiction and behavioural problems [2]. Children and preschoolers are increasingly using the Internet to learn, play online games, buy, watch movies, engage social media, and communicate. These exercises are frequently used to treat internet addiction and psychological issues [3]. When regarded in this light, children are the primary users of technology and the ones who will take it forward. Among many personal risk factors of Internet addiction, depression, aggression, and impulsivity are of

particular interest due to their association with other clinical subtypes. Depression is related to emotional vulnerability or internalizing problems, and aggression and impulsivity are related to externalizing problems such as attention deficit hyperactivity disorder, which are both known to increase the risk for Internet addiction. Using Young's Internet addiction test, a school-based study of 9th and 10th grade students in seven European nations (Greece, Spain, Poland, Germany, Romania, the Netherlands, and Iceland) found that 0.8 percent to 1.7 percent of the kids were suspected of having Internet addiction [4].

## 2. MATERIALS AND METHODS

Data will be collected from the preschooler children age group of 3- 8 years. Descriptive correlation study design was used to conduct this study, the research approach is evaluative. The study will be conducted in selected areas of wardha district. The sample was Preschooler children 3-8 years of age group in selected areas of wardha district. The subjects will be selected by using on nonprobability convenient sampling technique. The sample consists of 100 children.

## 2.1 Method of Data Collection

The data gathering process began from November 2020 to May 2021. The investigation visited the selected area in advance and obtained the necessary permission from the concerned authorities. The investigator introduced them and informed them about the study so as to ensure better cooperation during the data collection.

The investigation approached the mother of preschooler children and explained the purpose of the study and how the study will be conducted. Following a thorough study of the literature, the researcher devised a structured interview schedule, as well as Young's online addiction test and Behavior measures. Five experts checked the content's authenticity, and changes were made based on their recommendations. There were three components to the tool: section-A demographic characteristics, section-B modified Behavior Scale, and section-C Internet Addiction Test. The behavior Scale to assess the level of child behavior problems. It consists of 15 questionnaires. Numerical values 0, 1,2,3,4 are assigned to each questionnaire to indicate the severity of child behavior problems, scoring key includes -0-Strongly disagree, 1-Disagree, 2- Not sure, 3- Agree, 4- Strongly agree .To determine the severity of internet addiction, use the Internet Addiction Scale. There are 20 questions in all. Each questionnaire is given a numerical score of 0, 1, 2, 3, and 4 to reflect the degree of internet dependency. The highest score is 100, while the lowest score is 0, scoring key includes strongly disagree, 1-Disagree, 2- Not sure, 3- Agree, 4- Strongly agree.

## 3. RESULTS

Table 1 shows that Percentage wise distribution of pre-schooler children with regards to their demographic characteristics. A nonprobability

convenient sampling technique of 100 subjects was drawn from the study population, who were pre-schooler children from wardha district. The data obtained to describe the sample characteristics including age of child, gender of child, education of mother, occupation of mother and father, family monthly income, type of family, number of children at home, order of child respectively.

Table 2 shows that according to the questionnaire the level of internet dependence as 3% of the preschooler children were disagree 4% had not sure, 80% had agree and 13% of them had strongly agree. Minimum knowledge score was 28 and maximum knowledge score was 64. Mean knowledge score was  $54.70 \pm 6.84$  and mean percentage of knowledge score was  $72.93 \pm 9.12$ .

The above table shows that 2% of the preschooler children were disagree had behavioral problem, 3% had not sure, 77% had agree and 18% of them had strongly agree. Minimum level of Associated Behavioral Problem score score was 37 and maximum level of Associated Behavioral Problem score score was 87. Mean level of Associated Behavioral Problem score score was  $75.26 \pm 8.07$  and mean percentage of level of Associated Behavioral Problem score score was  $75.26 \pm 8.7$ .

The Table 4 the correlation between the level of internet dependence score and level of associated behavioral problem in children due to internet dependence are compared and Pearson's Correlation Coefficient is applied at 5% level of significance. The tabulated value for  $n=100$  i.e., 98 degrees of freedom was 1.98. The 'p' value i.e., 0.0001 are much higher than 5% level of significance. Hence it is statistically interpreted that the positive correlation was established internet dependence and behavioral problem in preschooler ( $r=0.$ ,  $p=0.0001$ ).

**Table 1. Distribution of preschooler children with regards to demographic variables**

Demographic Variable	Number of children	Percentage
Age of child		
3-4 yrs	53	53%
5-6 yrs	47	47%
Gender of child		
Male child	69	69%
Female child	31	31%
Transgender child	0	0%
Education of mother		
Primary school	54	54%

Demographic Variable	Number of children	Percentage
Secondary school	18	18%
Diploma	9	9%
Degree	13	13%
Post-Degree	6	6%
Occupation of mother		
Private job	61	61%
Government job	19	19%
Own business	3	3%
Other	17	17%
Occupation of Father		
Private job	51	51%
Government job	36	36%
Own business	6	6%
Other	7	7%
Family monthly income		
5000-10000	25	25%
10001-20000	42	42%
20001-30000	23	23%
30001-above	10	10%
Type of family		
Joint family	37	37%
Nuclear family	56	56%
Extended family	7	7%
Number of children at home		
1	21	21%
2	45	45%
3	24	24%
4	10	10%
Order of Child		
1st	38	38%
2nd	42	42%
3rd	20	20%
4th	0	0%
Is internet connection at home		
Yes	96	96%
No	4	4%
Number of smartphones at home		
1	20	20%
2	52	52%
3	12	12%
4 and more than 4	16	16%

**Table 2. Assessment of level of internet dependence in Pre-Schooler children n=100**

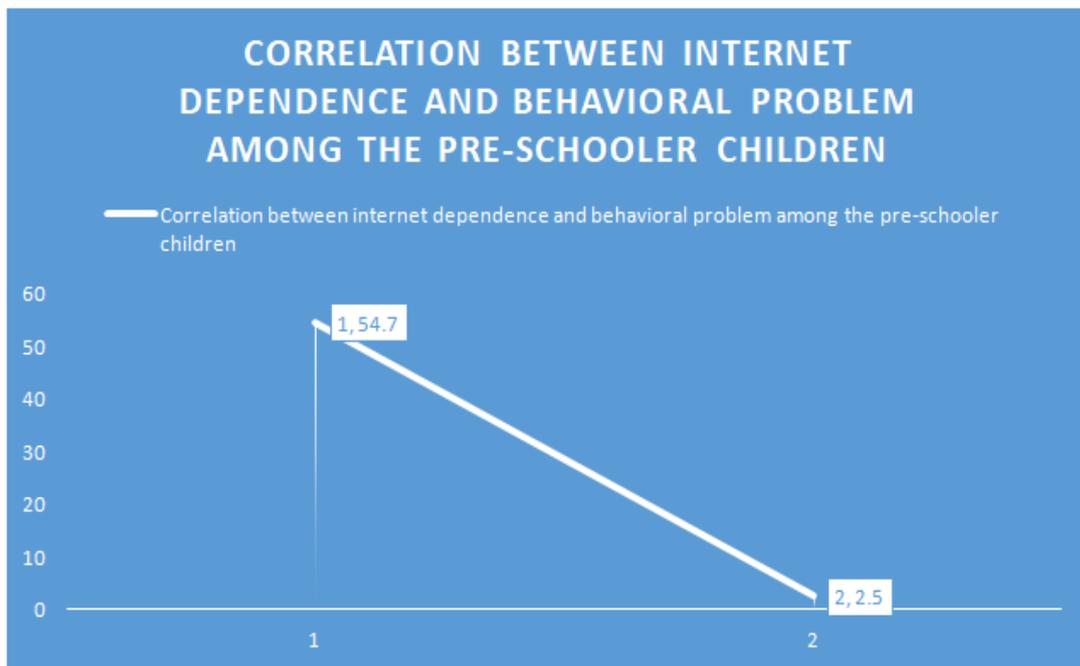
Internet dependence	Score Range	Level of internet dependence	
		Frequency	Percentage
Strongly Disagree	1-15	0	0%
Disagree	16-30	03	03%
Not Sure	31-45	04	04%
Agree	46-60	80	80%
Strongly Agree	61-75	13	13%
Minimum internet dependence Score		28	
Maximum internet dependence Score		64	
Mean Score		54.70±6.84	
Mean %		72.93±9.12	

**Table 3. Identify the level of associated behavioral problem score n=100**

Associated behavioural problem	Score Range	Associated behavioural problem	
		Frequency	Percentage
Strongly Disagree	1-20	0	0
Disagree	21-40	02	2%
Not Sure	41-60	03	3%
Agree	61-80	77	77%
Strongly Agree	81-100	18	18%
Minimum level of Associated Behavioral Problem score	Score	37	
Maximum level of Associated Behavioral Problem score	Score	87	
Mean Score		75.26±8.07	
Mean %		75.26±8.7	

**Table 4. Correlation between Internet Dependence and Behavioral Problem among the Pre-Schooler Children n=100**

Overall	Mean	SD	Correlation 'r'	p-value
Internet dependence	54.70	6.84	0.314	0.0001
Behavioral problem	75.26	8.07		S, p<0.05



**Fig. 1. Correlation between Internet Dependence and Behavioral Problem among the Pre-Schooler Children**

And at last with the association of the level of internet dependence and behavioral problem score with their demographic variable. Internet dependence score of age of child is statistically associated with their internet dependence score. Gender, family monthly income, order of child of child is statistically significantly associated with their internet dependence score and family income and order of child is statistically

significantly associated with their behavioral problem score.

#### 4. DISCUSSION

The purpose of this study is to provide a descriptive assessment of the level of Internet dependency on preschooler children. In this

present study the Level of internet dependence in preschooler children 3% of the preschooler children were disagree had behavioral problem, 4% had not sure, 80% had agree and 13% of them had strongly agree. Minimum knowledge score was 28 and maximum knowledge score was 64. Mean knowledge score was  $54.70 \pm 6.84$  and mean percentage of knowledge score was  $72.93 \pm 9.12$ . Behavior problem of preschooler 2% of the preschooler children were disagree had behavioral problem, 3% had not sure, 77% had agree and 18% of them had strongly agree. Minimum knowledge score was 37 and maximum knowledge score was 87. Mean knowledge score was  $75.26 \pm 8.07$  and mean percentage of knowledge score was  $75.26 \pm 8.7$ . The supported study was done by Ramesh Kumar Sahu<sup>1</sup> & Dr. S.M. Mahendra Simha Karna et al. The study's aim was to discover internet addiction among youngsters in the Indian states of Madhya Pradesh and Chhattisgarh. To obtain primary data, the researchers used a semi-structured interview schedule that included socioeconomic characteristics of respondents, Young's Internet Addiction Test Scale (IAT) translated into Hindi, and participants aged 7 to 18 years old. The result showed that Out of 70 participants, 50 percent of both districts were represented. Males made up 60% of the group, while females made up 40%. The majority of 42 (60 percent) were serious internet addicts aged 15 to 79, and the majority of these were from Sagar. 39 (55.72%) respondents rated themselves as moderate (scoring 50-79), whereas 22 (31.43%) rated themselves as mild and safe (score 50-79) [5]. Another supported study done by Babita Kayastha, Ashmita Gurung, et al, A Descriptive Study to Assess the Level of Internet Addiction among Adolescents: A Case Study of High Schools in Mangalore. The degree of IA and its influence among high school students were assessed using a descriptive technique in this study. A baseline proforma, a modified version of the IA exam, and a structured questionnaire produced throughout the study comprised the instrument. Karl Pearson's coefficient correlation was used to assess the dependability, and it was determined to be dependable. The majority of the teenagers (70.5%) were normal users, while 23 percent had a light addiction, 6% had a moderate addiction, and 0.5 percent had a severe addiction, according to the study. The majority of samples (73%) had a mild effect, 16.5 percent had a moderate effect, and 10.5 percent had no effect. Some of their demographic characteristics, such as fathers' age, social

status, and employment, exhibit strong correlations with both IA and its impact [3]. Another Supported study a cross-sectional study conducted in two schools in Curitiba/PR – one public school (Escola Municipal Julia Amaral Di Lena) and one private school (Colégio Sagrado Coração de Jesus) The incidence of internet addiction was 21% when an IAT score of 50 or above was considered. In public schools, 10 participants (21.3 percent) fulfilled the threshold for internet addiction, whereas 9 participants (20.4 percent) met the same criteria in private schools. As a result, there was no difference in the number of Internet Addicts who participated in public and private schools. [6] another supported article also mentioned that impact of covid 19 has also discusses the signs and symptoms, its genesis, diagnostic procedure, treatment, and prevention as advised by WHO, as well as the influence of COVID-19 on global wealth and excess use of internet and smartphones during that period [7,8,9]. Moreover, in a relatively short amount of time, "COVID-19" has captured the world awareness by bringing about amazing changes in our day-to-day lives [10,11].

## 5. CONCLUSION

Though internet addiction is not yet formally recognized as a unique behavioral illness, it has been identified as a global problem in the context of rapidly expanding internet use. It appears that some effective approaches for the prevention and management of internet addiction are required. Achieving a balance between providing appropriate internet infrastructure and protecting the children from Internet-related risks. A multidisciplinary treatment strategy combines interventions from several disciplines such as medication, psychotherapy, case management, and family counselling, all of which can be used [12]. Although internet addiction is not yet an officially recognized disorder, it has been demonstrated to have serious medical, social, emotional, and financial repercussions, needing prevention, control, and rehabilitation. Rather than completely avoiding harmful Internet usage, the goal of treatment is to minimize it [13] Internet use separates people from the real world, robbing them of a sense of belonging and connection to real-world interactions. Despite the fact that existing data shows that electronic media has mixed impacts, we offer advice for clinicians, policymakers, and educators in collaborating with caregivers and youth to

encourage electronic media usage that promotes favourable outcomes in these areas [14,15]

## CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

## ETHICAL APPROVAL

The study was approved by institutional ethical Committee of Datta Meghe Institute of Medical Sciences Wardha 05/02/2021. (Reference No. DMIMS (DU)/IEC/2021-174

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Healthy At Home [Internet]. [cited 2021 Sep 7]. Available: <https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome---mental-health>
2. Machado M de R, Bruck I, Antoniuk SA, Cat MNL, Soares MC, Silva AF da. Internet addiction and its correlation with behavioral problems and functional impairments – A cross-sectional study. *J Bras Psiquiatr.* 2018;67:34–8.
3. Kayastha B, Gurung A, Chawal R. A descriptive study to assess the level of internet addiction among adolescents: A case study of high schools in Mangalore | Request PDF [Internet]. Research Gate. [cited 2021 Oct 18]. Available: [https://www.researchgate.net/publication/326218293\\_A\\_Descriptive\\_Study\\_to\\_Assess\\_the\\_Level\\_of\\_Internet\\_Addiction\\_among\\_Adolescents\\_A\\_Case\\_Study\\_of\\_High\\_Schools\\_in\\_Mangalore](https://www.researchgate.net/publication/326218293_A_Descriptive_Study_to_Assess_the_Level_of_Internet_Addiction_among_Adolescents_A_Case_Study_of_High_Schools_in_Mangalore)
4. Tsitsika A, Janikian M, Schoenmakers TM, Tzavela EC, Olafsson K, Wójcik S, et al. Internet addictive behavior in adolescence: a cross-sectional study in seven European countries. *Cyberpsychology Behav Soc Netw.* 2014;17(8):528–35.
5. Sahu RK. Internet Addiction: A comparative study among children in the State of Madhya Pradesh and Chhattisgarh. 5(4):8.
6. Eisenstein E, Estefenon SB. Geração digital: riscos das novas tecnologias para crianças e adolescentes. *Rev HUPE.* 2011;10(Supl 2):42-52.
7. Budhrani AB. A review: Coronavirus, its types, and impact of covid-19 on global wealth. *International Journal of Research in Pharmaceutical Sciences.* 2020;11:455–461. Available: <https://doi.org/10.26452/ijrps.v11iSPL1.2811>
8. Dhok A, Punewar D, Ambad R, Butola L.. A to z activities for engaging school going children during lockdown. *Indian Journal of Forensic Medicine and Toxicology.* 2020c;14:7005–7010. Available: <https://doi.org/10.37506/ijfmt.v14i4.12732>
9. Gaidhane A, Holding P, Shah M, Patil M, Telrandhe S, Jadhav N, Kogade P, Chaudhari S, Zahiruddin QS. Photostory— A “Stepping Stone” approach to community engagement in early child development. *Frontiers in Public Health.* 2020;8. Available: <https://doi.org/10.3389/fpubh.2020.578814>
10. Balsara K, Shukla D. Stepping up detection, response, preparedness and readiness measures for “covid-19”-a pandemic. *International Journal of Research in Pharmaceutical Sciences.* 2020;11:1042–1047. Available: <https://doi.org/10.26452/ijrps.v11iSPL1.3442>
11. Bhisikar H, Dhopavkar G, Devadas M, Fulzele P. An analytical study of E- assesment system. *Journal of Advanced Research in Dynamical and Control Systems.* 2019;11:3044–3047. Available: <https://doi.org/10.37506/ijfmt.v14i4.12732>
12. Young KS. Internet addiction: The emergence of a new clinical disorder. *Cyberpsychol Behav.* 1998;1(3):237–44.
13. Internet addiction: A growing concern in India Maheshwari SK, Preksha S - *Indian J Psy Nsg* [Internet]. [cited 2021 Oct 18]. Available: <https://www.ijpn.in/article.asp?issn=2231-1505;year=2018;volume=15;issue=1;spage=61;epage=68;aulast=Maheshwar>
14. Morahan-Martin J, Schumacher P. Loneliness and social uses of the internet. *Comput Hum Behav.* 2003;19(6):659-71.
15. Gaidhane A, Sinha A, Khatib M, Simkhada P, Behere P, Saxena D, Unnikrishnan B,

Khatib M, Ahmed M, Zahiruddin QS. A systematic review on effect of electronic media on diet, exercise, and sexual activity among adolescents. Indian Journal of

Community Medicine. 2018;43:56–65. Available:[https://doi.org/10.4103/ijcm.IJCM\\_143\\_18](https://doi.org/10.4103/ijcm.IJCM_143_18)

---

© 2021 Meshram et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Peer-review history:*

*The peer review history for this paper can be accessed here:*

*<https://www.sdiarticle5.com/review-history/74230>*