

An Observational Study of Demographic Variables and Parenting Stress, the Extent of Children's Screen Addiction and its Impact on Parenting Stress During the Period of Covid-19 Pandemic: A Pilot Study

Abhishek B. Samarth¹ and Anup S. Bharti^{2*}

¹Former PG Resident, Department of Psychiatry, Dr. Vasanttrao Pawar Medical College, Hospital and Research Centre, Nashik – 422003, Maharashtra, India

²Associate Professor, Department of Psychiatry, Dr. Vasanttrao Pawar Medical College, Hospital and Research Centre, Nashik – 422003, Maharashtra, India; dranupsb@gmail.com

Abstract

Background: Many parents experience stress specifically related to parenting. Parenting duties have increased significantly as Children are at home entire day. It has been found that children staying at home due to lockdown spend more time in front of TV screens, mobile phones and internet which can lead to psycho-social problems. This further increases parental stress. The purpose of this study was to assess parenting stress, and to understand the components responsible and incidence of screen addiction in children during lockdown. **Methods:** The study was designed as cross-sectional observational study. After the ethical approval, the samples were collected online using google forms. The data was collected between September to December 2021. The parents of children under 18 years of age were selected for the study. Parent stress scale, Children's screen addiction test was used for determining parental stress and screen use respectively. **Result:** 60.5% were male and 39.5% were female. 90.6% participants were Hindu, 6.04% were Muslim, rest 3.3% were others. 93.4 % were married, 3.3% were divorced, and 2.7 % had widowed status. For single child average parenting stress score was 58.31, for 2, 3, and 4/4+ was 59.21, 66.05 and 78.9 respectively. 45.60% (N=83) participants had high levels and 54.40 % had low parental stress. There was 43.3% rise in parental stress during pandemic. On comparative analysis of Parental stress before and during lockdown, 12.63% reported decrease, 15.38% reported no change, and 71.97% reported increase in parental stress. 14.8% children had problematic use of screen use and 76.37% (N=139) had severe problem of screen use. **Conclusion:** We are currently living in a difficult time, where a global pandemic has led to detrimental changes for almost all aspects of daily living. Many of these changes are consistent with the risk factors for parental stress, which is particularly troubling as parents. It is important that we recognize parenting stress as a phenomenon that is possible, and even probable, during periods of pandemic.

Keywords: Covid-19 Pandemic, Parental Stress, Screen Addiction

1. Introduction

Even at normal times, when the world was not going through a pandemic, many parents experience stress related to parenting.^{1,2} Since December 2019, an outbreak of a novel coronavirus disease the pandemic has affected every continent.^{3,4} The COVID-19 pandemic is having a psychological impact on individuals^{5,6} especially parents. Lockdown poses a major burden on parent's shoulders since they had to take on additional educational role,

balance their own personal and professional lives along with fulfilment of daily job commitments.^{7,8} In the current situation there are additional stressors such as unemployment and financial insecurity. To make matters worse the access to traditional social supports from extended family and friends has become difficult. Parenting duties have increased significantly as children are at home the entire day, 7 days a week. As a result, parents have less time for self. Many have lost access to common sources of leisure activity- religious places,

*Author for correspondence

fitness centres, gardens, restaurants, movie theatres, in-person interactions with friends. Studies by Hawryluck *et. al.* And Brooks S.K. *et.al.* noted that during COVID-19 like situation, quarantine is associated with^{9,10} high psychological distress, depression, stress, irritability, post-traumatic stress symptoms, with long-lasting effects continuing for years after the event.¹¹ Several countries reported an increase in cases of domestic violence and children's live in such homes are at risk of abuse or neglect.¹²

More than 50% of the parents reported that financial troubles due to social isolation are affecting their parenting skills,¹³ resulting in increased incidents of yelling, shouting and even slapping their children. Around 40% of the people having children <12 years of age - are having difficulties in balancing their work responsibilities and child care.¹⁴ Lock down situation have increased the risk of stress and negative emotions in parents, leading to ill effect on children's wellbeing.¹⁵ Research has indicated - parental stress is not only a risk factor for child neglect, but it also results in proportionally increase of abusive behaviour.^{1,16} This has a negative effect on children and parent-child interactions in any type of family.¹⁷

In the short term, parental stress leads to child abuse, child neglect, physical illness and injury (e.g., bruises, broken bones), psychological problems (e.g., posttraumatic stress disorder, anxiety).¹⁸ In the longer term, Increase incidence of mental health issues, addiction problems, greater risk for suicide.¹⁹

Social media enable socialization, communication and they are good learning opportunities for children. However, social media use also has its downsides. Spending more time inside the house together with less physical inactivity and excess screen use can affect their brain development leading to limited development of cognitive abilities.²⁰ Excess screen use, i.e., TV mobile phones and internet can lead to psycho-social problems, like low self-esteem.²¹ According to a study by Keles *et. al.* time spent on social media – negatively correlate with levels of depression, anxiety, and psychological distress²² higher levels of parental stress and co-occurring screen addiction in children leads to higher levels of child abuse and neglect by parents, disturbed family environment, negative impact on parent, and child's wellbeing.

The harmful effects, interplay between lockdown, parental stress and children's adjustment, including

increased screen time have not been investigated, especially in the Indian scenario. By understanding this interplay and extent of parental stress, we can formulate interventions aimed at better parenting, reduced stress through interventions aimed at reducing levels of parental stress. This highlights the need of our study especially in Indian scenario.

2. Aims and Objectives

- a. To estimate parenteral stress during lockdown phase
- b. to study children's screen addiction during lockdown phase

3. Material and Methods

Prior Institutional Ethics committee approval was obtained. Consent was obtained from all the parents before survey. Participation in the study was voluntary and submission of forms was digital after marking most appropriate rating on the Likert scale. Sample collection was done via google forms online questionnaire in English and Marathi. Both parents were asked to fill the form separately (or any one parent- if single/ divorced / separated).

This questionnaire included- demographic data, socio-economic status- according to modifies Kuppuswamy classification²³ parental stress questionnaire²⁴ Cut-off – 63.5 between high and low, children's screen addiction questions²⁵, [Cut-off – 12 and 24 for moderate and sever] methods of coping with parenting stress. Data was analyzed using excel sheet and google form results.

Scales used: Parental stress scale - (18-point scale) with options 1 to 5 (1 = Strongly disagree; 5 = Strongly agree)²³ Children screen addiction scale - 10-point scale with options 1 to 5 (1 = Never; 5 = very often)²⁴

Eligibility Criteria

Inclusion Criteria

Parents with children having age between 0–18 years

Exclusion Criteria

Illiterate participants

Guardians/ care takers/ non biological parents of children aging between 0–18 years

4. Results

Out of 205 entries received by filling online Google form, 182 responses were selected considering exclusion criteria and incomplete/half-filled forms.

4.1 Demographic Results

If separated [BAR CHART-1] 33.3% (n=2) had shared arrangement for child rearing, 33.3% (n=2) one parent was primary care taker and other parent had access, 16.67% (n=1) parents cooperate and make decisions together, 16.67% (n=1) one parent had sole responsibility. Content of family if separated 3.3% (n=6) - current family was a blended family containing children from prior relationship 1.6% (n=3) had adopted children.

Religion [BAR CHART-3] 90.6% (n=165) - Hindu, 6.04% (n=11) - Muslim, 3.3% (n=6) - others (Christian-3, Buddhist-2, Sikh-1). Educational qualification [BAR CHART-4] 28.5% (n=52) - diploma degree in any field, 26.37% (n=48) - undergraduate degree, 17.7% (n=32) - education till 10th class, 8.8% (n=16) - Postgraduate or master's degree, 8.2% (n=15) - education up to higher secondary, 3.8% (n=7) did not mention their education status.

Socio-Economic status [BAR CHART-5] 65.9% (n=120) - upper middle Socio-economic class 31.6% (n=57) - lower middle Socio-economic class 2.19% (n=4) - upper Socio-economic class and 0.5% (n=1) lower Socio-economic class. Total Number of children [BAR CHART-6] 33.5% (n=61) - 1 child, 33.5% (n=61) - 2 children, 21.4% (n=39) - 3 children, 11.6% (n=21) - 4/4+ children.

According to hours of Duty [BAR CHART-7] 65.4% (n=119) worked full time, 20.9% (n=38) worked half-time or less, 13.7% (n=25) worked for more than 3 days a week. Care taker when one parent is working [BAR CHART-8] 58.2% (n=106) - spouse, 22.5% (n=41) - grandparents, 9.3% (n=17) - paid services (nanny / maid), 4.9% (n=9) - take their children to work, 2.7% (n=5) - use day care/creed. 1.1% (n=2) - take help of their friends 1.1% (n=2) - have full time paid assistance.

Table 1. Demographic Profile of parents

Sr.no	Gender		Religion		Marital status	
1	Male	60.5% (n=110)	Hindu	90.6%	Married	93.4%(n=170)
2	Female	39.5% (n=72)	Muslim	6.04%	Divorced	3.30%(n=6)
3			other	3.30%	Widowed	2.70%(n=5)
4					In relationship but not married	0.54% (n=1)

Analysis of parental stress questionnaire participants reported 54.40% (n=99) had low parental stress. 45.60% (n=83) had high levels of parental stress. Mean parental stress in study population was 62.64 (cut off 63.5), with standard deviation of 10.59. Mean parental stress in high parental stress group was 74.15. Mean parental stress in low parental stress group was 53. Average had parental Stress Score in a working parent [BAR CHART-11] halftime or less working - 67, working for >3 days a week - 64.24. Full time - 60.92. On an average female participant had more parental stress as compared to male on daily basis. [BAR CHART-12] Before pandemic: female parents reported 3.98 & males parents reported 3.51. During pandemic: female parents 6.37 & male parents 5.01. On self-rated Likert scale before and during pandemic, analysis suggest 4.33 out of 10 (43.3%) rise in daily levels of parental stress during covid-19 pandemic. Average parenting stress [BAR CHART - 13] 65.

While considering special scenario [e.g., child not sleeping, crying due to unknown reason not eating well, is ill, child not listening to them.] - analysis of Parental stress during lockdown as compared to pre-pandemic time [BAR CHART-14] 71.97% (n=131) reported increase, 15.38% (n=28) reported no change, 12.63% (n=23) reported decrease in parental stress. Before lockdown - parents felt stressed when child was ill, during pandemic - parent's felt significantly more stress when child was ill, child was crying and they didn't know why, and when child was not eating well. On an average parental stress increased proportionally with number of children in family. With minimum parental stress for single child being 58.31, and maximum for 4/4+ being 78.9 [BAR CHART-15]

4.2 Coping with Parental Stress

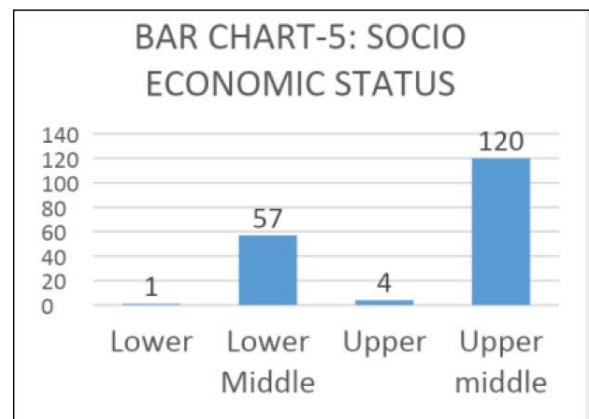
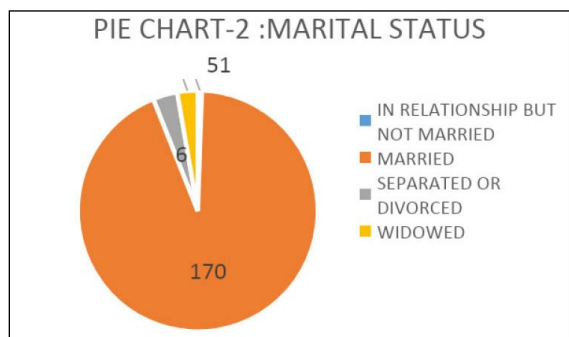
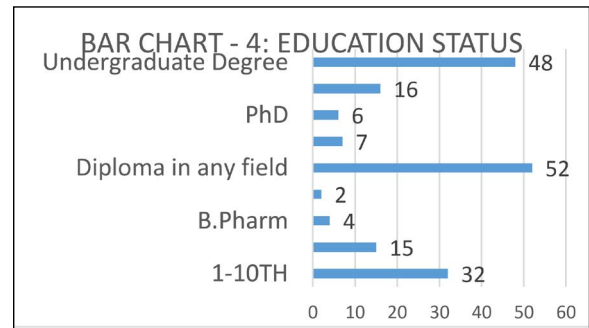
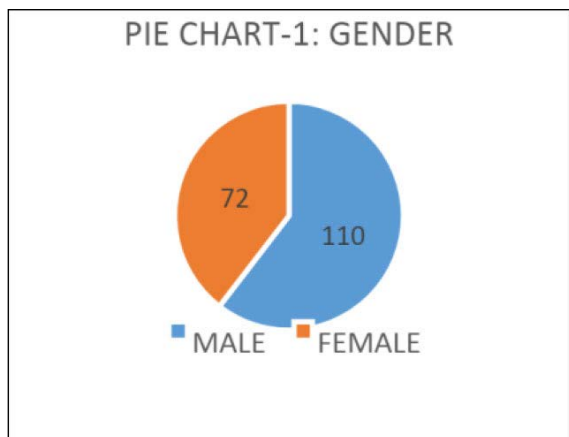
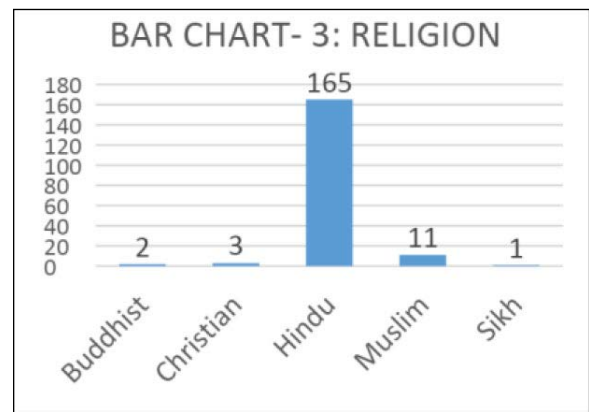
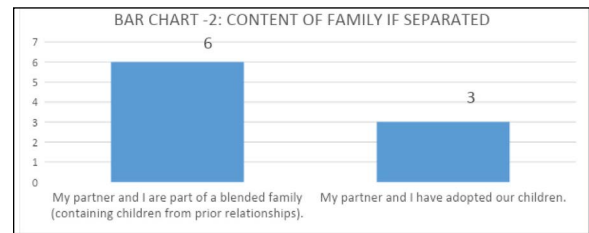
Effective coping of parental stress - on an average more than 2 healthy coping mechanism. Maladaptive coping of parental stress - 15% parents engaged in maladaptive coping such as, eat in excess, cry, become aggressive, take out on friends and family, self-harm

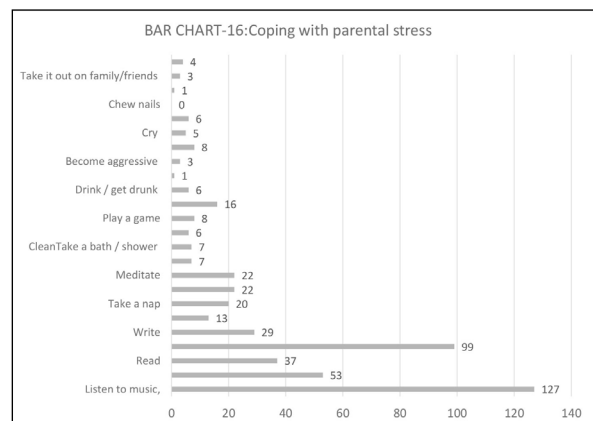
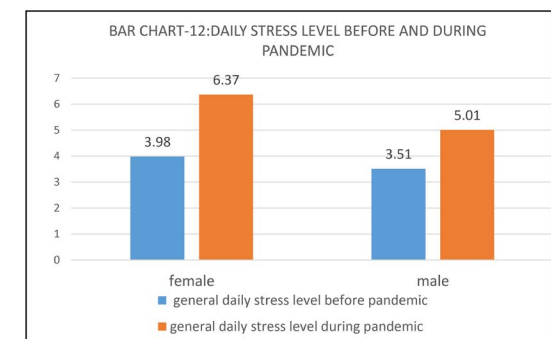
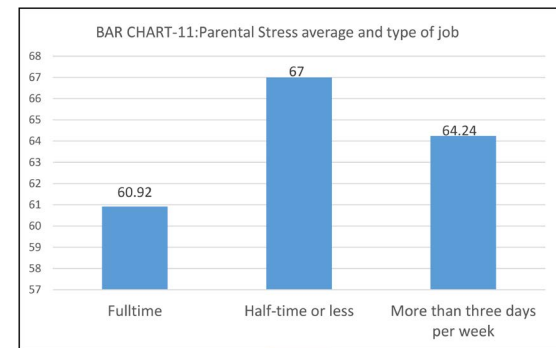
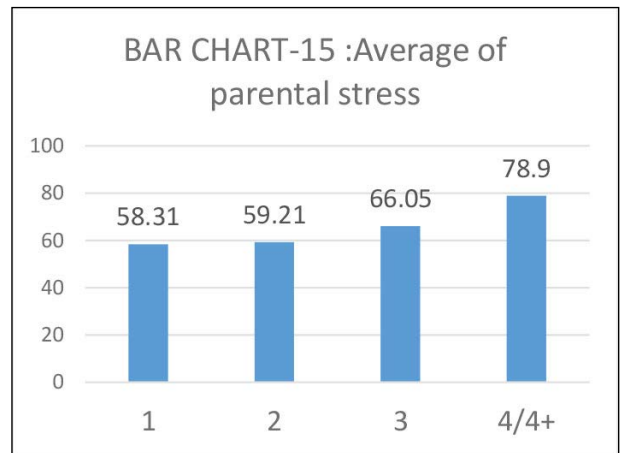
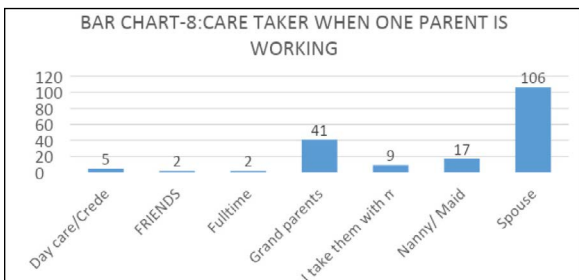
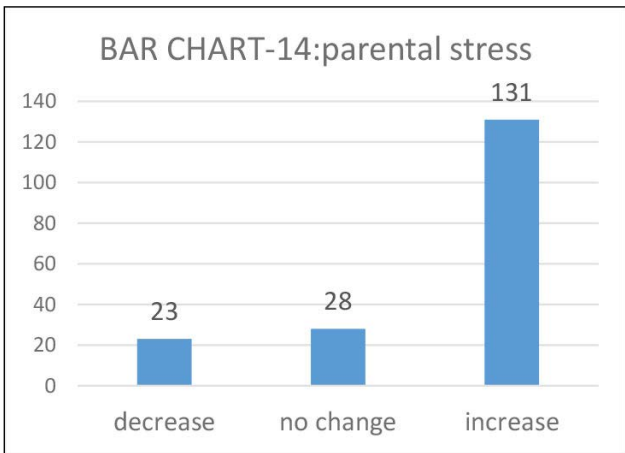
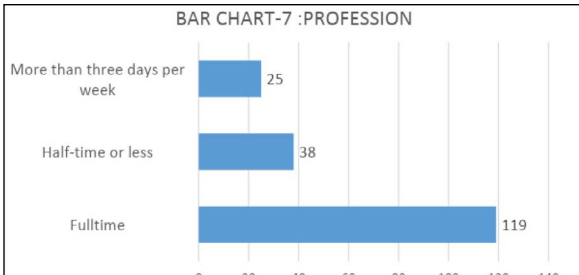
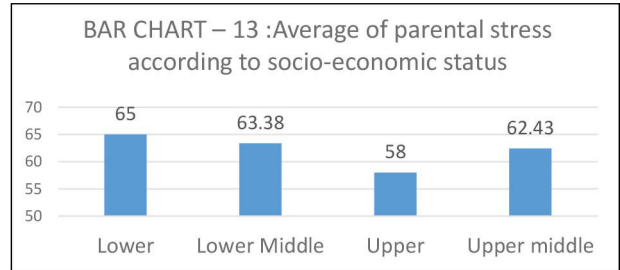
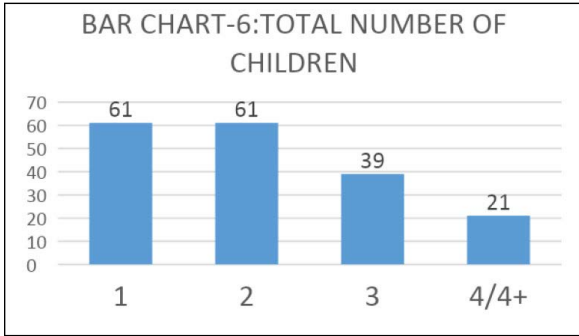
4.3 Screen Addiction Results and Correlation

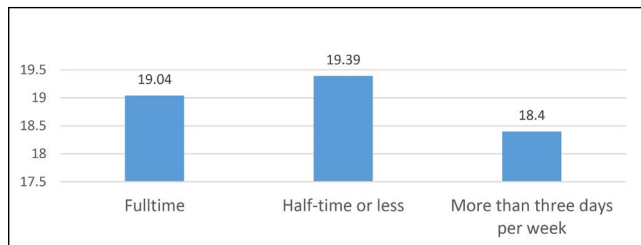
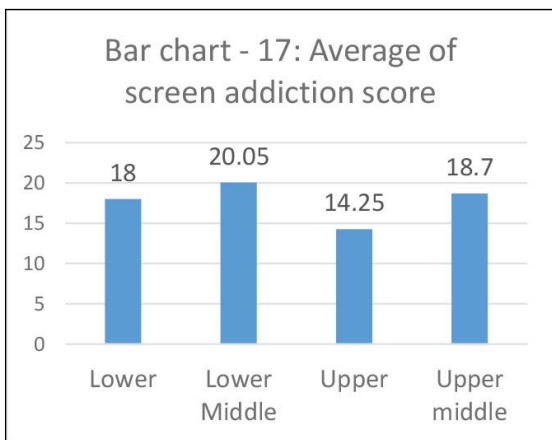
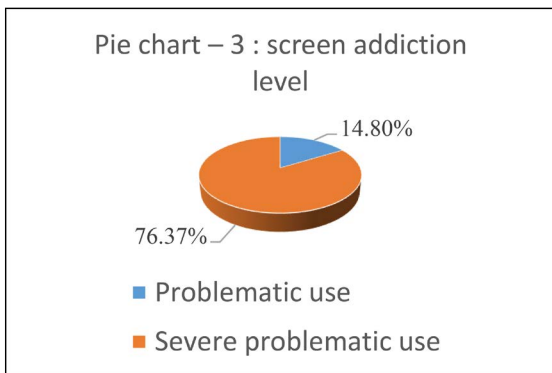
Pie chart – 3: screen addiction level, 76.37% (n=139) - “severe problematic use of screen”, 14.8% (n=27) - “problematic use of screen” Bar chart - 17: Average of screen addiction score, 20.05 - lower middle socio-economic status, 18.7 - upper middle socio-economic status, 18 - lower socio-economic status, 14.25 - upper socio-economic status. Standard deviation of 2.1 Average screen addiction score with type of jobs [BAR CHART -18] 19.04 - full time workers, 19.39 - half-time workers, 18.4 - working for 3 or more than 3 days per week. Standard deviation of 0.4 was found.

Table 2. Correlation between various variables

Compared variables	Pearson's test for Correlation between Compared variables
Number of Children and Parental Stress	P= +0.24
Number Of children and Screen Addiction	P= +0.18
Screen Addiction and Parental Stress	P= +0.24







5. Discussion

After covid-19 outbreak the decision to keep children at home throughout the day was obvious, but the consequences of all this for family’s well-being were barely considered. Our study tried to examine – the impact of the covid-19 outbreak on parents stress and children’s screen addiction. We also tried to explore the association between parenting stress, children screen addiction and various other demographic relations if any. Various studies like [Hiraoka *et. al* and Brooks *et. al.*] reported^{26,27} significant relationship between parenting stress and school closures during pandemic, similar results were found in our study with 55% having low parental stress and rest 45% reporting high stress, but overall parenting

stress increased compared to pre-pandemic time. While considering special scenario 71.97% parents had reported increase in parental stress, which is significantly more than a study by Griffith *et. al.* was over 35% of Working Parents reported that they are struggling to handle childcare responsibilities.⁷ Similar finding were found in our study, in respect to increased parenting stress when child was not taking proper meal, was ill, crying for some reason not known to parents. Parents working full time (as compared to part-time and working 3 days a week) during covid-19 lockdown reported lower parenting stress which is contrary to findings by Davis, M. F. *et.al.* reported that work from home employees spend up to of 3 extra hours, above their pre-pandemic time.⁸ This might be explained by, Skewed data, adaptability over the time, and shifting to grand-parents’ house in semi-urban areas for lockdown.

Many general family stressors, are not easily changed, stress specific to parenting is reducible if not mutable,²⁸ here coping plays important role. Our study result show although majority parents used healthy coping mechanism but 15% parents had maladaptive coping According to Lander *et. al.* Parental stress led to increase frustration and substance use in people especially parents because of maladaptive coping.²⁹ Similar finding were not found in our study may be due to under reporting. A study by Lampard *et al.* found that less parenting stress was associated with greater screen time restriction in lower socio-economic class,³⁰ no such association was found in our study as there was no significant difference between screen use within various socio-economic class. In our study - positive correlation between screen use and parental stress which is similar to a study [Walton *et. al.*] parents high levels of stress were less likely to set limits on their child’s TV viewing.³¹

6. Limitation

First, only one scale used to measure parenting stress, the measurement of variables was not optimal. Second, we used self-report rather than objective measures, which may have introduced bias in assessment of behavioural outcomes. E.g. possible over-reporting of behaviours. Third, parents who did sign up may have a heightened interest in study, there may be systematic differences between those who choose to sign up for a survey and those who did not. Four, we could not assess parental

stress in special case such as chronic medical/psychiatric condition since data was inadequate for analysis. Five, we did not assess the individual's parenting style and preference which is major factor responsible elevating/reducing for parenting stress.

7. Conclusion

We are currently living in a difficult time, where a global pandemic has led to detrimental changes for almost all aspects of daily living. Many of these changes are consistent with the risk factors for parental stress, which is particularly troubling as parents. It is important that we recognize parenting stress as a phenomenon that is possible, and even probable, during periods of pandemic. It is important that practitioners consider parental stress in their interactions with children, parents, and families, and that they recognize that the effects of the current COVID-19 pandemic may last for long time.

8. Implications

This study emphasizes on impact of current pandemic situation on parents, parenting difficulties, coping, children's well-being and family environment with short- and long-term consequences.

9. References

1. Abidin RR. Parenting stress index: A measure of the parent child system. In C. Zalaquett and R. Woods (Eds.), *Evaluating stress: A book of resources*. Lanham: Scarecrow Press, Inc.; 1997. p. 277–91.
2. Raphael JL, Zhang Y, Liu H, Giardino AP. Parenting stress in US families: Implications for pediatric health-care utilization. *Child: Care, Health and Development*. 2010; 36(2):216–24. <https://doi.org/10.1111/j.1365-2214.2009.01052.x>. PMID:20047600
3. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet* 395. 2020; 497–506. [https://doi.org/10.1016/S0140-6736\(20\)30183-5](https://doi.org/10.1016/S0140-6736(20)30183-5)
4. WHO. Coronavirus disease (COVID-19) Situation Report – 136 [Internet]. 2020. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200604-covid-19-sitrep-136.pdf?sfvrsn=fd36550b_2.
5. Asmundson GJG, Taylor S. Corona phobia: Fear and the 2019-nCoV outbreak. *Journal of Anxiety Disorders*. 2020; 70. <https://doi.org/10.1016/j.janxdis.2020.102196>. PMID:32078967. PMCid:PMC7134790
6. Li S, Wang Y, Xue J, Zhao N, Zhu T. The impact of COVID-19 epidemic declaration on psychological consequences: A study on active weibo users. *International Journal of Environmental Research and Public Health*. 2020; 17(6). <https://doi.org/10.3390/ijerph17062032>. PMID:32204411. PMCid:PMC7143846
7. Griffith AK. Parental burnout and child maltreatment during the COVID-19 pandemic. *Journal of Family Violence*. 2020;1–7. <https://doi.org/10.1007/s10896-020-00172-2>. PMID:32836736. PMCid:PMC7311181
8. Davis MF, Green J. Three hours longer, the pandemic workday has obliterated work-life balance. *Bloomberg Business*. 2020.
9. Hawryluck L, Gold WL, Robinson S, Pogorski S, Galea S, Styra R. SARS control and psychological effects of quarantine, Toronto, Canada. *Emerging Infectious Diseases*. 2004; 10:1206–12. <https://doi.org/10.3201/eid1007.030703>. PMID:15324539 PMCid:PMC3323345
10. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *Lancet*. 2020; 395. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
11. Liu X, Kakade M, Fuller CJ, Fan B, Fang Y, Kong J, et al. Depression after exposure to stressful events: lessons learned from the severe acute respiratory syndrome epidemic. *Comprehensive Psychiatry*. 2012; 53:15–23. <https://doi.org/10.1016/j.comppsy.2011.02.003>. PMID:21489421. PMCid:PMC3176950
12. Campbell AM. (n.d.). An increasing risk of family violence during the Covid-19 pandemic: Strengthening community collaborations to save lives. *Forensic Science International: Reports*.
13. Stress and parenting during the coronavirus pandemic [Internet]. [Cited on 2020 Apr 18]. Available from: <https://www.parentingincontext.org>
14. People financially affected by COVID-19 outbreak are experiencing more psychological distress than others [Internet]. [Cited on 2020 Apr 28]. Available from: <https://www.pewresearch.org>
15. Sprang G, Silman M. Posttraumatic stress disorder in parents and youth after health-related disasters. *Disaster Medicine and Public Health Preparedness*. 2013; 7:105–10. <https://doi.org/10.1017/dmp.2013.22>. PMID:24618142
16. Curtis T, Miller BC, Berry EH. Changes in reports and incidence of child abuse following natural disasters. *Child Abuse and Neglect*. 2000; 24(9):1151–62. [https://doi.org/10.1016/S0145-2134\(00\)00176-9](https://doi.org/10.1016/S0145-2134(00)00176-9)
17. Mikolajczak M, Gross JJ, Roskam I. Parental burnout: What is it, and why does it matter? *Clinical*

- Psychological Science. 2019; 7(6):1319–29. <https://doi.org/10.1177/2167702619858430>
18. Fortson BL, Kleivins J, Merrick MT, Gibert LK, Alexander SP. Preventing child abuse and neglect: A technical package for policy, norm, and programmatic activities. Atlanta: National Center for Injury Prevention and Control, Center for Disease Control and Prevention. 2016. <https://doi.org/10.15620/cdc.38864>
 19. Norman RE, Byambaa M, De R, Butchart A, Scott J, Vos T. The long-term health consequences of child physical abuse, emotional abuse, and neglect: a systematic review and meta-analysis. *PloS Medicine*. 2012; 9(11). <https://doi.org/10.1371/journal.pmed.1001349>. PMID:23209385. PMCID:PMC3507962
 20. Franklin PJ. Indoor air quality and respiratory health of children. *Paediatric Respiratory Reviews*. 2007; 8:281–6.
 21. Grechyna D. Health threats associated with children lockdown in Spain during COVID-19. SSRN. 2020. <https://doi.org/10.2139/ssrn.3567670>
 22. Keles B, McCrae N, Grealish A. A systematic review: the influence of social media on depression, anxiety and psychological distress in adolescents. *International Journal of Adolescence and Youth*. 2020; 1:79–93. <https://doi.org/10.1080/02673843.2019.1590851>
 23. Berry JO, Jones WH. The parental stress scale: Initial psychometric evidence. *Journal of Social and Personal Relationships*. 1995; 12:463–72. <https://doi.org/10.1177/0265407595123009>
 24. Smith. K. Children screen addiction questionnaire [Internet]. Available from: <https://www.psychom.net/kids-screen-addiction-quiz.com>
 25. Wani RT. Socioeconomic status scales-modified Kuppaswamy and Udai Pareekh's scale updated for 2019. *Journal of Family Medicine and Primary Care*. 2019; 8(6):1846–9. https://doi.org/10.4103/jfmpe.jfmpe_288_19. PMID:31334143. PMCID:PMC6618222
 26. Hiraoka D, Tomoda A. Relationship between parenting stress and school closures due to the COVID-19 pandemic. *Psychiatry and Clinical Neurosciences*. 2020; 74(9):497–8. <https://doi.org/10.1111/pcn.13088>. PMID:32779846. PMCID:PMC7323183
 27. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet* 395. 2020; 912–20. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
 28. Haskett ME, Ahern LS, Ward CS, Allaire JC. Factor structure validity of the parenting stress index- short form. *Journal of Clinical Child and Adolescent Psychology*. 2006; 35(2):302–12. https://doi.org/10.1207/s15374424jccp3502_14. PMID:16597226
 29. Lander L, Howsare J, Byrne M. The impact of substance use disorders on families and children: From theory to practice. *Social Work in Public Health*. 2013; 28(3–4):194–205. <https://doi.org/10.1080/19371918.2013.759005>. PMID:23731414. PMCID:PMC3725219
 30. Lampard AM, Jurkowski JM, Davison KK: The family context of low-income parents who restrict child screen time. *Childhood Obesity*. 2013; 9(5):386–92. <https://doi.org/10.1089/chi.2013.0043>. PMID:24004326. PMCID:PMC3791034
 31. Walton K, Simpson JR, Darlington G, Haines J. Parenting stress: A cross-sectional analysis of associations with childhood obesity, physical activity, and TV viewing. *BMC Pediatrics*. 2014; 14:244. <https://doi.org/10.1186/1471-2431-14-244>. PMID:25270356. PMCID:PMC4194416
 32. Campbell AM. An increasing risk of family violence during the Covid-19 pandemic: Strengthening community collaborations to save lives. *Forensic Science International: Reports*. 2020; 2. <https://doi.org/10.1016/j.fsir.2020.100089>. PMCID:PMC7152912

How to cite this article: Samarth, AB and Bharti, AS. An Observational Study of Demographic Variables and Parenting Stress, the Extent of Children's Screen Addiction and its Impact on Parenting Stress During the Period of Covid-19 Pandemic: A Pilot Study. *MVP J. Med. Sci.* 2021; 8(1): 23-30.