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Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.isrj.org

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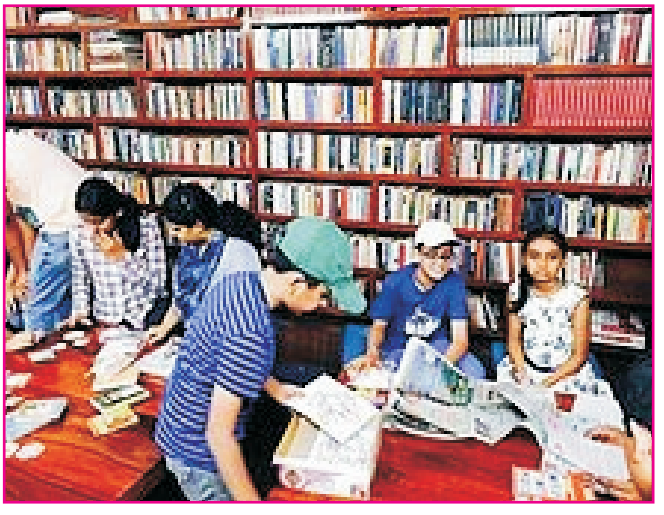
THE EFFECTS OF INTERNET ADDICTION ON PSYCHOMOTOR SPEED AND VISUO-MOTOR FUNCTIONING AMONG ADOLESCENTS

Shwetha B. C.[1] and Dr. C. Ramaswamy[2]

[1]Research Scholar, Department of Studies Psychology, University of Mysore , Manasagangothri, Mysore.

[2]Professor of Psychology, HOD & Administrative Officer ,University of Mysore, Manasagangothri, Mysore.

ABSTRACT



Internet has become an integral part of our day to day life and many of us cannot imagine a day without Internet. With the easy accessibility of smart phone and the minimal expenses of Internet use, Internet has boomed in business as well in private life. The Internet provides multifariousness of possibilities for communication, entertainment, and dealing with everyday-life requirements (e.g., making restaurant reservations, searching for information, keeping updated with respect to political and society issues, etc.).

Though the technology helps us no doubt it has its own impact on our life. The present paper attempts to understand the effect of Internet addiction on Psychomotor Speed and Visuo motor Coordination. To achieve the same a sample of 360 adolescents (N =120 Mild internet addicts, N=120 Moderate Internet addicts, N=120 severe internet addicts) were screened with the help of Young's internet addiction test, further they were administered Psychomotor ability test (a sub test of David's Battery of Differential abilities) and the obtained results were statistically analyzed using one way Anova, the results indicated that there is a significant difference in Psychomotor Speed and Visuo Motor Coordination among the varied groups of Internet addicts. With this it was concluded that Internet addiction had a serious effect on Psychomotor Speed and Visuo motor coordination.

KEYWORDS- *Internet addiction, Psychomotor Speed, Visuo Motor Coordination .*

INTRODUCTION :

Internet is being integrated as part of our every day's life because the usage of internet has been growing explosively worldwide. Playing online games, reading, writing emails, online shopping, gambling and engaging in real time chatting are the common online activities. According to the National Centre of Education Statistic preliminary studies had shown that a large number of American children and adolescents with age around 5 to 17 years old have access to the internet and are exposed to the internet at a very early age (Mythily, Qiu and Winslow, 2008).

An Internet or computer addiction is the excessive use of the former or the latter. The latest edition of the Diagnostic and Statistical manual of mental Disorders (DSM- V) actually includes it as a disorder that needs further study and research. In a publication on the National centre for Biotechnology Information website, the study, which was conducted by the department of Adult psychiatry in the Poland Medical University, showed

that internet addiction was seen to be quite popular and common among young people.

The term "addiction" has generally been associated with substance use. However, with internet access becoming widespread, problematic internet use is increasingly being reported, it has been suggested that excessive internet use could represent addictive behaviour with mental health implications. An internet addict may typically spend 40–80 hours weekly online. Researchers point that the Internet addiction may be seen in both sexes at earlier ages than other addictions.

The significance of research on Internet addiction has been expanded over the last decade (Bayraktar& Gun, 2007; Huang, Wang, Qian, Zhong, & Tao, 2007). A wide range of terms have been utilized mutually interchangeably for Internet addiction such as internet dependents (Kubey, Lavin, & Barrows, 2001; Yuen & Lavin, 2004), problematic internet users (Davis, Flett, &Besser, 2002; Shapira et al., 2003), or pathological internet users (Davis, 2001; Lin & Tsai, 2002; Morahan-Martin, 1999; Morahan-Martin & Schumacher, 2000).

Aviv Weinstein and Michel Lejoyeox (2013) in their study New developments on the neurobiological and Pharmaco-genetic mechanisms underlying internet and videogame addiction showed that playing videogame and internet addiction may be supported by parallel neural mechanisms underlying drug abuse. Similar to drug and alcohol abuse, internet addiction results in sub-sensitivity of dopamine reward mechanisms, indicating that internet addiction is equivalent to substance addictions. The researchers further stated that through Brain imaging studies of the resting state have revealed that continuing internet game playing affected brain regions responsible for reward, impulse control and sensory-motor coordination.

Kuhn et al (2011) in his study on both structural and functional neural correlates of Internet/computer gaming with a sample of 154 adolescents indicated that frequent/excessive internet users had showed higher gray matter volume in left ventral striatal region compared to infrequent players, while analyzing functional study of neural correlates of Internet/computer gaming on the same sample showed that activity in the region of the ventral striatum was higher in frequent compared to infrequent players in the loss condition of a monetary incentive delay task. Gray matter density was also examined by Yuan et al. (2011)

The literature review suggest that many experimental designs have been initiated to test how certain aspects of Internet use can affect cognitive abilities, with this notion the researchers have selected the component of Psychomotor Speed and Visuo Motor Co-ordination as cognitive abilities to know whether the internet addiction really has an impact on the selected psychomotor functions.

STATEMENT PROBLEM

1. To examine the effects of varied levels of Internet addiction on Psychomotor speed, Visuo-Motor Coordination among adolescents.

HYPOTHESES

H1 – Adolescents with mild, moderate & excessive Internet addiction differ significantly in their Psychomotor Speed and Visuo-Motor Coordination.

Research Design:

Descriptive survey research design was employed for the present study, a sample of 360 adolescents with varied levels of Internet addicts who fall under the age group of 12 to 18 from various schools and colleges of Bangalore city were selected. The cluster random sampling technique was adopted for the study and the assigned participants into 3 groups based on the scores of Young's Internet addiction Test (IAT) which included (N=120) Mild Internet addicts, (N=120) Moderate Internet addicts and (N=120) Severe Internet addicts.

INCLUSION CRITERIA

- Adolescents with mild, moderate, and excessive internet addicts will be selected.
- Adolescents both boys and girls will be selected
- Adolescents within the age group of 12-18 years only
- Adolescents belonging to schools and colleges in Bengaluru.

EXCLUSION CRITERIA

- Adolescents who are not internet addicts
- Adolescents who are not enrolled in the schools and colleges

Measures

1. Information Schedule. The schedule was designed to elicit the detailed information regarding age, gender and other demographic details.

2. Internet Addiction Test (IAT) designed by Dr. Kimberly Young which consists of 20 items. Each items needs to be rated on 5 - point scale on the continuum of Rarely with the score 0f 1, Occasionally with the score of 2, frequently with the score of 3, Often with the score of 4 and Always with the score of 5 points. Total scores that ranges from 0 to 30 point score considered to reflect a normal level of Internet usages, scores of 31 to 49 indicates the presence of a mild level of internet addiction; 50 to 79 reflect the presence of a moderate level and scores of 80 to 100 indicates a severe range is published in several journals. The test posses the Cronback"s Alpha reliability of 0.87

3.Psycho Motor ability (PM) is a sub-test of David's Battery of Differential Abilities which measures Visuo-Motor Coordination and Psychomotor Speed. Psychomotor ability can be considered one of fine muscle dexterity, primary manual. The test requires the subject to draw finely controlled pencil lines, as quickly as he/she can, in specially constructed figures.

Procedure

The Information schedule, Internet addiction test and psycho motor ability (DBDA sub test) was administered as group test on the sample selected. At the outset it was explained to the subject that these inventories were normally used scale on general population for the purpose of understanding their level of Internet addiction and psycho motor ability test sub test of DBAD is a measure to assess Visuo-Motor Coordination and Psychomotor Speed. They were also assured with confidentiality. The nature of the inventories was explained to the subjects. Items pertaining to difficulty in comprehending were explained and doubts were clarified, on an average 15 to 20 minutes was taken for completing all the inventories.

Analysis of Results and Discussion

Keeping in view the objectives of the present study, in order to find out the effects of varied levels of Internet addiction on Visuo-motor coordination and psycho motor speed among adolescents, one way Anova was computed. The obtained results have been shown in the following table. The analysis of results and the hypothesis testing of the effects of Internet addiction on Visuo-motor coordination and psycho motor speed are discussed in the following section.

Table.1

Shows the mean, standard deviation and an ANOVA statistic on Psychomotor speed (PMS) and Visuo-motor coordination (VMC) among sample groups belongs to Mild Internet addicts, Moderate Internet addicts and severe Internet addicts

Variable	PMS/ VMC				
	N	*Mean*	SD	F	P
Mild Internet addicts	120	42.75	15.96	20.420	.000
Moderate Internet addicts	120	35.68	12.02		
severe Internet addicts	120	30.76	15.52		
Total	360				

Table. 1 shows the mean score and standard deviation on Psycho motor speed and Visuo-motor coordination among sample groups belongs to Mild Internet addicts, Moderate Internet addicts and severe

Internet addicts. Mild Internet addicts group has obtained greater mean score (M=42.75, SD=15.96) on Psychomotor speed and Visuo-motor coordination compared to Moderate Internet addicts group (M=35.68, SD=12.02) and Severe Internet addicts group has obtained lesser mean score (M=30.76, SD=15.52) compared to Moderate Internet addicts group. In comparing significant mean differences between groups an ANOVA is calculated and the obtained F (2, 357) =20.420, p < .01 which clearly indicates that there is a significant difference in the Psychomotor speed and Visuo-motor coordination across three groups of Internet addicts.

Hypothesis 1 – Adolescents with mild, moderate & excessive Internet addiction differ significantly in their Psychomotor Speed and Visuo-motor Coordination is accepted. A one way ANOVA statistic showed that Internet addiction had a significant effect on psychomotor speed and visuo-motor coordination.

From the above description we can infer that the Mild Internet addicts had better Psychomotor speed and Visuo-motor Coordination compared to moderate Internet addicts group. The sample of severe internet addicts group had exhibited low psychomotor speed and Visuo-motor Coordination compared to other 2 groups. Thus from the above results we can infer that addiction to internet adversely affects the Psychomotor Speed and Visuo-motor Coordination among adolescents.

Table 2

Shows the multiple comparisons of three groups on Psychomotor Speed and Visuo-Motor Coordination using post-hoc turkey's HSD test

HSD	Multiple comparison			
Phase (A)	*Phase (B)*	*Mean Difference (A-B)*	Std Error	P
Mild Internet Addicts	Moderate	7.075*	1.887	.001*
	Severe	11.992*	1.887	.000*
Moderate Internet Addicts	Mild	-7.075*	1.887	.001*
	Severe	4.917*	1.887	.026*
severe Internet Addicts	Mild	-11.992*	1.887	.000*
	Moderate	-4.917*	1.887	.026*

Post-hoc analyses were conducted given the statistical significant omnibus ANOVA test, specifically Tukey's HSD test was conducted on all possible pair wise contrast. The following pairs of groups were found to be significantly different (p < .01). Group 1 (Mild Internet Addicts; (M=42.75, SD=15.96), and group 2 (Moderate Internet Addicts; M=35.68, SD=12.02) and group 3 (severe Internet Addicts; M=30.76, SD=15.52). In other words, Mild Internet Addicts group had significantly showed high level of psychomotor speed and visuo-motor coordination that Moderate and Severe Internet Addicts groups.

DISCUSSION

With the intention of knowing the effects of Internet addiction on cognitive abilities specially cognitive skills such as Psychomotor Speed and Visuo motor Coordination among adolescent the present study was initiated. The findings of the study revealed that there is a significant impact of internet use on Psychomotor Speed and Visuo motor Coordination, through this findings we can infer that severe use of internet or internet addiction hampers ones cognition and cognitive development of young adolescents the studies are indirectly asserted by Aviv Weinstein and Michel Lejoyeox (2013), Yuan et al. (2011), (Kalivas and Volkow, 2005)

The development of the adolescents psychomotor functioning is necessary for fostering creativity, it facilitates the learner's practices and also motivate the learner to try different alternatives. Many of the research studies have confirmed that using multiple representations, including virtual demonstrations, are beneficial in preparing students for actual live performances of psychomotor skills. As new media are becoming daily fare, Internet addiction appears as a potential problem in adolescents in focusing their attention completely towards hardcore practise.

Choi et al., (2014) in his study using traditional neuropsychological tests including the Stroop and computerized neuropsychological tests revealed that people with Internet addiction disorder exhibited more impulsive traits that non addicts, further it was also observed that people with Internet addiction performed more poorly in a computerized stop signal test. Parsons (1998) studies identified that like alcohol addicts, Internet addicts also show certain withdrawal symptoms such as neuro cognitive problems such as deficits in memory, learning, visuo-spatial functions, psychomotor speed processing, executive functions and decision-making, and the cognitive alterations.

Thus from the above findings we can conclude that severe use of internet has a potential problem of hampering the structural and functional part of the brain including the imbalance in brain neurochemical, which has a serious impact on the cognitive functioning. Psychomotor speed and visuo motor coordination being one of the cognitive tasks can also be disturbed because of disturbance in the cognitive functioning due to the result of severe Internet use.

CONCLUSION

Since the excessive Internet addiction group showed an adverse effect on Psychomotor Speed and Visuo motor Coordination, efforts must be initiate to create awareness among the adolescents regarding the effects of internet addiction.

REFERENCES:-

1. Aviv Weinstein and Michel Lejoyeox (2013) New developments on the neurobiological and pharmaco-genetic mechanisms underlying internet and videogame addiction. American Journal of Addiction 1521-0391
2. Chiu, S. I., Lee, J. Z., and Huang, D. H. (2004). Video game addiction in children and teenagers in Taiwan. Cyberpsychol. Behav. 7, 571–581.
3. Davis, R. A. (2001). A cognitive-behavioral model of pathological Internet use. Comput. Human Behav. 17, 187–195.
4. Kalivas P. W., Volkow N. D. (2005). The neural basis of addiction: a pathology of motivation and choice. Am. J. Psychiatry 162, 1403–141310.
5. Ko, C. H., Liu, G. C., Hsiao, S., Yen, J. Y., Yang, M. J., Lin, W. C., et al. (2009a). Brain activities associated with gaming urge of online gaming addiction. J. Psychiatr. Res. 43, 739–747.
6. Kühn S., Gallinat J. (2011). Common biology of craving across legal and illegal drugs – a quantitative meta-analysis of cue-reactivity brain response. Eur. J. Neurosci. 33, 1318–132610
7. Lin F., Zhou Y., Du Y., Qin L., Zhao Z., Xu J., et al. (2012). Abnormal white matter integrity in adolescents with Internet addiction disorder: a tract- based spatial statistics study.
8. Matthias Brand, Kimberly S. Young, and Christian(2014) Laier Prefrontal Control and Internet Addiction: A Theoretical Model and Review of Neuropsychological and Neuroimaging Findings Frontiers Human Neuroscience. 2014; 8: 375.
9. Morahan-Martin J., Schumacher P. (2003). Loneliness and social uses of the Internet. Journal of Computer Human Behavior. 19, 659–67110
10. Mythily, S., Qiu, S., & Winslow, M. (2008, January). Prevalence and Correlates of Excessive Internet Use among Youth in Singapore. Ann Acad Med Singapore, 37(1), 9-14.
11. Parsons, O. A. (1998). Neurocognitive deficits in alcoholics and social drinkers: a continuum? Alcoh. Clin. Exp. Res. 22, 954–961
12. Yuan K., Cheng P., Dong T., Bi Y., Xing L., Yu D., et al. (2013). Cortical thickness abnormalities in late adolescence with online gaming addiction. PLoS ONE 8:e53055.10.1371/journal.pone.0053055

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