Dhaka Univ. J. Biol. Sci. **27**(1): 49-56, 2018 (January)

THE ROLE OF INTERNET ADDICTION AND MASTERY MOTIVATION ON ACADEMIC ACHIEVEMENT AMONG SCHOOL-AGED CHILDREN

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Key words: Internet addiction, Mastery motivation, School-aged children, Academic achievement

Abstract

The purposes of the present study were to investigate association of internet addiction and mastery motivation with academic achievement of school-aged children and to investigate whether there is any significant difference of internet addiction and mastery motivation according to grade of school-aged children. Three hundred participants were selected from different grade levels (VIII, IX, X). The collected data were analyzed by using Pearson product moment correlation and one-way ANOVA. Results showed that mastery motivation was positively correlated with academic results that was significant. On the other hand, negative relationship between the academic results of children with internet addiction which was not significant. The findings also revealed that both internet addiction and mastery motivation had significant difference with different grade levels of children. Study limitations and further implications were also discussed.

Introduction

Internet is a majestic and universal network of network which helps for the information management, storage, recovery, communication and research[1]. Internet addiction can be defined as any online related compulsive behavior which interferes with normal living and causes severe stress on family, friends, loved ones, and one's work environment[2]. Based on the research findings of worldwide studies, internet addiction has become a global problem[3]. Recent statistics of school-aged internet users indicate that school-aged children spend a great deal of their time on the internet for communication, educational, and entertainment[4]. Internet considers as a priceless source of information and a tool to enhance students' academic performance by transforming the present isolated teacher-centered and text-book bound classrooms into rich, students focused, and interactive knowledge environment[5-7]. Internet use can be varied among different grade levels of school-aged children. A relevant study was found

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where younger adolescents (13.7%) were severely addicted to internet than older adolescents (6.3%)[8]. Though Bangladesh is a developing country with its huge population approximately 16 million, the importance of internet makes this country connected to the internet mid of 1996[9]. Gradually, the number of internet users in Bangladesh has increased from 9.2% in 2014 to 13.2% in 2016[10]. One of Bangladeshi studies revealed that there was no significant correlation between internet addiction and academic results of English medium students [11].

Another key concept of the study is academic achievement which is commonly measured through examinations or continuous assessments such as - class test, assignment, homework's etc.[12]. Mastery motivation is an inherent force that stimulates a person to attempt to master a skill or task that is at least moderately challenging for individual[13]. Motivation is a fundamental aspect for academic success. It involves internal and external factors that stimulate desire and energy in people to be continually interested and committed to job, role, or subject, or to make an effort to attain a goal [14]. Motivational facts are very essential to the academic achievement of students because they help to determine the extent to which students will consider, value, put in effort, and show interest in the task[15-17]. Mastery motivation explains why people decide to do something, how hard they are going to pursue it, and how long they are willing to sustain the activity[18]. In other words, motivation is what gets person going, keep a person for going and determines where are trying to go[19]. In Hong Kong, secondary schools based study was found that senior-grade students are more motivated and take competitive examinations to proceed to the next level whereas junior-grade students attend school regardless of their abilities and motivation[20].

This study would be helpful for understanding the correlation of children's motivation on their academic achievement. Mastery motivation provides a framework for assessing and intervening in the learning process of children. This study is very important to investigate the seriousness of internet addiction in the society nowadays especially for adolescents. For this reason, it is necessary to know the different levels of internet users in the context of Bangladesh. Role of internet addiction and mastery motivation on academic achievement is scarcity research in Bangladesh. So the researcher was interested to conduct this research in Bangladeshi context. The objectives of this research project are to see the prevalence of internet users among school-aged children, to investigate association of internet addiction and mastery motivation with academic achievement of school-aged children, to investigate relationship between internet addiction and mastery motivation and to investigate whether there is any significant difference of internet addiction and mastery motivation according to grade levels of school-aged children.

Materials and Methods

Three hundred participants were taken from equal number of students into Grade VIII (N = 100, 50 boys and 50 girls), Grade IX (N = 100, 50 boys and 50 girls), and Grade X (N = 100, 50 boys and 50 girls). The mean age of the participants were 14.91 and SD 0.83. All participants were selected conveniently from one school in Dhaka city with children aged from 14 to 17 years.

For the data collection of the present study, the following instruments were used:

Demographic and personal information questionnaire: A demographic and personal information questionnaire was used to collect personal and demographic information of the participants such as name, age, gender, grade, purpose of using, results.

Bangla version of the internet addiction test (IAT) questionnaire: Bangla version of internet addiction test IAT [21] was used to assess internet addiction. It comprises of 18 items and each of the item is rated on a 5-point Likert scale, ranging from 1(rarely) to 5 (always).The higher score on IAT means higher addiction. The internal consistency (Cronbach) of the IAT was found 0.92 and convergent validity .43 to .58. There are three level of Internet users with which minimal users (score: 18-35), moderate users (score: 36-62) and excessive users (score: 63-90).

Bangla version of the dimension of mastery motivation questionnaire (DMQ-18): Recently the Bangla version of the dimensions of mastery motivation questionnaire (DMQ-18) adopted by Haque and Arif[22]. This scale has 41 items and 5-point Likert-type rated 1(rarely) to 5 (always). The Cronbach's alpha of this scale is 0.818, the split-half reliability is 0.870, and criterion-related validity is 0.82.

Firstly, ethical permission was taken from 'Ethics Committee' of the Department of Educational and Counselling Psychology. Then, permission was taken from the school authority for collecting data. Data were collected by convenience sampling technique because of sample are selected from that part of the population whose are close to hand and readily available. Necessary consents were obtained from the participants who accepted to take part into the study and necessary rapport was established before administering the questionnaire. Then questionnaire was provided with proper instruction and was allowed to ask freely if she /he had questions regarding any item of the scale. Participants were informed about confidentiality and their rights to withdraw from this study at any time. The questionnaires were administered individually. It took 25 - 30 minutes on an average to complete the task. After the performance, all the participants were thanked by the investigator for their cooperation and participation in the study.

Results and Discussion

Pearson correlation and one way-ANOVA were carried out for this study. Results were discussed in the light of objectives and reported herein.

From Table 1 it can be seen that the highest using purpose of internet was 'facebook' (37.7%) whereas the lowest number was 'messengers' (3.3%).In line with this, one survey was reported that American teenagers were mostly used 'facebook' (41%) in compare to other purpose of internet using[23].

This Table 2 findings represented the prevalence of internet users in accordance with internet addictions' category: minimal (35%), moderate (63%), and excessive user (2%). Similarly, Japanese study also revealed that the rate of moderate internet addiction was higher (34%) than mild internet addiction[24].

Table 1. Frequency distribution of purpose of internet using.

Variable	Attribute	Frequency	Percentage (%)
Purpose of internet using	Facebook	113	37.5
	You tube	92	30.7
	Browsing	15	5.0
	Imo	23	7.7
	Messenger	10	3.3
	Google	32	10.7
	None	16	5.0

Table 2. Frequency of prevalence of three types of Internet users.

	Frequency	Percentage
Minimal (18 - 35)	105	35.0
Moderate (36 - 62)	189	63.0
Excessive (63 - 90)	6	2.0

From Table 3, the findings present that slight positive relationship of academic results with mastery motivation ($r = 0.122$, $p = 0.05$) which was significantly correlated. Previous study mentioned the similar findings. Research on mastery motivation has consistently found significant relationships between children's motivation and academic achievement[25]. A child who is highly motivated to master tasks, will eventually learn more successful strategies and thus becomes more competent[26]. This table also revealed a poor negative correlation between the students' academic performance and internet addiction that was not significant ($r = –0.075$, $p > 0.05$). Earlier research stated the similar

outcomes ($r = –0.083$, $p < 0.01$); that means, the use of the internet can be helpful to adolescents to complete school work more effectively and efficiently[27]. In addition, this study also found a significant negative relationship between internet addiction and mastery motivation ($r = – 0.354$, $p < 0.01$). Another study showed the analogous findings: excessive use of internet produced 'loss of control' and academic procrastination that led to decrease of academic motivation[28-29].

Table 3. Pearson correlation of internet addiction (IAT) and mastery motivation (MM) with academic results.

Results	IAT	MM
Results 1	–0.075	0.122*
IAT	1	–0.354**
MM		1

IAT = Internet Addiction Test, MM = Mastery Motivation, *p < 0.05.

Table 5. Multiple Comparisons of usage of internet on the basis of grade.

Mean difference			SE	Sig.	95% confidence interval	
(I) Grade	(J) Grade	(I-J)			Lower bound	Upper bound
VIII	IX	5.81300*	1.63303	0.001	1.9664	9.6596
	IX	5.71300*	1.63303	0.002	1.8664	9.5596
IX	VIII	–5.81300*	1.63303	0.001	–9.6596	–1.9664
	X	–0.10000	1.63303	0.998	–3.9466	3.7466
X	VIII	–5.71300*	1.63303	0.002	–9.5596	–1.8664
	IX	0.10000	1.63303	0.998	–3.7466	3.9466

*p < 0.05.

One way ANOVA results indicated that significant differences were found in the internet addiction with different grade levels ($F = 8.30$, $p = 0.000$). The mean score for Grade VIII ($M = 43.75$, $Sd = 11.25$) was significantly different in internet addiction according to different grade levels with the mean score of Grade IX ($M = 37.94$, $Sd = 10.96$). But Grade IX was different from the mean score with the Grade X ($M = 38.04$, $Sd = 12.38$). Tukey Post hoc test results also revealed that score of Grade VIII was statistically significant with Grade IX ($p = 0.001$). Grade IX is statistically significant with Grade VIII ($p = 0.001$). Grade X is ($p = 0.998$) statistically significant difference with Grade VIII ($p = 0.002$). Previous study confirmed that internet access was higher for highly educated

young people. Sixty six per cent of the 10th grade students spent 5 - 7 hrs per day and 72% of the 8th Grade students spent 6 - 8 hrs on the internet[30].

There was a statistically significant difference between groups as determined by one-way ANOVA (F = 24.38, p = 0.000). Results indicated that mean score for Grade-VIII (M = 126.96, Sd = 16.17) was significantly different in mastery motivation from the mean score for Grade-IX (M = 141.55, Sd = 15.14) and Grade-X (M = 140.15, Sd = 17.51). A Tukey post-hoc test revealed that the score of Grade-VIII had statistically significant difference with Grade-IX (p = 0.000). Grade-IX had statistically significant difference with Grade-VIII (p = 0.000). Grade-X was statistically significant difference with grade VIII (p = 0.000).This finding supported the previous findings: 40% of high school students were chronically engaged from school whereas 60% of Grade-IX students were highly motivated than 8th grade students[31].

Table 6. Mean differences of mastery motivation according to grade levels.

Variable	Attribute	Mean	Sd	F	P
	VIII	126.96	16.17		
Grade	IX	141.55	15.14	24.38	0.000
	X	140.15	17.51		

*p < 0.05

Table 7. Multiple comparisons of mastery motivation on the basis of grade.

Mean difference			Std. Error	Sig.	95% confidence interval	
(I) Grade	(j) Grade	(I-J)			Lower bound	Upper bound
VIII	IX	–14.59000*	2.30557	.000	–20.0208	–9.1592
	X	–13.19000*	2.30557	.000	–18.6208	–7.7592
IX	VIII	14.59000*	2.30557	.000	9.1592	20.0208
	X	1.40000	2.30557	.816	–4.0308	6.8308
X	VIII	13.19000*	2.30557	.000	7.7592	18.6208
	IX	–1.40000	2.30557	.816	–6.8308	4.0308

*p < 0.05.

To sum up, the findings of the present study revealed that there was an association of internet addiction and mastery motivation on academic performance. Internet addiction and mastery motivation had significant difference with different grade levels of children. Therefore, one can conclude from the present investigation that internet usage and mastery motivation can be beneficial to students in their academic set-up.

However, this study is not beyond its short comings. Data collection is conducted from one school that is one of the main limitations here. Also, academic marks (GPA) has been considered as the only indicator of academic success for participants. As these results are reported by participants and there is possibility to conceal the original academic results. This research needs to be further conduction in larger and more diverse populations.

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(Manuscript received on 3 October, 2017; revised on 29 October, 2017)