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Relationship between Academic Stress with Physical Activity and Screen Time of School Going Children

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ABSTRACT

The purpose of this descriptive correlational study was to find out correlation between Academic Stress with Physical activity and Screen time of school going children. 240 girls and boys studying in schools following I.C.S.E., C.B.S.E. and S.S.C. boards were selected using purposive sampling technique as sample for the study. Survey of Academic Stress (SAS), International Sedentary Assessment Tool (ISAT) and Physical Activity Index (PAI) were used for data collection. The data was analyzed by using coefficient of correlation. The r value for physical activity and academic stress of boys (r=-0.185, p=0.043) and girls(r= 0.224, p=0.014) respectively. The r value for screen time and academic stress of boys(r=-0.005, p=0.957) and girls (r=-0.017, p=0.853). The study reveals that there is negative significant relationship exist between physical activity and academic stress of school going children.

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Introduction:
In today's world physical inactivity is greatest public health problem. "Worldwide, 31.1 % of adults (15 years or older) are physically inactive" (Xyaoyan Wu, et.al.). Lifestyle that is developed during childhood is more likely to stay with child into adulthood. Adolescence represents a critical period of development during which personal Lifestyle choices and behavior patterns are established, including the choice to be physicallyactive.(Kumar.B.et.al.2015). Physical inactivity, more sedentary behavior and low fitness are the risk factors of developing many diseases in adolescence age group. Research showed that, TV viewing and screen time were associated with unfavorable body composition, decrease of fitness, lowered scores for self-esteem, and pro-social behavior (M.S. Tremblay et.al. 2011.)
Physical activity factors such as age, gender, energy and lack of self-esteem become obstacles for the adolescents even though screen time is became the major cause of physical inactivity and academic performance. Many studies have revealed that physical inactivity and higher screen time has led to psychological factors like depression, anxiety, aggression and stress etc. Physical activity can help lower overall stress level and improve your quality of life both mentally and physically. Screen time affected their sleep quality which was main reason for the academic stress of adolescences'. Hence, reducing screen time and involving in physical activity can help the adolescents to reduce their academic stress.
It is important to investigate about physical activity and screen time with academic stress of school children which will help them for their better health. Therefore this study aimed to examine the relationship between physical activity and screen time with academic stress of school going children.

Materials and Method

Subjects: For this descriptive correlational study six schools (2 I.C.S.E., 2 C.B.S.E., and 2 S.S.C.) were selected using convenience sampling technique for the study. From all the students studying in the 8th and 9th standards of these schools, 10 boys and 10 girls were selected from each standard for the study using purposive sampling technique. (N=240)

Variables and Tools: Based on the gaps found in related literature the dependent variables were identified as physical activity, screen time and academic stress. These were measure during physical activity index (PAI), screen time questionnaire (ISAT) and survey of academic stress (SAS) respectively.
Physical Activity Index developed by Kusinitz,I.,and M.Fine. (1995.) consist of 3 questions. The responses to which were given on a 6 point likert scale. Higher the level of score indicates high physical activity and lower the level of score indicates low physical activity with a minimum score of 0 and maximum score of 125. International Sedentary Assessment Tool (ISAT) developed by Helena study group (2011.) consists of 6 questions. The time was calculated according to given categories i.e. 1=0 min, 2=15 min, 3=45min, 4=90 min, 5=150min, 6=210 min, 7=241 min respectively.
Survey of Academic Stress (SAS) developed by Stacy Marie Bjorkman (2013) consists of 28 items. The response to which were given on a 5 point likert scale (1= Strongly Disagree to 5= Strongly Agree). Higher the level of score indicates greater stress with a minimum score of 28 and maximum score of 140.

Procedure:

With the permission of concerned authorities the researchers collected the necessary data from the sample in a class room setup. The questionnaires were administered on the sample during their physical education class as no other subjects taught were not

Results and Discussion:

Table No.1.1 Descriptive statistics

		Descriptive Statistic					
		ISCE		CBSE		SSC	
Variable	Gender	Mean	SEM	Mean	SEM	Mean	SEM
PA	B	12.68 (± 1.913)	.303	9.55 (±3.609)	.571	11.30 (±3.34)	.529
	G	11.98 (±2.434)	.385	7.50 (±2.708)	.428	10.25 (±3.240)	.512
ST	B	73.185 (±13.036)	2.061	71.98 (±18.10)	2.862	79.45 (± 9.212)	1.457
	G	70.20(±18.094)	2.861	68.10 (± 12.90)	2.040	82.35 (±16.700)	2.641
AS	B	17.43 (± 2.800)	.443	19.88 (± 2.55)	.404	20.53 (± 2.124)	.336
	G	20.10(±3.185)	.504	19.68 (± 1.940)	.307	19.43 (± 1.852)	.293

Supposed to be disturbed and it was difficult to get the entire sample together otherwise. The main objectives of the test were explained to the sample along with the instructions for the responses to the questionnaire. The sample were assured that the information will be kept confidential and used only for the research purpose.

From the table no. 1.1 it can be seen that the mean score of Physical activity of boys and girls from I.C.S.E. board schools were found higher 12.68(± 1.913), 11.98 (± 2.434) than C.B.S.E. and S.S.C. board schools 9.55(± 3.609), 11.30 (± 3.34) and 7.50 (± 2.708), 10.25 (± 3.240) respectively.
The mean score of screen time of boys and girls from S.S.C. board were found higher 79.45 (± 9.212), 82.35 (± 16.700) than I.C.S.E. and C.B.S.E. board schools 73.18 (± 13.036), 71.98 (± 18.10) and 70.20 (± 18.094), 68.10(± 12.90) respectively.

Table No.1.2 inferential statistics

Variable	Gender	Value	ISCE	CBSE	SSC
PA-AS	B	r	-0.232	0.010	-0.059
		p	0.150	0.949	0.718
	G	r	0.047	0.467	0.315
		p	0.775	0.003	0.048
ST-AS	B	r	0.231	-0.256	-0.231
		p	0.151	0.111	0.151
	G	r	0.157	-0.150	-0.120
		p	0.33	0.355	0.467

The mean score of academic stress of boys from S.S.C. board were found higher 20.53 (± 2.124), than I.C.S.E. and C.B.S.E. board schools 17.43(± 2.800), 19.88 (± 2.55) respectively. In case of girls the mean score of I.C.S.E board schools is higher 20.10(± 3.185) than C.B.S.E. and S.S.C. board schools 19.68(± 1.940), and 19.43 (± 1.852) respectively.

Table Number 1.2 indicates the r values for I.C.S.E., C.B.S.E. and S.S.C. board (r=0.467, p=0.003,
Table No.1.2 indicates the r values for C.B.S.E, S.S.C. and I.C.S.E. board (r=0.467, p=0.003, r=0.315, p=0.048, r=0.047, p=0.775) shows that there is significant relationship between physical activity and academic stress of girls studying in C.B.S.E. and S.S.C. board schools. However, there is no significant relationship was found in the girls studying in I.C.S.E. board schools.
For boys there is no significant relationship between physical activity and academic stress from I.C.S.E., C.B.S.E. and S.S.C. board schools(r= -0.232, p=0.150, r=0.010, p=0.949, r= -0.059, p=0.718) respectively.
Further, the r value for screen time and academic stress for boys studying in I.C.S.E., C.B.S.E. and S.S.C. board schools are (r=0.231, p=0.151,
r= -0.256, p=0.111, r=-0.231,p=0.151) respectively. This shows that there was no significant relation.
In case of girls the r value for screen time and academic stress In I.C.S.E., C.B.S.E. and S.S.C. board schools (r=0.157, p=0.33,r= -0.150, p=0.355, r=-0.120, p=0.467) respectively. This shows that there was no significant relation.

Discussion:
In the present study researchers interested in studying whether there is any relationship between physical activity and screen time with academic stress of school going children. At the end of the research it was found that there was relationship between physical activity and academic stress of school going children and there was no relationship between screen time and academic stress.

Many research findings revealed that there is some of the other relationship between physical activity and screen time with academic stress. Luisa Aires et.al. (2009). conducted similar study on the physical activity, fatness and screen time. Here they concluded that physical activity has positive effect on fatness and screen time in children and adolescents. Kylie.D.Hesketh et.al. (2012). conducted study on Children's physical activity and screen time in the views of their parents. Here they concluded those parents of young children on their child's physical activity and screen time and their own involvement in influencing their behaviors. Qifeng, Qing-le Zhang, et.al. (2014). conducted study on physical activity, screen time with depression, anxiety and sleep quality of Chinese students. There finding concluded that Independent and interactive relationship of high physical activity and low screen time with significantly reduced prevalence of depressive problems and favorable sleep quality. Hence, based on the present study's findings and other previous findings researchers is of the conclusion that there is significant relationship between physical activity and screen time with academic stress of school going children.

Conclusion:
A significant relationship was found between physical activity and academic stress of girls studying in C.B.S.E. and S.S.C. board schools. It was observed that girls was having higher physical activity which help to reduce their academic stress and there was no relationship found between screen time and academic stress of boys and girls studying in I.C.S.E., C.B.S.E. and S.S.C. Board schools.

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