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Effect Of 08 Weeks Aerobic Exercise Protocol On SelectedPsychological Variables Among Girls (16-18 Years)

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Abstract

The purpose of this study was to investigate the effect of eight (08) weeks of Aerobic Exercise Protocol on Selected Psychological Variables among Girls (16-18 years). The researcher used self – perception Profile for Children Questionnaire (SPPC) (Harter, 1985). Experimental and questionnaire was used to collect the data before and after the protocol. The researcher personally visits the college and conducts the exercise protocol. Before treatment, the respondents filled the questionnaires, and the researcher divided the groups into two groups such as experimental and control on the mean score basis. A total of 14 girls have remained in the experimental group and 16 were in the control group. The control group remained on as usual routine and experimental girls were treated through 08 weeks of Aerobic Exercise Protocol. After the treatment, the researcher re-fills the self- perception profile for children questionnaire from both groups. The researcher concluded that there is a significant positive effect of 08 weeks of Aerobic Exercise Protocol on Selected Psychological Variables among Girls (16-18 years). The researcher recommended that the aerobic exercise protocol could be included in the girl's college timetable permanently, to fulfill the psychological needs of girls at the college level. Moreover, the government may appoint one physical female trainer at college level for guidance of girls to perform the exercise accurately.

Keywords: Effect, 08 weeks, Aerobic Exercise, Protocol, Psychological Variables, Girls (16-18 years)

Introduction

Exercise is considered important and vital aspect of the human lives in the contemporary age. Exercise is a growing concern of the individuals of all ages, as it has numerous health benefits such as development of body image, self/esteem and confidence (Grogan, 2021; Scott et al., 2020; Fox, & Lindwall, 2014). Regular participation in Physical activities promotes physiological (muscle improvement, cardiovascular fitness) as well as psychological aspects (stress management and depression control) of health. Weinberg and Gould (2018) defined that psychological variable are all those aspects concerned with mental and emotional aspects of health such as scholastic competence (cognitive development resultant from scholastic activity), social Competence (social acceptance of a person due to social stability), athletic competence (ability to show good performance in concerned sports), physical appearance (feeling of a

person about him/ herself) and behavioral conduct (the degree to one like one's behavior).

Lloyd et al (2014) argued that regular participation in resistance exercise develop psychological well-being of youth which enables the participants take right decision at right time. Benefits of regular exercise on psychological health have barely been recognized (Marques et al., 2017). Patients with anxiety and depression do better if exercise training is performed with other treatments. More importantly, individuals who take up regular aerobic exercise report an improved sense of general wellbeing and an enhanced self-image. Aerobic exercise patterns and fitness levels established during childhood and adolescence are likely to carry over into adult life (Stodden et al., 2008). Sound aerobic exercise habits developed at an early age and it also provides the foundation for a lifetime of fitness through exercise (Heyward & Gibson, 2014). Carek et al. (2011) stated that exercise has played a positive role in reducing the symptoms of depression and anxiety. However, this study did not provide evidence ofthe long-term psychological benefits or chronic effects that may accompany participation in regular exercise.

As a result of all the above mentioned is clear to say that exercise promotes physical as well as mental health. But comprehensive and qualitative research based on the specific exercise and its role in the development of psychological health is still missing. The current study was especially focused on aerobic exercise and the psychological well-being of higher secondary level school students.

Over the last era, there have been several wide-ranging reviews of the exercise psychology literature, which together over positive if guarded support for the role that exercise can play an important role in the promotion of positive mental health (Miller et al., 2008). There is a deterioration in the fitness levels at a school-age large number of students have no regular involvement in appropriate physical activities (Pitetti et al., 2013). In the contemporary age, there is an increase in stress & inactivity which led to assessing the potential benefits of physical activity for mental health. Research on aerobic activities & psychological well-being provides the relationships between exercise and various features of psychological-being being (Biddle & Asare, 2011). Keeping into consideration, the current study was led to investigate the effect of 08 weeks of aerobic exercise protocol on selected psychological variables using the self-perception theory developed by Weinberg and Gould (2018) among girls' students at the secondary school level in the vicinity of Bannu District.

Methods and Materials

Study Participants

This study aims to investigate the effects of 08 weeks aerobic exercise upon selected psychological variables of school girls. The researcher voluntarily selected 30 girls from Government Girls Higher Secondary School Mambati Burakzai, District Bannu KP Pakistan. The participants were divided into two (2) groups' the control group and the experimental group. The control group was consisted of 16 subjects having no treatment (CG, N =16), similarly, the experimental group was comprised of 14 subjects (EG, N=14) and given the prescribed exercise protocol.

Exercise Protocol as a Tool of Treatment of the Concerned Subject

As this research study was related to too big exercise and its role in the psychological variables. Therefore, 08 weeks of aerobic exercise protocols were developed and employed on the subject. The instrument used for the evaluating the effects of 08 weeks prescribed exercise protocol on selected psychological variables

The researcher used the "Self–Perception Profile for Children Questionnaire (SPPC)

(Harter 1985) tool the evaluate the effects of 08 eight weeks of exercise on selected psychological variables;

Psychological Variables		
Self–Perception	Self–Perception Profile for Children Questionnaire (SPPC) (Harter 1985)	Number in Score
Social competence		
Athletic competence		
Physical appearance		
Behavioral conduct		

Exercise Protocol

All selected subjects participated in the research voluntarily and cheerfully without any compulsion. The experimental group has gone through a training protocol for 5 sessions per week (45 minutes). The Control group did not participate in any exercise protocol and involved in daily routine. Pre-test & post-test were conducted before and after the exercise period on selected psychological variables.

Data Analysis

The collected data of both groups (control and experimental group) were processed through SPSS, version 24 by using appropriate statistical tools according to parametric data. The researcher used Range, Mean, Standard deviation, and variance as descriptive statistics and paired sample t-test and independent sample t-test as inferential statistical techniques to test the hypotheses.

Results and Discussion

Table 1: Demographics (Experimental and Control Group Frequency)

Category		Frequency	Percent	Valid Percent	Cumulative Percent
Experimental	14		46.7	46.7	46.7
Control	16		53.3	53.3	100.0
Total	30		100.0	100.0	

Table 2: Paired Samples Statistics showing the Pretest and post-test comparison of thecontrol group in selected psychological variables

Pair	Psychological variables	Mean	N	Std. Deviation	t	Sig.
Pair 1	Scholastic Competency	1.8750	16	.50000	1.145	.270
	Scholastic Competency	1.6875	16	.60208		
Pair 2	Social Competency	1.8125	16	.65511	.000	1.000
	Social Competency	1.8125	16	.83417		
Pair 3	Athletics Competency	1.8750	16	.50000	-1.861	.083
	Athletics Competency	2.0625	16	.57373		
Pair 4	Physical Appearance	1.6250	16	.61914	1.464	.164
	Physical Appearance	1.5000	16	.63246		
Pair 5	Behavioral Conduct	1.8750	16	.80623	.000	1.000
	Behavioral Conduct	1.8750	16	.50000		

Pair 6	Pretest Selected Psychological Variables	1.8125	16	.38275	.368	.718
	Posttest Selected Psychological Variables	1.7875	16	.39644		

Table 3: Paired Samples Statistics showing the Pretest and post-test comparison of the experimental group in selected psychological variables

Pair	Psychological variables	Mean	N	Std. Deviation	t	Sig.
Pair 1	Scholastic Competency	2.0000	14	.67937	-8.498	.000
	Scholastic Competency	4.2143	14	.69929		
Pair 2	Social Competency	2.2143	14	.42582	-9.555	.000
	Social Competency	4.0000	14	.55470		
Pair 3	Athletics Competency	2.0714	14	.47463	-9.352	.000
	Athletics Competency	4.1429	14	.66299		
Pair 4	Physical Appearance	1.8571	14	.66299	-5.292	.000
	Physical Appearance	3.8571	14	1.23146		
Pair 5	Behavioral Conduct	1.8571	14	.86444	-9.723	.000
	Behavioral Conduct	4.7143	14	.46881		
Pair 6	Pretest Selected Psychological Variables	2.0000	14	.39223	18.586	.000
	Posttest Selected Psychological Variables	4.1857	14	.27695		

Table 4: Independent sample t-test showing the mean difference between experimental andcontrol group in pretest selected psychological variables (Matching process)

Testing Variables	Category	N	Mean	Std. Deviation	t	Sig.
Scholastic Competency	Experimental	14	2.0000	.67937	.579	.567
	Control	16	1.8750	.50000		
Social Competency	Experimental	14	2.2143	.42582	1.959	.060
	Control	16	1.8125	.65511		
Athletics Competency	Experimental	14	2.0714	.47463	1.099	.281
	Control	16	1.8750	.50000		
Physical Appearance	Experimental	14	1.8571	.66299	.991	.330
	Control	16	1.6250	.61914		
Behavioral Conduct	Experimental	14	1.8571	.86444	-.059	.954
	Control	16	1.8750	.80623		
Selected Psychological Variables	Experimental	14	2.0000	.39223	1.323	.196
	Control	16	1.8125	.38275		

Table 5: Independent sample t-test showing the mean difference between experimental andcontrol groups in post-test selected psychological variables (evaluating process)

Testing Variables	Category	N	Mean	Std. Deviation	t	Sig.
Scholastic Competency	Experimental	14	4.2143	.69929	10.638	.000
	Control	16	1.6875	.60208		
Social Competency	Experimental	14	4.0000	.55470	8.324	.000
	Control	16	1.8125	.83417		

Athletics Competency	Experimental	14	4.1429	.66299	9.214	.000
	Control	16	2.0625	.57373		
Physical Appearance	Experimental	14	3.8571	1.23146	6.721	.000
	Control	16	1.5000	.63246		
Behavioral Conduct	Experimental	14	4.7143	.46881	15.971	.000
	Control	16	1.8750	.50000		
Selected Psychological Variables	Experimental	14	4.1857	.27695	18.932	.000
	Control	16	1.7875	.39644		

Discussion

This study aimed to examine the effect of 8 weeks aerobic exercise protocol on the psychological variables of the girls at college level. After treatment, the experimental group showing interest in homework, able compete their classmates in academic career, finish their school work in time, answer to the teacher's questions and remain active in the class. Moreover, aerobic exercise protocol improve social competency, frankness with class fellows, interaction with school fellows, participation in group work and develop the interest to be proctor of the class. Moderate and vigorous intense aerobic exercises develop the cognitive learning and increase the academics interest (Ruiz-Ariza et al., 2017). It is an evident that physical activities and especially moderate intense activities have positive impact on the educational achievement (Donnelly and Lambourne, 2011). de Winter et al. (2018) reported that physical activity is a worldwide acceptance among health authorities, which develop the healthy lifestyles among the participants. Lloyd et al. (2014) argued that participation in regular resistance exercise improve the psychological well-being of youth. Moderate intensity of aerobic exercise or activity improves brain's health of the adults (Tomporowski, 2003). At the secondary school level it is noticed that the students are not showing enough interest in studies, not preparing the lessons, remains absent from classroom activities, and are found with limited awareness of the academic course (Tomporowski, 2003). Therefore, this study found the positive effect to improve the scholastic competency. Moreover, this study have significant effect over the self-perceptions, while overall school achievement such as student's engagement in academic and scholastic activities mainly depend upon the learning strategies as well as different motivations and self- perceptions (Fox et al., 2001; Horstmanshof & Zimitat, 2007; Orme, 2022).

The present study determined that aerobic exercise protocol builds the athletic competency and confidence in order to perform gymnastic activities accurately and to experience newphysical activities. In this regard, regular participation in aerobic exercise increases physical fitness such as strength, flexibility and agility (Seguin et al., 2013). Aerobic dance improve the resting pulse rate, vital capacity, breath holding time and respiratory rate (Navaratnam et al., 2019). Sekhon and Shelvam (2013) revealed that aerobic training and yoga training has a significant improve the muscular endurance of college boys. Flexibility has significantly increased and improved through aerobic and yogic practices and exercise (Toppo, 2014). Scholastics competency is associated with the cardiovascular fitness (Trudeau et al., 2004).

The current study highlighted that aerobic exercise foster body figure, reduce complexion, and maintain height, face, hair, and weight. Furthermore, aerobic exercise develops the sense to care of others and to treat peers positively, respect the elders and family members. Aerobic exercise patterns and fitness levels established during childhood and adolescence are likely to carry over into adult life (Stodden et al., 2008). Holley et al., (2011) found that improvement

in self-concept, self-esteem, depressive symptoms and anxiety consistently depends on physical activity. Sound aerobic exercise habits developed in the early age and it's also providing the foundation for a life time of fitness through exercise (Heyward & Gibson, 2014). Patients with anxiety and depression do better if exercise training is performed with other treatment (Ströhle, 2009). Students are vulnerable to a variety of mental disorders, which in turn leads to public concerned in different societies (Brown & Harris, 2012). Carek et al. (2011) stated that aerobic exercise has positive impact to reduce depression and anxiety. Wilks and Spivey (2010) noted that high levels of distress and confined coping strategies for stress affect the student's academic demands. Baker (2017) reported that aerobic exercise and yogic practices have significant positive effects upon the improvement of vital capacity, while the yogic practices have more significant effect in the reduction of systolic and diastolic blood pressure as compared to aerobic exercises (Murugan & Vinayagam, 2015). Rosell, et al. (2012) indicated that 8 weeks high intensity aerobic exercises have the potential to improve the aerobic capacity (VO2max) and gastro allergic reactions (Mattiucci et al., 2013).

Conclusions

The researcher concluded that there is a significant positive effect of 8 weeks aerobic exercise protocol on the psychological variables of the girls at college level, because in posttest after the treatment when experimental and control groups were compared experimental group score greater than control group in selected psychological variables. After the treatment the experimental group girls showing their interest in homework, academic career, completion of school work in time, answer to the teacher's questions and remain active in the class. The researcher also concluded that after the aerobic exercise protocol the girls interact with fellows, indulged in group work and make friends easily. The researcher concluded that 8 weeks Aerobic Exercise Protocol improve the selected psychological variables (Scholastic Competency, Social Competency, Athletics Competency, Physical Appearance and Behavioral Conduct) among girls at college level.

Recommendations

1. The aerobic exercise protocol should be included in the girl's college time table on permanent basis to fulfill the psychological needs of girls at college level.
2. The government should appoint one physical female trainer at college level for the guidance of girls to perform exercise in appropriate manners, because due to sensitive stage of age the girls don't have any gender consciousness that how and what would be performed at that stage for psychological health.
3. The parents should remain active and to participate in exercises on regular basis to motivate their daughter towards exercise which leads towards the improvement of number of competencies in girls.
4. The college principal need to promote and promote girls participation in exercises at college hours in order to build the scholastic and athletic competencies.

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