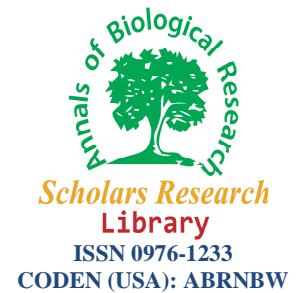




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## Effect of morning exercise on the psychological well-being of high school female students

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### ABSTRACT

*It seems necessary to have a better and more accurate recognition of the strategies affecting the students' psychological well-being level in order to enhance their mental health. There have been few studies in this respect, hence considering the effective role of physical activities on mental well-being and also the ways one can improve the students' psychological well-being state, it becomes clear that the need for a proper research is inevitable. Seventy students were randomly chosen. After answering the health and physical activities questionnaire and psychological well-being questionnaire, were divided into two groups of control and experimental. The heights, weights and the BMIs of the subjects were also measured. The subjects did a selected aerobic exercise accompanied by music for seven days. After the sessions, the psychological well-being questionnaire was answered again by the control and experimental groups. The results show that morning exercise has a meaningful effect on the psychological well-being of the students. Also, the morning exercise, has meaningful effect on psychological well-being micro scales, such as environmental mastery, autonomy, positive relations with others, self-acceptance, and purpose in life, but it has no meaningful effect on personal growth.*

**Key word:** Psychological Well-Being, morning exercise, environmental mastery

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### INTRODUCTION

The most famous definition of "health" in the World Health Organization (WHO)'s constitution is as follows:

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

The positive and negative dimensions of this definition are considered by Downie et al. (1996). In the first section of the definition, they believe that health is regarded as positive concept (positive quality: well-being). In the second section of the definition, health is considered as a negative aspect that is the absence of disease or infirmity. By taking these dimensions into consideration, the definition can imply that the true health includes both preventing from in firmer or disease and improving the positive health [1].

Despite the emphasis of aforementioned definitions on positive aspects, health experts are often so much focused on the diseased people's problems that they forget the healthy individuals' needs. In other words, the mental health centers, instead of paying attention to the positive aspects of health, are more occupied with inhibiting and curing

the diseases (Pilgrim, 1997) [4]. However, World Health Organization defines the mental health as “a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (2004) [4].

Complete mental health is a syndrome which involves a combination of high-level presence of emotional, psychological and social well-being signs and at the same time, not being affected by recent mental diseases [4]. As Ryan and Deci (2001) believe, there are two main approaches in defining the well-being: Hedonism and Eudemonism.

In spite of the attractive essence of hedonism, which regards well-being as maximizing the pleasure and minimizing the pain, a lot of western and eastern thinkers have opposed this idea (Ng et al, 2003). They claim that if we regard well-being and pleasure equal, then it will become a virtue, and they believe that satisfying the desires, despite its pleasure, does not always lead to well-being and, as a result well-being’s meaning is not limited to experiencing pleasure (Ryan & Deci, 2001). Myers & Diener (1994), regard well-being as the positive feeling and a general consent toward life, which includes oneself and others in different domains of family and occupation [14].

Some of the researchers conceptualize well-being in case of components and special processes like emotional processes (Rothman et al. 2003) and some others, emphasize on the physical processes and maintain that there is a relation between high physical health and high life quality (Pastin, 1992). Therefore, one must not simply take well-being as an equivalent for a more experiencing of pleasure rather than pain; instead well-being should involve an effort for completion and absolution of the individual’s real potential forces [4].

Ryff & Keyes (1995) claimed that the constructive components of the psychological well-being, includes six factors:

1. Autonomy: A feeling of self-determinism and independence, being able to resist social pressures to think and act in certain ways; evaluating self by personal standards.
2. Environmental mastery: A sense of mastery and competence in managing the environment, to choose or create appropriate personal relationships
3. Personal growth: A feeling of continued development and its potential, being open to new experiences, a sense of increasing self-knowledge and effectiveness.
4. Positive relations with others: Having warm, satisfying, trusting relationships with others; being concerned about the welfare of others; being capable of strong empathy, affection, and intimacy
5. Purpose in life: Having goals in life and a sense of directedness and feeling there is meaning to present and past life; holding beliefs that give life purpose
6. Self-acceptance: Possessing a positive attitude toward the self; acknowledging and accepting multiple aspects of self, feeling positive about past life [17].

The category of psychological well-being is important because ignoring them can lead to disappointment, lack of motivation for any kind of attempt and a decline in social, economic, cultural and sanitary activities, and in a wider context, it can affect the socio-economic development of a country. In other words, by improving the well-being we have stepped toward the society’s health improvement, and this issue is exactly in the direction of development and is the ultimate goal of any government.

Physical education, by simultaneously expanding the dynamic and educational activities and relying on the group activities, causes the characteristic aspects [3]. Therefore, physical education activities and sport are combined with mental education, and each dynamic experience or physical change, involves a mental experience or change [6].

For many people who exercise, the first and foremost advantage of participating in the athletic exercises is the establishment of mental health’s positive aspects rather than curing the mental health state [6].

Some studies have been done on the effect of physical activities on psychological well-being, but most of these studies were not conducted in experimental way and few studies have emphasized the experimental effects of physical activities on well-being [9].

Caruso & Gill (1992) in a study maintain that participating in athletic exercise and physical activities would bring about, physiological, psychological and physical fitness. The psychological advantages of those activities includes stress reduction, increase in self-confidence and temperament improvement [6].

L.J. Besenski (2009), in investigating the health improvement via physical activities also found that physical activity can be effective for improving the well-being of students. He showed that the pleasure experience during the activity is the basis of need satisfaction in case of well-being, in such a way that, the ones who had good and pleasing experiences during the activity, were in higher levels of well-being [13]. Also, the relation between the psychological skills and psychological well-being was proposed by David Edwards & Ben STEYN (2008); the results showed that the psychological well-being factors (the six factors), have evident overlaps with psychological skills (arousal, mental imagery, concentration, confidence, goal-setting and motivation) [9].

The results of the studies, shows that sport or organized physical activity, is an effective factor in developing the health and happiness of all the layers of society , and also demonstrates that the students' spirit and happiness as one of the major sections of society, guarantee the mental health of the future community.

Achieving this goal is possible by physical education courses and executing organized athletic activities in schools, and also morning exercises can be done as the organized activities which do not need equipped athletic spaces and advanced facilities. Morning exercise does not take much time, so it can be placed in the schools' curriculum, without disrupting the general process of school work [3]. By considering the constructive role of students in society and also their psychological aspects, one can see that determining the ways we can help students in developing psychological and physical aspects is very important. Guiding them in personal and social tasks and helping them in forming their characteristics as effective citizens, are the key reasons of considering long-term planning for this layer of society. Moreover, for decreasing the rate of diseases and the consequences of people's inaction in society, we should look upon the students' role in the society's future more and more. One of the plans is to encourage the morning exercise which was ordered by the associate director of physical education of the ministry of education, in a circular dated 2001 to all the schools in the country to be done in all of them [7]. This kind of attitude shows the importance and necessity of sport and physical education especially for the students.

Although, many studies have shown that sport and physical activities are effective in improving health and spirit of the individuals, few studies have focused on the morning exercise which may be one of the most effective and the most economical approaches in increasing the students' efficiency and spirit [3].

Furthermore, it seems necessary to have a better and more accurate recognition of the strategies affecting the students' psychological well-being level in order to enhance their mental health. There have been few studies in this respect, hence considering the effective role of physical activities on mental well-being and also the ways one can improve the students' psychological well-being state, it becomes clear that the need for a proper research is inevitable. The aim of study is the effect of morning exercise on the psychological well-being of high school female students

Elsie et al. (2009), investigated the effect of dance on physical and psychological well-being in older persons. According to a 12-week exercise program of physical and psychological well-being in older persons, they showed that the exercised group, had a better feeling in state improvement in case of physiological and mental indexes , compared to the ones who had not exercised [12].

In the investigations done by Sarah and Kevin (2006), on the effect of athletic participation on the teenagers' emotional well-being, it was shown that the increase in participation in athletic activities has a positive relation with the behavioral and emotional well-being aspects, especially with the self-concept [19].

Pavey et al. (2006), in their research, "children's psychological well-being", investigated the habitual physical activities and the sedentary behavior in children and showed that, time-limit increase in intense activities and time-limit reduction in sedentary behaviors can improve the psychological well-being in this age group. They also showed that after seven to fourteen days of exercise, there would be positive effects in reducing the distress [23].

Stephen Edwards (2006), in investigating the effect of physical activity on the mental well-being of the club athletes, found that organized exercise causes general well-being enhancement especially in cases of temperament, lifestyle, life satisfaction, feeling of progress, endurance, stress management and compatibility [21].

Thorsten et al. (2009), in their research, studied the effect of aerobic motions and fitness programs on the psychological and physical performance of men and women. By using a three-month training course, they found that

there is a strong relation between the enhancement of physical state and psychological well-being. They also observed the difference in the physiological and psychological compatibility in men and women after three months of training [22].

**MATERIALS AND METHODS**

The method used in the research is a semi-experimental one, and a plan consisted of experimental group, pretest, post-test and control group was used. The subjects were divided into two equal groups according to individual characteristics, by using homogenization tests. The homogenization of the control and experimental groups was done by using the scores and identifications obtained by the well-being questionnaire.

The population of the test included 218 high school female students, of which 70 students were randomly chosen. After answering the health and physical activities questionnaire and psychological well-being questionnaire, and disqualifying 10 more students because of regular exercise or being diseased, the rest were divided into two groups of control and experimental. The heights, weights and the BMIs of the subjects were also measured.

Since having the criteria of controlling the exercise intensity while prescribing a program, would be a good guide, which can help individuals reach their goals faster and better, it was tried to control the exercise intensity in this research as well. One of the best ways of controlling the exercise intensity is controlling the heart rate and the phase of impressibility of cardiovascular system is almost equal to 70 to 85 percent of maximum heart beat [5].

Therefore, the subjects did a selected aerobic exercise accompanied by music for seven days. The exercise program included a 5-minute warm up, 10-minute main goal and 5-minute cool-down. The heart rate samples were taken during and after the warm-up, during and immediately after the main activity, and in returning to the premier state [5]. After seven days of music, the average heart rates of the subjects were obtained in two phases of warm-up (50% of maximum heartbeat) and main phase (70% of maximum heartbeat). The subjects did morning exercise for 24 sessions, 5 days a week and for 20 minutes each session [3]. After the sessions, the psychological well-being questionnaire was answered again by the control and experimental groups.

**RESULTS**

The analysis of the research results shows that morning exercise has a meaningful effect on the psychological well-being of the students. Also, the morning exercise, has meaningful effect on psychological well-being micro scales, such as environmental mastery, autonomy, positive relations with others, self-acceptance, and purpose in life, but it has no meaningful effect on personal growth.

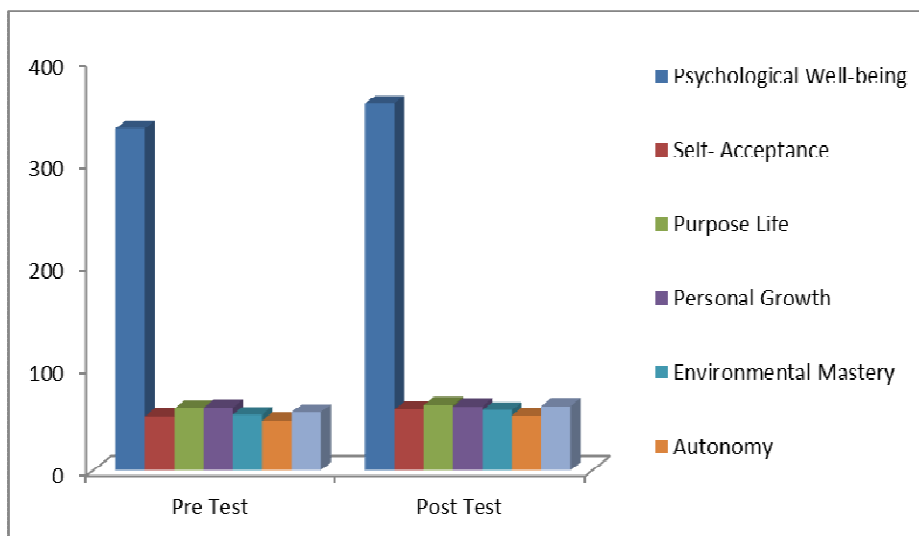


Table: The comparison between psychological well-being and other factors in experimental groups

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**DISCUSSION AND CONCLUSION**

The results of this study, is fully compatible with the results of these studies: Elsie et al. (2009), Michael & Joan (2006), Edwards & Steyn (2008), Sarah & Kevin (2006), Pavey et al. (2006), Stephen Edwards (2006), Thorsten et al. (2009), Eleanor & Joan (2009), L.J Besenski (2009), Ahmadi (2000), Peyravi (1994) [8,5,2,12,16].

Although in these studies, there are heterogeneity in case of kind, repetition, duration, age, gender and the environmental conditions of the subjects, in all of them, the physical activity has had a meaningful effect on the psychological well-being. In the research of Elsie et al. (2009), like the present study, dancing was used but in that study the subjects were older persons and the sessions were more [5]. Michael & Joan (2006), maintain that the environment and conditions of the exercise is effective in case of well-being [8].

In the research of Pavey et al. (2006), the subjects were children and the investigations showed that in addition to their well-being improvement, their distress was also reduced. In the research of Thornton et al. (2009), the subjects were different and had a longer training course (three months) compared to the present study [15].

In the study of Peyravi (2004), the subjects were students like those of the present research but in that research, the students were boys and a different questionnaire was completed by the subjects. However, they also came to this conclusion that morning exercise highly reduces the depression and mental pressures and has significant effect in reinforcing the emotions, truthfulness, the spirits and happiness. Also the role of morning exercise on the enhancement of educational and non-educational skills were claimed to be positive and the researcher maintained that morning exercise can have significant effect on the rate of learning. According to the studies done by Najjarzadeh and Piri, it seems that morning exercise has more effects on the mental factors [1].

Sarah et al. (2009), also believe that athletic psychological skills program, should not be administered individually, but it should be done as group activities in order to cause psychological well-being which is compatible with the present study [13].

But the results of the present study is not fully compatible with the results of studies such as Ryff & Singer (2008), Eleanor & Joan (2009), Sarah et al. (2009) [13, 4, 13].

In the study of Ryff & Singer (2008), the findings showed that there is not meaningful relation between health improving physical activity and well-being. Also, it was shown that psychological well-being in is in relation with lower levels of physical activity, which is different from the present study's findings [16].

In the research of Eleanor & Joan (2009), they showed the three essential needs (autonomy, mastery and relation) have no meaningful relation with physical and emotional fatigue, so that the fatigue is effective on the well-being and even in some conditions, fatigue causes the loss of well-being. Moreover, it was demonstrated that exercising with average intensity enhances the well-being level of individuals [11]. However, Besenski(2009), showed that the activity levels has no relation with well-being and the achieved experience during the activity, essentially leads to this issue. He also concluded that the leisure time activities is in relation with psychological well-being, although Sarah et al. (2009) showed that the relations between the well-being and leisure time, can be a relative fact and if the time used for leisure be without direction and conduction, it can have negative relation with well-being.

The individuals who have had good and pleasing experiences throughout the activity, are in higher levels of well-being (Besenski), and in the present study the aerobic exercises and music may have created the same pleasing experience in students, and as Deborah (1997) says, physical activity causes the creative experiences and activities like rhythmic motions makes individuals to express their emotions and feelings in a non-linguistic way [6].

According to various contradictive views of the researchers, more studies should be conducted to determine how a physical activity and in what level of societies with different cultures, is effective on the individuals' well-being improvement in different age groups [3].

In general, the studies shows that individuals' participation in athletic activities facilitates the psychological well-being and morning exercise for 10-20 minutes a day, can be the most effective and the most economical way to enhance the students' spirit and efficiency and also it can motivate them in being successful and having an active life

[3], and we can provide the opportunities, in which the students by reaching autonomy, can demonstrate their creativity [11]. Therefore, with an organized long-term program like morning exercise, we can have the maximum profit in the country's socio-economic development and by improving the level of health and well-being and by helping to form the students characteristics, we can step toward the society's health improvement and this issue is exactly in the direction of development and is the ultimate goal of any government.

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