A Study on the Role of Social Phobia and Sleep Quality on the Academic Achievement of Second Grade High School Students in Qaleh Ganj City

Arsalan Dastjerdi Borjak*[1] and Eghbal Zarei[2]
1. Department of Educational Psychology, Bandar Abbas Branch, Islamic Azad University, Bandar Abbas, Iran
2. Hormozgan University, Bandar Abbas, Iran
   - Correspond author: Dastjerdi Borjak A.

Abstract This study aimed to investigate the role of social anxiety and sleep quality on the academic achievement of second grade high school students in Qaleh Ganj city. The research methodology was descriptive-correlation. The study statistical population consisted of all second grade high school students of Qaleh Ganj city during the academic year 2014-2015, who were 4447 subjects. Of the total, 353 students (177 males and 176 females) were selected using stratified random sampling method. Moshaveri Social Phobia Inventory and Pittsburgh Sleep Quality Inventory as well as the students' average of two-semesters were used for data collection. To analyze the data, Pearson correlation coefficient, multiple regression, independent t-test and U Mann-Whitney test were used. The findings showed that students' social anxiety and sleep quality explain 0.159 variance of students' academic achievement. Dimensions of sleep quality explain 0.152 variance of students' academic achievement and sleep disorders, useful sleep, and the use of hypnotic medications are the most important predictors of students' academic achievement. There is a significant correlation between social anxiety and sleep quality of the students. There are significant differences between social anxiety, sleep quality and academic achievement of boys and girls students. Social anxiety, sleep quality disorder and academic achievement of girls are more than boys.
Keywords: Social Phobia, Sleep Quality, Academic Achievement, Students

Introduction

Education is a wide-scale and time-consuming process, yet most fruitful achievement of human. Its importance can be seen from this angle that the human reality takes on its meaning, thanks to education, and by the blessing of this process the human talent and potential will be fruitful and prosperous. The importance of education can be understood in losses and detriments, which engage individuals and society due to lack and deficiency of this dynamic movement. So that, for the solution of social and cultural problems we should seek help from education to all perfection. One of the indicators of good and appropriate education in society is the academic achievement of individuals (Hemati and Alimoradi, 2009).

The study on the factors affecting academic achievement over the last three decades, has been of great consideration of education experts. Sensitivity of education on the one hand, and the complexity of today's world on the other hand ask the principals and teachers to be more aware to provide the context of collective growing. Today, the focus of education has changed from offering training programs with classroom behavior management, to fostering motivated and strategic students (Moradi, 2011). Academic achievement is important because the school's progress impacts on learning and school learning affects academic achievement. Therefore, in order to increase students' motivation level to learn different subject matters, the teachers should

try to provide conditions and self- confidence relative to the student's ability to learn (Seif, 2010).

The normal biological, psychological, and social changes that occur in adolescence are associated with the duration of sleep, poor sleep, irregular sleep schedules and insomnia during adolescence. These negative changes in sleep structure can lead to psycho-social consequences such as depression, behavioral problems as well as academic problems. Although the amount of sleep required in adolescence is not reduced, teenagers generally sleep less than 9.2 hours (optimal amount of sleep required) (Moore and Kitchener and Drowtar, 2009).

Insomnia leads to significant reduction in the daily performance in emotional, social and physical aspects. Lack of sleep can increase the likelihood of sleepiness during the day and then increase employment and social events. In addition, irritability, aggression, and reduction in social communication in people who suffer from sleep deprivation are significantly higher than other people. The quality and the amount of night sleep can be effective on cognitive function and the person's focus level to engage in daily activities (Mahdizadeh, Salari, Ebadi, Aslani, Naderi, Avazeh, and Abbasi, 2012). A part of the poor academic performance of students and adolescents are related to their insufficient sleep. It is found that factors contributing to the decrease in sleep time among adolescents include: early start of school and delayed sleep phase (Eliasson, King and Gould, 2005).

Recent research has shown that short-term sleep deprivation in healthy individuals can lead to unwanted physiological consequences such as reduced glucose tolerance, hypertension, increased levels of cortisol and increased sympathetic nervous system activity. However, the consequences of long-term sleep deprivation are not clear. People who have sleep disorders not only suffers from fatigue, but also are affected by cellular repair difficulty, impaired learning memory, increased anxiety and tension, as well as reduced life quality. There is a close relationship between sleep duration and professional practice quality and the individuals' mental awareness. Furthermore, sleep deprivation in university students can affect their academic status (Lima, 2002). Night insomnia can affect the quality of life, so that it can increase the risk of suffering from depression and anxiety and decrease the ability to cope with everyday stresses. In such a case, the person gets easily excited and angry. Moreover, the quality and the amount of night sleep can be effective on cognitive function and the person's focus level to engage in daily activities (Farhadi Nasab and Azimi, 2008).

Social Phobia (or social anxiety), which is considered as an uncomfortable experience in the presence of others, is one of the factors that interfere in the process of social development and growth, as well as preventing the blossoming of the talents and proving the existence of individuals. This phenomenon, which is a fairly common in adolescence, can have inhibiting effects on the efficiency and dynamism of teenagers and youth and lead to damaging their personal and social functioning in various fields (Nisi et al., 2005). According to DSM IV (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition) definition, social anxiety include continual fear of a situation in which a person may be under the curiosity of others and he/she concerns to behave in a way that would be humiliating or embarrassing him/her (Safi Zadeh, 2007).

According to Mehrabizadeh (2008), one who suffers from social anxiety has no tendency to initiate communication with others, and with a sense of fear and unusual stability avoids any situation in which he/she may be subject to the judgment of others. Those children and adults

who normally are affected by social anxiety or fear, have no inclination to participate in social situations and communicate with others, because they consider all social situations and interactions between individuals as scenes of evaluation and criticism (Nisi and Shahini Yeilagh, 2005).

Social phobia is an interpersonal disorder, the circumstances in which anxiety is interfering in relations with others. These people have less social contact with others and compared to normal people or those with other anxiety disorders, it is less likely that they marry (Safi Zadeh, 1386).

Research shows that children who have social anxiety, have less social interaction with their classmates. Social anxious university students have less communication with the opposite sex and compared with other people, socially anxious adults have less family relationships. Socially anxious individuals are deficient in social skills, so they are weak in learning effective social behavior. Their anxiety is a reaction against this defect and the result is negative interpersonal responses (Safi Zadeh, 2007). Therefore, the aim of this research was to study the relation of social anxiety and sleep quality with students' academic achievement. In other words, the researcher attempts to find that how long social anxiety and quality of sleep can predict the students' academic achievement.

Methodology
In the present study, the role of social anxiety and sleep quality on students' academic achievement is measured. Therefore, the study is a descriptive correlational research. The research statistical population consisted of all second grade high school students of Qaleh Ganj city during the academic year 2014-2015, who were 4447 subjects. Stratified random sampling method was applied for second grade boys and girls high school students.

Determining the sample size is very important for the ability to generalize the test results to the population. There are different methods to determine the sample size, each of which can be the basis for determining the number of sample with respect to the objectives of the study and the statistical population. To obtain the sample size, the Cochran formula is used. Based on this formula, depending on the number of population (4447 subjects, 2226 males and 2221 females), the sample size is 353 patients (177 males and 176 females). The required information of the study is data that are extracted from the related questionnaires. In order to collect data, three questionnaires of Social phobia standard, sleep quality and students' average were used. The required data were obtained by the answers of second grade high school girls and boys students of Qaleh Ganj city. Achieving the permission from the Education Department, the researcher referred to the desired schools and after coordination with the school principal, distributed the questionnaires among students and collected the data.

Data collection instruments were two questionnaires of Pittsburgh Sleep Quality Inventory (PSQI) and Social Phobia Inventory (SPI) and also students' two academic semesters' average.

Social Phobia Inventory (SPI):
This questionnaire was made in 2001 to measure social anxiety. The questionnaire contains 38 questions, 15 questions of which were made using Moshaveri Social Phobia Inventory (2001), and others were constructed using clear and valid criteria related to social anxiety. Content validity of the questionnaire was confirmed by several researcher and its reliability was determined 0.83 by Moshaveri (2001) using Cronbach's alpha. In another research conducted by Maleki (2010) on 384 students it was obtained equal to 0.91.

77

Pittsburgh Sleep Quality Inventory (PSQI):
This questionnaire is made with the purpose of assessing the sleep quality and includes 18 phrases. Many studies have demonstrated the validity and reliability of the questionnaire. It is stated that this questionnaire distinguishes the quality of good sleep from bad sleep. Each of the seven scales has validity and reliability about 0.83 and 0.63 (Haraldsson, 1990). The questionnaire's seven scales include: 1. sleep subjective quality, (2) delay in falling asleep, (3) sleep duration, (4) optimal sleep, (5) sleep disorders, (6) hypnotic drugs use, (7) daily dysfunction. Each of the questionnaire's seven scales is allocated a score from 0 to 3. No time = 0, less than once a week = 1, once or twice a week= 2, three times or more a week = 3. The total scale of the questionnaire is from 0 to 21 (It should be noted that in sleep quality test, high score indicates poor sleep quality). The questionnaire's reliability and validity are declared as 0.895 and 0.865, respectively (Ehtesham Zadeh, 2010).
In this study, the academic achievement of students was measured by the students' average of two semesters.
Pearson correlation coefficient and multivariate linear regression were applied to investigate the research hypotheses and to identify the relationship between studied variables. In addition, in order to examine the differences in terms of gender, independent t test and U Mann-Whitney test were used.

Results
The scores of the variable of sleep quality and its components. The scores of the variable of social anxiety. The test results of variables normality based on the Kolmogorov-Smirnov test show that the sleep quality variable and social anxiety variable are significant at the level of $\alpha=0.05$. Therefore, at this level H_0, which is the normality of the data, is not rejected. Consequently, it can be said that two of the research variables are normally distributed and parametric tests can be used to test the hypotheses. Furthermore, due to the p value that was calculated in the regression model coefficients test, H_{01} (social anxiety) is rejected at 0.05 level, but H_{02} (quality of sleep) is not rejected at 0.05 level, because according to the t-statistic value, which is equal to 7.327 for social anxiety, the significance level is 0.001. Therefore, the students' academic achievement will vary according to the level of social anxiety. In addition, considering the amount of β for social anxiety, which is equal to 0.383, the social anxiety is the most important predictor of students' academic achievement (Table 4).

Table 1. Descriptive Statistics of Sleep Quality and Its Components

Statistics Variable	Sleep Quality	Sleep Subjective Quality	Delay in Falling Asleep	Sleep Duration	Optimal Sleep	Sleep Disorders	Hypnotic Drugs Use	Daily Dysfunction
No.	353	353	353	353	353	353	353	353
Mean	15.94	0.97	2.15	0.37	2.18	8.38	0.56	1.32
Median	15.0	1.0	2.0	0	3.0	8.0	0	1.0
Mode	12.0	1.0	2.0	0	3.0	9.0	0	0
S.D.	6.733	0.901	1.051	0.83	1.233	5.065	0.861	1.351
Skewness	0.377	1.298	0.729	2.251	-1.048	0.351	1.577	1.014
Kurtosis	-0.338	2.756	-0.021	3.956	-0.715	-0.233	2.322	0.508
Min.	1.0	0	1.0	0	0	0	0	0

Max.	36.0	5.0	5.0	3.0	3.0	27.0	5.0	6.0
Scores Scope	35.0	5.0	4.0	3.0	3.0	27.0	5.0	6.0

Table 2. Descriptive Statistics of Social Phobia

Statistics Variable	Social Phobia
No.	353
Mean	1.38
Median	1.4
Mode	1.4
S.D.	0.619
Skewness	0.005
Kurtosis	0
Min.	0
Max.	3.26
Scores Scope	3.26

Table 3. Kolmogorov-Smirnov Test to Study the Variables Normality Assumption

	Sleep Quality	Social Phobia	Academic Achievement
Kolmogorov-Smirnov Test	1.29	1.005	1.448
Significance	0.072	0.264	0.10
No.	353	353	353
Normal Assumption	Normal Assumption Is Met	Normal Assumption Is Met	Normal Assumption Is Not Met

Table 4. Analysis of Variance of Regression Model for the Relationship between Social Anxiety and Sleep Quality with Students' Academic Achievement

Variance Source	Sum of Squares	Freedom Degree	Mean of Squares	R	R2adj	F Value	p - sig
Regression	206.85	2	103.42	0.404	0.159	34.23	0.001
Residual	1057.45	350	3.021				
Total	1264.308	352	-				

Table 5. Regression Model Coefficients for the Relationship between Social Anxiety and Sleep Quality with Students' Academic Achievement

Variable	B Estimation	Standard Error	β Standard Estimation	T Value	p -sig
Fixed	14.286	0.276	-	51.769	0.001
Social Anxiety	0.108	0.015	0.383	7.327	0.001
Sleep Quality	-0.004	0.004	-0.054	-1.025	0.306

Discussion

Academic achievement is one of the issues that have long been considered. Students with high academic achievement, in future, can play their roles more effectively. In addition, annually,

79

academic failure brings about millions of dollars costs. On the one hand, academic achievement is important because the school's progress impacts on learning and school learning affects academic achievement. Therefore, in order to increase students' motivation level to learn different subject matters, the teachers should try to provide conditions and self- confidence relative to the student's ability to learn. On the other hand, anxiety as part of every human being's life, exists in all people in the moderation. At this extent, it is considered as an adaptive response, in such a way that it can be stated that without it, we will be faced with considerable difficulties and dangers. Anxiety as a part of every human being's life constitutes one of the aspects of his personality structure. From this point of view, some of the anxieties in childhood and adolescence are the norm and the positive effect they have on the process of evolution is accepted, because they provide the opportunity for individuals to expand their own adaptive mechanisms for dealing with stressful and anxiety-provoking resources. In other words, we can say that in some cases, anxiety causes development and creativity in the person, provides the ability to visualize situations and cope with them, or provokes him/her to seriously face with important responsibilities like preparing for an exam or accepting a social function.

Conversely, there is a morbid anxiety. If anxiety becomes chronic and persistent, it cannot be considered as adaptive response, but it must be regarded as a source of frustration, widespread failure and lack of compromise that deprives a person from a large part of his/her opportunities, and brings a wide range of anxiety disorders, from cognitive disorders and unjustified fear to panic. In fact, anxiety is a warning that alerts the person. That is a warning that danger is coming and causes the individual to be able to deal with the risk and take action. Therefore, it leads to safeguard life. Anxiety from the lowest level to the highest, announces the risk of physical injury, pain, helplessness, lack of meeting physical or social needs, a barrier to promoting the situation or the person's dignity and eventually the risks that are against the universality and integrity of the person. Anxiety provides the opportunity for individuals to expand their own adaptive mechanisms for dealing with stressful and anxiety-provoking resources. In other words, we can say that in some cases, anxiety causes development and creativity in the person, provides the ability to visualize situations and cope with them

References

Eliasson, A & Eliasson, A & King, J & Gould, B & Eliasson, A. (2005). Association of Sleep and Academic Performance. Journal of Sleep and Breathing, 6 (1): 45-48.

Farhadi Nasab, A & Azimi, H.(2008). Study of patterns and subjective quality of sleep and their correlation with personality traits among medical students of Hamadan University of Medical Sciences. Scientific Journal of Hamadan University of   Medical Sciences.15(1): 11-15.

Hemmati, F. & Ali Moradi, H., (2009). Relationship between emotional intelligence and academic achievement in 2008-2009 academic year. Karaj Teacher Training University, Research Methodology Course.

Lima, PF & Medeiros, ALD & Araujo, JF. (2002).Sleep-wake pattern of medical students: early versus late class starting time Brazilian J Med Biol Rrs.35(3): 1373-77.

Mehdizade, S. & Salari., M. M., & Ebadi, A., & Aslani, J., & Naderi, Z., & Avazeh, A., & Abbasi, S., (2011). Relationship between quality of sleep and quality of life in chemical warfare victims with bronchiolitis obliterans referred to Baqiyatallah Hospital of Tehran, Payesh Quarterly, 10 (2), 265-271.

Moore, M & Kirchner, H. L & Drotar, D & Johnson, N & Rosen, C &Ancoli-Israel, S & Redline, S. (2009). Relationships among Sleepiness, Sleep Time, and Psychological Functioning in Adolescents. Journal of Pediatric Psychology, 34(10):1175-1183

Moradi, S. F., (2011). A study on thinking styles and academic achievement in students. The First National Conference of Cognitive Sciences Findings in Education, December 2011, Ferdowsi University of Mashhad.

Nisi, A. K., & Shahini Yeilagh, M., (2005). A study on simple and multiple relationships of the variables of self-esteem, general anxiety, perceived social support and psychological hardiness with social anxiety, Journal of Education and Psychology, Shahid Chamran University, 12 (3), 137-152.

Safi Zadeh, M. (2007). Construction and standardization of social anxiety diagnosis scale among high school students in Mashhad. Master's Thesis, Faculty of Education, University of Allameh Tabatabai.

Seif, A. A., (2008). Modern educational psychology, psychology of learning and teaching. Tehran: Doran.