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Original Article

Determining attentional focus differences between girls and boys with depression and social phobia and normal or healthy children

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ABSTRACT

Objective: The present study aimed to determine the difference between the attentional focus in girls and boys with depression and social phobia and that of normal or healthy children in Azna County. According to the definition of some researchers, attention control (i.e. attentional focus) means paying attention to maladaptive methods that include external and internal attention. **Method:** The Comparative-Causal research method has been used to test this hypothesis as the difference has been investigated between three groups consisting of depressed students, students with social phobia, and normal students, which are more than two groups. The dependent variable was normal and a one-way analysis of variance was used. In this study, the attentional focus was examined among girls and boys suffering from depression and social phobia through the Focus of Attention Questionnaire developed by Woody, Chambless and Glass, the Social Phobia Inventory (SPIN), and Janbozorgi Questionnaire for Children and Adolescents (CADs) which is a scale provided by Janbozorgi in Iran. The statistical population consisted of 90 participants among whom there were 30 cases with depression (15 boys and 15 girls), 30 cases with social phobia (15 boys and 15 girls), and 30 normal or healthy students (15 boys and 15 girls). **Findings:** According to the tables, the mean values are significantly higher in the attentional focus among normal students, followed by students with social phobia and finally students with depression. **Results:** The results showed that there is a direct relationship between the attentional focus and social phobia and depression among the students in Azna County and there is no difference between girls and boys in this regard.

Keywords: Depression, Attentional focus, Social Phobia

Introduction

Recent research has shown that attention bias plays an important role in the etiology and perpetuation of anxiety disorders. Moreover, psychological and physiological evidence related to the body has demonstrated the relationship between anxiety and attention biases; therefore, attention processing is an area related to new therapies.

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Attention and thinking problems are among the major issues experienced by children with learning disabilities. These problems are attributed to the absence or lack of selective attention in these children causing them not to pay attention to the main contents in the process of learning. In other words, their attention is drawn to incidental issues and they do not learn the basics. Oftentimes, lack of attention appears as a failure in the initiation, maintenance, and continuation of attention to the subject matter. Differential diagnosis of childhood depression is very difficult and parents and teachers often do not notice its symptoms especially in young children. Depression emerges in young children in the form of clinging to parents and nurses, avoiding school, and intense fears. Additionally, it might be related to physical pain such as stomachache and headache. It is estimated that 28% of children develop depression before the age of 19. Among adolescents, depression may appear in the

form of temperament, obesity, lethargy, feeling of worthlessness, lack of participation in family activities, being underweight, the feeling of guilt, and suicidal thoughts. [1].

The prevalence rate of lifelong depression in adolescents varies between 25 and 28 percent (that is to say, 25 to 28 percent of adolescents experience depression at some point in their lives). There are gender differences in adolescent depression and girls are almost twice as likely to experience depression compared to boys. Moreover, compared to depressed girls, boys diagnosed with depression are less likely to develop problems with appetite, weight, and feelings of worthlessness and guilt. For adolescents, the average duration of major depression is 26 weeks. The younger the age of depression, the longer it will last and suicidal thoughts increase with the duration of depression (Prout, Thompson, Brown, Douglas 2014; quoted by Farahi, 2015) [2]. It is estimated that the prevalence of depression is 2 to 5 percent in younger children and its likelihood increases with age and reaches 4% to 8% in adolescents.

Social phobia refers to the anxiety or experience of panic that occurs in interpersonal or functional situations. People with high social phobia are scared of the constant negative evaluation of others towards themselves or doing something that causes embarrassment.

Behaviorists believe that differences between children are initiated by learning when other effective factors remain constant. Normal or abnormal patterns of behavior are affected to a great degree by the current environment and changes in environmental factors cause changes in behavioral patterns. Heredity and environment both play a role in the emergence of social phobia disorder. Young children who may seem embarrassed and reserved are more prone to developing social anxiety disorder when they reach adolescence. Of course, this disorder does not occur in all children with such characteristics. Overprotective or hypercritical parenting is related to social phobia disorder; however, the extent to which such a parenting style is effective as a cause is unclear compared to the response to children with social phobia [3].

Anxiety disorders are one of the most common disorders in children and might engender many other disorders. It often interferes with a person's effective performance in other areas. The prevalence of this disorder is reported from 14 to 19% in children and often occurs with other disorders such as depression or uncontrolled behavioral disorders. Children with anxiety disorders are vulnerable to drug use, suicide, and psychiatric disorders during adolescence or adulthood (Hughes, B.N., Beta; quoted in Najjarian, Khodarahimi, and Makoundi, 2014) [4].

The help that counselors offer children can vary depending on the pattern of counseling that they practice. Different approaches can be generally classified into four groups. These groups consist of behavioral, cognitive, and emotional approaches or a combination of two or more approaches called the combined or mixed approach.

Given that social phobia disorder make up 13 to 8% of anxiety disorders in clinical populations (Schroeder, Caroline S., Gordon Betty N., 2013; quoted in Firoozbakht, 2015) [5], it seems that this phobia leads to withdrawing, avoiding interactions, and a decline, reduction or failure in performance. In this connection, the possibility of gender differences should be quantitatively examined and qualitatively analyzed in connection with the assumption that social phobia and attentional focus are different between the male and female populations.

From another perspective, the results of various studies have shown that girls experience higher levels of depression compared to boys (Fears, E., Jerry and Nazal, Timoni J., 2014; quoted in Firoozbakht, 2014) [6]. Therefore, the relationship between attentional focus and depression should also be examined and analyzed in this context. It is further assumed that self-focused attention plays a significant role in the continuation of social phobia. In an article entitled "Using Clinical Methods to Control Social Phobia", Heinberg et al. (2016) argued that social phobia disorder generally leads to poor educational performance in children followed by psychological problems such as depression and substance abuse [7]. Therefore, it is better to use clinical and pharmacological methods in addition to the clinical methods of psychology.

In their study entitled "The Impact of Self-Education on Social Anxiety Control", Hofmann and Moscovitch (2016) concluded that this type of phobia could be controlled before its emergence, given the prevalence of social phobia among adolescents and the effectiveness of both empowering training methods and specific programs for reducing social phobia [8].

Moreover, in the study conducted by Sarafraz, Taghavi, Goodarzi, and Mohammadi (2009) entitled "The Comparison of Attention Bias in Adolescents with Social Phobia Disorder and Normal Adolescents", the results showed that people with social phobia showed avoidance of angry faces compared to the control group [9].

Several authors have remarked that people with social phobia focus more on themselves during social interactions and pay less attention to their tasks, other people, and the surrounding environment. The shift in attention from the outside to the inside is a key feature of social phobia. It is generally assumed that people with high levels of social phobia often divert their attention from the outside world and pay more attention to internal information. In their study, Wells (2009) showed that self-focused attention is one of the predictors of social phobia in individuals who are 11 to 14 years old [10].

Attention control is regarded as an important factor influencing emotional disorders in S-REF (Self-regulatory executive function model). This model identifies a dysfunctional pattern of cognitive processing called cognitive attentional syndrome (CAS), which includes inflexible self-attention, residual thoughts (rumination and worry), threat monitoring, and coping behaviors that avoid the lack of confirmation of negative beliefs [10].

Focusing on oneself makes people aware of the signs of poor performance, which leads to anxiety and a great deal of fear concerning negative evaluation. In other words, self-focused attention dramatically increases self-evaluative thinking. Furthermore, self-focused attention can increase negative cognitions by changing attributional biases in people with social phobia. This tendency to attribute social failure to oneself can be a function of self-centered or self-focused attention.

Understanding the link between social phobia, self-focused attention, and self-efficacy for social situations and cognitive bias are important implications for treating social phobia. Based on conceptual models, some people with social phobia disorder are capable of appropriate behaviors in social situations but are unable to do so because they assume that they do not have these abilities and also pay close attention to themselves and think that others constantly evaluate them negatively. Efforts to increase self-efficacy and reduce self-focused attention may be effective as an important aspect of treatment.

The comparison of attentional focus among male and female students suffering from depression and social phobia has received less attention. No research of this quality has been conducted particularly in Azna County. Due to the importance of the subject of this study, an effort was made to determine the difference in attentional focus among girls and boys with depression and social phobia and their normal or healthy counterparts.

Materials and Methods

The research method is causal-comparative. To test this hypothesis, because the difference was investigated between three groups of students suffering from depression and social phobia, and normal students, the dependent variable was normal and the one-way analysis of variance was used. The research was performed on the fifth and sixth-grade elementary school students consisting of boys (250 participants) and girls (250 participants) in Azna County. Altogether, 500 subjects were present in the statistical population.

Measuring Instruments:

First Instrument: Focus of Attention Questionnaire (FAQ) developed by Woody, Chambless, and Glass (1997)[11]

There are 10 questions in this questionnaire (questions 1 - 5 measure internal attention and questions 6 - 10 measure external attention). This questionnaire was developed by Woody, Chambless, and Glass in 1997 [11].

The objective of this questionnaire is to measure the attentional focus of people with social anxiety in social interactions based on two different dimensions (self-focused attention and external attention).

Second Instrument: Questionnaire for Children and Adolescents (CADs):

This questionnaire consists of 12 main questions and 10 supplementary questions. The (CADS) Questionnaire was developed by Jan Bozorgi, Massoud, and Mostakhdemin Hosseini in 2005 [12].

The development of this questionnaire was based on the clinical need of Iranian society for an instrument that is as comprehensive as possible. In constructing this scale, the major topics of clinical psychology addressed by theorists were examined primarily in the context of depression among children and adolescents. Then, the criteria of depression including 42 symptoms were extracted. Of course, most of these cases overlap and might be eliminated. In this sense, the most repeated criteria that have the most overlap in different theories were extracted and compared with the DSM criteria for depression in children and adolescents, and a list of 12 categories was prepared.

Third Instrument: Social Phobia Inventory (SPIN), Connor's Standard Social Phobia Questionnaire (SPIN)

Connor's Social Phobia Inventory has 17 questions or items. The Social Phobia Questionnaire was first designed and developed by Connor and his colleagues in 2000 to assess social anxiety.

The purpose of this questionnaire is to measure the three clinical domains of social phobia, namely fear, avoidance, and the physiological symptoms of this disorder. One of the advantages of this questionnaire is its brevity and simplicity of scoring, which makes it easy for implementation on large populations such as students. One of the applications of this questionnaire is to test the response to treatment in patients with social phobia disorder (social anxiety).

This questionnaire is based on a Likert scale rated from 1 to 5.

The analysis of this questionnaire can be performed in two ways:

- Analysis based on the components of the questionnaire
- Analysis based on the obtained scores

Research Procedure

Research began after completing the legal steps and obtaining a letter of introduction from Azad University Borujerd Branch for the Education Department in Azna city and attaining a permit to research schools in this city. First, the questionnaire of social phobia was distributed among 500 randomly selected students, of whom 250 were male and 250 were female.

The research was first conducted in boys' schools and the questionnaires of depression and social phobia were distributed and collected upon completion among the members of the statistical population. Finally, after the scores were given, 30 students who had higher scores on the tests of depression and social phobia were selected from the total population which consisted of 250 students. In this respect, 15 students with signs of depression, and 15 students with signs of social phobia were selected.

Then, the questionnaires of depression and social phobia were distributed and collected among 250 female students. Likewise, after the scores were given, 30 students who had higher scores on the tests of depression and social phobia were selected from the total population which consisted of 250 students. In this respect, 15 students with signs of depression, and 15 students with signs of social phobia were selected.

Afterward, the focus of attention questionnaire was distributed and collected among 30 female students. Fifteen students scored high on the questionnaire measuring depression and 15 students scored high on the social phobia test. Then, the questionnaire was distributed among 30 boys, 15 of whom scored high on the depression test and the rest scored high in the social phobia test. As recommended by Dr. Hamid Reza Akbarikia who is this author's supervisor, the questionnaires were collected and the focus of attention questionnaires were also distributed among 30 normal students from the same general samples that had low scores on the questionnaires of depression and social phobia. Following this step, the statistical procedure ended.

Altogether, a total of 90 participants were selected. Among these participants, 30 boys and girls with depression, 30 boys and girls with social phobia, and 30 normal boys and girls were selected. In this study, the analysis of variance has been used because the number of variables is more than two.

Results and Findings

Descriptive Statistics of Respondents' Gender

Table 1 – Descriptive Indicators of Respondents' Gender Distribution

Cumulative Percentage	Percentage	Frequency	Participants
0.50	0.50	45	Male
0.100	0.50	45	Female
	100	90	Total

In the above table, we can see the descriptive indicators related to the age of the respondents. As seen in table (1), 45 female students and 45 male students participated in this study.

Descriptive Statistics of Research Variables

The scores of the respondents are obtained and relevant descriptive statistics are given in table (2):

Table 2 - Descriptive Statistics related to Variables

Maximum	Minimum	Variance	SD	M	N	Variable
20	3	21.24	4.60	11.17	90	External Attention
20	2	19.97	4.46	9.60	90	Internal Attention
38	9	44.51	6.67	20.77	90	Attentional Focus

According to the above table, the minimum scores among the dimensions of the attentional focus have been recoded for internal attention with a mean of 9.6 and the highest mean among the dimensions of attentional focus is 11.17 which belongs to external attention. The standard deviation, variance, range, and minimum, and maximum scores have been specified in the columns of the table.

Inferential Statistics

Normality of Population (Kolmogorov-Smirnov)

The null hypothesis and the hypothesis opposite to the normality test are as follows:

H0: The distribution of the variable is normal

H1: The distribution of the variable is not normal

We performed this test for the dependent variable that is the dimensions of attentional focus and the summary of results are given in table (3):

Table 3: The Distribution of Normality in the Population for the Dimensions of the Attentional Focus

Level of Significance	Sample Number	Dimensions
0.517	90	External Attention
0.152	90	Internal Attention

According to the results obtained from the above table, we conclude that because the level of significance obtained is greater than (0.05) (Sig> 0.05), the null hypothesis which is the normality of the variable is accepted. The significance level is greater than 0.05. As a result, the data of the variables have a normal distribution, which means that the normal distribution indicates the appropriate correspondence of the external and internal attention in the sample. Hence, parametric statistics are used because the data is normal.

Testing the First Hypothesis:

1- There is a difference in attentional focus between girls with depression and social phobia.

To test this hypothesis, because the difference is examined between three groups of depressed, socially phobic, and normal students (that is, more than two groups) and the dependent variable was normal, one-way analysis of variance was used and the results are given in the following tables.

H0: There is no difference in attentional focus between girls with depression and social phobia.

H1: There is a difference in attentional focus between girls with depression and social phobia.

The result of the study is shown in table (4):

Table 4 - Analysis of Variance (ANOVA) for the Second Hypothesis

Significance Level	F	Sum of Mean Squares	df	Mean Squares	
		211.400	2	422.800	Outgroup
0.002	7.586	27.867	42	1170.400	In-group
			44	1593.200	Total

Table 5 - Descriptive table of Variables in the Studied Groups for the Second Hypothesis

Confidence Interval Mean		M	N	Condition of Students
Upper Limit	Lower Limit			
29.55	22.05	25.80	15	Normal Students
20.89	15.91	18.40	15	Depressed Students
25.52	20.88	23.20	15	Students with Social Phobia
24.27	20.66	22.47	45	Total

Based on the information obtained from the table (5), as the value of the significance level, 0.002 is less than 0.05, the hypothesis is significant. We infer that there is a significant difference in the attentional focus between girls with depression and social phobia and hypothesis H0 is rejected with a 95% confidence interval. As examined by the tests, there is a significant difference in the attentional focus between normal female students and female students with depression and social phobia. Based on the table of mean values, the attentional focus for normal female students is significantly higher followed by that of female students with social phobia, and finally female students with depression.

Table 6 - Variance between Groups in the First Hypothesis

Significance Level	Degree of Freedom 2	Degree of Freedom 1	Levene's Test
0.407	42	2	3.287

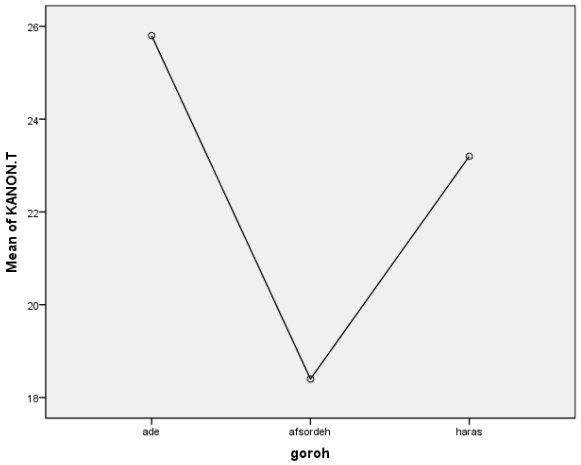
In table (6), the variance between the groups (i.e. variance homogeneity test) can be seen.

In the first column, the value of Levene's statistic is seen and the two columns in the middle show the degree of freedom between groups and within the group. These two values are k-1 and K(n-1), where "k" is the number of groups and "n" is the number of samples within each group. Finally, the significance level is given in the last column, the high value of which indicates the confirmation of the null hypothesis. We accept that the variance of the groups is equal to p-value. Since the significance level is higher than 0.05, the null hypothesis is rejected and the opposite hypothesis is confirmed. The result of the *Scheffé* post hoc test is also shown in table (7).

Table 7 – The results *Scheffé* Post-Hoc Test for the First Hypothesis

Subsets		N	Education
2	1		
	18.40	15	Depressed Students
23.20		15	Students with Social Phobia
25.80		15	Normal Students
0.377	1	30	Significance Level

Table (7) places all female students in two subgroups and arranges the values from the lowest attentional focus to the highest attentional focus, respectively. Finally, a graph of the mean values of this group is shown below. Graph (1)



Graph 1 – Mean Value of Groups in the First Hypothesis

Testing the Second Hypothesis:

There is a difference in the attentional focus between boys with depression and social phobia.

One-way analysis of variance was used to test this hypothesis because the dependent variable was normal and the difference was studied between three groups of students with depression, social phobia, and normal students. The results are in the following tables.

H0: There is no difference in the attentional focus between boys with depression and social phobia.

H1: There is a difference in the attentional focus between boys with depression and social phobia.

The result of the study is shown in table (8).

Table 8 - Analysis of Variance (ANOVA) for the Second Hypothesis

Significance Level	F	Sum of Mean Squares	df	Mean Squares	
		522.433	2	466.933	Outgroup
0.000	9.252	33.531	42	1463.867	In-group
			44	2108.800	Total

Table 9 - Descriptive Table of Variables in the Studied Groups for the Second Hypothesis

Confidence Interval Mean		M	N	Condition of Students
Upper Limit	Lower Limit			
27.69	19.91	23.80	15	Normal Students
17.18	11.89	14.53	15	Depressed Students
22.01	15.72	18.87	15	Students with social phobia
21.15	16.99	19.07	45	Total

Based on the information obtained from table 9, as the value of the significance level, 0.000 is less than 0.05, the hypothesis is significant. We infer that there is a significant difference in the attentional focus between boys with depression and social phobia, and hypothesis H0 is rejected with a 95% confidence interval. As shown in the tests, there is a significant difference between the attentional focus of normal male students and that of male students with depression and social phobia. Based on the table of means, the attentional focus for normal male students is significantly higher followed by that of male students with social phobia and finally male students with depression.

Table 10 - Variance between Groups in the Second Hypothesis

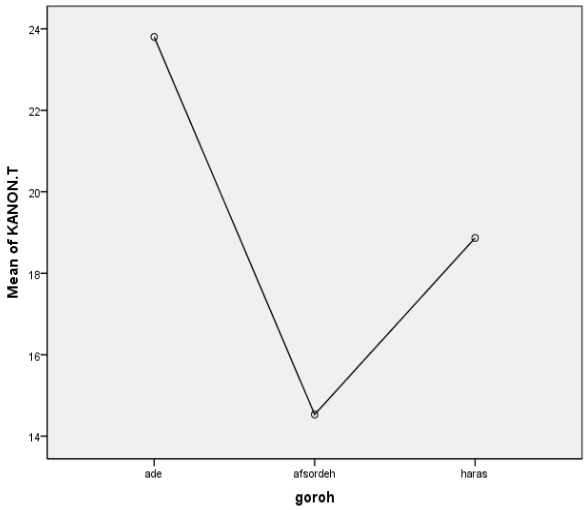
Significance Level	Degree of Freedom 2	Degree of Freedom 1	Levene's Test
0.371	42	2	1.014

In the table (10), the variance between the groups (i.e. variance homogeneity test) can be seen. In the first column, the value of Levene's statistic is seen and the two columns in the middle show the degree of freedom between groups and within the group. These two values are k-1 and K(n-1), where "k" is the number of groups and "n" is the number of samples within each group. Finally, the significance level is given in the last column, the high value of which indicates the confirmation of the null hypothesis. We accept that the variance of the groups is equal to the p-value. Since the significance level is higher than 0.05, the null hypothesis is rejected and the opposite hypothesis is confirmed. The result of the *Scheffé* Post-Hoc test is also shown in the table below.

Table 11 – The Results *Scheffé* Post-Hoc Test for the Second Hypothesis

Subsets		N	Education
2	1		
	14.53	30	Depressed Students
18.87	18.87	30	Students with Social Phobia
23.80		30	Normal Students
0.068	0.122	90	Significance Level

Table (11) places all male students in two subgroups and arranges the values from the lowest attentional focus to the highest attentional focus, respectively. Finally, a graph of the mean values of this group is shown below. (Graph 2)



Graph 2 - Mean Value of Groups in the Second Hypothesis

Discussion and Conclusion

Self-focused attention is related to the process in which attention is directed to self-related stimuli. In this sense, weakening and reducing self-directed attention will be effective in emotional disorders, because it will reduce the intensity of physical and emotional responses. This process not only diverts attention from emotion and physiological conditions but also reduces selective attention to negative thoughts in emotional states. By reducing self-focused attention, the continuity of negative self-awareness is repressed.

The prevalence rate of lifelong depression in adolescents is between 25 and 28%. Social phobia is a type of anxiety known by intense fear and anxiety in social situations which disrupts at least some part of a person's daily activities. Social anxiety is a highly debilitative disorder that can affect many aspects of a person's life. In extreme cases, social anxiety can reduce a person's quality of life to a minimum. Heredity and environment both play a role in the emergence of social anxiety disorder. Young children, who may seem embarrassed and reserved, are more prone to develop social anxiety disorder when they reach adolescence. Of course, this disorder does not occur in all children with such characteristics. In this study, the attentional focus was investigated along with its relationship with depression and social phobia in girls and boys.

Hypothesis 1 - There is a difference in the attentional focus between girls with depression and social phobia and normal or healthy children.

Based on the obtained information, as the value of the significance level, 0.002 is less than 0.05, the hypothesis is significant. We infer that there is a significant difference between the attentional focus of girls with depression and social phobia, and hypothesis H0 is rejected with a 95% confidence interval. As examined by the tests, there is a significant difference in the attentional focus of normal female students and that of female students with depression and social phobia. Based on the table of mean values, the attentional focus for normal female students is significantly higher followed by that of female students with social phobia, and finally female students with depression.

Hypothesis 2 - There is a difference between the attentional focus of boys with depression and social phobia and that of normal or healthy children.

Based on the obtained information, as the value of the significance level, 0.000 is less than 0.05, the hypothesis is significant. We infer that there is a significant difference between the attentional focus in boys with depression and social phobia, and hypothesis H0 is rejected with a 95% confidence interval. As seen in the tests, there is a significant difference between the attentional focus of normal male students and that of male students with depression and social phobia. Based on the table of mean values, the attentional focus for normal male students is significantly higher followed by male students with social phobia, and finally male students with depression.

As for female students, the hypothesis is generally significant and we infer that there is a significant difference in the attentional focus between girls with depression and social phobia, and hypothesis H0 is rejected with a 95% confidence interval. As examined by the tests, there is a significant difference between the attentional focus in normal female students and that of female students suffering from depression and social phobia. Furthermore, according to the table of mean values, the attentional focus for normal female students is significantly higher than the other mean values followed by female students who are socially phobic and finally female students who suffer from depression. Finally, we concluded that there is a significant difference in the focus of attention between girls with depression and social phobia and there is also a significant difference in the focus of attention among boys with depression and social phobiaincreasing self-esteem and self-efficacy among these individuals.

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