

Research Article

Attention Deficit Hyperactivity Disorder and its Relationship to Self-esteem among Primary School Pupils of both Genders in Riyadh, Saudi Arabia

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Abstract

The study examined the correlation between Attention Deficit Hyperactivity Disorder and Self-esteem among primary school children in Riyadh, Saudi Arabia. The sample was 200 children (boys –girls) and their ages from 9 to 13 years. Multiple scales and the descriptive method (correlative/comparative) were used to collect the data. and analyze it statistically. The findings revealed that Attention Deficit Hyperactivity Disorder is negatively associated with Self-esteem among all the respondents. Further, the male children have low self-esteem, while the female showed higher Self-esteem. It is recommended to develop psychological development programs at schools to enhance self-esteem among such children. *ASEAN Journal of Psychiatry Vol. 23(7), July, 2022; 1-8.*

Keywords: ADHD, Self-esteem, Special Children, Saudi Arabia

Introduction

Attention Deficit Hyperactivity Disorder is one of the important emotional disorders which have captured the attention of researchers in the field of psychology and the term refers to the heritable neurodevelopmental disorder in childhood [1]. According to the Diagnostic and Statistical Manual of Mental Disorders (4th edition, 1994), ADHD was diagnosed as ‘a persistent pattern of deficit, deficiency, and difficulty in paying attention, or hyperactivity-impulsivity [2]. The Saudi ADHD Society (AFTA Society) estimated the prevalence of ADHD in the Kingdom as above 10% which was much higher than the world average [3]. ADHD is a case of behavioral difficulties associated with brain deficiencies and includes all types of disorders: the inability to pay attention with hyperactivity and impulsivity [4]. The Manual of Mental Disorders Diagnostic and Counting distinguishes between three types of this disorder: with hyperactivity, without hyperactivity, and residual hyperactivity

Committee on Arabization. ADHD among children has some negative symptoms which are the constant desire to sleep in the classroom and frequent conflicts with friends [5] Some attribute ADHD to genetic factors that affect the increase in the child’s motor activity, while others refer to organic factors, including the presence of brain damage, the activity of the subcortical part of the brain, the presence of brain tumors, or lack of oxygen in the tissues [6]. ADHD is accompanied by some syndromes including the poor ability to focus, child’s attraction to any external stimulus, irritability, and being attracted to anything without thinking or deliberation as long as she is attracted to that [7]. It is also accompanied by impulsivity, aggression, learning difficulties, frustration, and poor psychological, social and academic adjustment [8,9]. The symptoms also include a reduced ability to bear frustration, mood swings, and anxiety. The child also has a disorder in positive communication with others, social adjustment disorder, low self-esteem, learning difficulties, decreased sense of

responsibility, and stubbornness. High self-esteem is one of the most significant tools that an individual uses to obtain psychological adjustment to face new challenging situations without losing courage. Individuals with low self-esteem tend to feel frustrated and defeated even before they enter a new or difficult situation. They anticipate losing hope before they break into new situations. They always behave in a way that prevents them from being positively appreciated by others and consequently prefer isolation and withdrawal over collective participation. Some researchers have shown that ADHD is negatively related to high and positive self-esteem among children of both genders [10-13]. Self-esteem (SE) is defined as an image of an individual about himself or the level of his self-evaluation [14]. The psychological literature and the theoretical and empirical background related to the study of ADHD and its relationship with self-esteem among primary school pupils of both genders indicated a negative correlation between ADHD and their self-esteem. Keeping in view this point, the study deals with the following questions:

1. What is the type of correlation between attention deficit hyperactivity disorder and self-esteem among primary school pupils of both genders in Riyadh?
2. What are the differences between the study sample of primary school pupils of both genders with attention deficit hyperactivity disorder according to the gender variable (male/female)?
3. What are the differences between the study sample of primary school pupils of both genders with respect to self-esteem according to the gender variable (male/female)?

The objectives of the study are firstly; to examine the correlation type between attention-deficit hyperactivity disorder and self-esteem among primary school pupils of both genders, secondly; to compare the study sample in the attention deficit hyperactivity disorder variable according to the gender variable (male/ female) and, thirdly to compare the study sample in the self-esteem variable according to the gender variable (males/ females).

This study has its significance because it deals not only with the theoretical but also the applied aspects. It seeks to study ADHD and its relationship with SE and examines the differences between the sample of the study of

primary school pupils (who represent an important age category) in both ADHD and self-esteem according to the gender variable (males/females). Practically, this study is an addition to the Arabic world knowledge due to its results and recommendations that may help early counselling intervention to reduce the exacerbation of some important behavioral problems. It is also important in terms of providing some empirical data (when the problems spread among primary school pupils) to prepare appropriate guidance programs to address negative syndromes and limit their exacerbation. It also helps to stop individuals from psychological mismatch and invest their energies to the possible maximum extent.

Literature Review

ADHD is a disorder that appears in the form of regularly practiced behaviors and is diagnosed as the absence or total loss of focus in certain topics that require concentration. So, the children with this disorder are characterized by a state of depression. They cannot acquire a skill or learn anything and are hyperactive and impulsive. The symptoms of the disorder are lack of attention, hyperactivity, and impulsivity [7]. The concept of ADHD is of great interest among psychologists and specialists in the field of psychology because this disorder is not only associated with behavior but also with learning difficulties. The prevalence of attention disorder and hyperactivity has reached 10% in children in American society [15]. The 'Third Guide of the Diagnosis and Statistics of Mental Disorders' prepared by the American Psychiatric Association No. 314.01, refers ADHD to the children suffering from inattention, impulsivity, and excessive motor activity before the age of seven. In terms of research on the etiological factors, hyperactivity as a symptom has been defined by different and overlapping terms such as hyperkinesia, minimal brain dysfunction, minimal brain damage and even learning disabilities. These terms do not reflect specific ethological factors, but the indicative behavioral pattern of these disorders can be attributed to many causal factors. Therefore, to avoid confusion and misdiagnosis, the researchers can focus on children who show behavioral patterns of hyperactivity, however, they are considered as normal children from a physiological and mental point of view. So, they can deal with hyperactivity as a homogeneous category [16]. Children with ADHD show some symptoms such as lack of attention span, hyperactivity,

impulsive behavior without thinking, moving from one activity to another, as well as excessive movement (climbing things), and boredom from sitting for a period of time. This disorder among children is accompanied by stubbornness, mood swings, a rapid feeling of frustration and school underachievement [17,18]. This disorder has some negative syndromes also such as constant desire to sleep in the classroom and frequent conflict with friends [5]. Children with ADHD are characterized as having excessive motor tendencies than other children of their age, lack of focus and lack of stamina and patience [9]. It was also found that they had behavioral and cognitive disturbances, as some researchers found that children with ADHD are less positive and effective in different situations. This disorder is accompanied by a weak ability to focus the child's attraction to any external stimulus [17] without thinking and irritability. It includes impulsivity, aggression, learning difficulties, frustration, and poor psychological, social and academic adjustment found that the children having this disorder also have sleeping problems. The children may also face breathing disorders during sleep and may have a constant desire to sleep [19].

The symptoms of hyperactivity and distraction include the child's inability to follow audio or visual information of a television program or play a certain game until its end as s/he cannot set a clear and specific goal for his activity and movement. They also involve the child's inability to complete a certain activity, and his quest to move from one activity to another without completing the first one because the child is very sensitive, which means that his frustration threshold is very low. Therefore, with his rapid failure to do something, he leaves it and does not think or try to complete it. Such symptoms further include repeatedly forgetting personal items and belongings, lack of interest in the existence of a clear lifestyle and tendency to a state of chaos and disorganization, and excessive movement of attention and in reliability in one place for an appropriate period, as this child is impulsive and found constantly fidgeting [17].

A significant body of research indicated a positive association between children with ADHD and the general anxiety of their parents, [20,21] and future anxiety among parents of children with ADHD. Further, depression also occurs among parents of children with ADHD. The excessive movement of the child may cause problems and anxiety for his/ her parent as s/he

cannot deal with him/ her or evaluate that whether the motor behavior is normal or a disorder, which generates psychological stress [22,9]. ADHD is prevalent among children of different social classes, and it is more common in males than in females [17,18].

Self-esteem (SE) represents the feeling of the individual's reality and his self-awareness and as it grows, the sense of creation and ideals grows *i.e.*, conscience is formed and the ideal ego that directs the individual to his desire to be good is built. The high and positive SE of the individual results from his success in forming an acceptable positive self-concept. This means that the individual achieves a self-image that s/he loves and desires. SE means the extent of the individual's self-evaluation [14]. People who have a great deal of self-confidence always evaluate themselves positively, feel loved and accepted by others and believe in their abilities to solve their problems on their own. They are always able to adapt, unlike individuals with negative self-esteem. People who have negative self-esteem have a negative view of themselves. They always think that they are failures and are not accepted by others. They do not trust themselves and they always think low of themselves and undervalue their abilities [23]. Some researchers assert that a child with ADHD has a reduced ability to confront criticism and has repeated failure, as failure becomes a dominating and distinguishing feature of his/ her life, the child alienates itself from others. Alienating others due to his/ her behavior leads to a negative self-concept, low self-esteem, and a lack of self-confidence.

Various studies deal with ADHD and its relationship with SE among individuals of various ages and social categories. For example, Brook and Boaz (2005) conducted a study that aimed at comparing adolescents with ADHD and learning difficulties. The sample of the study consisted of 308 secondary school students whose ages ranged between 12 to 18 years. They were classified into three subgroups: the first group consisted of 22.1% who had ADHD, the second group consisted of 12.3% with hyperactivity and impulsivity (HI), and the third group consisted of 42.2% with both ADHD and HI. After analyzing the data of the study statistically, the results indicated that 94% of the total sample was diagnosed with Learning Difficulties (LD), and 34% of the total sample experienced stress when they were in the classroom. This was because they had the desire

to sleep in the classroom, they came into conflict with their close friends frequently, they felt that they were different from their classmates, and they also had low SE. All of them opined that their parents could not get along with them. The researchers concluded that when dealing with people with ADHD and LD, one should consider that they are classified as individuals with neurotic behavioral difficulties and that they also lack social skills. Likewise, Al-Malik's (2005) study aimed at examining the differences between normal female children and their peers having ADHD. The study analyzed their self-esteem, anxiety, and aggressive behavior according to the grade variable. The sample of the study consisted of 166 female pupils from the primary level. They were from the fourth, fifth and sixth grades. The group for the study was split into two subgroups: the group of female pupils with ADHD consisting of 43 female pupils whose age ranged between 10 to 13 years and the group of normal female pupils, consisting of 123 female pupils whose age ranged between 10 to 13 years. After analyzing the data statistically, the researcher found that the group of pupils with ADHD showed a greater degree of aggression than their normal peers. It was also found that there were differences between the two subgroups of the study. Significant differences were found between the two groups with respect to anxiety, while there were no significant differences between normal pupils and pupils with ADHD with respect to their SE. Further, the study of Popali and Shaw 2005 aimed at examining problems related to ADHD and multiple aspects of psychological adjustment, social skills, and SE among university students with ADHD in comparison with their normal peers. The sample of the study consisted of 21 university students with ADHD, and 20 normal university students who were homogenized in terms of gender, chronological age, and average university grade points. After analyzing the study data statistically, the results indicated that students with ADHD had a lack of psychological adjustment, social skills, and SE as compared to their normal peers. It was also found that SE is the crucial pivotal point of the relationship between ADHD and psychological adjustment.

Bodan 2001 study aimed at comparing the aggressive behavior and SE among children with ADHD, the children having learning difficulties and the children without learning difficulties. The study sample consisted of 128 individuals, i.e., 91 males and 37 females (of which 108

Americans were from African origins, 8 Americans were from Asian origins, 6 were Hispanics, 5 were Caucasian Americans, and 1 was Arab). The children were divided into three groups: children who were diagnosed with ADHD and had Learning Difficulties (LD), children who had ADHD only, and normal children who did not have any disorder. After analyzing the data statistically, the results indicated that children with ADHD and LD had external aggression towards others when facing behavioral problems to a greater degree than the children with ADHD disorder only. When comparing the two groups of children the first group with ADHD and LD and the other group with ADHD only, it was found that both had low self-esteem. Further, the group of normal children and those without a medical diagnosis or emotional disorder behavior had more SE than the children with ADHD and LD, and the children with ADHD only. A comprehensive study was conducted by Treuting and Hinshaw. The study aimed at examining ADHD and its relationship with aggression, depression, and SE among male children. A sample of 114 males with ADHD and 87 normal males were selected. Their ages ranged between 7 to 12 years. After analyzing the data statistically, the results indicated that normal children have more SE than the group of male children with ADHD. Further, depression is negatively related to self-esteem among male children with ADHD.

From the above discussion, it is evident that there is a need to further study ADHD and its relationship with self-esteem among primary school pupils of both genders, specifically in Arab context, so, this study serves as a starting point for future research dealing with the preparation of counselling programs to increase the SE of children with ADHD. The literature is conflicting in the sense on the one hand, ADHD is negatively related to SE among individuals of various age groups [24,25]. However, another study conducted in the Arab context found no statistically significant differences in SE between the two study groups: females with ADHD and normal females. In some other studies, ADHD is associated with aggressive behavior and a recurrent tendency to conflict and quarrels. And finally, it was also found that children with ADHD have social skills deficits and psychological maladjustment. Given this discussion, we can draw the following research hypotheses.

H1: There is a negative and statistically significant correlation between the scores obtained by the sample members of primary school pupils of both genders on the attention deficit hyperactivity disorder test and the scores obtained by the same individuals on the self-esteem test

H2: There are no statistically significant differences between the average scores of the sample members of the primary stage pupils regarding the variables of ADHD and gender, as measured by the tool.

H3: There are no statistically significant differences between the average scores of the study sample members of the primary school pupils in the variable of SE according to the gender variable (male/female), as measured by the tool.

Research Methodology

The study used the descriptive (correlative/comparative) method that is concerned with describing the phenomenon as it seeks to examine the correlation between the two study variables and examines the differences between the genders in each of the variables of ADHD

and SE from the primary schools in Riyadh. The study sample was derived from the population of primary school male and female pupils with ADHD in Riyadh. Children with obvious physical impairments, children who do not live in a normal parental climate, and those with parental/family deprivation (by death or divorce) were excluded from the initial sample of the study. The male children group was derived from four primary schools in Riyadh, and the group of female children was derived from seven primary schools in Riyadh.

The sample of the study consisted of 200 children of both genders with ADHD (male and female pupils of primary level in Riyadh). Children with obvious physical impairments, children who do not live in a normal parental climate, and those with parental/family deprivation (by death or divorce), and children of residential institutions (of unknown parentage) were excluded from the initial sample of the study. The final sample of the study was divided into two groups: a group of 100 male children with ADHD and a group of 100 female children with ADHD (Table 1).

Table 1. Those whose chronological ages ranged between 9-13 years, and the study sample members (males and females) were homogenized in terms of chronological age in months

Two Comparing Groups	N	Mean	Mean	Standard Deviation	Standard Deviation	t-value	Statistical Significance
		1	2	1	2		
Male ADHD							
children group	100	180.4	-	29	-		
Female ADHD							
children group	100	-	176.6	-	26.5	0.87	Not significant

It is clear from table - that the calculated t-value did not reach the significant value at any of the confidence levels, *i.e.*, 0.99 and 0.95 which indicates the homogeneity of the study members groups males and females with respect to their age in months. A multiple study scales such as attention deficit hyperactivity disorder test prepared by Ali (2005) and Children's Self-esteem test, fourth edition prepared by Moussa and Desouki (1991). These scales were already verified to be used in the measurement of such

phenomena.

The validity of the tool was verified for application to the current study sample members in the Saudi environment of primary school pupils in Riyadh. The reliability of the tool was verified by testing and retesting on a random sample containing 80 pupils from both genders of the primary stage in Riyadh, with 6 weeks gap to examine the correlation coefficient between the two applications. The correlation coefficient reached 0.66 which

shows a statistically significant positive correlation coefficient and indicates the reliability of the tool, its ability to measure this variable and its validity for application to the current study sample members of the primary school pupils in Riyadh. Moussa and Desouki (1991) self-esteem test for children on the foreign scale prepared by Coopersmith entitled 'Coopersmith Self-Esteem Inventory' which they localized and appropriated in the Arab context. The reliability coefficient for the male group was 0.742, for the female group was 0.773 and for the total sample male and female was 0.797. The reliability of the test was also calculated by the split-half method which resulted in positive correlation coefficients and a statistical function. For the male group, the correlation coefficient was 0.918. It was 0.938 for the female group and 0.972 for the total sample males and females. All of them are positive and show statistically significant correlation coefficients which indicate the reliability and validity of the test. Experimental validity was done by calculating the correlation coefficient between the sample members' scores on the prepared scale and the same individuals' scores on another scale, namely, the Self-Concept for Adults test prepared by Ismail (1961) that measured the same variable. The results indicated the correlation coefficients of 0.846 for the male group, 0.119 for the female group, and 0.788 for the total group of males and females.

The current study verified the validity of this tool for the procedure regarding the current study sample members in the Saudi environment of primary school pupils in Riyadh. The reliability of the tool was verified by testing and retesting on a random sample containing 100 pupils from both genders of the primary stage in Riyadh with a month difference to calculate the correlation coefficient between the two procedures. The correlation coefficient reached 0.75 which is a statistically significant positive correlation coefficient, indicating the reliability of the tool, its ability to measure this variable and its validity for the procedure on the current study sample members of primary school pupils in Riyadh.

Results

In order to verify the validity of the first hypothesis (H1) which states that there is a negative and statistically significant correlation between the scores obtained by the sample members of primary school pupils of both genders on the attention deficit hyperactivity disorder test and the scores obtained by the same individuals on the self-esteem test, the Pearson correlation coefficient was found between the scores obtained by the sample members 200 children of both genders. This is shown in (Table 2).

Table 2: Correlation coefficient of the scores obtained by the study sample members on ADHD test, and the scores obtained by the same individuals on the Children's Self-Esteem test (n=200) boys and girls

Number of the Total Study	Correlation Coefficient	Statistical Significance
Sample of Children		
200	0.67-	statistically significant at the 0.99 level of statistical significance

It is clear from the previous table that there is a statistically significant negative correlation at 0.99 level of statistical significance, where the calculated t-value reached -0.67 which exceeds the required limit value for the level of statistical significance and confirms the negative relation between ADHD and SE among the sample male and female children.

The validity of the second hypothesis (H2) which states that there are no statistically significant differences between the average scores of the sample members of the primary stage pupils regarding the variables of ADHD and gender, the t-test was used. It confirmed the differences between the mean

scores of the male and female groups on the attention deficit hyperactivity disorder test, as

shown in the following (Table 3).

Table 3: The significance of the differences between the mean scores of the two study groups members (males/females) for the scores they obtained on the ADHD test using t-test

Two	N	Mean	Mean	Standard Deviation	Standard Deviation	t-value	Statistical Significance
Comparing groups		1	2	1	2		
Male children group	100	177.8	-	34.5	-	3.7	Significant at 0.99
Female children group	100	-	160.4	-	31.5		significance level

The average scores of male and female children on the ADHD test, where the calculated t-value reached 3.7 that exceeds the limit value to become a function at 0.99 level of confidence for statistical significance. That is in favor of the male children, indicating that male children outnumber female children in ADHD.

The validity of the third hypothesis (H3) which states that there are no statistically significant

differences between the average scores of the study sample members of the primary school pupils in the variable of SE according to the gender variable (male/female) was verified by using the t-test and the differences between the mean scores of the male and female groups on the Children's Self-esteem test, as shown in (Table 4).

Table 4. The significance of the differences between the mean scores of the two study groups members (males and females) for the scores they obtained on the Children's Self-esteem test, using the t-test

Two comparing groups	N	Mean 1	Mean 2	Standard deviation 1	Standard deviation 2	t-value	Statistical significance
Male children group	100	220.3	-	41.7	-	3	Significant at 0.99 significance level
Female children group	100	-	239.6	-	48		

It is clear from table 4 that there are statistically significant differences between the average scores of male and female children on the Children's Self-Esteem test where the calculated T-value was 3 which exceeds the limit value indicating that female children outperform males in their self-esteem.

Discussion

The statistical analysis indicates that ADHD is negatively related to SE among children of both genders, and these results are consistent with what was found. Thereby these findings indicate that the children with ADHD lack in self-esteem due to successive failures of their

actions. The research conducted earlier in Arab environment found that there were no statistically significant differences between the two study groups of female members with ADHD compared to the group of normal females in Self-esteem. This inconsistency of the result might be due the fact that previous study was conducted in the year 2005 and since then the level of awareness, technological advancements and engagement tools have been put into place to handle the special children. There is the possibility the sample used in this research has phenomenal difference of parental handling in dealing with such children. Parental education and societal acceptance are currently much higher as compared to the past. This research has also

identified the difference of self-esteem with male and female groups with ADHD. Our findings clearly highlight the male children outnumber females in ADHD. As far as self-esteem is concerned, female children outperformed their male counterparts. The female children showed more self-esteem as compared to their male classmates. This result also substantiates the understanding that parental awareness to handle these children is much advanced as compared to the past parents. The female children in Saudi Arabia spend most of their time in family set up and at home, so the encouragement provided by the parents and elders of the houses to the female child is much higher.

The study recommends preparing treatment programs to reduce hyperactivity and increase attention for children with ADHD of both genders. Various remedial/ guidance programs must be arranged to develop SE and psychological adjustment for children with ADHD of both genders. It also recommends conducting lectures, trainings and guidance workshops for parents and educators to deal optimally with children with ADHD of both genders. There is a need to carry out further research on ADHD and its relationship with social skills among middle school pupils of both genders, particularly in Saudi Arabia. The effectiveness of a counselling program for developing SE among ADHD children also needs to be studied. It is also recommended to conduct research about the feeling of psychological loneliness and its relationship with anxiety and depression among children with ADHD.

Implications for Practice

This is the first study in this part of the world to examine the relationship between ADHD and self-esteem. The finding showed a negative significance between ADHD and self-esteem, thus higher the self-esteem lesser the ADHD. The children suffering from ADHD are prone to emotional setback due to mistreatment by the relevant persons, thereby they fall short of self-confidence and self-esteem. The parents and the schools are the best sources of enhancing self-esteem of such children so as to get the self-confidence restored back. The parents need to develop such habits and routines in their lives which must allow some activities participation by these children at home. Successive

achievements may yield best results. The school administration and teachers must devise activity programs specific to enhancing self-esteem and these can be more effective if parents are made part of these. Likewise, it will be more appropriate for the psychologists and the psychiatrist who directly give treatment and handle these children must focus on self-esteem enhancement of the children. In their practice for the routine checkup and treatment planning of such children, instead of focusing more on ADHD symptoms, it would be extremely useful if self-esteem enhancement activities are focused.

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