Identity status and attachment in adolescents with attention deficit hyperactivity disorder

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SUMMARY: Çuhadaroğlu-Çetin F, Akdemir D, Tüzün Z, Çak T, Şenses-Dinç G, Taşğın-Çöp E, Evinç G. Identity status and attachment in adolescents with attention deficit hyperactivity disorder. Turk J Pediatr 2013; 55: 190-197.

Identity and attachment are two concepts of different theories that might be related and that are developmentally very important in adolescence. The aim of this study was to explore the sense of identity, attachment styles and their relation in a group of adolescents with attention deficit hyperactivity disorder (ADHD). Thirty-four adolescents who were diagnosed with ADHD in childhood were reevaluated at the age of 13-16 years. The comparison group consisted of age- and gender-matched adolescents without a psychiatric disorder. The Sense of Identity Assessment Form (SIAF) and the Relationship Scales Questionnaire (RSQ) were used to examine the sense of identity and attachment styles of adolescents, respectively. Compared to adolescents without a psychiatric disorder, adolescents with ADHD, independent of the presence of a comorbid psychiatric disorder, had a similar identity formation process; however, adolescents with ADHD and a comorbid psychiatric disorder experienced more preoccupied attachment styles. Comorbid psychiatric disorders seem to be related to the insecure attachment patterns in adolescents with ADHD.

Key words: attention deficit hyperactivity disorder, identity, attachment, adolescence.

Attention deficit hyperactivity disorder (ADHD) represents the most common externalizing psychopathology in children and adolescents, affecting 3-9% of the population[1]. It is a developmental disorder and a chronic condition with associated symptoms and impairment that persists in approximately three-fourths of the cases into adolescence and in half of the cases into adulthood[2]. Children with high levels of impulsivity and inattention have an increased risk for school and occupational failure; difficulties in parent/peer relationships and social and problem-solving skills; executive dysfunctions; emotional self-regulation problems; antisocial behaviors and criminal activity; substance use; and other psychiatric comorbidities when they grow up[3-8].

Identity formation is the major developmental task of adolescence. In his psychosocial developmental theory, Erikson[9] proposed that every adolescent goes through an identity crisis in which all past identifications and perceptions about oneself are re-examined and mixed to gain an integrated and unique sense of identity. If the adolescent fails to establish a stable, consistent and integrated sense of identity by the end of adolescence, identity confusion arises. Although Erikson[10] stated that identity confusion is not a descriptive diagnosis but a psychodynamic condition, he noted detailed descriptions of it and reported many cases to make this condition identifiable. In these descriptions, identity confusion is characterized by indecisiveness, low self-esteem, inability to concentrate on required or suggested tasks, diffusion of time perspective, uncertainty regarding future objectives, an unclear description of self, problems of engaging in intimate relationships, and difficulties in social roles, values and selections[10].

Higher rates of identity-related problems in adolescents with different kinds of psychiatric

disorders were demonstrated in some studies. It was shown that 70-80% of university students in Turkey with different psychiatric diagnoses suffered from identity problems, and 10% of those with identity problems visited physicians with somatic symptoms before they were evaluated by a psychiatrist [11]. Adolescents with psychiatric disorders such as depression[12-14], alcohol and drug abuse[15,16] and eating disorders[17] were found to have more identity-related problems. In a study in Turkey, 73.3% of participants with identity confusion in late adolescence and young adulthood received at least one Axis I diagnosis (especially depression, dysthymia, specific/social phobia and adjustment disorder), and they had higher rates of personality disorders compared to the non-confusion group[14]. Increase in general psychiatric symptoms and lower self-esteem were also detected in adolescents with identity confusion[18].

Considering all the above-mentioned psychosocial disabilities and impairments, identity formation, which is the most crucial developmental task of adolescence, might be expected to be more difficult in adolescents with ADHD[19], and identity crisis might become exaggerated with associated symptoms of the disorder. Nevertheless, to our knowledge, there has been no study examining identity formation in adolescents with ADHD.

The attachment theory assumed that internal working models of self and others and the child's level of attachment security develop on the basis of repeated interactions with caregivers in which the caregiver's acceptance of the child's needs and responsiveness to his/her signals are essential[20]. Research on the relation between attachment organization and psychopathology is relatively recent. It was shown in some studies that ADHD was associated with insecure attachment patterns in children[21,22]. Emotion regulation can play a role in the development of attention processes[23], and emotion regulation problems in children with ADHD are, in part, related to poor attachment[24]. Difficult temperament that is perceived as reactive and prone to distress is associated with higher risk of ADHD and might influence the quality of care from caregivers and parent-child attachment relationships[25]. Some studies manifested that having a secure attachment increases the functional coping strategies, multiple domains of psychosocial functioning (e.g. adaptation to adolescence period and to academic changes, self-esteem, interpersonal relationships), healthy adaptation to developmental tasks of adolescence, and psychological health[26-31]. Considering that part of the identity integration process requires reorganizing and redefining one's conception of self, this integration would be difficult for those with high attachment anxiety, and it may be expected that they would experience a sense of lack of identity to a much greater extent. Therefore, the aim of this study was to investigate the sense of identity, attachment styles and their relation in a group of adolescents with ADHD. We hypothesized that higher rates of identity confusion and insecure attachment patterns would be encountered and that there would be a relation between attachment security and identity-related problems in adolescents with ADHD compared to adolescents without a psychiatric disorder.

Material and Methods

Participants

The study was planned in a retrospective cohort design. All referral records of the Child and Adolescent Psychiatry Clinic of Hacettepe University in 2000 were screened. Children aged 7-10 years in 2000 and diagnosed as ADHD by a child and adolescent psychiatrist using the Diagnostic and Statistical Manual of Mental Disorders, Third Edition-Revised (DSM-III-R) criteria were selected and invited to be included in the current study by a short letter of information and invitation in 2006. Children having definite mental retardation, pervasive developmental disorders or other neurological diseases were excluded from the study. Ninety-eight children fulfilling the criteria made up the study group. Twenty-nine adolescents in the study group could not be reached by phone or mail, and 16 adolescents refused to participate. Fifty-three (54.1%) adolescents from the study group aged 13-16 years in 2006 were reevaluated. Eight of the adolescents were found to have mild mental retardation and were excluded. The remaining 45 adolescents were taken into further evaluation. Eleven adolescents no

longer had an ADHD diagnosis. Thirty-four adolescents formed the ADHD group.

The control group consisted of 26 adolescents aged 13-16 years who had applied to the same clinic in 2000 with any psychiatric complaint but had no present psychiatric diagnosis. The aim and design of the study were explained to the adolescents, and those who agreed to participate were recruited. None of the adolescents in the control group had a present psychiatric or chronic medical disorder.

Measures

The Schedule for Affective Disorders and Schizophrenia for School-Age Children, Present and Lifetime Version (K-SADS-PL), Wechsler Intelligence Scale for Children Revised (WISC-R), Sense of Identity Assessment Form (SIAF), and Relationship Scales Questionnaire (RSQ) were used in this study.

Schedule for Affective Disorders and Schizophrenia for School-Age Children, Present and Lifetime Version (K-SADS-PL)

This semi-structured interview[32] was applied to adolescents and their parents by a child and adolescent psychiatrist to make the ADHD diagnosis and to determine the comorbid disorders, which was discussed in another paper. All childhood ADHD diagnoses were confirmed using K-SADS-PL in the ADHD group. The validity and reliability studies of the K-SADS-PL for Turkish children and adolescents were performed[33]. Stuttering and somatoform disorders were questioned additionally.

Wechsler Intelligence Scale for Children Revised (WISC-R)

The WISC-R[34] was given by a clinical psychologist to exclude adolescents with total IQ scores lower than 70. The sensitivity and specificity adjustment of WISC-R for Turkish society was done[35].

Sense of Identity Assessment Form (SIAF)

The SIAF is a self-rating questionnaire consisting of 28 items relevant to experiences about the sense of identity. It was developed for Turkish adolescents and its standardization study was performed by Dereboy and colleagues[36]. The Cronbach alpha coefficients of SIAF ranged between .90 and .91, and corrected item total correlation coefficients were above .25[36,13]. Participants answer each item on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The total score is determined by the summation of all scores given to each item. Higher total scores indicate increased level of identity confusion. The cut-off point for identity confusion is 70.

Relationship Scales Questionnaire (RSQ)

The RSQ was developed by Griffin and Bartholomew[37] to measure attachment styles. It consists of 30 items and classifies attachment as secure, fearful, preoccupied, or dismissive. Participants rate each item on a 7-point Likert-type scale (1 = not at all like me, 7 = very much like me) based on how they define themselves in close relationships. Each attachment style is calculated with the summation of items that are related to a given attachment style and the division of the sum by the number of items of a given subscale. The highest subscale score (attachment score) is accepted as indicating the attachment orientation of the person. Each person obtains four attachment scores that can also be used as continuous variables. A secure attachment style is related to cognitions of self-worth and others' availability and responsiveness when they are needed. A fearful attachment style is linked to one's sense of unworthiness and the expectation of non-trusting and rejecting behaviors from others. People with a preoccupied attachment style perceive themselves as unworthy, but others as positive and worthy. A dismissive attachment style is related to self-worth, but with expectations of non-trusting and rejecting behaviors from others. The construct validity of the RSQ's Turkish version was reported to be high. The alpha coefficients for the internal reliability of the Turkish RSQ's subscales ranged between 0.27 and 0.61, and its test-retest reliability ranged between 0.54 and 0.78[38].

Procedure

The study was carried out in the Child and Adolescent Psychiatry Department of Hacettepe University İhsan Doğramacı Children's Hospital. Institutional review and approval from the Ethics Committee of Hacettepe University were obtained. All subjects gave written assent and their parents' written informed consent for participating in the study. Those who wished

to participate were interviewed and given the questionnaires in the outpatient clinic of Child and Adolescent Psychiatry.

Statistical Analysis

The Statistical Package for the Social Sciences 13.0 was used for all statistical analyses. Continuous variables were statistically analyzed with Student's t-test when there were two groups and with one-way analysis of variance (ANOVA) when there were more than two groups. Chi-square test was used to examine the categorical variables. Multivariate analysis of variance (MANOVA) was applied to evaluate the relation between the attachment styles and the sense of identity. All tests were two-tailed, and p values <0.05 were considered significant.

Results

Sociodemographic Results

The mean age of the adolescents was 14.13 ± .92 and 14.26 ± 1.15 years in the ADHD group and control group, respectively. There were 25 (73.5%) boys and 9 (26.5%) girls in the ADHD group and 18 (69.2%) boys and 8 (30.8%) girls in the control group. All the adolescents were attending school and were between 8th and 11th grades. Eight (23.5%) adolescents in the ADHD group were still taking psychotropic medication. Nineteen (55.9%) of them had a comorbid psychiatric disorder with ADHD and 15 (44.1%) had only ADHD.

In order to investigate the sense of identity and attachment patterns and their relation based upon the present psychiatric diagnostic status, analyses were first conducted with two groups (ADHD and control). Then, the ADHD group was divided into two as pure ADHD and ADHD with comorbidity and analyses were conducted with three groups.

Sense of Identity and Attachment

Means of the Sense of Identity Assessment Scale by groups were: M = 52.0, SD = 20.47 for the ADHD group and M = 48.92, SD = 17.89 for the control group. An independent sample t-test was conducted to evaluate the differences between two groups. There were no significant differences in the sense of identity scores by groups, t (56) = 1.17.

Means of attachment dimensions by group were: Secure M = 4.17, SD = 1.16, fearful M = 3.33, SD = 1.19, preoccupied M = 3.64, SD = 1.03, and dismissing M = 3.78, SD = 1.10 for the ADHD group and secure M = 4.0, SD = 1.49, fearful M = 3.17, SD = 1.54, preoccupied M = 3.06, SD = 1.64, and dismissing M = 3.83, SD = 1.74 for the control group. There were no significant differences in attachment dimensions by groups with an independent sample t-test. SIAF and RSQ scores of the ADHD and control groups are given in Table I.

Analyses were done to examine if the attachment styles were related to the sense of identity. 2x4 (ADHD and control groups x attachment styles) ANOVA was conducted. The dependent variable was sense of identity score. The findings did not reveal any significant group main effect ($F_{(1.42)} = .93$, $p = 0.34$), attachment styles main effect ($F_{(3.42)} = .91$, $p = 0.44$), or an interaction effects ($F_{(3.42)} = .18$, $p = 0.91$) between the groups and attachment styles.

When the ADHD group was divided into two as pure ADHD and ADHD with comorbidity, Sense of Identity Assessment Scale means by

Table I. SIAF and RSQ Scores of ADHD and Control Groups

Scales	ADHD Group N=34	Control Group N=26	t (56)
SIAF	52.0 ± 20.47	48.92 ± 17.89	1.17^{NS}
RSQ			
Secure	4.17 ± 1.16	4.0 ± 1.49	2.43^{NS}
Fearful	3.33 ±1.19	3.17 ± 1.54	1.75^{NS}
Preoccupied	3.64 ± 1.03	3.06 ± 1.64	4.62^{NS}
Dismissing	3.78 ± 1.10	3.83 ± 1.74	8.18^{NS}

SIAF: Sense of Identity Assessment Form. RSQ: Relationship Scales Questionnaire. ADHD: Attention deficit hyperactivity disorder. NS: Not significant.

groups were M = 48.14, SD = 17.71 for the ADHD group, M = 55.89, SD = 22.27 for the ADHD with comorbidity group and M = 48.92, SD = 17.89 for the control group. One-way ANOVA was conducted to evaluate the differences between the three groups. There were no significant differences in the sense of identity scores by groups, F (2.55) = .88, p = 0.88.

Means of attachment dimensions by group were: Secure M = 4.05, SD = 1.38, fearful M = 3.17, SD = 1.25, preoccupied M = 3.14, SD = .83, and dismissing M = 3.91, SD = 1.19 for the ADHD group; secure M = 4.26, SD = .98, fearful M = 3.45, SD = 1.16, preoccupied M = 4.04, SD = 1.02, and dismissing M = 3.68, SD = 1.06 for the ADHD with comorbidity group; and secure M = 4.0, SD = 1.49, fearful M = 3.17, SD = 1.54, preoccupied M = 3.06, SD = 1.64, and dismissing M = 3.83, SD = 1.74 for the control group. There were no significant differences in secure, fearful and dismissing attachment dimensions by groups with one-way ANOVA test, but in the preoccupied dimension, there was a significant difference between the ADHD with comorbidity group and control group ($F_{(2.55)}$ = 3.26, $p<0.05$). Post-hoc analysis with Tukey showed that for the preoccupied attachment dimension, adolescents with comorbidity (X = 4.04) scored significantly higher than control group adolescents (X = 3.06). SIAF and RSQ scores of ADHD, ADHD with comorbidity and control groups are given in Table II.

Analyses were repeated to examine if the attachment styles were related to the sense of identity in these three groups. 3x4 (ADHD, ADHD with comorbidity and control groups x attachment styles) ANOVA was conducted by taking the sense of identity scores as the dependent variable. The findings again did not reveal any significant group main effect ($F_{(2.38)}$ = .69, p = 0.51), attachment styles main effect ($F_{(3.38)}$ = .87, p = 0.47) or an interaction effects ($F_{(6.38)}$ = .28, p = 0.94) between the groups and attachment styles.

Discussion

In this study, it was found that the identity formation and attachment styles of adolescents with ADHD were not statistically different from adolescents without a psychiatric disorder. Comorbid psychiatric disorders in adolescents with ADHD changed some of the results. Adolescents with ADHD, independent of the presence of a comorbid psychiatric disorder, had an identity formation process similar to that of adolescents without a psychiatric disorder; however, adolescents with ADHD and a comorbid psychiatric disorder experienced more preoccupied attachment styles compared to adolescents without a psychiatric disorder.

Identity-related problems were found to be higher in adolescents with different kinds of psychiatric disorders, as noted in the introduction. Having a chronic psychiatric disorder in adolescence might interrupt the continuity of the identity formation process and vice versa. Our hypothesis was that having an ADHD might lead to identity confusion in adolescence due to high rates of associated symptoms and psychosocial problems. Adolescents with ADHD were determined significantly more likely to have school and occupational failure[39,40], experience negative peer relationships and social problems[41], and to display oppositional defiant disorder, anxiety/depression, delinquency, and significant functional impairment[42]. ADHD is associated with low self-esteem in adolescents, suggesting the influences of these developmental problems

Table II. SIAF and RSQ Scores of ADHD, ADHD with Comorbidity and Control Groups

	Pure ADHD Group N=15	ADHD with Comorbidity Group N=19	Control Group N=26	F (2,55)
SIAF	48.14 ± 17.71	55.89 ± 22.27	48.92 ± 17.89	.88^{NS}
RSQ				
Secure	4.05 ± 1.38	4.26 ± .98	4.0 ± 1.49	.21^{NS}
Fearful	3.17 ± 1.25	3.45 ± 1.16	3.17 ± 1.54	.26^{NS}
Preoccupied	3.14 ± .83	4.04 ± 1.02	3.06 ± 1.64	3.26*
Dismissing	3.91 ± 1.19	3.68 ± 1.06	3.83 ± 1.74	.11^{NS}

SIAF: Sense of Identity Assessment Form. RSQ: Relationship Scales Questionnaire. ADHD: Attention deficit hyperactivity disorder. NS: Not significant. *$p<0.05$.

on self-concept[43,44]. All these psychosocial disabilities and impairments might make these adolescents vulnerable to have negative experiences and feedbacks about themselves. As a result, these experiences might restrict having an apparent description of self and future objectives and reaching a stable and consistent identity in adolescents with ADHD. However, we did not find significant differences between the ADHD group with or without a comorbid psychiatric disorder and the control group with respect to identity formation. We also did not detect significant relations between the attachment styles and sense of identity in any of the three groups. There might be some reasons for these results. Contrary to our hypothesis, the identity formation process might be only minimally affected by having ADHD in adolescence. Nevertheless, to our knowledge, there is no study evaluating the identity formation in adolescents with ADHD to which we could compare the results of this study. The small sample size of this study might have restricted determination of the relation between ADHD and identity confusion. Another reason might be that receiving a treatment for ADHD might have diminished its effect on the identity formation process. All these adolescents with ADHD in this study experienced an intervention, and eight adolescents were still taking psychotropic medication at the time of their evaluation. It will be appropriate to re-examine these results with both longitudinal studies of larger sample sizes and with cross-sectional studies including patients diagnosed with ADHD in adolescence for the first time.

In this study, having a comorbid psychiatric disorder in adolescents with ADHD changed some of the results. Preoccupied attachment was found in the ADHD with comorbidity group more than in the control group. This finding overlaps with the results of some researches that found significant relationships between adolescence psychopathologies and insecure attachment styles among similar-age clinic population groups[45-52]. In a study examining the attachment styles of adolescents who admitted to a university hospital with various psychological and self-image problems, it was reported that the preoccupied attachment held first rank[53]. Similarly, in a meta-analytic study of attachment representations in clinical samples of mothers, fathers and adolescents, it was found that the preoccupied and unresolved dimensions of insecure attachment styles were overrepresented in the combined clinical groups, and the clinical status was not related to a specific insecure attachment category[54]. The reason for the insignificance of the difference between the ADHD and control group regarding attachment dimensions could be related to the fact that attachment might not be affected by having only ADHD in adolescence. In a six-year retrospective follow-up study conducted in Turkey, it was found that adolescents with ADHD were at higher risk for comorbid disorders compared to the non-ADHD outpatients[29]. The comorbidity issue in adolescents with ADHD especially should be an important variable to be examined in further studies, as having a comorbid disorder among adolescents with ADHD is more crucial for insecure attachment constructs.

There are some strengths and limitations of this study. The longitudinal design helped to rule out some diagnostic confounding factors such as difficulty in remembering ADHD symptoms in childhood. Therefore, adolescents with an ADHD diagnosis clearly had ADHD. Applying a semi-structured diagnostic instrument provided the evaluation of comorbid psychiatric diagnoses and their effects. The small sample size was a limitation of this study and might have obscured statistical significance in some of the differences and restricted the evaluation of the specific effect of each comorbid psychiatric disorder on attachment patterns in adolescents with ADHD. Using only self-report questionnaires to assess the identity formation and the attachment styles of adolescents was another limitation of this study. In future studies, investigation of the identity formation and attachment styles of adolescents with ADHD by structured clinical tools in a larger sample size would provide further important data. Since the family dynamics might be influential for the attachment strategies of adolescents with ADHD[55], future studies need to explore their contribution.

In conclusion, the identity formation and attachment styles of adolescents with ADHD were evaluated in this study, and a significant difference was determined only between the ADHD group with a comorbid psychiatric disorder and the control group with respect to attachment styles. There were no significant differences between the three groups (adolescents with ADHD only,

adolescents with ADHD and a comorbid psychiatric disorder and adolescents without a psychiatric disorder) with respect to identity formation; however, adolescents with ADHD and a comorbid psychiatric disorder experienced more preoccupied attachment styles compared to adolescents without a psychiatric disorder. It was concluded that instead of ADHD itself, the presence of comorbid psychiatric disorders might be related more to the insecure attachment patterns. While evaluating children and adolescents with ADHD, their attachment patterns might also be assessed in detail as well as their comorbid psychiatric disorders, in order to prevent possible negative outcomes.

Acknowledgements

This study is a part of a scientific research project supported by the Hacettepe University Scientific Research and Development Center.

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