Predictors of self-esteem in adolescents with a psychiatric referral

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In the literature self-esteem is found to be lower in clinically referred adolescents compared to adolescents without any psychiatric disorder. The aim of this study is to examine self-esteem and associated socio-demographical and psychological factors in clinically referred adolescents in Turkey. Three hundred forty-nine adolescents aged between 12 and 18 years admitted to the Department of Child and Adolescent Psychiatry with a psychiatric complaint were enrolled. Rosenberg Self-Esteem Scale (RSES), Brief Symptom Inventory (BSI), Parenting Style Scale (PSS) and Sense of Identity Assessment Form (SIAF) were used for the evaluation. Self-esteem was lower in: girls, adolescents without siblings, living in non-nuclear families, with a past suicide attempt, and with history of a non-suicidal self-injurious behavior (NSSI). Self-esteem was negatively correlated with identity confusion on SIAF and positively correlated with acceptance/involvement on PSS. Significant predictors of self-esteem were gender, presence of a sibling, history of a NSSI and SIAF scores. Interactions between self-esteem and gender, psychiatric symptoms, parenting and identity development are complex in clinically referred adolescents. Further elucidation of the mechanisms through which these characteristics modify self-esteem will be necessary to guide families and clinicians to help adolescents to maintain high self-esteem levels.

Key words: adolescent, self-esteem, psychiatric symptoms, parenting, identity development.

Self-esteem is defined as a reflection of an individual's self-worth and beliefs about oneself as well as an emotional response to those beliefs[1]. Self-esteem represents the capacity to feel worthy of happiness and is important in coping successfully with life challenges. Adolescence, as being an important time of change in psychosocial development, is the main life period affecting the establishment of self-esteem and accordingly self-esteem is an important determinant of adolescent development and mental health.

Risk and protective factors for the development of self-esteem during adolescence have been explored for decades, however much of the research is limited by small sample sizes, regional populations and confounding factors.

Reported risk factors for low self-esteem include female gender, low socioeconomic status, single-parent family structure, needing special health care, school violence, parental aggravation or family stress, overweight and obesity[1,2]. Physical activity, older age, being medically healthy, higher parental education and family income, perceived teacher support, higher school achievement and feeling safe in school are known protective factors[1]. Although self-esteem is mostly higher in Western than in Eastern societies, above the theoretical mid-point scores of Rosenberg Self Esteem Scale (RSES) in all nations suggests that generally positive self-esteem may be culturally universal[3].

Parenting is also found to be related to the

mental health outcomes and self-esteem in children and adolescents. Coopersmith[4] observed that high self-esteem was associated with total or nearly total acceptance of the children by their parents, clearly defined and enforced limits, and the respect and latitude for individual action that exists within those defined limits. Indulgent or authoritative parenting was demonstrated to be positively and authoritarian parenting negatively related to the self-esteem of children and adolescents[2,5,6]. In a recent study, negative current parenting was shown to be related to higher anxiety, depression, aggression and lower self-esteem and school satisfaction in a multicultural sample of rural youth[7]. Low levels of parental care and overprotection seem to be associated with low self-esteem in adolescents and young adults with psychiatric disorders such as eating disorders and substance use disorders, as well[8-10]. However, parenting styles in clinical samples are thought to be less associated with self-esteem when compared to community samples[11]. The emotional adjustment of adolescent boys and girls might also be responded differentially to the perceived parenting styles and discipline strategies[12]. Thus, assessment of the relationships between perceived parenting and self-esteem with respect to gender in a clinical adolescent sample is fruitful.

Identity formation is the major developmental task of adolescence. Erikson[13] suggested that every adolescent re-examines all his past identifications and perceptions about himself and gains 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. Higher rates of identity-related problems in adolescents with depression, specific or social phobia, adjustment disorder, substance use disorder and eating disorder were demonstrated[14-18]. Although identity maturity predicted mental health and psychological well-being in college students[19], relationship between the identity formation and the self-esteem was not studied adequately in clinically referred adolescents.

Low self-esteem was found to be associated with a number of psychological features which play an important role in adolescent development including depression, anxiety, suicidal behavior, non-suicidal self-injurious behavior (NSSI), disordered eating, violent behavior, psychic isolation and substance use[1,20,21]. In a study investigating self-esteem of adolescents, self-esteem was found to be

Table I. Psychiatric Diagnoses Based on DSM-IV-TR Criteria in The Study Group

Psychiatric diagnosis	Male n=113		Female n=195			Whole sample n=308	
	n	%	n	%	χ^2	n	%
No diagnosis	7	6.2	14	7.2	0.312	21	6.8
Major depressive disorder	30	26.5	88	45.1	10.450**	118	38.3
Anxiety disorders	42	37.2	66	33.8	0.347	108	35.1
Attention deficit hyperactivity disorder	50	44.2	46	23.6	14.231***	96	31.2
Conduct disorder	31	27.4	52	26.6	0.021	83	26.9
Somatoform disorders	9	7.9	41	21.0	4.947*	50	16.2
Obsessive compulsive disorder	7	6.2	10	5.1	0.234	17	5.5
Eating disorders	1	0.9	8	4.1	2.611	9	2.9
Elimination disorders	5	4.4	4	2.1	1.862	9	2.9
Substance use disorders	3	2.7	2	1.0	0.287	5	1.6
Adjustment disorder	2	1.8	2	1.0	0.206	4	1.3
Tic disorders	2	1.8	0	0	0.416	2	0.6
Learning disorders	1	0.9	1	0.5	0.087	2	0.6
Gender identity disorder	1	0.9	0	0	0.217	1	0.3

*: p<.05; **: p<.005; ***: p<.001

lower in both of the groups with psychotic symptoms and neurotic symptoms compared to healthy adolescents[20]. The relationship between self-esteem and mental health is reciprocal. Mental health is supposed to mediate the connection between reported risk factors and self-esteem[22]. Self-esteem may also play a role in the relationship between parental care and depressive symptoms[23] and may be a predictor of suicidal ideation, depression and loneliness[24]. Whether it is a cause or a consequence, patients with psychiatric disorders are known to have lower self-esteem. Eating disorders, social anxiety disorder, disruptive behavior disorders, substance use disorders and psychosis are clinical conditions in which self-esteem had been previously examined. Although researches on self-esteem in patients with a unique psychiatric disorder are contributive, evaluation of the self-esteem as a nonspecific risk factor for various psychopathologies in a group of adolescents with mixed psychiatric symptoms/disorders is valuable.

Limited numbers of studies have assessed self-esteem in clinical adolescent samples. Identification of the role of low self-esteem and associated modifiable characteristics in adolescents with psychiatric symptoms will be important in determining interventions and in preventing poor longer-term outcomes. Therefore, the present study aims to examine the associations between self-esteem and socio-demographical and psychological factors such as psychiatric symptoms, perceived parenting and sense of identity in a large clinically referred adolescent sample.

Material and Methods

Participants

The study was performed in a retrospective design in the Department of Child and Adolescent Psychiatry at Hacettepe University Children's Hospital, including adolescent patients referred for psychiatric evaluation and treatment from the general pediatric outpatient clinic and the other pediatric subspecialties. Three hundred forty-nine adolescents aged between 12 and 18 years who admitted to the Department of Child and Adolescent Psychiatry with a psychiatric complaint were enrolled. Adolescents with clinically diagnosed mental retardation (n=24), pervasive developmental

disorders (n=9) or psychotic symptoms (n=8) were excluded. Study group consisted of 308 adolescents. 113 boys (36.7%) and 195 girls (63.3%) were recruited for the study.

Materials

Psychiatric diagnoses were determined by a child and adolescent psychiatrist with a clinical interview with adolescents and their parents based on the criteria of Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision, DSM-IV-TR[25]. Socio-demographic Information Questionnaires (SIQ) were filled out by the child and adolescent psychiatrist during the evaluation. Adolescents completed the RSES, Brief Symptom Inventory (BSI), Parenting Style Scale (PSS) and Sense of Identity Assessment Form (SIAF) for the assessment of the self-esteem, psychiatric symptoms, parenting styles and sense of identity, respectively.

The Socio-demographic Information Questionnaire (SIQ)

The Socio-demographic Information Questionnaire (SIQ) was developed by the research team and had been widely in use in the stated outpatient clinic, consists of questions regarding age, gender and education level of adolescents, parental age and education, number of siblings and birth order, family type (nuclear/non-nuclear), chronic medical health problems in the family (requiring daily medication or causing disabilities in parents or siblings), chronic medical health problems of the adolescents, mental health disorder history in the family (diagnosed mental health disorder in the first or in the second degree relatives), age of puberty, major adverse life events in the last six months (witnessing violence, physical or sexual abuse, death of a loved one, parental separation or divorce, family financial problems, foster care placement, incarceration of a family member, arguments within the family, school failure, new medical health problems, romantic break-up), past suicide attempt (nonfatal self-directed potentially injurious behavior with any intent to die as a result of the behavior) and history of a NSSI (deliberate, self-inflicted destruction of body tissue without suicidal intent and for purposes not socially sanctioned) of adolescents.

The Rosenberg Self-esteem Scale (RSES)

The RSES was developed by Rosenberg in order to measure self-esteem particularly in adolescent population[26]. It is a 10-item self-report Likert-type scale with positively and negatively worded statements answered on a four-point scale-from strongly agree to strongly disagree. Higher total scores indicate lower level of self-esteem. Scores of 0-1 mean high, 2-4 moderate and 5-6 are low levels of self-esteem. The validity and reliability coefficients were found to be 0.71 and 0.75 for Turkish adolescents, respectively[20].

The Brief Symptom Inventory (BSI)

The BSI is a 53-item self-report inventory in which participants rate the extent to which they have been affected (0="not at all" to 4="extremely") in the past week by various psychiatric symptoms[27]. Global Severity Index (GSI) score is calculated from the division of total score obtained from all items by 53. GSI score higher than 1.00 is considered to indicate symptoms on psychopathology level. The validity and reliability study of the BSI for Turkish population was done[28]. In a study evaluating the use of BSI in Turkish adolescents, findings concerning the factorial structure and validity of the BSI showed that the instrument could be used with Turkish adolescents, as well[29].

The Parenting Style Scale (PSS)

The PSS[5], designed to be answered by children over 8 years of age, was used in order to evaluate the perceptions of adolescents about their parents' attitudes. PSS includes 26 items which are grouped into three dimensions: acceptance/involvement, strictness/supervision, and psychological autonomy. The validity and reliability study of this scale was performed in Turkey[30]. Test-retest reliability and internal consistency values of dimensions of this scale were between .60 and .93 in elementary, high school and college student groups. Factor pattern of the PSS for the elementary and high school students was very similar to the original scale's factor pattern.

The 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 standardized by Dereboy and colleagues[31]. The Cronbach alpha coefficient of the SIAF ranges between .90 and .91 and corrected item total correlation coefficients were above 0.25[17,31]. Participants answer each item on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Total score is determined by the summation of all scores given each item. Higher total scores indicate increased level of identity confusion. The cut-off point for identity confusion is 70.

Statistical analyses

The Shapiro-Wilk test was used to determine the normality of the data. Student's t and Chi-square tests were applied to determine the differences of continuous and categorical variables between the two groups of adolescents, respectively. The Mann-Whitney U test was used to compare the differences between the two groups of adolescents when the dependent variable was continuous but not normally distributed. The relationship between two quantitative variables was measured by Pearson's correlation analysis. A logistic regression model with backward stepwise method was used to determine the predictors of self-esteem. For the multivariate analysis, the possible factors identified with univariate analysis were further entered into the logistic regression analysis to determine independent predictors of patient outcome. A 5% type I error was used to infer statistical significance.

Results

The mean age was 14.6±1.5 years. 242 (78.2%) adolescents were living with both parents and 272 adolescents (88.6%) had at least one sibling. Paternal education was 9.3±3.8 years and maternal education was 7.5±3.9 years. Mothers of 224 adolescents (72.2%) were stay-at-home parents. Ninety-nine adolescents (32.1%) had chronic medical health problems in their families, 43 adolescents (14%) had chronic medical health problems themselves and 109 adolescents (35.3%) had history of a mental health disorder in their families.

Two hundred forty four adolescents (78.9%) described major adverse life events in the past six months, 57 adolescents (18.5%) had history of a NSSI, 43 adolescents (14%) reported past suicide attempts. Major depressive disorder,

Table II. Rosenberg Self Esteem Scale, Sense of Identity Assessment Form, Brief Symptom Inventory and Parenting Style Scale Scores Across Different Risk Factors

	RSES	SIAF	BSI-GSI	PSS AI	PSS PA	PSS SS
Whole study group (n=308)	2.7 ± 1.9	73.6 ± 22.7	1.8 ± 2.9	25.0 ± 5.9	20.2 ± 6.3	26.5 ± 4.9
Gender						
Boys	2.3 ± 1.8	69.4 ± 21.4	1.9 ± 4.6	25.9 ± 5.8	20.9 ± 5.5	25.4 ± 5.2
Girls	2.9 ± 1.9	75.9 ± 23.2	1.8 ± 1.0	24.7 ± 6.0	19.7 ± 6.7	27.2 ± 4.6
	t=3.019**	t=2.383*	t=0.288	t=1.068	t=1.680	t=3.070**
Sibling(s)						
+	2.6 ± 1.9	73.5 ± 22.9	1.7 ± 2.4	25.0 ± 6.0	20.2 ± 6.3	26.3 ± 4.9
-	3.5 ± 1.7	74.6 ± 21.8	2.5 ± 5.4	25.0 ± 5.3	20.2 ± 5.9	27.8 ± 3.8
	t=2.511*	t=0.279	t=1.532	t=0.007	t=0.026	t=1.734
Nuclear family						
+	2.6 ±1.9	71.6 ± 22.1	1.7 ± 2.6	25.8 ± 5.2	20.0 ± 6.1	26.5 ± 5.0
-	3.0 ±1.8	81.0 ± 19.8	2.3 ± 3.9	21.8 ± 7.6	20.6 ± 6.8	26.2 ± 4.3
	t=2.511*	t=0.279	t=1.394	t=0.007	t=0.026	t=1.734
Chronic medical health problem in the family						
+	2.8 ±1.8	74.8 ± 24.9	1.6 ± 3.5	24.9 ± 5.3	20.6 ± 6.5	26.3 ± 4.9
-	2.7 ± 1.9	73.3 ± 21.6	1.9 ± 0.8	25.0 ± 6.3	20.0 ± 6.2	26.6 ± 4.9
	t=0.258	t=0.617	t=1.217	t=0.117	t=0.701	t=0.398
Chronic medical health problem in adolescents						
+	2.7 ± 1.9	70.2 ± 23.6	1.4 ± 0.8	25.6 ± 4.8	20.4 ± 6.9	26.8 ± 4.7
-	2.8 ± 1.8	74.7 ± 22.4	1.9 ± 3.3	24.8 ± 6.2	20.1 ± 6.1	26.4 ± 4.9
	t=0.012	t=1.436	t=2.186*	t=1.018	t=0.329	t=0.603
History of a mental health disorder in the family						
+	2.9 ± 1.9	73.8 ± 21.9	1.9 ± 3.1	24.4 ± 6.2	79.9 ± 6.6	26.4 ± 4.9
-	2.6 ± 1.8	73.5 ± 23.3	1.8 ± 2.8	25.3 ± 5.8	20.7 ± 5.7	26.5 ± 4.7
	t=1.706	t=0.097	t=0.325	t=1.149	t=1.139	t=0.188
Major adverse life event						
+	2.8 ±1.9	74.9 ± 22.6	1.7 ± 2.2	24.7 ± 6.2	20.0 ± 6.3	26.6 ± 4.8
-	2.5 ± 1.7	68.5 ± 23.0	2.3 ± 4.9	26.2 ± 4.9	20.9 ± 6.2	26.1 ± 5.4
	t=0.882	t=1.931	t=1.398	t=1.863	t=0.978	t=0.601
Past suicide attempt						
+	3.5 ± 2.03	79.6 ± 26.0	1.9 ± 0.8	21.4 ± 5.6	20.0 ± 7.5	25.8 ± 4.8
-	2.6 ± 1.8	72.6 ± 22.1	1.8 ± 3.1	25.5 ± 5.8	20.3 ± 6.1	26.6 ± 4.9
	t=3.149**	t=1.823	t=0.419	t=4.173***	t=0.199	t=0.985
History of a NSSI						
+	3.8 ±1.8	83.0 ± 23.4	1.9 ± 0.8	22.8 ± 6.1	17.9 ± 6.9	24.3 ± 5.0
-	2.5 ±1.8	71.4 ± 22.0	1.8 ± 3.2	25.5 ± 5.8	20.7 ± 6.1	26.5 ± 4.9
	t=5.117***	t=3.491**	t=0.260	t=3.051**	t=2.871**	t=0.254

RSES: Rosenberg Self-esteem Scale, SIAF: Sense of Identity Assessment Form, BSI-GSI: Brief Symptom Inventory-Global Severity Index, PSS: Parenting Style Scale AI: Acceptance/Involvement PA: Psychological Autonomy SS: Strictness/Supervision. *: p<.05; **: p<.005; ***: p<.001

anxiety disorders, attention deficit hyperactivity disorder (ADHD) and conduct disorder were the most common psychiatric disorders in the study group. One hundred and thirty-four adolescents (43.5%) had at least one comorbid psychiatric disorder. Psychiatric diagnoses based on DSM-IV-TR criteria are listed in Table I. When comorbidity was taken into account, the prevalence of major depressive disorder reached 38.3% (n=118), anxiety disorders 35.1% (n=108), ADHD 31.2% (n=96) and conduct disorder 26.9% (n=83) in the whole sample. Major depressive disorder and somatoform disorders were significantly higher in girls and ADHD was significantly higher in boys (p=.001, p=.026, p<.001).

Sixty-two adolescents (20.1%) had low self-esteem and 93 adolescents (30.2%) had high self-esteem according to RSES scores. One hundred fifty three adolescents (49.7%) had identity confusion according to SIAF scores. Mean scores of the sample for the instruments used are given in Table II.

Lower self-esteem according to RSES scores was found in girls, adolescents without siblings, living in non-nuclear families (extended or single-parent families), with a past suicide attempt and history of a NSSI (Table II). When the RSES scores were analyzed across diagnosis, significantly higher RSES scores were found in major depressive disorder and somatoform disorders (t=3.008 p=0.003; t=2.232 p=0.026). The RSES scores were not correlated with age of the adolescents, age of puberty or parental education (p=0.675, p=0.458, p=0.276, p=0.580). The RSES scores were positively correlated with identity confusion scores on SIAF (r=0.554 p<0.001) and negatively correlated with acceptance/involvement scores on PSS (r=-0.182 p=0.002).

The history of NSSI, past suicide attempt and major depressive disorder were found to be more frequent in girls (χ^2=5.42 p=0.02; χ^2=7.362 p=.007; χ^2=10.45 p=0.001, respectively). The girls had lower self-esteem (t=-3.019 p=0.003) and higher identity confusion scores (t=2.383 p=0.018) and scored higher on strictness/ supervision subscale of PSS (t=3.070 p=0.002). When the group was analyzed separately for gender; girls without siblings, living in non-nuclear families and with a past suicide attempt, boys with somatoform disorders and girls and boys with a NSSI had lower self-esteem (t=2.563 p=0.015; t=2.607 p=0.010; t=-2.521 p=0.013; t=2.868 p=0.005, t=2.238 p=0.027; t=3.474 p=0.001; respectively). The RSES scores of boys were positively correlated with identity confusion scores on SIAF (r =0.623 p<0.001) and negatively correlated with acceptance/involvement scores on PSS (r=0-.286 p=0.002). The girls' RSES scores were positively correlated with identity confusion scores on SIAF (r=0.506 p<0.001) and GSI scores on BSI (r=0.386 p<0.001) but not correlated with PSS scores.

A logistic regression model with backward stepwise method was set up to determine important risk factors distinguishing adolescents with low self-esteem from high self-esteem. The predictors included in the model were age and gender of the adolescents, presence of a sibling, family structure, presence of a psychiatric disorder in the family, presence of a chronic medical illness, past suicide attempt and NSSI in adolescents, the BSI-GSI scores, the subtest scores of PSS (acceptance/involvement, strictness/supervision and psychological autonomy) and the SIAF scores. A test of the full model against a constant only model was statistically significant, indicating that the predictors as a set reliably distinguished between low and high self-esteem (χ^2=93.086,

Table III. Logistic Regression Analysis: Associations of Self-Esteem With Gender, Presence of a Sibling, NSSI and SIAF Scores

Risk Factors	p	RR (95% CI)
Gender (female/male)	0.03	3.39 (1.11-10.34)
Siblings (-/+)	0.03	8.45 (1.23-57.92)
NSSI (+/-)	0.02	5.04 (1.22-20.86)
SIAF score	<0.001	0.913 (0.88-0.94)

NSSI: Non-suicidal self-injury, SIAF: Sense of Identity Assessment Form, RR: relative risk, CI: confidence interval.

$p<0.001$ with df=4). Nagelkerke's R^2 of 0.648 indicated a moderately strong relationship between prediction and grouping. Prediction success overall was 86% (78.6% for low self-esteem and 90.8% for high self-esteem). The gender, presence of a sibling, history of a NSSI and SIAF scores in adolescents were determined to be significant predictors of the self-esteem (Table III). Low self-esteem is associated with being a girl, being a single child, history of a NSSI and higher SIAF scores indicating identity confusion.

Discussion

The results of this study showed that 20.1% of the adolescents admitted to the psychiatric outpatient clinic suffered from low self-esteem. This result supports the findings presented in community studies that self-esteem of adolescents is strongly correlated with their mental health and well-being[32,33] and indicates mental healthcare professionals should evaluate the self-esteem of adolescents and take a more assertive role in promoting positive self-esteem in clinical population. Nevertheless, 30.2% of adolescents reported high self-esteem even though they had several psychiatric symptoms. Studies evaluating protective factors for the self-esteem of clinically referred adolescents are also important in order to determine interventions and prevent poor longer-term outcomes. Therefore, future studies are needed to investigate the resiliency factors for high self-esteem in adolescents with psychiatric symptoms.

In the present study the self-esteem of adolescents was not associated with age, age of puberty or parental education. However, it was associated with gender, girls having lower self-esteem. Studies indicated that adolescent girls tend to have more negative assessments of their physical characteristics and intellectual abilities and lower self-esteem than boys have[34-36]. Being a girl was shown to be a significant predictor of low self-esteem and the self-esteem in girls, but not in boys, was also negatively correlated with their psychiatric symptoms in this study. The finding that more girls than boys report low self-esteem is consistent with existing literature and this study extends this knowledge to the clinically referred population. The association between emotional states and

self-esteem was also found to be stronger for adolescent girls than for boys[33]. Higher incidence of past suicide attempt and major depressive disorder in girls compared to boys might be a factor contributing to their lower self-esteem in this study. The self-esteem of adolescent boys with somatoform disorders was also lower compared to boys without these disorders. Somatoform disorders are more prevalent in adolescent girls than boys, however if they are present in boys, a deeper evaluation may be needed including the self-esteem, too. History of a NSSI was found to be a risk factor for low self-esteem in both girls and boys in this study. In accordance with this result, NSSI was detected to be inversely related to the self-esteem of adolescents in other studies[21,37-39]. These results point out that the self-esteem and its associated components particularly in adolescent girls with psychiatric symptoms must be evaluated thoroughly in clinical assessments.

Low self-esteem in girls was related to living in non-nuclear families (extended or single-parent families) in the present study. Adolescents from one-parent or stepparent families reported more emotional symptoms, lower self-esteem and weaker moral self-image than adolescents from intact families, and the lifetime prevalence rate of suicide attempt was much higher only for girls living in one-parent family[40,41]. In another study, while family relational factors were more important for girls' self-esteem, structural and growth factors were found to be more important for adolescent boys[42]. Factors influencing self-esteem such as social support, family hardiness, internal control, problematic behavior, school record and parent-child communication might be different in two-parent and in single-parent families[43]. In addition to the data of family type, having a sibling was determined to be one of the significant predictors of high self-esteem of clinical adolescents in the present study. Although having too many siblings was negatively correlated with self-esteem in population-based studies of adolescents in different countries[44-46], there is not enough literature data for psychiatric adolescents in this regard. The urban high school children with no siblings had a higher tendency for stress, anxiety, depression and interpersonal dependency and lower self-esteem, love awareness and emotional support from family

members, than did the urban high school children with siblings[47,48]. Having siblings and emotional support network might play an important positive role in the development of self-esteem and mental health of adolescents. The results of this study indicate that clinicians should be attentive to the unique and combined influence of family structure and support on adolescents' self-esteem.

The self-esteem of adolescent boys, but not girls, was positively correlated with parental acceptance/involvement in the present study. Adolescents' adjustment and self-esteem have been positively related to perceived parental emotional support in most studies. In a recent longitudinal study investigating the impact of parenting on adolescents' self-esteem, psychological distress of adolescents decreased with parental emotional support and maternal and paternal emotional support reinforced self-esteem over time in both genders[49]. In a study examining gender differences in recalled parental childrearing behaviors and self-esteem in psychiatric adult outpatients, parental acceptance was significantly and positively related to self-esteem of men only[50]. In a similar way, the self-esteem of adolescent boys with psychiatric disorders might have been more associated with the quality of relationship with parents compared to adolescent girls with psychiatric disorders. Unfortunately, we found no data compatible with this finding in the literature. This finding demonstrates the importance of examining parental emotional support in the context of gender in adolescents with psychiatric disorders. Future studies evaluating gender differences in the relationship between parenting and self-esteem in adolescents with psychiatric disorders will be enlightening.

The self-esteem of clinically referred adolescents in both genders was negatively correlated with identity maturation, and identity confusion was a significant predictor of low self-esteem in this study. In a study performed with high school students or graduates, 73.3% of the participants with identity confusion received at least one clinical psychiatric diagnosis in Turkey[51]. In another study, increase in general psychiatric symptoms and decrease in self-esteem were detected in adolescents with identity confusion[52]. The relationship between depression, which includes symptoms of feeling of worthlessness and low self-esteem, and identity problems were particularly pointed out in adolescents[16,17]. These findings indicate that there could be an association between psychiatric symptoms/self-esteem and identity confusion-related distress in adolescents. The identity maturity may play unique and interactive roles on mental health and self-esteem of adolescents. Hence, the self-esteem of adolescents with psychiatric symptoms might be supported and strengthened by assisting them to establish a sense of identity.

This study is important in that it has relatively large sample size to investigate the self-esteem and related psychological factors in clinical adolescents covering mainly major depressive disorder, anxiety disorders, ADHD, conduct disorder and somatoform disorders. It is also the first, to our knowledge, to emphasize parenting and identity formation with respect to gender in a clinical adolescent sample. A limitation is that the study is not consisting of a control group of adolescents without psychiatric symptoms. A group of adolescents with high or low self-esteem were compared to figure out this problem. Future studies should assess indicated factors in clinical adolescents by comparing them to a control group without any psychiatric disorders.

In conclusion, the prevalence of low self-esteem in clinically referred adolescents is high. The self-esteem of the girls is lower than the boys. Lower self-esteem is found to be associated with being a single child, living in non-nuclear families and past suicide attempt in girls, with somatoform disorders in boys and with NSSI in both girls and boys. The gender, presence of a sibling, history of a NSSI and sense of identity were determined to be significant predictors of the self-esteem. This study extends the findings of previous researches by assessing the associations of self-esteem to parenting and identity formation with respect to gender in an adolescent sample with psychiatric symptoms. Treatment strategies in adolescents with psychiatric disorders should take into consideration self-esteem and associated factors and bolster the self-esteem by appropriate interventions. Further studies using a nonclinical control group may lead to the progress of the current findings.

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