

The Relationship Between Alexithymia and Dissociation in an Adolescent Sample

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ABSTRACT:

The relationship between alexithymia and dissociation in an adolescent sample

Objective: The relationship between alexithymia and dissociation has not been well researched and clarified in an adolescent population. Our study aims to test the hypothesized link between alexithymia and dissociation along with other possible predictors of dissociation in an adolescent population.

Method: The sample consisted of 145 adolescent high school students between the ages of 15 and 18. The subjects were assessed using the Dissociative Experiences Scale, the Toronto Alexithymia Scale, the Rosenberg Self-esteem Scale, the Beck Anxiety and Depression Scales, and a sociodemographic form. Multiple linear regression analyses were used to predict scores on the Dissociative Experiences Scale.

Results: When anxiety was entered in the regression model, alexithymia was no longer associated with dissociation and anxiety became the sole significant predictor of the Dissociative Experiences Scale scores. This model accounted for 17% of the variance. This finding shows that alexithymia is not a predictor of dissociation in our adolescent population.

Conclusion: Alexithymia does not predict dissociative tendencies in adolescents. Anxiety emerges as a significant predictor but by itself can not explain the plentitude of factors determining dissociative tendencies. But because only 17% of the variance is explained in this model, it seems that many other factors involved in the development of dissociative processes need to be addressed. Including more variables in a regression equation could highlight the predictors of dissociation better.

Key words: alexithymia, dissociation, adolescence

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INTRODUCTION

Putnam (1) describes dissociation as a complex psychopathological process that occurs on a continuum ranging from minor normative dissociations to psychiatric conditions. The descriptive DSM approach identifies the essential feature of the dissociative disorders as 'disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment' (2). Adolescence has been proposed as a transition period for many basic psychological processes including dissociation (3). Dissociative-like experiences of identity confusion and dividedness, periods of depersonalization and absorption in one's imagination appear to be intrinsic to healthy adolescence. On the other hand chronic dissociative compartmentalization of affect, behavior and memory is likely to

interfere with the adolescent's ability to construct a cohesive sense of self and to integrate intensified sexual, aggressive and relational needs (3).

Traumagenic models of the development of dissociative tendencies assign a pivotal etiological role to severe childhood trauma. In clinical samples the incidence of dissociative symptoms is found to correlate positively with self-reported childhood history of repeated instances of incest, sexual abuse more generally, physical abuse, emotional abuse and neglect (4). However there has been little cross-cultural exploration of these findings. Many children and adolescents without a history of abuse can get locked into dissociative defenses in an effort to cope with overwhelming stresses, expectations, losses and fears in their lives (5).

Recently alexithymia has been investigated as a possible predictor of dissociative tendencies (6-10). Alexithymia is characterized by

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difficulties in recognizing and verbalizing feelings, a paucity of fantasy life, and a concrete speech and thought closely tied to external events (11). Victims of traumatic events, such as concentration camp survivors, combat veterans, victims of simple or multiple sexual assaults or subjects with chronic childhood abuse have been described as alexithymic (12). It appears that both alexithymia and dissociation ward off overwhelming affective states in the traumatized subjects.

Berenbaum and James (6) investigated a sample of college students and suggested that alexithymia was associated but distinguishable from dissociation phenomena. Zlotnick et al. (7) on the other hand found no relationship between dissociation and alexithymia in a group of hospitalized self-mutilating patients. Wise et al. (9) studied 116 adult psychiatric outpatients and found that alexithymia and dissociation basically differed though both were associated with negative affects. Grabe et al. (10) studied 173 psychiatric in and outpatients and 38 nonclinical subjects where they have found a strong positive correlation between alexithymia and dissociative symptomatology. Their correlations remained significant after controlling for the severity of general psychopathology. In a group of 100 undergraduate psychology students. Irwin (8) found that "Difficulty Identifying Feelings" subscale of alexithymia was a significant predictor of dissociative tendencies.

In reviewing the current literature, the relationship between alexithymia and dissociation has not been well researched and clarified in an adolescent population. Our study aims to test the hypothesized link between alexithymia and dissociation along with other possible predictors of dissociation in an adolescent population.

METHOD

Subjects

The sample consisted of adolescent high school students between the ages of 15 and 18. The government-run high school is located in Giresun, a city in the eastern Black Sea region of Turkey with a population of almost 200,000 people. The subjects were randomly selected out of 210 students and their informed consent were obtained. Of the randomly selected 145 students attending to 9th and 10th grades 88 were females and 57 were males. Their mean age was 16.3 ± 0.7 . According to their self-reports 10 (6.9%) were in poor economical conditions whereas 79 (54.5%) defined the financial status of their family as

moderate and 56 (38.6%) as well. Only 7 adolescents out of the 145 lived with a single parent, and 71 of them reported being occasionally punished at household. The number of persons in the family ranged between 2 and 9 with a mean of 4.7 ± 1.2 .

Materials

Dissociative Experiences Scale:

The Dissociative Experiences Scale (DES) is a 28-item self-report instrument. It is not a diagnostic tool but serves as a screening device for chronic dissociative disorders, with a possible score of 0 to 100 (13). The Turkish version of the scale has a good reliability and validity as the original form (14). Its validity and reliability was studied in another study which also revealed one more that the scale was valid and reliable in the Turkish population (15). Though intended for use in adult population, to our knowledge DES has been used at least in two studies in high school students (16,17). Adolescent Dissociative Experiences Scale (A-DES) which might tap normal and pathological dissociation in the adolescent population better (3) had not been validated in the Turkish population in our time of study. Later then, A-DES has been shown to be valid and reliable in an adolescent population study in Turkey (18).

Toronto Alexithymia Scale:

Alexithymia was measured with the Toronto Alexithymia Scale (TAS), a 20-item self-report scale, which has good psychometric properties (19,20). Subjects are asked to respond on a 5-point Likert scale the extent to which they agree or disagree with each statement. The results are expressed as TAS-20 global scores, as well as three subscales measuring difficulty in identifying feelings and distinguishing them from bodily sensations of emotion (Factor 1), difficulty expressing feelings (Factor 2), and externally oriented thinking (Factor 3). The Turkish translation of the TAS-20 has good reliability ($\alpha=0.76$) (21).

Rosenberg Self-Esteem Scale:

The Rosenberg Self-Esteem Scale (RSE) gives a measure of global self-esteem. It is comprised of 10 items some of which are negatively worded. Items are scored between 1 and 4. Higher results imply higher self-esteem (22). It has been validated in Turkish and used extensively in the adolescent population (23).

Beck Depression Inventory:

Beck Depression Inventory (BDI) is a 21 item self-report questionnaire that assesses severity of depression. Individuals are asked to rate themselves on a 0 to 3 spectrum (0=least, 3=most) with a score range of 0 to 63. Total score is a sum of all items (24). It was shown to be valid and reliable in the Turkish population (25).

Beck Anxiety Inventory:

Beck Anxiety Inventory (BAI) is a 21 item self-report questionnaire (26). Each item is rated on a 4-point Likert scale ranging from 0=not at all to 3=severely, which is I could barely stand it. The total score ranges from 0 to 63. It was shown to be valid and reliable in the Turkish population (27).

Procedure

The study was explained to the principal of the high school and was discussed with the classroom teachers of the 9th and 10th grades, a consensus emerged on the procedure. The participants were asked to give informed consent before the study. The aim of the study was explained before assessment in each class. Then the students filled in the self-report questionnaires and were free to ask any unclear point in their minds.

Data Analysis

The study group was dichotomized on the basis of gender and the presence of self-reported punishment and between group Student t-test was performed. Bivariate relationships between continuous variables were examined with Pearson's product moment correlations (r). Multiple linear regression analyses were used to predict scores on the Dissociative Experiences Scale. Variance inflation factors were calculated to check for multicollinearity among the predictors in the multiple regressions.

RESULTS

Sociodemographic Characteristics of Sample.

Table 1 presents the sociodemographic characteristics of the sample. The age of the adolescents was between 15 and 18 years old and 60% of the sample was female. They were all either in grade 9 or 10 and the mean number of people living in the household was 4.7. Almost all parents were living together and half of

the students had a history of occasional physical punishment. There was no significant difference between male and female adolescents who report punishment in the family and those who do not report on the measure of dissociation.

Table 1. Sociodemographic Characteristics of Sample (n=145)

Age (Mean, SD)	16.4 (0.72)
Gender (%Female)	60.7
Education (%)	
Grade 9	43.4
Grade 10	56.6
Number of people living in the household (Mean, SD)	4.7 (1.2)
Parents (% Separated)	4.8
History of physical punishment (%Yes)	49.0

DES results by gender and punishment

Female subjects scored mean scores of 17.0 (SD=7.8) and males 16.7 (SD=7.6) in DES, where the difference was not statistically significant ($t=0.22$, $df=143$, $p>0.05$). Five out of 145 subjects (3.4 %) was in the realm of pathological dissociation (DES scores ≥ 30) and females and males respectively being 3 and 2. The difference was not significant. Seventy-one subjects reported being occasionally physically punished at home, though their DES scores was a bit higher than those who were not punished the difference was not significant albeit close to significance. DES scores of punished subjects were 18.4 (SD=7.8) and non-punished subjects 15.7 (SD=7.5), $t=1.88$, $df=143$, $p=0.06$. Three subjects with a history of punishment were in the realm of pathological dissociation, whereas only two were from the non-punished group. The difference was not significant.

Characteristics and Inter-correlations of Psychological Measures

Table 2 displays mean, standard deviation and range on the measures of dissociation, self-esteem, depression, alexithymia, and anxiety. Pearson product moment correlations between the scores on the scales are presented in Table 3. All correlations were significant. There was not any significant correlation between sociodemographic variables and the measure of dissociation.

Table 2. Scores of Dissociation, Self-Esteem, Depression, Alexithymia and Anxiety (n=145)

	Mean	SD	Min	Max
Dissociative Experiences Scale	17.0	7.8	1.07	33.6
Rosenberg Self-Esteem Scale	29.9	4.0	19	40
Beck Depression Inventory	12.1	6.9	1	36
Toronto Alexithymia Scale	46.1	8.0	27	67
Beck Anxiety Inventory	14.5	8.2	1	39

Table 3. Correlations Between Scores of Dissociation, Self-Esteem, Depression, Alexithymia and Anxiety (n=145)

	Dissociative Experiences Scale	Rosenberg Self-Esteem Scale	Beck Depression Inventory	Toronto Alexithymia Scale
Rosenberg Self-Esteem Scale	-0.18**			
Beck Depression Inventory	0.28***	-0.32***		
Toronto Alexithymia Scale	0.29***	-0.27***	0.43***	
Beck Anxiety Inventory	0.42***	-0.18*	0.41***	0.53***

***p<.001, **p<.01, *p<.05

Predictors of Dissociative Experiences Scale Scores

Table 4 presents two regression models of determinants of the Dissociative Experiences Scale scores: Model 1 included all psychological measures except for anxiety; anxiety level was added in Model 2. A third model showed no associations between all sociodemographic variables and dissociation (not shown). The variance inflation factors showed no collinearity between the variables in the models (not shown).

At the bivariate level, dissociation was related to lower self-esteem and higher depression, alexithymia, and anxiety scores. At the multivariate level, when anxiety was not included in the model (Model 1), only alexithymia was associated with dissociation. When anxiety was entered in Model 2, alexithymia was no longer associated with dissociation and anxiety became the sole significant predictor of the Dissociative Experiences Scale scores. This latter model accounted for 17% of the variance.

age group (16). Zoroglu et al. (17) found mean DES scores in adolescents as 21.3 (SD=13.2) which is slightly higher than our scores. They also found no difference between girls and boys regarding the mean DES scores.

In our study, almost half (49 %) of the participants have reported physical punishment in the household but there was no statistically significant difference in the psychological measures between these two groups which may mean that occasional physical punishment may also be perceived as part of a family discipline rather than maltreatment. Martinez-Taboas and Bernal (28) report that, in a Puerto Rican non-clinical sample, only those participants who reported frequent and prolonged abuse could be significantly differentiated from the non-abuse group on the measure of dissociation. Though occasional physical punishment has long been perceived as a sign of discipline in child rearing, we should stress that this cultural trend is changing with the modernization of Turkey.

There was no significant difference in the DES scores of male and female subjects. This finding is

Table 4. Two Multiple Regression Models of Determinants of Dissociation (n=145)

	r	β	Model 1 Standard Error	β	Model 2 Standard Error
Dissociative Experiences Scale					
Rosenberg Self-Esteem Scale	-0.18**	-0.15	0.16	-0.15	0.16
Beck Depression Inventory	0.28***	0.19	0.1	0.1	0.1
Toronto Alexithymia Scale	0.29***	0.19*	0.09	0.04	0.1
Beck Anxiety Inventory	0.42***			0.32***	0.09
Constant		10.2		13.3	
Adjusted R ²			0.1***		0.17***

***p<.001, **p<.01, *p<.05

r= Bivariate Pearson Correlation; β= Unstandardized Regression Coefficient

DISCUSSION

Our sample had mean scores of DES comparable to the values obtained by Ross et al. (16) in an early adolescent sample. The median scores of 168 adolescents aged 12-14 was 20.2 for age 12 and 14.8 for age 14 in that study. The authors conclude that DES scores in adolescents must be interpreted with caution, and do not necessarily indicate psychopathology as high scores are the norm in this

consistent with some other studies utilizing DES (29,30). At the bivariate level dissociation seems to be related to both low self-esteem, anxiety, depression and alexithymia.

Most studies find self-esteem to be significantly lower in maltreated children and most maltreated children describe themselves as less competent than their peers (31). One could hypothesize that dissociative measure was a function of the overall negative affect or the neuroticism in this sample. But

because the study is cross-sectional in design we can not elaborate the direction of causality. It has been reported that depressed mood potentiates DES scores (32,33). Johnson et al. (34) have proposed that dissociation might be related to a general tendency to recall and report negative life experiences rather than to the more specific factor of a childhood history for trauma. The authors conclude that neuroticism mediates between self-reported bad events and dissociation. The severity of general psychopathology is associated with the degree of dissociative phenomenon (35). One report links DES with neuroticism and openness (36). On the other hand Irwin (4) has found a significant relationship between dissociation and self-reported victimization even after the contribution of neuroticism has been removed. The Pearson correlations reveal that higher depressive, anxiety and alexithymic scores and the lower self-esteem contribute to the dissociation scores in our study. Tentative confirmation for these results was sought in a two-step regression analysis. A standard multiple regression analysis was performed between the DES score as the dependent variable and the self-esteem, depression and alexithymia scores as independent variables. This first model explained the 10% of the variance and alexithymia scores could significantly predict DES scores among others.

Berenbaum and James (6) state that dissociation and alexithymia may be associated and are influenced by childhood environment. Grabe et al (10) found a strong positive correlation between the TAS-20 total score, the subscore of "Difficulty Identifying Feelings" and the DES total score. These correlations remained significant after controlling for the severity of general psychopathology. The authors suggest that preexisting alexithymic features might modulate the individual stress response to distressing or traumatic experiences in a dysfunctional way, thus increasing the risk for pathological dissociative reactions (10). Irwin and Melbin-Helberg (8) also found that "Difficulty Identifying Feelings" subscale of TAS as being a significant predictor of dissociative tendencies. Two other studies have refuted any association between alexithymia and dissociation (7,9). Though the degree of variance is low, the first model supports the association between alexithymia and dissociation, but what happens when we take anxiety levels into account? Alexithymia does not emerge as a significant predictor of dissociation when we enter anxiety scores into the regression equation. Berthoz et al. (12) have shown a tight link between trait anxiety and alexithymia. This study revealed that TAS total score and some of the TAS dimensions remained significantly correlated with anxiety after

controlling for depression. The authors think that their findings are in accordance with the idea that anxiety, especially trait anxiety, influences alexithymia directly, but has a direct effect on anxiety (especially trait anxiety). On the other hand Hendryx et al. (37) have found that state anxiety scores influenced both depression and alexithymia.

The relationship between anxiety and alexithymia is further confirmed in our study. We think that any study aiming to search for an association between alexithymia and dissociation should control for the negative affect, particularly anxiety to be definitive. Anxiety emerges as the sole predictor of DES scores in our adolescent sample and the 17 % of variance is explained in this model. Having frequent dissociative experiences in adolescence may not necessarily indicate psychopathology but could relate to normal adolescent processes, such as identity confusion and achievement (38) and heightened self-preoccupation and self-consciousness (39). Dissociation can become an automatic response to stress as a protective response to overwhelming traumatic experiences (40). Dissociative tendencies have been associated with negative affectivity in adults (33). In two adult studies (41,42) severity of dissociative symptoms was significantly associated with the severity of anxiety. Normative dissociation might serve as a coping mechanism for the adolescent to ward off anxiety. Heightened self-preoccupation may be enhanced by anxiety which in turn might trigger normative dissociative defenses. Because only 17% of variance is explained by our second regression model it is hard to draw definitive conclusions. It seems that many other factors involved in the development of dissociative processes need to be addressed and including more variables in a regression equation could highlight the predictors of dissociation better.

Finally we have to mention about limitations of our study. To measure dissociation the DES was utilized and one must be cautious in interpreting endorsement of dissociative experiences on the DES since it was devised for adults. However, in another study conducted in adolescents from Turkey, DES was found to be a reliable instrument with high internal consistency (17). Our findings are cross-sectional in nature and a line of causality can not be definitively established. In view of the cultural milieu where social stigma prevented a detailed inquiry about physical and sexual experiences in our sample, our results are limited in this regard. Additional data on those parameters could have highlighted cross-cultural comparison contributing to dissociation in those areas. A standardized psychiatric instrument has not been utilized to assess participants and self-report

scales may be contaminated with social desirability response set/style in the adolescent sample.

Despite these limitations, this study is the first to explore the association of alexithymia with dissociation in an adolescent sample. Our conclusion is that alexithymia does not predict dissociative tendencies in adolescents. Anxiety emerges as a

significant predictor but by itself can not explain the plentitude of factors determining dissociative tendencies. It would seem likely that dissociation serves as a normative coping mechanism to ward off anxiety in adolescents. In this particular adolescent sample, dissociation as measured by DES does not seem to be associated with alexithymia.

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