Journal of Fundamentals of Mental Health

Mashhad University of Medical Sciences

Psychiatry and Behavioral Sciences Research Center

Original Article

Predicting alexithymia in adolescents based on early trauma and attitudes toward father and mother

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Abstract

Introduction: Recent studies show that there is a positive correlation between alexithymia and a wide range of diseases including mood disorders, eating disorders, substance abuse, cardiovascular diseases, diabetes, rheumatoid arthritis, intestinal inflammation, cancer, respiratory diseases, and chronic pains. The aim of this study is to predict alexithymia on the basis of early trauma and attitudes toward mother and father.

Materials and Methods: In this canonical correlation study in 2012-2013, 300 students (150 girls, 150 boys) were selected via multi stage random sampling in Shiraz high schools. All participants were asked to complete Early Trauma Inventory, Child's Attitude toward Father (CAF) and Mother (CAM) Scales and Toronto Alexithymia Scale (TAS). Data analysis was done using SPSS software version 18 and canonical correlation.

Results: Structural coefficients showed that the pattern of high scores in difficulty identifying feelings and difficulty describing feelings correlate with the pattern of high scores in early trauma, attitudes toward father and attitudes toward mother (P<0.001). Therefore, our findings show that the combination of low difficulty identifying feelings and low difficulty describing feelings can probably decrease the likelihood of early trauma and attitudes toward father and mother.

Conclusion: In general, the findings show that early trauma and attitudes toward father and mother can predict difficulty identifying feelings and describing feelings and explain a considerable variance of survival index.

Keywords: Alexithymia, Attitudes, Childhood, Parents, Trauma

Please cite this paper as:
Sajadi SF, Mehrabizadeh Honarmand M, Zargar Y, Arshadi N, Sajadi SF. Predicting alexithymia in adolescents based on early trauma and attitudes toward father and mother. Journal of Fundamentals of Mental Health 2015 May-Jun; 17(3): 109-14.

Introduction

Sifneos (1973) used alexithymia to describe those whose lack of emotional capacity fails to recognize and describe the emotions and express them by words (1). In Greek "a" means "lack", "lexis" means "words", and "thymos" means "emotions". Therefore, alexithymia means "lack of words for emotions". Alexithymia is characterized by four features including: "difficulty identifying feelings", "difficulty describing feelings", "difficulty distinguishing between emotions and physical stimulation caused by emotional arousal", and "external oriented thinking style". Alexithymia has been observed in a variety of patients with a wide Range of clinical and psychiatric pathology and even in non-clinical populations (2). There have been different views on the etiology of alexithymia. Some researchers believe that this is a trait-like construct (3). In contrast, some consider this as a state-related phenomenon (4). Another cause of alexithymia is confrontation with stress and traumatic events (1) and many studies also have noted the severity and prevalence difference of alexithymia in two male/female genders. Many environmental factors such as illness, divorce, death, presence or absence of a parent, war, poverty or great wealth, affect the children's growth and caregivers ability to act their parental role. Equally, the way parents manage the adverse events of life and their ability to protect their children from harm might be important (5). Cohen et al (6) reported that about 68 percent of adolescents in their primary care settings are at risk of threatening events and more than half of them experience multiple

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Received: Apr. 06, 2014
Accepted: Dec. 09, 2014

traumas. Early traumas affect physiological, psychological and social development, information processing (7), children's ability to regulate physiological arousal and loss of self-regulation (8), which can lead to behavioral and psychiatric adverse consequences that prevents having a successful academic performance (7) or can lead to self-destructive behaviors, conduct disorder, and drug abuse (8). Also, as a result of trauma, individuals will experience both internal and external problems, and it is the external problems that can be problematic in school environment. In fact, disorders in self-regulation and attention process are often interpreted by teachers as classroom disruptive behavior due to the experience of trauma and trauma-related chaotic and unorganized behaviors (9). However, people's respond to trauma varies and those who experience high levels of stress are at greater risk of leaving school (7).

Developmental psychology literature emphasizes on the fundamental role of the family in gaining social qualifications, emotional and cognitive development, and long-standing effects of health features. Family condition variables include socio-economic indicators, family structure, parental support (trust, love, respect, and understanding) and family practices (strictness, punishment) (10). In recent years, along with increased dissatisfaction of family structure, researchers have found the theoretical weakness in depicting the complexity of parent-child relationship. As a result, researchers are attempting to investigate parent-child relationship using the metaphor of family as a system composed of several interrelated sub-systems. Many psychologists such as Bowl by (12), regardless of which school they believe in, consider parent-child interaction as the basis of emotional development and define parenting style as a set of behaviors that reflect parent-child interactions in various situations. Shaw (13) defines parenting styles as training foster practices of children and interactive behaviors that established and applied by parents. Parenting styles emphasize on two purposes and two features of parental behavior, i.e. acceptance versus rejection and authority versus indifference, these two have caused researchers to study parenting styles and its impact on child development and present a variety of patterns (14).Parent-child relationship is significantly influenced by parenting style that parents apply in their interactions with the child. Clearly, there is a significant relationship between parenting styles and the child's ability to adapt and overcome academic, social and emotional challenges, ability to cope successfully with culture and demands of university (13), and negative emotional behaviors in children. On the other hand, inappropriate parenting styles are associated with a variety of psychiatric disorders (16) and this is due to the important role of parents.

According to the literature and lack of internal research on the relationship between early trauma and attitude toward parents with alexithymia in a nonclinical sample of below-18 years, and the necessity to examine the relationship between these variables, the present study aims to investigate this relationship in nonclinical samples. Achieving the theoretical goals of the research will increase knowledge on alexithymia. In practical terms, it can also be useful in the identification of specific patterns and provides clinicians with empirical evidence so that they can take advantage of the evidence in identifying factors affecting the formation and growth of alexithymia in patients below 18 years. Therefore, with regard to what was stated the present study aimed to investigate early life traumas and attitude toward parents as predictors of alexithymia in high-school students. This research conducted to assess the effects of early traumas and attitude toward parents as predictors of alexithymia in high school students.

Materials and Methods

The statistical community of this correlation-descriptive study were students from four regions in Shiraz in 1st to 3rd grades of high school in educational year 2012-2013 (Iranian year of 1391-1392). The sample included 300 students (half and half male-female) chosen with multistage random sampling. Canonical correlation is similar to multiple regression analysis, a compound of predictor variables are applied to predict criterion variables. The difference lies in number of criterion variables, in multiple regression there only exists one criterion variable while in canonical analysis there is more than one (17).

Research instruments

A) Toronto Alexithymia Scale (TAS-20): This is a 20-item questionnaire with self-descriptive statements. Participants rate each using a five-point Likert scale rated on 5-point (strongly disagree to strongly agree) Likert Scale. The TAS-20 includes three dimensions: difficulty identifying feelings (DIF, 7-items), difficulty describing feelings (DDF, 5-items), and external oriented thinking (EOT, 8-items) (18).The TAS-20 has been demonstrated to have good psychometric properties. The internal consistency of each subscale (alpha =0.83, 0.77, and 0.73 for the DIF, DDF, and EOT subscales,

respectively) and the TAS-20 total score (alpha =0.82) (19). Cronbach's alpha in Iranian sample was 0.85 for total scale and 0.82, 0.75 and 0.72 for DIF, DEF and EOT respectively (20).In current study Cronbach's alpha was 0.95 for total scale and 0.75, 0.54 and 0.40 for DDF, DIF and EOT respectively.

B) Early Trauma Inventory (ETI): ETI has 23-items, investigating traumas before age of 18. Participants are asked to answer Yes/No to each item, scoring 1 for Yes and 0 for No. Total score varies from 0 to 23. Adequate psychometric properties have been demonstrated for the scale in large samples; Mehrabizade et al (21) reported Cronbach's alpha< 0.89 (n=120) and Cronbach's alpha > 0.91 to 0.93 (n=180). In current study, reliability using Cronbach's alpha was 0.71 and using half-split was 0.64. To determine reliability, it was correlated with a 10-score question, 0 (never) to 10 (always). Correlation coefficient was 0.50 (P<0.001).

C) Child's Attitude toward Parents (Hudson, 1992): This is a 50-items self-report scale (25-items for use in assessing the severity of a child's problem with mother and 25-items for assessing child's problem with the father) that measures the severity of problems in the child-parents relationship from the child's point of view. The items are scored on a 7-point Likert scale ranging from 1 (rarely or none of them) to 7 (most or all of the time). Items are both positively and negatively worded to reduce response bias, which the positive items are reverse, scored and the scores are separately calculated for child-mother and child-father relationships. High score is the indicator of severe problem in the child-parents' relation and the clinical cutoff point is calculated to be 30. The scores under 30 mean lack of severe parent-child relationships (22). Cronbach's alpha of the scale range between 0.93 and 0.97 (22). Cronbach's alpha in the Iranian sample was 0.85 and in the current study was 0.75.

The data obtained by questionnaires were analyzed with canonical correlation analysis using SPSS-18.

Results

The age range of the participants was 14 to 18 years, with an average of 15.72 and standard deviation 0.99. 45% of subjects were in 1st grade, 41% in 2nd grade and 14% in 3rd grade of high school. The average CGPA of students in sample was 17.14, SD=1.92. Descriptive statistics are reported for main study variables in Table 1.

As seen in Table 1, the Mean (SD) scores obtained by the students on variables of difficulty identifying feelings, difficulty describing feelings and external oriented thinking style were 20.90 (6.17), 15.32 (4.10), 22.92 (3.79) respectively.

Table 1. Means and standard deviation, and ranges for main study variables

Variable	Mean	SD	Minimum	Maximum
Early trauma	5.55	3.42	00.00	17.00
Alexithymia	59.15	9.95	31.00	88.00
Difficulty identifying feelings	20.90	6.17	7.00	34.00
Difficulty describing feelings	15.32	4.10	5.00	25.00
External oriented thinking style	22.92	3.79	8.00	34.00
Child attitude toward mother	84.29	11.91	51.00	122.00
Child attitude toward father	84.23	12.42	57.00	137.00

The so-called descriptive statistics in the case of other variables were early trauma 5.54 (3.40), attitudes toward mother 84.29 (11.91) and attitude toward father 84.23 (2.42). Correlation matrix between study variables are given in Table 2.

Table 2. Correlation matrix for research variables

	variables	1	2	3	4	5	6
Alexithymia	Difficulty identifying feelings	-					
	Difficulty describing feelings	0.56**	-				
	External oriented thinking style	-0.05	0.12*	-			
	Early trauma	0.20**	0.15**	-0.06	-		
	Attitude toward father	0.30**	0.16**	0.05	0.42**	-	
	Attitude toward father	0.18**	0.15**	-0.05	0.35**	0.45**	-

*Correlations are significant at P<0.05 **Correlations are significant at P<0.001

As shown in Table 2, significant positive relationships were found between early trauma with difficulty identifying feelings (0.20) and difficulty describing feelings (0.15).A significant relationships were also found between difficulty identifying feelings and difficulty describing feelings with child attitude toward mother (0.18, 0.15 respectively) and father (0.30, 0.16 respectively).

In the current study, in order to investigate variables relationship, canonical correlation analysis was used. Early trauma, child attitude toward father and mother are considered as predictors of Alexithymia (difficulty identifying feelings, difficulty describing feelings, external oriented thinking style) to study the joint multivariate relationship between these two variables class. The results of multivariate

test of significance for canonical correlation full model are presented in Table 3.

As seen in Table 3, Wilks lambda (P<0.001) being statistically significant, explains a relationship between early trauma, child's attitude toward father and mother with difficulty identifying feelings, difficulty describing feelings, external oriented thinking style. Therefore, the obtained model in this study explains 12% of variance between early trauma, child's attitude toward father and mother with alexithymia (difficulty identifying feelings, difficulty describing feelings, external oriented thinking style).

Table 3. Multivariate test of significance for canonical correlation full model

Test name	value	F	DF1	DF2	P
Pillais	0.121	4.14	9	888	<0.001
Wilks	0.880	4.26	9	715	<0.001
Hotellings	0.133	4.34	9	878	<0.001

Although the number of functions obtained in canonical analysis is equal to the number of variables in the smallest class (dependent or independents). In this research, as a result of having 3 dependent variables, 3 functions are acquired (see Table 4).

Table 4. Functions obtained from canonical correlation analysis

Root number	Eigenvalue	Percent	Cumulative percent	Canonical correlation	Square correlation
1	0.116	87.3	87.3	0.323	0.104
2	0.016	12.5	99.8	0.128	0.016
3	0.000	0.11	100	0.012	0.000

In canonical correlation analysis there is no convenient way to test significance level of functions separately. One way to investigate the issue is to consider the amount of variance that explains each function. As shown in Table 4, canonical correlations square (R^2 C) of functions are 0.104, 0.016 and 0.000 respectively. Regarding findings by Sherry et al (23), functions explaining less than 10% variance are laid away and are not interpreted, then only the first function explaining 10% of joint variance is accepted and other functions are not interpreted.

In addition to the mentioned method, researcher can test the significance level by dimension reduction analysis (see Table 5).

Table 5. Results for dimension reduction analysis of canonical functions

Roots	Wilks L	F	DF1	DF2	P
1 To 3	0.880	4.260	9	715	<0.001
2 To 3	0.983	1.238	4	590	0.293
3 To 3	0.999	0.045	1	296	0.831

Test of significance results of cumulative effect of functions 1 to 3 is presented in Table 5, first row. The test checks if the structure of functions is significant or not. As it was mentioned, cumulative effect of function 1 to 3 (full model) is statistically significant (P<0.001), but the rest of cumulative effect is not significant. In other words, only first function explains a significant amount of joint variance between two classes of variables.

Results, so far, explain that there is a significant relationship between 2 classes of variables and only the first function explains a significant variance. To find out the role of each variable in functions, standard and structural coefficients of variables are considered. Table 6 presents standard coefficients, structural coefficients and square structural coefficient for dependent and independent variables in the first canonical function.

Table 6. Standard, structural and square structural coefficients of research variables

Variables	Standard coefficient	Structural coefficient	Square structural coefficient
Difficulty identifying feelings	0.998	0.986	0.972
Difficulty describing feelings	-0.005	0.575	0.330
External oriented thinking style	0.164	0.107	0.011
R^2 C		0.10	
Early trauma	0.174	0.590	0.348
Attitude toward father	0.817	0.968	0.937
Attitude toward mother	0.180	0.582	0.338

Following Alpert and Peterson (24), only variables with minimum structural coefficients of 0.30 are interpreted. Therefore, data presented in Table 6 shows that in first function, attitudes toward father (SC=0.968), early trauma (SC=0.590) and attitudes toward mother (SC=0.582) have respectively more important roles in linear structure of predictor variables. Regarding dependent variables, difficulty identifying feelings (SC=0.986), difficulty describing feelings (SC=0.575), external oriented thinking style (SC=0.107) play a role in linear structure of dependent variables. More specifically, in first function alexithymia (difficulty identifying feelings, difficulty describing feelings, and external oriented thinking style) are predicted by early trauma and child's attitude toward father and mother. Also, canonical R square coefficient (R^2 C) is 10% that determines amount of joint variance between two canonical classes of independent and dependent variables. Furthermore, based on standard coefficients presented in Table 6, for each one standard deviation increment in difficulty

identifying feelings and external oriented thinking style, the first canonical function score increases as 0.998 and 0.164 respectively. For each unit increase in standard deviation of difficulty describing feelings, the score of first canonical function decreases to -0.005. For each one standard deviation increment in early trauma, attitudes toward father and attitudes toward mother, the first canonical function score increases as 0.174, 0.817 and 0.180 respectively.

Discussion

The present study aimed to investigate the role of early trauma and attitudes toward father and mother in Alexithymia of high school students in Shiraz. The findings suggest that a pattern of high scores of early trauma and attitudes toward father and motheris correlated with a pattern of high scores indifficulty identifying feelings and external oriented thinking style and is also correlated with a pattern of low scores in difficulty describing feelings. mIn line with Briere and Rickards (24), Kim and Cicchetti (25), and Paivio and McCulloch (26), we demonstrated that there is significant relationship between early trauma and ineffective emotion development, emotion regulation difficulties and alexithymia.Our finding also fits well with Gattman and Katz (27), Robinson et al. (28) and Katz and Gottman (29) view on the relationship between attitudes toward father and mother with emotion regulation and alexithymia.

In alexithymia, mind has a defective capacity to build emotional-mental representations. Therefore, researchers have identified emotion regulation and processing defectiveness as an important issue in alexithymia (2). Moreover, frequent encounters with early trauma, such as rejection, betrayal, sexual and physical abuse, or witnessing domestic violence, can have negative consequences reflecting in childhood, adolescence and adulthood (31). Finally, emotional inability to regulate emotions and anxiety tolerance is due to confrontation with traumatic events and since the ability to identify and describe emotions is essential for processing and integrating emotional experiences, a plausible explanation for emotional dysregulation related to traumatic experiences is that trauma prevents the identification and labeling the emotional states, which are the two main components of alexithymia (32).

The three components of alexithymia that is considered as criterion variables in the present study include difficulty identifying feelings, difficulty describing feelings, and external oriented thinking style, and emotion is the core element of these components. Besides the many definitions of emotion regulation, researchers believe that parents play an important role in the formation and development of an individual's ability to regulate emotions. Most theories are based on the fact that children learn how to regulate their emotional expression through parent-child interaction. Therefore, it seems that parental training leads to development of emotion regulation skills. Since family is the first environment in which children can practice their emotion regulation skills. Family interactions include positive and negative emotions and the emotion regulation ability is important for successful management of family relationships especially when facing with a challenge (28).

There are several limitations to the present study, include the sample size because the participants composed mostly of students aged 14-18 year-old and results generalization should be done cautiously. In the present study, TAS-20 was used to measure alexithymia and this could be considered as a limitation because this scale does not include daydreaming and fantasy items, since in 1994 these two scales were excluded due to high correlation with social desirability and low correlation with the entire scale (33), the lack of reliability of the subscale is also observed in previous studies (34). In conclusion, further studies are recommended to take a closer look at these components and to help clarify these findings.

Conclusion

This study can also provide more evidences supporting the relationship between early trauma and attitudes toward parents with alexithymia.

Acknowledgement

We thank all study participants for their motivation and participation in our study and Shiraz Department of Education for their support. This work was in part supported by the Shahid Chamran University of Ahvaz (Department of Psychology). The authors had no conflict of interests with the results.

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