



Symptoms of Oppositional Defiant in Students: The Predicting Role of Emotion Regulation, Schema, and Vandalism

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Received 2016 April 14; Revised 2017 March 13; Accepted 2017 July 26.

Abstract

Background: Numerous studies demonstrated that emotional dysregulation and early maladaptive schemas are the defining core of oppositional defiant disorder. Many studies also found a strong correlation between the diagnosis of oppositional defiant disorder and vandalism.

Objectives: The current study aimed to investigate the relationship between Symptoms of Oppositional Defiant and emotion regulation, schema, and vandalism in male high school students in Dezfoul, the Southwest of Iran.

Patients and Methods: A sample of high school students ($n=320$) with a mean age of 16.34 ($SD=0.66$) years completed Oppositional Defiant Behavior Inventory pilot version (ODBI), Difficulties in Emotion-Regulation Scale (DERS), Young Schema Questionnaire-Short Form (YSQ-SF), and Questionnaire of Vandalism (QV). Data were analyzed using the Pearson correlation coefficient and multivariate regression analysis.

Results: The results showed a significant positive correlation between emotion regulation, schema, and vandalism with Symptoms of Oppositional Defiant. Regression analysis revealed that 12% variance of Symptoms of Oppositional Defiant can be predicted by emotion dysregulation, schema, and vandalism. Moreover, emotion dysregulation was the most effective predicting variable of oppositional defiant disorder ($P < 0.001$).

Conclusions: The findings of the current study were in accordance with those of the previous studies, and generally showed a significant association between emotion regulation, schema, and vandalism with oppositional defiant disorder. Study implications and limitations were considered.

Keywords: Oppositional Defiant Disorder, Emotion Dysregulation, Schema and Vandalism

1. Background

Oppositional defiant disorder (ODD) is a disruptive behavior disorder in children that often involves conduct problems inside and outside home (1, 2). According to the 5th edition of diagnostic and statistical manual of mental disorder (DSM-5) by American Psychiatric Association, the most important characteristic of ODD is a continuous and repeated pattern of hostility, anger, irritability, verbal battle, disobedience, stubbornness, defiant, and malice. ODD may occur before age 3, but its usual course of incidence is from 8 to 12 years (3). The prevalence of ODD range 1% to 13%, in children aged 6 to 17 years (4, 5). Although ODD is considered as one of the childhood disorders, evidence suggest that the symptoms are not stopped by puberty, but the patients are likely to continue their problematic behavior interacting with peers, colleagues, bosses, and customers and continue to have problems keeping their

jobs and relationships (6). This behavioral disorder is associated with difficulties to communicate using emotion-based messages, establish and maintain friendships with peers, and succeed in domains that require cooperation with others (7).

Studies suggest that emotion regulation difficulty is one of the core features of ODD (8, 9). Though less studied, deficits in emotion regulation are suggested as a central contributor to the development of ODD (10). Emotion regulation difficulty is defined as maladaptive response to emotions including one's response to non-acceptance, impulse control difficulty along with emotional distress, and defects in operational use of emotions as information (11). People's strategy to adjust their emotions, especially negative emotions, is strongly associated with psychopathology (12) and criteria for ODD consists of 2 aspects of emotions, anger and hurt, and behavior (challenging, arguing,

and disobedience) (8); therefore, demonstrations of emotion regulation difficulties are common in ODD such as anger and behavior outbursts, vandalism, aggression towards self and others, threatening to suicide, behavioral problems, unsuccessful social interaction, and disturbed relationships at home and school (13).

In the oppositional defiant disorder (ODD) etiology, cognitive theories are based on a schema, which is a set of generalizations about oneself, others, and the world. Based on the proposed theory, aggression in children is identified by a cognitive processing style, which is comprised of different components: prejudiced encoding of social phenomena given the hypervigilant attitude towards hostility, attribution of hostile motives to other individuals, selection of hostile reactions, and trouble explaining their objectives and goals. In this regard, various cross sectional and longitudinal studies are performed, offering experimental evidence regarding this theory (14, 15).

According to Scheffer (16), the disruptive behavior (vandalism) is a form of aggression, which results in the breaking and destruction of the property. Aggressive behavior is a well-known behavior among students with many forms such as disturbance, lack of teachers' respect, and the use of bad words, assault, and destruction of school properties; therefore, it has disturbing, economic, and psychological effects either on parents and/or schools. The Mandel findings (17) showed that children diagnosed with oppositional defiant disorder when reached an older age have behavioral problems such as lying, robbery, destructive behaviors, drug abuse, and violating the rights of peers or a bigger population and are ultimately identified as the ones with conduct disorders. In demographic texts, destruction means having a kind of unhealthy mood, which is indicative of a tendency toward conscious, voluntary, and self-imposed destruction of properties, facilities, and public paraphernalia (18). Males and females show equal levels of verbal aggression and externalization behaviors, but males fight more and show the tendency toward destructive behaviors (19).

2. Objectives

The current study aim to determine the relationship between emotion regulation, schema, and vandalism and Symptoms of Oppositional Defiant in nonclinical population under 18 years old and exploring the quality of the relationship in nonclinical population. Gaining the theoretical objectives leads to more knowledge about ODD and the practical dimensions help to recognize specific patterns in ODD and attribute experimental evidence to clinicians to identify effective factors in formation of ODD less than 18

years old. Accordingly, the current study aimed to evaluated if emotion regulation, schema, and vandalism can predict ODD in students.

3. Patients and Methods

The current descriptive correlational study was conducted on 320 students (male) selected from the high schools of Dezful city, Iran, using the multistage random sampling technique. Data were collected using oppositional defiant behavior inventory pilot version (ODBI), (difficulties in emotion-regulation scale (DERS), young schema questionnaire-short form (YSQ-SF), and questionnaire of vandalism (QV). Correlation and stepwise regression analysis were conducted with SPSS version 20.

3.1. Participants

A total of 320 male students studying in the 2nd and 3rd grades of high school selected through multistage random sampling method participated in the study. ODBI, DERS, YSQ-SF, and QV were administered to the groups of students. The age range of the participants was 15 to 18 years, with an average (SD) of 16.34 (0.66); in addition, 44.7% of subjects were in the 2nd grade and 55.3% in the 3rd grade of high school. The average CGPA (cumulative grade point average) of the students was 17.76 (SD = 1.62).

3.2. Instruments

3.2.1. Oppositional Defiant Behavior Inventory Pilot Version

The 18-item parent-report inventory evaluating concrete oppositional behaviors (20) ODBI is scored on 4-point Likert scale ranging 1 (rarely, once a month), 2 (sometimes, once a week), 3 (often, twice or 3 times in a week), and 4 (always, 4 time or more in a week). Total score range 0 to 45, based on the cutoff point of 20, scores above 20 are associated with oppositional defiant disorder; the higher the score, the more severe the ODB. The psychometric properties of the inventory are reported sufficiently accurate ($\alpha > 0.92$) (21). In the current study Cronbach's α of the questionnaire was 0.90.

3.2.2. Difficulties in Emotion Regulation Strategies Scale

It was developed by Gratz and Roemer (11). The current version of the questionnaire includes 36 paragraphs and 6 subscales, and higher score showing more difficulty in the emotion regulation category and the maximum score in this questionnaire is 180 (22). Sharp et al. (22), Gratz and Roemer (11), and Weinberg and Klonsky (23) reported structural validity, formal validity, and reliability of retest in teens and students. Weinberg and Klonsky (23) applied this questionnaire in a population of 428 subjects within

the age range of 13 to 17 years and the internal consistency of its subscales ranged 0.76 to 0.97. In the current study, Cronbach alpha was 0.84.

3.2.3. The Young Schema Questionnaire, Short-Form

It was developed by Young and Brown (24) to measure primary inconsistent schema. The high scores mean more inefficiency of schema role; scores range 5 to 25. The Persian version of the short-form indicated fine psychometric characteristics. In the current study, 2 schemas of unreliance/misbehavior and emotional deprivation, attributing to disorder demeaning, with Cronbach's alpha of 0.76 and 0.81 were used.

3.2.4. Questionnaire of Vandalism

The QV consists of 18 items to assess the causes of vandalism from the student perspective, each is scored on a 5-point Likert scale ranging from 1= strongly disagree to 5 = strongly agree, yielding a minimum score of 18 and maximum score of 90; the higher the score, the greater the tendency toward vandalism behaviors in school. Thawabieh and Al-rofo (25) reported Cronbach's α coefficient of 0.94. Cronbach's α for the current sample was 0.96.

4. Results

Table 1 provides a summary of the features of the entire study sample, as well as the 2nd and 3rd grade students independently. The data are presented as mean, standard deviation, and minimum and maximum scores on the tests. No significant differences were observed between the students in the 2 grades in terms of ODD, DER, schema, and vandalism.

In Table 2, the findings of Pearson correlation coefficient, regarding the association between different variables, are presented. According to Table 2, oppositional defiant disorder had the most significant correlation with impulse ($r = 0.34$; $P < 0.05$) and the least significant correlation with mistrust/abuse ($r = 0.19$; $P < 0.05$). As can be observed in Table 2, severity of oppositional defiant disorder, emotion dysregulation, schema, and vandalism were correlated with each other mildly to moderately.

A series of regression analyses were conducted to examine the relationship between schema, dysregulation, and vandalism as predictive variables, and oppositional defiant disorder as a criterion variable. One of the basic assumptions of multiple regression analysis is the independence of predictive variables or to put it in another word, the lack of correlation between the independent variables error; in the next step, this case was investigated by the Durbin-Watson test. In sum, it can be concluded that if the

value of test statistic ranged 1.5 to 2.5, the independence of the observations can be accepted to perform the analysis. Since the result of the Durbin-Watson test was 2.02, the predictor variables were independent. Table 3 summarizes the result of linear regression analyses.

According to Table 3, emotion dysregulation, schema, and vandalism predicted the severity of oppositional defiant disorder in linear regression analysis. More specifically, R and R^2 were reported 0.28 and 0.08 respectively, meaning that 0.08% of the variance related to oppositional defiant disorder can be explained by schema, emotion dysregulation, and vandalism. F for the multiple correlations was 27.83 ($P < 0.001$).

5. Discussion

The findings of the current study showed that emotion regulation, schema, and vandalism were respectively predictors of oppositional defiant disorder. The current study findings were similar to those of Garnefski et al. (26), Eisenberg et al. (27), Supple et al. (28), Spencer et al. (29), and Gadow et al. (30), considering the relationship between emotion regulation and oppositional defiant disorder. In fact, emotional reactivity and inadequate affective growth, as well as difficulties in emotional and behavioral regulation, would result in overcoming reasoning power by emotions, thus in different situations individuals make decision on the basis of environmental and emotional atmosphere regardless of various possible solutions (31). Accordingly, these people often use disruptive disorders such as oppositional defiant behavior to deal with their negative emotions (32, 33). The results of the current study in the case of schema and oppositional defiant disorder were consistent with those of Roelofs et al. (34), Van Vlierberghe et al. (35), Calvete (36), Lochman et al. (37), and Lochman and Dodge (38). The findings indicated a pattern of defected childhood schema in disruptive disorder, specifically oppositional defiant disorder. To explain this assumption, maladaptive schemas lead to bias in the interpretation of events. This bias is created as misunderstandings, deviated approaches, inaccurate assumptions, purposes, and unrealistic expectations in individuals in mental pathology and these misinterpretations affect the future perceptions and evaluations since schemas are consistent during a person's life and affect how that person connects to himself/herself and others. Schemas, by providing some prototypes for the methods of interpreting social cues and managing the social conflicts enable individuals to act effectively in their social world. Inefficient schemas can lead to the continuation of emotional and behavioral problems by a negative impact on the stages of accepting social information. Also, schemas can have an important

Table 1. Participant Characteristics and Descriptive Statistics Based on the Main Study Variables^a

Variable	Range	Full Sample (N = 320) ^b	2nd Grade (N = 140) ^b	3rd Grade (N = 178) ^b
Age	15 - 18 yr	16.34 ± 0.61	15.92 ± 0.41	16.66 ± 0.54
CGPA	11.50 - 20	17.76 ± 1.62	17.66 ± 1.73	17.87 ± 1.52
ODD	0 - 43	9.39 ± 7.85	9.27 ± 7.90	9.49 ± 7.82
DER	44 - 154	87.64 ± 18.74	87.44 ± 19.14	87.80 ± 18.47
Goals	5 - 25	14.34 ± 5.07	14.40 ± 5.21	14.30 ± 4.97
Impulse	6 - 30	14.29 ± 5.21	14.40 ± 5.51	14.20 ± 4.97
Aware	6 - 26	15.73 ± 3.74	15.67 ± 3.97	15.77 ± 3.55
Strategies	8 - 37	17.80 ± 6.33	17.69 ± 6.47	17.89 ± 6.23
Clarity	5 - 25	10.76 ± 3.44	10.82 ± 3.26	10.70 ± 3.59
Schema	10 - 60	23.84 ± 9.57	24.29 ± 9.59	23.49 ± 9.56
Mistrust/abuse	5 - 30	12.20 ± 5.57	12.18 ± 5.19	12.21 ± 5.87
Emotional deprivation	5 - 30	11.64 ± 5.76	12.11 ± 5.90	11.27 ± 5.64
Non-acceptance	6 - 30	15.11 ± 4.50	14.93 ± 4.43	15.25 ± 4.56
Vandalism	18 - 90	20.26 ± 12.51	26.17 ± 11.59	26.23 ± 13.01

Abbreviations: CGPA, Cumulative Grade Point Average; DER, Difficulties in Emotion Regulation Strategies; ODB, Oppositional Defiant Behavior; yr, Years.

^aGoals, engaging goal-oriented behaviors; Impulse, impulse controlling difficulties; Aware, lack of emotional awareness; Strategies, limited access to emotion-regulation strategies; Clarity, lack of emotional clarity.

^bValues are expressed as Mean ± SD.

Table 2. Findings of Pearson Correlation Coefficient Regarding the Association Between Different Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1-ODD	-											
2-Schema	0.24 ^a	-										
3-Mistrust/abuse	0.19 ^a	0.83 ^a	-									
4-Emotional deprivation	0.22 ^a	0.84 ^a	0.42 ^a	-								
5-DER	0.28 ^a	0.39 ^a	0.34 ^a	0.32 ^a	-							
6-Goals	0.25 ^a	0.25 ^a	0.21 ^a	0.22 ^a	0.75 ^a	-						
7-Impulse	0.34 ^a	0.33 ^a	0.30 ^a	0.26 ^a	0.82 ^a	0.72 ^a	-					
8-Aware	0.007	-0.08	-0.14 ^b	0.001	0.18 ^a	-0.11 ^b	-0.07	-				
9-Strategies	0.25 ^a	0.43 ^a	0.38 ^a	0.34 ^a	0.85 ^a	0.62 ^a	0.68 ^a	-0.04	-			
10-Clarity	0.04	0.19 ^a	0.10	0.22 ^a	0.54 ^a	0.22 ^a	0.27 ^a	0.30 ^a	0.33 ^a	-		
11-Non-acceptance	0.09	0.26 ^a	0.32 ^a	0.13 ^b	0.59 ^a	0.31 ^a	0.34 ^a	-0.04	0.41 ^a	0.19 ^a	-	
12-Vandalism	0.20 ^a	0.11 ^b	0.10	0.09	0.22 ^b	0.08	0.14 ^b	0.16 ^b	0.07	0.20 ^a	0.17 ^a	-

^aP < 0.05.

^bP < 0.001.

role in the final stages of processing information that are the stages where the child predicts the consequences of various solutions of the issue and decides to choose the strategy, which shall be executed. In another explanation of this assumption, it can be said that encoding social cues, schemas can limit the attention of teenagers to special aspects of the social environment (38). The current study findings regarding the relationship between oppositional defiant disorder and vandalism were similar to those of Kelley et al. (39), Reynolds et al. (40), and Mandel (17). While expressing this finding, it can be concluded that individuals with a tendency toward destructive behaviors show the

rate of their domination with dominance on objects and damaging them. In fact, aggression, as the basic sign of behavioral disorders, is caused by placing rage on external objects. Another factor, which can be referred in order to express this finding, is that individuals with a tendency toward destructive behaviors want to create variety and avoid uniformity with curiosity and manipulation of objects. These individuals avoid repetitive experiences, normal things, and predicted persons. Many of them try to improve their low level of arousal to the optimal level by participating in new activities. It seems that students seek new and unusual experiences and unexpected things, while en-

Table 3. The Stepwise Regression Analysis to Predict Oppositional Defiant Disorder

Model	Predictive Variable	R	R ²	F	β	R Square Change	F Change	t	P Value
1		0.28	0.08	27.83		0.08	27.83		
	Emotion dysregulation				0.28			5.27	< 0.001
2		0.32	0.10	18.12		0.02	7.82		
	Emotion dysregulation				0.22			3.79	< 0.001
	Schema				0.16			2.79	< 0.001
3		0.34	0.12	14.63		0.19	6.95		
	Emotion dysregulation				0.18			3.23	< 0.001
	Schema				0.15			2.73	< 0.001
	Vandalism				0.14			2.63	< 0.001

countering individuals and objects and might want to experience new things by manipulating the equipment and facilities of school (41). On the other hand, individuals with exogenous oppositional defiant disorder cannot control their emotions and show their excitements by damaging the objects of school. Probably their lower levels of arousal cause them not to be afraid. Such individuals, in order to reach an optimal level of arousal, seek stimulations that are new and dangerous for normal people and create an undesirable anxiety.

Several limitations to the current study are noteworthy. First, since the current study was correlational, it did not represent the causal relationships between variables. Consequently, compared with experimental and semi-experimental studies, such studies have fewer authentications. Another limitation was restricting the sample to high school students due to methodology. It is suggested to perform similar researches on larger samples of oppositional defiant patients in other age groups to determine the quality of the relationship and present more reliable and generalized information. In addition, other gender, social, and economic variables may be also taken into account to expand the findings. Therefore, further studies investigating such factors can obviously lead to clearer results.

Acknowledgments

The authors are grateful to all the participants for their valuable cooperation with the study. This work was in part supported by the department of psychology at Shahid Chamran University of Ahvaz, Ahvaz, Iran.

Footnotes

Authors' Contribution: Arezoo Palizyan, acquisition of data, providing technical support, and drafting of the manuscript; Mahnaz Mehrabizade Honarmand and Nasrin Arshadi, study supervision.

Financial Disclosure: None of the authors have any financial interests related to the material in the manuscript.

Funding/Support: The study did not receive any financial support or grant.

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