

The role of scheme cognitive and emotional processing in the predicting adjustment of students with defiance disorder coping

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Abstract

This study of the scheme cognitive and emotional processing is to predict compatibility among female students who are coping with defiance disorder. The population consists of all high school students in the city of Ardabil in 1393. The number of available sampling method was 180 students who have a high score on the checklist and were coping with defiance disorder, were identified. To collect data from the short form Yang schema questionnaire, emotional processing measurement scale, the compatibility questionnaire for students disregarding the disorder coping checklist was used. Research data using Pearson correlation coefficient and multiple regression analysis were analysed. The results showed that the areas of cognitive schemas ($r = -0.23$) and emotional processing ($r = -0.32$) of the compatibility of the students are in defiance disorder ($p < 0.001$). The results of multiple regression analysis showed that 7.7% of the variance in emotional processing and cognitive schema compatibility student's defiance disorder is anticipated.

Keywords: Cognitive schemas, emotional processing, adaptation, coping defiance disorder.

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1. Introduction

The oppositional defiant disorder (ODD) is one of the most common disorders of childhood and adolescence and one of the main reasons that children are referred to psychology clinics and counselling centres. The ODD is diagnosed when the symptoms of conduct disorder (CD), especially too much aggressiveness, are not observed in a child. Children, mostly boys, with ODD barely blame themselves for their social maladjustment. These children claim that irrational requests made by others are the cause of their oppositional behaviours (DSM-5, Translated by Seyyed Mohammadi, 2014). ODD is more common among boys before the age of puberty; thereafter, its ratio is expected to be the same in both sexes. In late childhood, environmental impacts or diseases such as mental retardation may cause oppositional behaviours such as defensiveness, anxiety and loss of self-esteem. Children with ODD usually refer to their oppositional behaviours as a logical reaction to irrational conditions. It seems that ODD inconveniences people around a child more than the child itself. The experts believe that there are probably two types of ODD: one is very much like the CD and includes specific symptoms such as fighting and bullying while the other is not very much like the CD and includes less aggression and antisocial traits (Pour Afkari, 2002). People with ODD are normally characterised by harassment of family members and low academic achievements (William et al., 2007). Moreover, destructive behaviours, aggression and delinquency are other features of ODD in adolescents. ODD is related to other problems including attention-deficit/hyperactivity disorder (Kod Saljough et al., 2003; Conder et al., 2008), social isolation (Kone, 1997), depression, anxiety and school refusal (Hardev et al., 2002), Personality Disorders (May & Bass, 2000), decreased psychological functioning (Harpold et al., 2007), decreased pathological functioning (Vender et al., 2007), impulse control disorder and drug tolerance (Gouzov et al., 2007). ODD in childhood may lead to CD and antisocial behaviours in adulthood (Luber et al., 2000). In other words, ODD is related to childhood and adulthood mental disorders as well as environmental and genetic factors (Boylan, Vaillan, Boyle & Szatmari, 2007). Among the factors involved in the emergence of ODD, genetic or biological characteristics, the interactions of social and environmental conditions and ineffective parenting styles can be mentioned (Dick, Viken & Kaprio, 2005). Ineffective parenting styles negatively affect children's early relationships and may lead to stress and mental health problems. Freud (1935) suggested that disturbance in early relationships is the basis of consequent mental disorders (Sadouk & Sadouk, 2007; Translated by Pour Afkari, 2009). The early relationships lead to the formation of psychological structures, among which schemata are the most profound structure (Asotiz, 2006). Young (2003) hypothesised that some schemata, especially those that are formed as a result of unpleasant experiences in early childhood, may constitute the core of personality and many other long-lasting disorders, and termed them 'the primary non-adaptive schemata'. In a study, Morris (2010) found that the primary non-adaptive schemata are directly related to some problems and disorders such as CD, extreme anger, anxiety, sadness and feeling of guilt. Emotional processing is among the variables that seem to be linked with ODD. Rachman (1980) considers emotional processing as a process through which the emotional conflicts are absorbed and then declined, so that experiences and behaviours could take place without conflicts. Unlike Rachman, some believe that emotional processing includes integrating new information with an existing memory structure that can decrease or increase the emotional response. Emotional processing takes place automatically during life, and it is related to the life experiences. Presence of problem in emotional processing leads to intensity in behavioural and emotional problems, due to which the adaptability of the individual decreases. Children diagnosed with ODD are generally weak in interpersonal relationships, retain attention problems and deficiency in executive functions and lack cognitive, social and emotional skills required for conducting requests of the adults, and this factor leads to a decrease in their adaptability (Hommersen, Murray, Ohan & Johnston, 2006). Results from Speitz et al. (2010) suggested that adolescents diagnosed with ODD show a lower function in emotional processing and decoding social information in comparison with the normal groups. In a study, Graeme et al. (2015) showed that the presence of CD leads to a decrease in proper process of emotional and nervous progressing in the individuals. Garcia et al. (2011) concluded that the emotional processing in individuals who are addicted to alcohol and drugs is damaged, and these individuals face problems in recognition of facial emotional expression and low emotional intelligence is

among the characteristics of these individuals. In their study, Marchsic, Parggioc and Tonnam (2014) showed that emotional failure increases panic anxiety disorder. In a research entitled *The Relationship between Emotional and Nervous Progressing and Recognition of Facial Emotional Expression in Adolescents Diagnosed with CD (Correlated to ODD)*, Graeme et al. (2015) indicated that there is a relationship between the state of emotional and nervous progressing and recognition of facial emotional expression response in adolescents diagnosed with CD. In their conclusion, they expressed that the presence of CD that leads to anger, aggression and deception in the individual leads to a decrease in proper emotional and nervous progressing. Margret et al. (2015) studied the relationship between emotional processing and emotional adaptation among adolescents. In this research, 151 adolescents were studied in the form of a longitudinal study. The research results suggested that there is a relationship between emotional processing and emotional adaptation and emergence of problematic behaviours so that low emotional processing accompanied high anger, low regulation, problematic behaviour and lower social-emotional behaviour.

All in all, this research tries to determine whether scheme cognitive and emotional processing have a significant role in predicting the adaptability of female students.

2. Method

This descriptive correlational study was conducted among a population of 3,947 female high school students in the 2013–2014 school year. Sampling in this study was done in two stages:

1. Six high schools were selected from district 1 of Ardabil and 600 students were investigated through the ODD checklist.
2. Out of the whole, 266 identified students with ODD symptoms (cutoff score = 40), 180 students were randomly selected for the analysis.

2.1. The oppositional defiant disorder checklist (ODD checklist)

The ODD checklist has been developed based on the DSM-IV-TR classification and related symptoms. This 12-item checklist is answered and scored based on a 5-point Likert scale, including the options of very little, little, moderate, very and very much. Cronbach's alpha and parallel form reliability of this checklist have been reported as 0.79 and 0.75, respectively (Miladi, 2010).

2.2. The adjustment inventory for school students (AISSs)

The 60-item adjustment inventory for school student (AISS) has been developed by Sinha and Singh (1993) to assess students' adjustment in three domains of emotional, social and educational. The Persian version of AISS has been prepared by Karami (1998). Each of the three subscales of emotional adjustment, social adjustment and educational adjustment is measured through 20 items. Each item is answered and scored based on a 2-point scale of 0 (adjustment) and 1 (maladjustment). The correlation coefficient between the AISS scores and managers ratings has been reported 0.51 (Mohammadi, 2008). In Iran, both content and face validity of this inventory have been confirmed by three professors in the fields of counselling, psychometrics and statistics. The parallel form reliability of the AISS for the total scale has been reported 0.95; for the emotional adjustment, 0.94; for the social adjustment, 0.93; for the educational adjustment, 0.93 (Karami, 1998).

2.3. Emotional processing scale

The emotional processing scale of Baker (2007) is a 25-item self-reporting scale that is used for measuring the emotional processing styles. Each item is scaled in a 5-point Likert scale (Strongly Disagree to strongly disagree). This scale includes eight components (harassment, suppression, lack of awareness, lack of control, detachment, avoidance, disturbance and external factors). The

psychometrics on the revised version, especially in relationship with the distinguishing the difference between the groups, is promising. The Cronbach’s alpha coefficient and retest of this scale were reported to be 0.92 and 0.79, respectively. In order to determine the reliability of the test, this scale was correlated with emotion regulation. The results suggested that there is a negative and significant correlation between these two scales ($r = -0.54$). In the basic studies carried out on 40 students, the reliability was determined to be 0.77. The Cronbach’s alpha was calculated to be 0.95 (Lotfi, 2010).

2.4. The young schema questionnaire-short form (YSQ-SF)

The young schema questionnaire-short form (YSQ-SF) has been developed by Young in 1999 (quoted by Sadoughi et al., 2008). This 75-item questionnaire measures 15 primary non-adaptive schemata (Schmidt et al., 1995; quoted by Sadoughi et al., 2008). Each item is answered and scored based on a 6-point Likert scale ranging from ‘completely untrue of me’ (1) to ‘describes me perfectly’ (6). A high score in a certain subscale indicates the probability of the presence of a non-adaptive schema. In a study on a non-clinical population, Schmidt et al. (1995) have reported a Cronbach’s alpha in the range of 0.83–0.96 and a test-retest reliability coefficient in the range of 0.50–0.82 for each primary non-adaptive schema. Cronbach’s alpha coefficients for the total questionnaire and for each subscale have been reported 0.96 and $\alpha > 0.80$, respectively. The correlation coefficient between the YSQ-Short Form and the YSQ-Long Form has also been reported ($r = 0.70$) (Waller, Mayer & Hynan, 2001). Sadoughi et al. (2008) have reported internal consistencies ranging from 0.62 to 0.90 for 17 factors and a Cronbach’s alpha of 0.94 for the total YSQ-SF. In line with similar studies on the English and French versions of the YSR-SF, Sadoughi et al. (2008) have verified the structural stability of the Persian version of YSQ-SF indicating its structural stability for being used in different cultures and non-clinical conditions. Fatehi Zadeh and Abbasian (2003) have examined concurrent validity of the YSQ-SF through the study of the relationship between YSQ-SF and the Irrational Belief Test results ($r = 0.36, p < 0.05$).

3. Procedure

In the present study, data were collected through three questionnaires. Thus, after obtaining the necessary permits and selection of schools, 600 students answered the ODD Checklist and 266 students with ODD symptoms were identified. Then, out of the 266 students with ODD symptoms, 180 students were randomly selected and answered the YSQ-SF and the AISS. Finally, the collected data were analysed through the SPSS software.

4. Results

In this study, 59% of the participants were students in the second year of study at high school (the highest frequency) and 9.5% were students in the first year of study at high school (the lowest frequency); 39% were second child of their families (the highest frequency) and 7.4% were the fourth (or above) child of their families (the lowest frequency).

Table 1. Means and SDs of the primary non-adaptive schemata

		Mean	Standard deviation
Primary non-adaptive schemata	Cuts and exclusion	79.14	22.01
	Autonomy and impaired performance	42.13	15.84
	Impaired restrictions	35.39	9.06
	Others-directedness	33.84	8.74
	Over vigilance and Excessive inhibition	48.42	11.95
	Total	238.42	51.06
Adjustment	Emotional adjustment	7.78	3.68
	Social adjustment	7.62	3.41
	Educational adjustment	8.23	3.36
	Total	23.63	7.92

As indicated in Table 1, the means (and SDs) of the participants’ primary non-adaptive schemata and their adjustment were 238.42 (51.06) and 23.63 (7.92), respectively.

Table 2. Correlation coefficients between cognitive schemata and students’ adjustment

Variable	Emotional adjustment	Social adjustment	Educational adjustment	adjustment
Cuts and exclusion	-0.289**	-0.244**	-0.045	-0.259**
Autonomy and impaired performance	-0.338**	-0.343**	-0.225**	-0.401**
Impaired restrictions	-0.050	-0.077	-0.035	-0.071
Others-directedness	-0.089	-0.210**	-0.067	-0.077
Over vigilance and Excessive inhibition	-0.123	-0.105	-0.020	-0.111
Primary non-adaptive schemata	-0.265**	-0.180*	-0.071	-0.232**

* $p < 0.05$; ** $p < 0.01$

The results presented in Table 2 show significant negative relationships between the participants’ adjustment level and cognitive schemata of cuts and exclusion ($r = -0.259$) and Autonomy and impaired performance ($r = -0.401$). Moreover, a significant negative relationship can be observed between primary non-adaptive schemata and adjustment ($r = -0.232$, $p < 0.01$).

Table 3. Results of multiple regression analysis for the determination of the predictive power of primary non-adaptive schemata in the prediction of the participants’ adjustment level

Predictive variables	R	RS	Non-standardised coefficients		Standardised coefficients Beta	t	P
			SE	B			
Constant	–	–	2.71	19.42	–	7.170	0.000
Cuts and exclusion	0.243	0.059	0.026	0.087	0.243	3.306	0.001
Autonomy and impaired performance	0.411	0.169	0.042	0.202	0.407	4.776	0.000
Impaired restriction	0.440	0.193	0.064	-0.147	-0.170	-2.290	0.023
Others-directedness	0.450	0.202	0.073	-0.102	-0.114	-1.395	0.165
Over vigilance and Excessive inhibition	0.454	0.206	0.069	0.058	0.089	0.846	0.398

To determine the predictive power of each primary non-adaptive schemata in the prediction of the participants’ adjustment level, multiple regression analysis was conducted. As it is shown in Table 3, *F* value is significant; therefore, 20.6% of variances in the participants’ adjustment level could be predicted by the primary non-adaptive schemata. Considering the beta values, cuts and exclusion ($\beta = 0.243$), autonomy and impaired performance ($\beta = 0.407$) and impaired restrictions ($\beta = -0.170$) could predict the variances in the students’ adjustment level.

Table 4. Emotional processing mean and standard deviation

Emotional processing	Mean	Standard deviation
Emotional suppression	14.02	5.14
Emotional emotion	15.75	3.76
Positive emotional experience	13.76	4.48
Unprocessed emotions	14.56	4.08
Emotional avoidance	16.77	4.47
Total	74.87	14.75

As it could be observed in Table 4, the emotional processing mean (and standard deviation) in students diagnosed with ODD is 74.87 (14.75).

5. Inferential findings

Table 5. Correlation coefficient between students' emotional processing and adaptability

Sov	Statistics	Emotional adjustment	Social adjustment	Academic adjustment	Compatibility
Emotional suppression	Correlation coefficient	-0.086	-0.241**	-0.177**	-0.219**
	Significance level	0.254	0.001	0.018	0.003
Emotional emotion	Correlation coefficient	-0.118	-0.084	-0.118	-0.069
	Significance level	0.115	0.264	0.115	0.360
Positive emotional experience	Correlation coefficient	-0.254	-0.237	-0.196**	-0.304**
	Significance level	0.001	0.001	0.008	0.000
Unprocessed emotions	Correlation coefficient	-0.095	-0.011	-0.129	-0.094
	Significance level	0.208	0.882	0.084	0.211
Emotional avoidance	Correlation coefficient	-0.080	-0.061	-0.137	-0.047
	Significance level	0.288	0.418	0.067	0.530
Emotional processing	Correlation coefficient	-0.139	-0.150*	-0.229**	-0.226**
	Significance level	0.063	0.045	0.002	0.002

As it could be observed in Table 5, there is a negative and significant relationship between emotional processing and adaptability ($r = -0.226, p < 0.01$).

Table 6. Multiple regression analysis results for components of emotional processing in predicting students' adaptability

P		F	MS	df	SS	Model		
0.002		3.997	231.215	5	1,156.074	Regression		
			57.847	173	10,007.591	Remaining		
				178	11,163.665	Total		
P	t	Standard coefficients	Non-standard coefficients	ARS	RS	R	Forecast variables	
		Beta	B	SE			Constant	
0.000	5.0370	-	16.888	3.145				
0.003	2.979	0.219	0.336	0.113	0.042	0.048	0.219	Emotional suppression
0.771	0.292	0.022	0.046	0.159	0.037	0.048	0.220	Emotional emotion
0.002	3.175	0.269	0.475	0.150	0.085	0.100	0.316	Emotional experience
0.897	0.130	0.010	0.019	0.149	0.079	0.100	0.316	Unprocessed emotions
0.417	-0.814	-0.068	-0.120	0.147	0.078	0.104	0.322	Emotional avoidance

In order to determine the role of any of the emotional processing components as a predicting variable and students' adaptability as criterion variable in the equation, the components were analysed in a multiple regression equation. As it could be observed in Table 3, the observed *F* value is significant and 10.4% of the variance of students' adaptability is determined by the components of

emotional processing. Considering the β -values, emotional suppression ($\beta = 0.219$) and emotional experience ($\beta = 0.269$) could predict the changes related to the students' adaptability.

6. Discussion

The results indicated significant negative relationships between the participants' adjustment level and the primary non-adaptive schemata and its components of cuts and exclusion and autonomy and impaired performance ($p < 0.01$); however, no significant relationship was observed between the adjustment level and the other two components of others-directedness and over vigilance and excessive inhibition ($p < 0.01$). These findings are in line with other studies done by Cartwright–Hutton (2005), Morris (2010), Klassen and Lynch (2007), Auerbach et al. (2008), Kamlei et al. (2011), Yousefi and Amir Pour (2012), Carter et al. (2013) and Zhang et al. (2014). Morris (2010) indicated that the primary non-adaptive schemata are directly related to some problems such as CD, extreme anger, anxiety, sadness and feeling of guilt. Cartwright and Hutton (2005) specified a significant positive relationship between the primary non-adaptive schemata and behavioural/emotional disorders in adolescence. Klassen and Lynch (2007) and Auerbach et al. (2008) showed that children with ODD have a higher rate of social and emotional adjustment problems compared to normal children. Ebrahimi et al. (2012) found that the prevalence of non-adaptive schemata is higher among the adolescents, especially girls, living in orphanages (who are more prone to ODD and CD (Grinch, 2001)); hence, almost 47% of these adolescents have non-adaptive schemata. Similarly, Khoda Bakhsh, Baseri Salehi, Roshan Chesli & Falsafi Nejad (2014) showed that compared to normal adolescents, those living in orphanages obtained higher scores in the overall test of primary non-adaptive schemata and its subscales of emotional deprivation, being let down/instability, mistrust/abuse, social isolation/alienation, deficiency/shame, failure, dependency/incompetence, self-vulnerability and compliance. These findings can be explained with reference to Young (1990) who stated that non-adaptive behaviours are stimulated in response to the created schemata first and then by the schemata themselves; therefore, when non-adaptive schemata are stimulated, people will experience a high level of negative emotions such as anger, anxiety, sadness or feeling of guilt. Experiencing this kind of intense emotions is often unpleasant and makes people's adjustment more difficult. Furthermore, like physical, emotional and intellectual growth, adjustment capacity develops gradually and finally reaches to its optimal level. In fact, the adjustment is the result of life experiences and is the most important indicator of mental health in adolescents. A person is called well-adjusted if he/she can make a healthy relationship between him/herself and the surrounding social environment; otherwise, he/she will be called a mal-adjusted person (Islami Nasab, 1998). Due to the existence of many problems in life and poor interpersonal skills, adolescents with few cognitive schemata usually do not have good mental health and, consequently, are not well-adjusted people (Ladotrop-Gordon, 2003; Weiner, 2004). The results indicated that the variables could predict 5% of educational adjustment, 3.9% of social adjustment, 7.4% of emotional adjustment and 7.7% of the overall adjustment level of the participants. The primary non-adaptive schemata are highly unproductive and pervasive themes or patterns about the self and others. Schemata are made of memories, emotions, cognitions and physical feelings that play a very influential role in people's well-adjustment or maladjustment. The presence of non-adaptive schemata leads to many adjustment problems (emotional, social, etc.). Using questionnaires as the only data collection instrument is one of the limitations of the present study. Given that the samples in the present study were a group of high school students, the results cannot be fully generalised to clinical situations.

Considering the relationships between cognitive schemata, emotional processing and the adjustment level of students with ODD, it is recommended to use these variables for the identification and prevention of ODD.

The objective in this research was to determine the role of emotional processing in predicting adaptability of female students diagnosed with ODD. The findings of this study are discussed below.

The main research question was to determine whether there is a relationship between emotional processing and students' adaptability. Results derived from data showed that there is a negative and significant relationship between emotional processing and social adaptability ($p < 0.01$). Hence, the research hypothesis is approved. The research findings are in accordance with the results from Besharat (2008), Petridis et al. (2004), Crinberg (2009), Garcia et al. (2011), Reilly et al. (2013) and Marchsic et al. (2014). To explain the above-mentioned findings, it could be expressed that individuals diagnosed with ODD retain a lower self-awareness due to the lower emotional processing and, in fact, they lack a deep understanding of their emotions and weak and strong points and are not able to evaluate, guide or control the events in their lives. This inability leads the individual to lack the required insight towards themselves and their environment and be unsuccessful in adaptability with emotions, and this factor influences all aspects of adaptability in such individuals. Since students with low emotional processing could not survive negative emotions such as anxiety, depression and irritability and confront more problems in life. In case they face such hardships, they cannot survive the difficult situations fast enough and they cannot reach emotional stability and desirable situations (Golmen, 2000). As a result, they will not have a desirable emotional and social adaptability.

Additionally, in order to explain the latter, it could be said that based on Rachman (1980), emotional processing is a process through which the emotional conflicts are absorbed and subsequently declined so that the other experiences and behaviours could perform without conflict. In fact, the emotional processing process is in accordance with adaptability, so that decrease in emotional problems and conflicts could help the individual with alignment with the society, proper interactions and relationships with others, and adaptation with the physical and mental environment. According to Barlow (1992), adaptability includes a useful and effective behaviour of the individual in adapting to the physical and mental environment and influencing the environment so that they can change the environment properly. Moreover, adaptability is the complete balance between the organism and the environment, and high emotional processing enables the individual to use their positive mood and tolerance level in confronting others so that they can perform the best reaction and behaviour with them and reach a desirable emotional adaptability. This adaptability paves the way for other aspects of adaptability.

Ultimately, the last part of the research findings was related to this question that whether emotional processing could predict adaptability and its components in female students diagnosed with ODD. The results from this research suggested that these variables were able to predict 5% of educational adaptability, 3.9% of social adaptability, 7.4% of emotional adaptability and 7.7% of the total adaptability.

Additionally, emotional processing is considered as a positive variable since it helps the individuals' experiences and behaviours to form without conflicts in a more adaptable path. Hence, the presence or lack of his process has a determining role in adaptability aspects of individuals. Individuals diagnosed with ODD have issues in identifying and describing feelings, and the difficulties in identifying and describing feelings lead to failure in the individual's cognitive and emotional processing system. The individual becomes desperate in cognition and the cognitive style of the individual is limited to objective, pragmatic and reality-oriented thinking. These students limit their attention and basic activities to the objective affairs and do not consider their or other feelings, and this leads the students diagnosed with ODD to have a high level of emotional failures. Consequences of emotional failures are beyond intrapersonal problems and lead to disorders in interpersonal issues since the individual diagnosed with emotional failure shows deficiencies in understanding and reacting towards other individuals' emotions. Their ability for sympathy is disrupted (Varma, 1994). Moreover, such individuals experience deep cognitive in capabilities as well. Individuals retaining emotional failures are generally objective and rational individuals, lacking sympathy, isolated in interpersonal relationships with weak imaginative lives (Ayrobakh et al., 2008), and these factors influence their adaptability.

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