Relationship between Alexithymia, Body mass index and Eating irrational beliefs in Teens

Aliasghar Hosseinzade1, Morteza Azizi2, Tavakol Mosazade3, mitra nikamal4

1. PhD in Psychology, Islamic Azad University, central Tehran Branch, Iran
2. Department of Psychology, Islamic Azad University, Sarab Branch, Iran
3. Department of Psychology, Islamic Azad University, Ardabil Branch, Iran
4. Master of Psychology, Islamic Azad University, central Tehran Branch, Iran

Corresponding author email: azizim30@yahoo.com

ABSTRACT: This study examined the relationship between alexithymia, body mass index and eating disorders beliefs in teenagers. The statistical sample this research were 209 high school females who selected by random cluster sampling from the high schools in the Mazandaran and completed Cooper and et al’s (1997) eating disorder belief questionnaire, Bagboy and et al’s (1994) alexithymia scale. BMI was calculated by dividing weight on the square of height. Results showed that cognitive-emotionally dimensions of alexithymia predicts eating disorder beliefs. However, the dimensions of alexithymia did not predict BMIBased on the research findings, difficulties in emotion regulation increases eating disorder beliefs.

Keywords: Alexithymia, Body mass index and Eating disorder beliefs

INTRODUCTION

Alexithymia means lack words to express feelings (signees, 1967, 1972), originally this term invented to describe the difficulty in some mentally patients in identifying and describing their feelings (Lunt, et al., 2006). Taylor (1997) defines five domains of alexithymia: difficulty in describing feelings, difficulty in distinguishing feelings and bodily sensations caused by emotional arousal, the lack of introspection, social conformity, impoverished fantasy life and poor dream recall (Rick, I. i., and Annul, S. 2007). More recent research suggests that alexithymia is a personality trait that is normally distributed in the community, vulnerability (Taylor, Bagboy and Taylor, 1997), for example, weaker treatment outcome of alcoholism (Cleland, C., Maura , S., Foote , J., Rosenblum, A., and Koran, N. 2005), eating disorders (Esperanza, Lavas, Viler and Kukus, 2007), functional Gastrointestinal disorders (Pourchli, Fatty, Bloom, Deaden, Torero, 2004)

1. Alexithymia
2. difficulty in describing feelings
3. difficulty in distinguishing feelings
4. bodily sensations
5. lack of introspection
6. social conformity
7. impoverished fantasy life
8. poor dream recall
9. Rick, i., and Vanhul, S.
11. eating disorder
12. functional gastrointestinal disorders
Taylor (2000) believes that alexithymia is a general deficit in regulation emotion that is in real outcomes of three special defects such as (1) defects in cognitive elements experimental emotional response system (2) Deficits in excitement regulation interpersonal and (3) Limited ability in fantasy. Evidence suggests that alexithymia has positively relation to Neuroticism and to extraversion has negatively relation (Bagboy, Taylor and Parker, 1994; Zimmermann, Rosier, Destidel Hofen & Gilard, 2005).

Ellis (1994) acknowledge that emotions play a role in cognitive processing (Kalan & Watson, 2003) and irrational beliefs and distorted cognitions, the person is directed towards psychopathology (Zimmermann & et al, 2005). Because, when the process of identifying and describing feelings of emotional information processing system was disrupted, psychological distress is blocking the way of analysis and logical thinking (Taylor & Bagboy, 2000; sifneos, 2000), in this case, individuals with alexithymia would prefer to be the only witness to the events and does not pay analysis and interpretation them, and their relationships and activities limit to the objective and superficial affairs (quoted from Beshare, 1386).

Eating disorder beliefs. Self-automated beliefs are about weight, shape and eating occurs to the general remarks form and negative self-beliefs in eating disorders (Rose, Cooper, & Turner, 2006). Vitusek and Hollon (1990) believe that, beliefs in the schemes have a significant role in the occurrence eating disorders. Also, they are emphasized on schema which consists of ‘s view of self and weight related to self-schema (information about weight and body shape) (Rose et al, 2006). Cooper believes that self-schema is similar to the Core beliefs or early maladaptive schemas proposed by Young (Cooper, 1997). Schemes are consistent and long-term models, exist in the childhood and continue into the adulthood and the person looks at the world through these schemes. These schemes are include beliefs and important feelings that people continue them unreasonable and they are highly resistant to change (Young, Klosco Vishar, 2003).

Some findings indicate BMI is associated with psychological distress and symptoms of eating disorders (Rodgers, Owen 21; Cooper & Warren 22, 2011)

17. Eating disorder beliefs
18. Vitusek, K. B., & Hollon, S.
19. Core beliefs
20. early maladaptive schemas
22. Cooper, M.J., & Warren, L.

and overweight people compared with normal weight individuals are less aware of their emotions (Pena Coy, Choprol, Simon, Levite & Barb, 2003) and they are used bulimia as a way to relieve distress self-awareness related to negatively emotions such as depression and regulation emotions (Rommel & et al, 2012.). In addition, people with alexithymia tend to evacuate animate caused by irritant emotional states through impulsive behavior (Zimmermann & et al, 2005). Evidence suggests that individuals with greater BMI compared with those with normal BMI have more unreasonable beliefs and incompatible (Turner & et al, 2005).

Some evidence suggests that alexithymia is positively correlated with irrational beliefs (Kiel Hon & Watson, 2003; Zimmermann & et al, 2005). Some researchers, such as Lawson and et al (2008) using Young's Core beliefs (1994) found subscale difficulty in identifying feelings, believe entitlement and difficulty in describing feelings predicts vulnerability beliefs to disease (infrastructural anxiety beliefs) and emotional inhibition. But findings on the relationship between alexithymia and body mass index is low and inconsistent. In two studies did not find significant relationship between these two variables (For example, Sasai, K., Tanaka, K., & Hishimota, A. 23, 2010; Kaserzy, 2008), in contrast, in one (Neumann 24 & et al, 2004) study reported that people with alexithymia had higher body mass index (Lumley, Neely & Burger 25, 2007).

Some research has shown eating disorder beliefs to attitudes eating disorders (Rose, et al, 2006) and alexithymia is related to eating disorder symptoms (Sasai & et al, 2010). However, according to our knowledge no study has been done on the relationship between alexithymia and beliefs about eating disorders. The other hand the relationship between alexithymia and BMI is also inconsistent. According to medical risks overweighting for women
(Ryan, 2007) and According to women compared to men are more at risk for overweight (Rennie, & Jebb, 2005). Therefore, we examined a sample of teenagers females, where there was a possibility to be more overweight females in compared with normal underweight people in it. Thus, the aim of the present study was to investigate the relationship between alexithymia and beliefs about eating disorders and body mass index. The research hypotheses are: 1 - Alexithymia is associated with eating beliefs. 2- alexithymia is associated with BMI.

Research Methods

The present study is the correlation type. The study sample was composed of 215 female students in secondary high school and pre-university of Mazandaran province who were enrolled in 90-91, and cluster sampling method were selected from different regions of the central city of Mazandaran province. After their attract participation in the class was done alexithymia scale and eating disorder beliefs. Finally, after removing the stain on questionnaires of 203 questionnaires were used in the analysis. The following tools were used in this study.

Toronto alexithymia scale - 20 (Bagboy, Parker and Taylor, 1994), this is a test of matters 20 and has three subscales difficulty in identifying feelings, difficulty describing feelings, and externally oriented thinking. The scale is scoring the five point Likert scale (from score 1 fully disagree to scores 5 fully agree). A total score is calculated as the sum of three sub-scale scores for alexithymia (Breese and et al, 1996). Psychometric properties of the Toronto alexithymia scale - 20 has been reviewed and approved in numerous cross-cultural research (Bagboy and et al, 1994; Parker, Taylor and Bagboy, 2003). In Tesavsiz and et al's review (2010) the internal consistency of the scale was calculated to difficulty identifying feelings 0/74, difficulty describing feelings 0/79, externally oriented thinking 0/58 and Total validity 0/79. Reliability and validity of the Persian version of alexithymia scale has been confirmed in a sample of Iranian students (Besharet, 2007). In this study, validity was calculated by Cronbach’s alpha coefficients for the three subscales 0/72, 0/70, 0/75 respectively.

Eating Disorder Beliefs questionnaires: this questionnaire by Cooper, Cohen - Tau, Todd and Wills (1997) were made to assess the perceptions and beliefs associated with eating disorders. Scale is a self-description to each question is given a scores (0 = not at all to believe that to 100 = fully correct in my case) And has 4 subscales that are negative self-esteem, the weight and figure in the verdict acceptance by others, the weight and figure in the verdict by their own acceptance and control overeating (Cooper and et al, 1997). Cronbach’s alpha was calculated for each subscale includes a range of 0/94 to 0/89 (negative self-esteem 0/94, the weight and figure in the verdict acceptance by others 0/95, the weight and figure in the verdict acceptance by others 0/9/5, the weight and figure in the verdict by their own acceptance 0/90 and control overeating 0/89) (Rose et al, 2006). In the present study, validity of the questionnaire was calculated by Cronbach’s alpha for negative subscales (0/85), the weight and figure in the verdict acceptance by others (0/78), the weight and figure in the verdict by their own acceptance (0/75) and control overeating (0/65).

Body mass index (BMI): this index is calculated through the questions that measures directly the height and weight. In actually the index measures the proportion of weight to height and can be used as the best index of the weight range. BMI calculates by dividing weight on the square of height in meters (Berman, Keligman & Hal, 2005).

Findings

Mean age of students was 17/2 years, standard deviation 1/33 and their range 16-18 years. Standard regression analysis was used to analyze the data. Correlation test between variables is shown in table 1. Based on this table’s data in acknowledge the first hypothesis relationship between components of alexithymia and components of eating disorder beliefs, also, in acknowledge second hypothesis, relationship between two components of alexithymia (difficulty in identifying and describing feelings) is significant to BMI. But relationship between externally oriented thinking, negative self-esteem, the weight and figure in the verdict acceptance by others, the weight and figure in the verdict by their own acceptance and control overeating is not significant to BMI. In addition, relationship between variables suggest that the weight and figure in the verdict acceptance by others and control overeating have higher coefficients correlation and lower coefficients correlation to BMI. Thus, first and second hypothesis was confirmed. According to significance of coefficients correlation variables in order to define prediction power these variables was performed standard regression analysis.

Table 1. Correlation matrix of variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-DIF</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-DDF</td>
<td>0.52**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-OUT</td>
<td>0.38*</td>
<td>0.41*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-NS</td>
<td>0.36**</td>
<td>0.39**</td>
<td>0.32**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-AO</td>
<td>0.47**</td>
<td>0.46**</td>
<td>0.43**</td>
<td>0.53**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-SA</td>
<td>0.38**</td>
<td>0.36**</td>
<td>0.35**</td>
<td>0.36**</td>
<td>0.68**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-CE</td>
<td>0.52**</td>
<td>0.39**</td>
<td>0.32**</td>
<td>0.41*</td>
<td>0.7*</td>
<td>0.65**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8-BMI</td>
<td>0.13*</td>
<td>0.14*</td>
<td>0.09*</td>
<td>0.06*</td>
<td>0.05*</td>
<td>0.05*</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Note: DIF = difficulty in identifying feelings, DDF = difficulty in describing feelings, OUT = externally oriented thinking, NSB = negative self-esteem, AO = acceptance by others, SA = by their own acceptance, CE = control overeating, BMI = body mass index.

Table 2. Predict negative self-esteem subscale based on alexithymia subscales

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>R</th>
<th>R²</th>
<th>( \beta )</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>difficulty in identifying feelings</td>
<td>0.49*</td>
<td>0.23</td>
<td>4/14**</td>
<td></td>
</tr>
<tr>
<td>difficulty in describing feelings</td>
<td>0.22</td>
<td>3/53*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>externally oriented thinking</td>
<td>0.17</td>
<td>2/92</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression results features of three subscales alexithymia and weight and figure in the verdict acceptance by others are presented in Table 3. According to the t-statistic shows three subscales of alexithymia, positive and significant predictor of weight and figure in the verdict acceptance by others is from the subscales of eating disorder beliefs and explain 42 % of its variance (R² = 0.42). Coefficients of affecting the difficulty in identifying feelings is (\( \beta =0.25 \)), difficulty in describing feelings (\( \beta = 0.23 \)), and externally oriented thinking (\( \beta = 0.33 \)). In the second step three subscales of alexithymia, predicted subscale of the weight and figure in the verdict by their own acceptance.

Table 3. Predict acceptance by others based on alexithymia

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>R</th>
<th>R²</th>
<th>( \beta )</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>difficulty in identifying feelings</td>
<td>0.65</td>
<td>0.42</td>
<td>0.25</td>
<td>5/79*</td>
</tr>
<tr>
<td>difficulty in describing feelings</td>
<td>0.23</td>
<td>0.26</td>
<td>4/26*</td>
<td></td>
</tr>
<tr>
<td>externally oriented thinking</td>
<td>0.33</td>
<td>0.29</td>
<td>6/59*</td>
<td></td>
</tr>
</tbody>
</table>

Regression results features of three subscales alexithymia and weight and figure in the verdict acceptance by others are presented in Table 4. According to the t-statistic shows three subscales of alexithymia, positive and significant predictor of weight and figure in the verdict by their own acceptance is from the subscales of eating disorder beliefs and explain 28 % of its variance (R² = 0.28). Coefficients of affecting the difficulty in identifying feelings is (\( \beta =0.15\)), difficulty in describing feelings (\( \beta = 0.29 \)), and externally oriented thinking (\( \beta = 0.26 \)). In the second step three subscales of alexithymia, subscale of control overeating predicted eating disorder beliefs.

Table 4. Predict by their own acceptance based on alexithymia subscales

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>R</th>
<th>R²</th>
<th>( \beta )</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>difficulty in identifying feelings</td>
<td>0.54</td>
<td>0.28</td>
<td>0.15</td>
<td>2/59*</td>
</tr>
<tr>
<td>difficulty in describing feelings</td>
<td>0.29</td>
<td>4/93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>externally oriented thinking</td>
<td>0.26</td>
<td>4/75*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression results features of three subscales alexithymia and weight and figure in the verdict acceptance by others are presented in Table 4. According to the t-statistic shows three subscales of alexithymia, positive and significant predictor of weight and figure in the verdict by their own acceptance is from the subscales of eating disorder beliefs and explain 22 % of its variance (R² = 0.22). Coefficients of affecting the difficulty in identifying feelings is (\( \beta =0.15 \)), difficulty in describing feelings (\( \beta = 0.29 \)), and externally oriented thinking (\( \beta = 0.19 \)). In the fifth due to the significant relationship between difficulty in identifying feelings and difficulty in describing feelings to body mass index, these subscales were used in the regression equation for predict of body mass index.
Table 5. Predict self-control based on alexithymia subscales

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>R</th>
<th>R²</th>
<th>β</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>difficulty in identifying feelings</td>
<td>0/48</td>
<td>0/22</td>
<td>0/15</td>
<td>2/52</td>
</tr>
<tr>
<td>difficulty in describing feelings</td>
<td>0/29</td>
<td>4/66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>externally oriented thinking</td>
<td>0/19</td>
<td>3/24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression results features of subscales difficulty in identifying feelings and difficulty in describing feelings of the alexithymia scales and body mass index are presented in Table 5. According to the t-statistic predict of body mass index by two subscales difficulty in identifying is not significant and just explain 2% of body mass index variance (R² = 0/02). Coefficients of affecting the difficulty in identifying feelings is (β = 0/10), difficulty in describing feelings (β = 0/08).

Table 6. Predict body mass index based on alexithymia

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>R</th>
<th>R²</th>
<th>β</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>difficulty in identifying feelings</td>
<td>0/02</td>
<td>0/02</td>
<td>0/10</td>
<td>1/47</td>
</tr>
<tr>
<td>difficulty in describing feelings</td>
<td>0/08</td>
<td></td>
<td></td>
<td>1/20</td>
</tr>
</tbody>
</table>

DISCUSSION AND CONCLUSION

The present study showed that alexithymia is a positive and significant predictor of eating disorder beliefs. This result is corresponded with the findings of Kewell Han and Watson (2003), Zimmermann and et al (2005) and Lawson and et al (2008) from view significant positive relationship between alexithymia and irrational beliefs. Its explanation is based on the following probability.

Freeman believes the schema level, the emotional component is associated with belief systems. Ellis and Hopper reiterated irrational beliefs, the first factor is the emotional incompatibility. Also, Koopermans, Sanderman, Timmerman and Emmelkamp (1994) have defined Irrational beliefs as a process of reasoning which is interpreted by externally events and is mediated by emotional distress (Zimmermann and et al, 2005). Taylor and Bagboy (2000) believe that when process of identifying and describing feelings was disrupted for any reason in the emotional information processing system, psychological distress, blocks the way of analysis and logical thinking (Besharat, 1386). Moreover, Beck, Rush, Shaw, Emery also stated that emotional states are associated with the core beliefs (Lawson and et al, 2008). From this perspective can be deduced that certain beliefs of eating disorders involves negative self-esteem and pre-valuating to the body’s shape and weight is associated with alexithymia.
A possible explanation for these findings are multi-factorial etiology of BMI, especially the role of other variables such as parental bonding or attachment that may have a greater share in explaining the variance of body mass index. This explanation was confirmed in the study by Cooper and Warren (2011). However, future studies focusing on clinical samples and add other variables in the equation can to highlight the role of BMI as predictor variables.

In general, the present findings are of particular theoretical and practical implications. Theoretically, according to being an innovative present study provides the new field of view the role of emotional development and emotion in eating disorders beliefs. From the practical view, according to the evidence showed that alexithymia is a confounding factor in the treatment of eating disorders process (Esperanza, Lavas, Gildube and Kurkus, 2010). The findings of the study emphasizes the importance of clinicians’ attention to emotionally- excitedly characteristics associated with cognitive of interventions emphasizes for the treatment of eating disorders.

Including limitations of the present study was that the findings of this study was limited only to females with an age range of 16-18 years. It is suggested that in futures research examine this issue in male sample and wider age range. Including other limitations of this study is the use of self-descriptive tool. Therefore, it is recommended to those interested in research in this area in addition to the questionnaires, use the clinical interview also for the diagnosis of alexithymia.

REFERENCES


Research, 36, 365-371.
