



The Mediating Role of Defense Styles in the Relation between Attachment Traumas and Maladaptive Schemas (Disconnection and Rejection Domain) with Alexithymia

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Abstract

The aim of this study was to determine the mediating role of defense styles in the relation between attachment traumas and maladaptive schemas (disconnection and rejection domain) with alexithymia. The research method was descriptive correlational. The statistical population consisted of people (men & women) between the ages 25-50 in the year 1400 in university groups and social networks. Three hundred and sixty-seven including (88 men, 279 women) by voluntary sampling method available online answered to the Toronto Alexithymia Scale (Bagby et al, 1994), Adult Attachment Scale (Hazan & Shaver, 1987), Young Schema Questionnaire (Young, 1998) and Defense Style Questionnaire (Andrews et al, 1993). The data were analyzed using descriptive statistics and path analysis tools. The results showed that the indirect effect of attachment traumas and disconnection and rejection schema is positively significant on alexithymia with the mediating role of the defense styles and the defense styles have the mediating role in the relation between the attachment traumas and disconnection and rejection schema with alexithymia. Based on the findings of this study, it can be concluded that using mature defense styles besides taking into consideration the childhood attachment traumas and maladaptive schemas play an important role in achieving correct way of emotional expression and preventing alexithymia.

Keywords: *attachment traumas, defense styles, maladaptive schemas, alexithymia.*

Introduction

Alexithymia is a functional disorder in the normal processes of emotional awareness, which is characterized by difficulty in processing and expressing emotional feelings (Hu, Wang and Lee, 2016). And as a multifaceted structure, it describes a set of emotional and cognitive characteristics consisting of difficulty in identifying emotions, difficulty in describing emotions, an externally oriented cognitive style, and limitations in the processes of dreaming and imagining (Nemiah, Freiburger, and Sifnos, 1976, cited by Timoni and Holder, 2013). The importance of attachment has been revealed as a key factor in the development of emotional information processing abilities (Fantini-Hoval, Budoka, & Arszewski, 2012; Ferraro & Taylor, 2021; Long, 2010) and the failure of early interactions between the child and caregivers can lead to ataxia. (Taylor, 1987 cited in Fantini-Hoval et al., 2012). In other words, attachment injuries that indicate the child's deprivation of a healthy attachment experience with the primary caregiver (Steinhart, Scott

and Barfield, 2012) and inappropriate behaviors and the lack of effective presence of parents, the natural evolution of cognitive and emotional processes, the integration of thinking and feeling, as well as the capacity to understand and express emotional states, face serious problems (Bernboom and James, 1994; Torberg, Young, Sullivan and Livers, 2011; Yates, Gregor and Haviland, 2012). Empirical evidence has also shown that there is a significant positive relationship between attachment injuries and emotional dyslexia (Kassi and Abu Darwish, 2018; Lever, Ryan and Thorberg, 2022; Verges-Bais et al., 2021).

In addition to the importance of attachment injuries in alexithymia, the role of maladaptive schemas (Yang, 1999) in the etiology of this disorder has been revealed. These schemas are organized in the five domains of abandonment and rejection, self-following and dysfunctional functioning, limit of inadequacy, other-centeredness, hyperactivity, and inhibition.

They are formed as a result of insufficient satisfaction or oversatisfaction of needs in childhood and affect the way of interpreting events and identifying and describing individual

emotions (Tim, 2010; Sariaho, Sariaho, Mattila, Karukivi, & Jokama, 2015). Researches have also supported the relationship between maladaptive schemas, especially in the area of cutting and rejection, with the greatest amount of damage in childhood (Yang et al., 2003) and ataxia (Zinalska, 2020; Goslen, 2021; Livers, Mayer, Needham, & Torberg, 2019).

A review of the research literature shows that defensive styles are also involved in the relationship between attachment injuries and maladaptive schemas with alexithymia (Lakskiewicz et al., 2020; Walberg and Chiaramello, 2015). Defense styles are automatic regulatory processes that are used to reduce cognitive dissonance and minimize sudden changes in internal and external realities by influencing how threatening events are perceived (Wilnet, 1994). Since alexithymia represents a form of primary mental defense (Thome, 1990) and defensive styles also help people manage and cope with negative and debilitating emotions, empirical evidence of a positive relationship between alexithymia and neurotic and underdeveloped defensive styles and a negative relationship It has been highlighted with developed defensive styles (Bashart & Shahidi, 2011; Bogutin, Kokoczka, Palszynski, & Holas, 1999; Parker, Taylor, & Bagby, 1998; Melone, Cohen, Liu, Vaillant, & Waldinger, 2013; Weiss, Mann, & Epstein, 1991). Researches also show that attachment injuries and irreconcilable schemas, by affecting the ways of dealing with stressful situations, provide the basis for the use of neurotic and underdeveloped defensive styles (Tanzili et al., 2021; Chuka et al., 2020; Lakskovics et al., 2020).

Considering that emotional dyslexia is a risk factor in many disorders and can disrupt a person's adaptability (Cox, Swinson, Shalman and Bordo, 1995), identifying the factors that are involved in its formation is of great importance. Considering the empirical evidence of the relationship between attachment trauma and maladaptive schemas with alexia (Zinalska, 2020; Livers, Mayer, Needham, & Torberg, 2019; Kassi & Abu Darwish, 2018; Verges-Bays et al., 2021). The relationship between alexithymia and defensive styles (Begotin, Kokoczka, Palszynski, & Holas, 1999; Wise et al., 1991) and the relationship between attachment trauma and maladaptive schemas with defensive styles (Wahlberg & Chiaramello, 2015; Lakskiewicz et al., 2020). The proposed research model examines the mediating role of defensive styles in the relationship between attachment injuries and non-compromised schemas (cut and rejection area) with emotional ataxia.

Method

The method of the current research was descriptive of the type of correlation and the statistical population of the research included people (men and women) aged 25 to 50 in university groups and social networks in 2021. The sample size was in accordance with Klein's theory (2011) and according to the total of 150 items in the research questionnaires, 367 people (88 men, 279 women) were selected through online volunteer sampling due to the outbreak of the Corona crisis. Descriptive statistics and path analysis methods were used to analyze the data.

Tool

Toronto Ataxia Scale (Bagby, Parker, & Taylor, 1994). In this 20-item scale, emotional dyslexia is scored in three subscales: difficulty in identifying feelings, difficulty in describing feelings, and thinking with external orientation on a 5-point Likert scale from completely disagree (score 1) to completely agree (score 5). A total score is also calculated from the sum of the scores of three subscales for general emotional dyslexia.

Bagby et al. (1994) reported the reliability of the scale using Cronbach's alpha coefficient of 0.81 and test-retest reliability coefficient of 0.77. In the Persian version of the scale (Bashart, 2007), Cronbach's alpha coefficients for total emotional ataxia and three subscales of difficulty in identifying emotions, difficulty in describing emotions and objective thinking were calculated as 0.85, 0.82, 0.75, and 0.72 respectively. which indicates good internal consistency of the scale. The retest validity of this scale was reported in a sample of 67 people on two occasions for total alexia and its subscales from 0.80 to 0.87. Concurrent validity of this scale was investigated and confirmed in terms of correlation between its subscales and scales of emotional intelligence (Schott et al., 1998), psychological well-being and psychological distress (Witt and Ware, 1983). The results of the confirmatory factor analysis also confirmed the existence of three factors: difficulty in identifying emotions, difficulty in describing emotions and objective thinking in the Persian version of the emotional dyslexia scale (Bashart, 2007). In this research, the validity of emotional dyslexia scale is 0.91.

Adult attachment scale (Hazen and Shaver, 1987). This 15-item scale measures secure, avoidant and ambivalent attachment styles on a 5-point Likert scale from very low (score 1) to very high (score 5). Hazen and Shiver (1987) obtained the reliability coefficient of this scale as 0.81 through the test-retest method and 0.87 with the Cronbach's alpha method. In the Iranian sample of the scale (Bashart, 2012), the Cronbach's alpha coefficients of the safe, avoidant and ambivalent subscales for the sample of 1,480 people for all subjects were 0.91, 0.89, 0.88 respectively; 0.91, 0.90, 0.87 for women and 0.90, 0.89 and 0.87 for men, which is a sign of good internal consistency of the scale. The correlation coefficients between the scores of a sample of 300 subjects were calculated on two occasions to measure the retest validity. These coefficients about secure, avoidant and ambivalent attachment styles for all subjects are 0.87, 0.83 and 0.74, respectively; 0.86, 0.82 and 0.75 were calculated for women and 0.85, 0.81 and 0.73 for men, which is a sign of satisfactory retest validity of the scale. The content validity of the scale was calculated by measuring the correlation coefficients between the scores of 15 psychologists and Kendall's agreement coefficients for safe, avoidant and ambivalent styles, respectively 0.80, 0.61 and 0.57. The results of factor analysis confirmed the construct validity of the scale by determining three factors of secure, avoidant and ambivalent attachment style (Basharat, 2012). In this study, the validity of the anxiety avoidance and ambivalent subscales was 0.79 and 0.76, respectively.

Short form of Young Schema Questionnaire (Young, 1998). This 75-item questionnaire includes 15 subscales that are organized in 5 areas. Each of the 75 items is scored on a 6-point Likert scale from completely false (1) to completely true (6).

In the first comprehensive study to measure the psychometric properties of this questionnaire, the Cronbach's alpha coefficient of each non-compromised schema ranged from 0.83 (for the subscale of untransformed/preoccupied self) to 0.96 (for the subscale of defect/shame), the test-retest reliability coefficient in the non-clinical population was between 5.5 0 to 0.82 and good convergent and discriminant validity were reported (Schmidt, Joyner, Young and Telch, 1995). In Iran, for the psychometric properties of this questionnaire, Cronbach's alpha coefficient for the internal consistency of each of the schemas was obtained in the range between 0.69 (for sacrifice) and 0.83 (for dependence/incompetence). It was calculated as 0.87 for not accepting and avoiding uncertainty, 0.87 for action-preventing uncertainty, and 0.89 for the total score of uncertainty intolerance (Ahi, Mohammadifar and Bashart, 2006). The construct validity,

convergent validity and differential diagnosis of the Young Schema Questionnaire were calculated through the simultaneous implementation of anxiety, depression and paranoia anxiety scales (Beck and Epstein, 1993) and the results showed that there was a significant difference between the subjects' scores in each of the subscales of the Young Schema Questionnaire and the anxiety and depression scale. There is a significant positive correlation between anxiety and paranoia. The preliminary results of the factor analysis using the principal components method showed that 11 factors are extracted from the Yang schema questionnaire, which explains 65.85% of the total variance (Ahi et al., 2006). In this research, the validity of the schemas of the field of cut and rejection has been obtained as 0.92.

Defense styles questionnaire (Andrews, Singh and Bond, 1993). This 40-item questionnaire measures 20 defense mechanisms in three defense styles, developed, neurotic, and underdeveloped, on a 9-point Likert scale from completely disagree (1) to completely agree (9). The correlation between developed factors is 0.97, neurotic 0.94 and underdeveloped 0.95. Retest reliability during 18 months for a sample of 56 people was reported as 0.60 for undeveloped factors and 0.71 for developed factors. The face validity for matching each defense with its item has been reported

as 0.74 (Andrews et al., 1993). Basharat, Sharifi and Irvani (2013) have reported the Cronbach's alpha coefficient for each of the developed, underdeveloped and neurotic styles as 0.75, 0.73 and 0.74, respectively, and the test-retest reliability coefficient as 0.82 with an interval of 4 weeks. To check its content validity, the questionnaire was presented to a group of psychologists and they were asked to determine the degree of connection of each statement with the definitions of defense styles taken from reliable sources on a 5-point Likert scale. In order to check the convergent validity, the correlation between defensive styles and personality factors was calculated based on the big 5 personality factors questionnaire (Costa and McCree, 1985) and the psychometric features of the Persian version were confirmed. In this research, the validity of developed, underdeveloped and neurotic styles were obtained as 0.71, 0.80 and 0.60 respectively.

Findings

Table 1 shows the mean, standard deviation, and correlation coefficients of alexithymia, attachment styles, cut-off and rejection schemas, and defensive styles.

Table 1. Mean, standard deviation and correlation coefficients of research variables

| Variables | M | SD | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------------|--------|-------|---------|---------|--------|---------|--------|--------|
| 1- Emotional ataxia | 03/51 | 41/14 | - | | | | | |
| 2- Avoidant attachment | 04/14 | 39/4 | **45/0 | - | | | | |
| 3- Anxious ambivalent attachment | 94/12 | 76/3 | **28/0 | 10/0 | - | | | |
| 4- Schemes of cut and rejection | 87/65 | 75/23 | **59/0 | **51/0 | **41/0 | - | | |
| 5- Developed defensive style | 43/38 | 10/11 | **48/0- | **40/0- | *16/0- | **49/0- | - | |
| 6- Undeveloped defensive style | 75/127 | 73/26 | **36/0 | **23/0 | **30/0 | **29/0 | **17/0 | - |
| 7- Neurotic defensive style | 00/43 | 99/9 | **49/0 | *16/0 | **39/0 | **50/0 | 02/0 | **60/0 |

The results of the Pearson correlation test in Table 1 show that avoidant attachment has a significant positive relationship with emotional ataxia, underdeveloped defensive styles, and neuroticism, and a significant negative relationship with developed defensive style. Anxious ambivalent attachment also has a significant positive relationship with emotional ataxia, underdeveloped defensive styles, and neuroticism, and a significant negative relationship with developed defensive style. In addition, cut and rejection schemas also have a significant positive relationship with emotional ataxia, underdeveloped and neurotic defense styles, and a significant negative relationship with developed defense style. The results also showed that there is a significant positive relationship between underdeveloped and neurotic defensive styles with alexithymia and a significant negative relationship between developed defensive style and alexithymia.

The results of the maximum likelihood method path analysis test to determine the mediating role of defense mechanisms (developed, underdeveloped and neurotic defense styles) in relation to attachment injuries (avoidant and ambivalent anxiety) and maladaptive schemas with emotional ataxia with standard coefficients and coefficient significance Each route is displayed.

In order to determine the fit indices of the model, the researchers need the chi-square ratio to the degree of freedom less than 3, the adaptive fit index, the adjusted fit index and the adjusted fit index greater than or equal to 0.90, the square root of the approximation error variance less than 0.08 and A non-adaptive fit index greater than 0.90 is considered a good fit and a desirable index for model evaluation. As a result, according to the presented model indices (df= $\chi^2/2.768$, CFI=0.920, GFI=0.938, AGFI=0.913, RMSEA=0.078, RMSEA=0.924 (NFI) model has good fit.

The results of the path analysis test show that the direct effect of avoidant attachment on the developed defensive style is negatively significant and on the undeveloped defensive style and emotional ataxia is positively significant. But the direct effect of avoidant attachment on neurotic defense style is not significant. Also, the direct effect of anxious ambivalent attachment on underdeveloped and neurotic defensive style is positively significant. But the direct effect of anxious ambivalent attachment on developed defensive style and ataxia is not significant. In addition, the direct effect of cut-off and rejection schemas on the developed defensive style is negatively significant and on the neurotic defensive style and alexithymia positively. But the direct effect of cut and rejection schemas on underdeveloped defensive style is not significant. The results of the path analysis test of the model showed that the direct effect of underdeveloped and neurotic defensive style is positive and the direct effect of developed defensive style is negative on emotional ataxia.

The direct effect of avoidant attachment on the developed defense style is negative and on the undeveloped defense style and emotional ataxia is significant positively. But the direct effect of avoidant attachment on neurotic defense style is not significant. In addition, the direct effect of anxious ambivalent attachment on underdeveloped and neurotic defensive style is positively significant. But the direct effect of anxious ambivalent attachment on developed defensive style and ataxia is not significant. Based on the results, the direct effect of cut-off and rejection schemas on the developed defense style is negative and positive on the neurotic and alexithymia defense style. But the direct effect of cut and rejection schemas on underdeveloped defensive style is not significant. The results also showed that the direct effect of underdeveloped and

neurotic defensive style is positive and the direct effect of developed defensive style is negative on emotional ataxia. The findings show that defensive styles play a mediating role in the relationship between attachment injuries and cut-off and rejection schemas with emotional ataxia. Also, the indirect effect of avoidant, ambivalent, anxious attachment styles and cut-off and rejection schemas through defensive styles on emotional ataxia is significant. The findings show that attachment injuries and schemas of cut and rejection through defensive styles have a significant indirect effect on emotional ataxia, which is the confirmation of the research hypothesis. In total, the results indicate that attachment injuries and schemas of cut and rejection have the ability to explain 22% of the variance of the developed defensive style, 9% of the variance of the underdeveloped defensive style, and 27% of the variance of the neurotic defensive style. In addition, attachment injuries, cut and rejection schemas, and defense styles have the ability to explain 52% of the variance of emotional ataxia. These findings show that defensive styles play a mediating role in the relationship between attachment injuries and schemas of cut and rejection with emotional ataxia, which confirms the hypothesis of the research.

Discussion

This research was conducted with the aim of determining the mediating role of defensive styles in the relationship between attachment injuries and schemas in the field of cut and rejection with emotional ataxia. The results of this research showed that attachment injuries have a significant positive relationship with emotional ataxia, which is in line with the results of Besharat (2011), Varges-Bais et al., (2021). In explaining this finding, it can be said that raising a child in a physically and emotionally unsafe environment in which the expression of emotions is inhibited, leads to the failure to achieve the capacity to face emotional states in a successful way. These conditions and the lack of appropriate behavioral patterns will lead to difficulty and ambivalence in expressing emotions (Bernboom and James, 1994). In addition, poor bonding with parents, emotional neglect, and early life adversities are associated with deficits in emotional regulation and high levels of emotional dyslexia (Thorberg et al., 2011; Kassi & Abudarwish, 2018; Yates et al., 2012).

Also, the results of the research show a significant positive relationship between non-compromised schemas and emotional ataxia, which is consistent with the results of Tim (2010), Jinalska, (2020) and Livers et al. (2019). Irreconcilable schemas affect the way a person interprets events through cognitive distortions and cause a person to face problems in identifying and describing feelings or in interpersonal relationships (Tim, 2010). The field of cut and rejection with the highest amount of damage in childhood is related to the difficulty in the process of seeking emotional order. People with schemas in this area, due to childhood emotional deprivation, mistrust towards others, cold and rejecting family environment, lack of attention and understanding and mutual emotional participation and isolation, never a suitable platform for learning and internalizing skills related to emotional regulation, empathy and social interactions are not successful and as a result they will face difficulties in recognizing and describing their emotions (Sariaho et al., 2015; Yang et al., 2003).

Conclusion

The results of this research also showed that there is a significant positive relationship between attachment injuries and schemas of cut and rejection with underdeveloped and neurotic defense style and a

significant negative relationship with developed defense style, which is consistent with the researches of Bashart (2011) and Walberg and Chiaramello (2015). is aligned In the possible explanation of this finding, it can be said that attachment injuries and cut-off and rejection schemas, by imposing increasing anxiety and worry, weaken a person's ability to effectively face stressful situations and provide the basis for the use of underdeveloped and neurotic styles (Lakskovics et al., 2020; Wahlberg and Chiaramello, 2015).

In addition to what was said before, the results of this research showed that there is a significant positive relationship between underdeveloped defensive style and neuroticism with alexithymia and a significant negative relationship between developed defensive style and alexithymia, which is consistent with the researches of Besharat and Shahidi (2011), Parker et al. (1998) and Wise et al. (1991) are consistent. In the possible explanation of this finding, it can be said that, on the one hand, defensive styles are able to minimize cognitive dissonances with sudden changes in how to perceive threatening events (Wilnet, 1994), and on the other hand, emotional ataxia as a form of primary mental defense (Toomeh, 1990) can Protect a person from anxiety by minimizing emotional involvement.

(Begotin et al., 1999; Basharat and Shahidi, 2011; Parker et al., 1998) which indicates the relationship between defensive styles and emotional ataxia. Underdeveloped and neurotic defense styles with unhealthy coping methods can lead to difficulty in dealing with feelings and emotions and as a result psychological damage such as emotional ataxia (Parker et al., 1998; Melone et al., 2013), which is another explanation for this relationship.

The results of the path analysis test confirmed the hypothesis of the research based on the mediating role of defensive styles in the relationship between attachment injuries and schemas in the field of cut and rejection with emotional ataxia. In explaining this finding, it can be said that attachment injuries and schemas in the field of cut and rejection provide the basis for the use of unsafe strategies in an attempt to cope with psychological distress in situations of tension and anxiety (Wahlberg and Chiaramello, 2015). And the use of underdeveloped and neurotic defensive styles can lead to disruption and failure in the emotional regulation process, which is one of the characteristics of emotional dyslexia. (Bashart and Shahidi, 2011; Parker et al., 1998).

The use of correlation method and the impossibility of controlling some demographic variables, the cross-sectional nature of the research method, the use of self-reporting tools and online data collection due to the Corona epidemic were among the limitations of this research. Examining the effect of research variables on alexia using a longitudinal method, controlling demographic variables such as gender, level of education and social and cultural class, and examining the relationship between the variables of this research in clinical samples is suggested. Considering the importance of the research topic, it is beneficial to provide preventive and therapeutic solutions in the field of how to properly express emotions and skills related to emotional regulation. Due to the fact that the lack of awareness and timely treatment of this disorder can lead to serious psychological damage, the necessary awareness and training in the field of recognizing this disorder and the appropriate suggested treatments are very helpful.

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References

- [1] Ahi, Gh, Mohammadifar, M. A., & Besharat, M. A. (2007). Reliability and validity of Young Schema Questionnaire Short Form. *Journal of Education & Psychology*, 37(3): 5-20.
- [2] Andrews, G., Singh, M., & Bond, M. (1993). The Defense Style Questionnaire. *Journal of Nervous and Mental Disease*, 18(4), 246-256.
- [3] Bagby, R. M., Parker, J. D. A., & Taylor, G. J. (1994). The twenty-item Toronto Alexithymia Scale – I. Item selection and cross-validation of factor structure. *Journal of Psychosomatic Research*, 38(1), 23-32.
- [4] Beck, A. T., & Epstein, N. (1993). An inventory for measuring clinical anxiety: Psychometric Properties. *Journal of Consulting and Clinical Psychology*, 56, 893-897.
- [5] Berenbaum, H., & James, T. (1994). Correlates and retrospectively reported antecedents of alexithymia. *Psychosomatic Medicine*, 56(4), 353-359.
- [6] Besharat, M. A. (2007). Reliability and factorial validity of Farsi version of the Toronto Alexithymia Scale with a sample of Iranian students. *Psychological Reports*, 101(10), 209-220.
- [7] Besharat, M. A. (2013). Adult Attachment Inventory: Questionnaire, Instruction and Scoring Key (Persian Version). *Developmental Psychology: Iranian Psychologists*, 35(9): 317-320.
- [8] Besharat, M. A. (2012). The mediating role of defense mechanisms in the relationship between attachment styles and alexithymia. *Journal of Applied Psychology*, 6(21): 7-22.
- [9] Besharat, M. A., & Shahidi, S. (2011). What is the relationship between alexithymia and ego defense styles? A correlational study with Iranian students. *Asian Journal of Psychiatry*, 4(2), 145-149.
- [10] Besharat, M. A., Sharifi, M., & Irvani, M. (2001). An investigation the relationship between the attachment styles and defense mechanisms. *Journal of Psychology*, 19(3): 277-289.
- [11] Bogutyn, T., Kokoszka, A., Pałczyński, J., & Holas, P. (1999). Defense mechanisms in alexithymia. *Psychological Reports*, 84(1), 183-187.
- [12] Ciocca, G., Rossi, R., Collazzoni, A., Gorea, F., Vallaj, B., Stratta, P., Longo, L., Limoncin, E., Mollaioli, D., Gibertoni, D., Santarnecchi, E., Pacitti, F., Niolu, C., Siracusano, A., Jannini, E. A., & Di Lorenzo, G. (2020). The impact of attachment styles and defense mechanisms on psychological distress in a non-clinical young adult sample: A path analysis. *Journal of affective disorders*, 273, 384–390.
- [13] Costa, P. T., & McCrae, R. R. (1985). *The NEO Personality Inventory manual*. Odessa, FL: Psychological Assessment Resources.
- [14] Cox, B. J., Swinson, R. P., Shulman, I. D., & Bordeau, D. (1995). Alexithymia in panic disorder and social phobia. *Comprehensive Psychiatry*, 36, 195-198.
- [15] Fantini-Hauwel, C., Boudoukha, A. H., & Arciszewski, T. (2012). Adult attachment and emotional awareness impairment: A multimethod assessment. *Socio-affective Neuroscience & Psychology*, 2(1), 10744.
- [16] Ferraro, I. K., & Taylor, A. M. (2021). Adult attachment styles and emotional regulation: The role of interoceptive awareness and alexithymia. *Personality and Individual Differences*, 173, 110641.
- [17] Ginalska, K. (2020). Alexithymia and Cognitive Schemas. *Annales Universitatis Mariae Curie-Skłodowska. Sectio J, Paedagogia-Psychologia*, 33(3).
- [18] Gosselin, M. H. M. (2021). *An Exploration of the Relationships among Early Maladaptive Schemas, Alexithymia and Pain-Related Outcomes in Irritable Bowel Syndrome* (Doctoral dissertation, Fielding Graduate University).
- [19] Hazan, C. & Shaver, P. (1987). Romantic Love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52(3), 511-524.
- [20] Ho, N. S., Wong, M. M., & Lee, T. M. (2016). Neural connectivity of alexithymia: Specific association with major depressive disorder. *Journal of affective disorders*, 193(4), 362-372.
- [21] Kline, Rex B. (2011). *Principles and practice of structural equation modeling*. New York: Guilford Press.
- [22] Laczkovics, C., Fonzo, G., Bendixsen, B., Shpigel, E., Lee, I., Skala, K., Prunas, A., Gross, J., Steiner, H., & Huemer, J. (2020). Defense mechanism is predicted by attachment and mediates the maladaptive influence of insecure attachment on adolescent mental health. *Current Psychology*, 39, 1388-1396.
- [23] Lang, A. (2010). Attachment and emotion regulation – clinical implications of a non-clinical sample study. *Procedia - Social and Behavioral Sciences*, 5, 674-678.
- [24] Lyvers, M., Mayer, K., Needham, K., & Thorberg, F. A. (2019). Parental bonding, adult attachment, and theory of mind: A developmental model of alexithymia and alcohol-related risk. *Journal of Clinical Psychology*, 75(7), 1288-1304.
- [25] Lyvers, M., Ryan, N., & Thorberg, F. A. (2022). Alexithymia, attachment security and negative mood. *Australian Psychologist*, 57(2), 86-94.
- [26] Malone, J., Cohen, S., Liu, S., Vaillant, G., & Waldinger, R. (2013). Adaptive midlife defense mechanisms and late-life health. *Personality and Individual Differences*, 55(2), 85-89.
- [27] Parker, J. D., Taylor, G. J., & Bagby, R. M. (1998). Alexithymia: Relationship with ego defense and coping styles. *Comprehensive psychiatry*, 39(2), 91-98.
- [28] Qaisy, L. M., & Abu darwish, Muna A. (2018). The Relationship between Alexithymia and Attachment Styles among University Students. *World Journal of Education*, 8(5), 104-111.
- [29] Saariaho, A. S., Saariaho, T. H., Mattila, A. K., Karukivi, M., & Joukamaa, M. I. (2015). Alexithymia and early maladaptive schemas in chronic pain patients. *Scandinavian Journal of Psychology*, 56(4), 428-437.
- [30] Schmidt, N. B., Joiner, T. E., Young, J. E., & Telch, M. J. (1995). The Schema Questionnaire: Investigation of psychometric properties and the hierarchical structure of a measure of maladaptive schemas. *Cognitive Therapy and Research*, 19(3), 295-321.
- [31] Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25(2), 167-177.
- [32] Stinehart, M. A., Scott, D. A., & Barfield, H. G. (2012). Reactive attachment disorder in adopted and foster care

- children: Implications for mental health professionals. *The Family Journal: Counseling and Therapy for Couples and Families*, 20, 355-360.
- [33] Tanzilli, A., Di Giuseppe, M., Giovanardi, G., Boldrini, T., Caviglia, G., Conversano, C., & Lingiardi, V. (2021). Mentalization, attachment, and defense mechanisms: a Psychodynamic Diagnostic Manual-2-oriented empirical investigation. *Research in psychotherapy (Milano)*, 24(1), 531.
- [34] Thimm, J. C. (2010). Mediation of early maladaptive schemas between perceptions of parental rearing style and personality disorder symptoms. *Journal of Behavior Therapy and Experimental Psychiatry*, 41, 52-59.
- [35] Thome, A. (1990). Alexithymia and acquired immune deficiency syndrome. *Psychotherapy and Psychosomatics*, 54, 40-43.
- [36] Thorberg, F. A., Young, R. M., Sullivan, K. A., & Lyvers, M. (2011). Parental bonding and alexithymia: A meta-analysis. *European Psychiatry*, 26(3), 187-193.
- [37] Timoney, L. R., & Holder, M. D. (2013). *Emotional processing deficits and happiness: Assessing the measurement, correlates, and well-being of people with alexithymia*. Springer Science + Business Media.
- [38] Vaillant, G. E. (1994). Ego mechanisms of defense and personality psychopathology. *Journal of Abnormal Psychology*, 103(1), 44-50.
- [39] Veit, C. T., & Ware, J. E. (1983). The structure of psychological distress and well-being in general populations. *Journal of Consulting and Clinical Psychology*, 51, 730-742.
- [40] Vergés-Báez, L., Lozano-Paniagua, D., Requena-Mullor, M., García-González, J., García-Álvarez, R., & Alarcón-Rodríguez, R. (2021). Alexithymia and Insecure Attachment among Male Intimate Partner Violence Aggressors in the Dominican Republic. *Healthcare (Basel, Switzerland)*, 9(12), 1626.
- [41] Walburg, V., & Chiaramello, S. (2015). Link between early maladaptive schemas and defense mechanisms. *European Review of Applied Psychology*, 65(5), 221-226.
- [42] Wise, T. N., Mann, L. S., & Epstein, S. (1991). Ego defense styles and alexithymia: A discriminant validation study. *Psychotherapy and Psychosomatics*, 56, 141-145.
- [43] Yates, T. M., Gregor, M. A., & Haviland, M. G. (2012). Child maltreatment, alexithymia, and problematic internet use in young adulthood. *Cyberpsychology, Behavior and Social Networking*, 15(4), 219-225.
- [44] Young, J. E. (1998). *Young Schema Questionnaire Short Form*. New York: Cognitive Therapy Center.
- [45] Young, J. E. (1999). *Cognitive therapy for personality disorders: A schema-focused approach (3rd Ed.)*. Sarasota, FL: Professional Resource Press.
- [46] Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema therapy: A practitioner's guide*. New York: Guilford Publication.



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