The relationship between alexithymia, defense mechanisms, eating disorders, anxiety and depression

La relazione tra alessitimia, meccanismi di difesa, disturbi del comportamento alimentare, ansia e depressione

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SUMMARY. Introduction. Research suggests that alexithymia is a significant element for emotion processing, while defense mechanisms proved to be important factors for adjusting to stressful life events and to cope with potential psychopathologies. **Aims.** The aims of the present study are to examine the relationships between alexithymia, defense mechanisms, depression, anxiety and eating disorders and to examine the mediation role of defense mechanisms in the relation between alexithymia and anxiety, depression and eating disorders. **Material.** In a sample of 283 subjects, aged 18-49 (M=2.33, DS=4.81), instruments were administered to measure alexithymia, defense mechanisms, depression, anxiety and eating disorders. **Results.** This study showed that alexithymia was positively related to anxiety, depression, general psychological maladjustment, eating disorder risk, maladaptive style defense mechanisms, image-distorting style defense mechanisms, self-sacrificing style defense mechanisms, whereas it was negatively related to Mature Style Defense Mechanisms. Implications of the findings are discussed.

KEY WORD: alexithymia, defense mechanism, anxiety, depression, eating disorders.

RIASSUNTO. Introduzione. Numerose ricerche hanno evidenziato che l'alessitimia è un elemento significativo per l'elaborazione delle emozioni, mentre i meccanismi di difesa si sono rivelati fattori importanti per adattarsi a eventi di vita stressanti e per far fronte a potenziali psicopatologie. **Scopo.** Lo scopo di questo studio è di indagare le relazioni tra alessitimia, meccanismi di difesa, depressione, ansia e disturbi del comportamento alimentare. Un altro scopo di questo lavoro è di indagare il ruolo di mediatore dei meccanismi di difesa nella relazione tra alessitimia, ansia, depressione e disturbi del comportamento alimentare. **Materiali.** Un campione di 283 soggetti, con un'età compresa tra i 18 e i 49 anni (M=2,33, DS=4,81), ha preso parte a questa ricerca. Sono stati impiegati degli strumenti per misurare l'alessitimia, i meccanismi di difesa, la depressione, l'ansia e i disturbi del comportamento alimentare. **Risultati.** Lo studio ha mostrato che l'alessitimia è correlata positivamente con ansia, depressione, disadattamento psicologico generale, rischio di disturbi del comportamento alimentare, stile difensivo disadattivo, stile difensivo di distorsione dell'immagine, stile difensivo di auto-sacrificio. L'alessitimia è inoltre correlata negativamente con lo stile difensivo maturo. Le implicazioni di questi risultati sono discusse.

PAROLE CHIAVE: alessitimia, meccanismi di difesa, ansia, depressione, disturbi del comportamento alimentare.

INTRODUCTION

Alexithymia is a described as a disorder of affect regulation and is characterized by difficulty in identifying and verbalizing emotions, paucity of imagination, externally oriented cognitive style, and emotional deregulation[1]. People with alexithymia show difficulties in distinguishing and describing emotions, a paucity of humour and imagination and concrete cognitive style[2].

Furthermore, alexithymia is described as a difficulty in distinguishing among emotions and experiencing them consciously[3]. Alexithymia is generally associated with health problems such as heart diseasese[4], but is also present in healthy people[5]. Several studies showed that alexithymia is a transdiagnostic factor for many psychopatologies[6], it is a negative factor of outcome for psychotherapy[7] and for the creation of the therapeutic alliance[8]. Furthermore, previous studies[9] have implicated both environmental and developmental factors, in particular parenting style, in the aetiology of alexithymia[10].

Several findings showed a significative association with depression and anxiety[11,12] and eating disorders (EDs)[13,14].

Several studies showed that alexithymia positively correlates with maladaptive defense styles[15,16]. Defense mechanisms are an unconscious function of the ego used in order to protect oneself from anxiety[17]. Defense mechanisms can be conceptualized on a continuum that ranges from mature to immature. Individual defenses that are conceptually and adaptively similar are typically clustered together into higher-order defense levels[18]. Research showed support for this theory[19]. Previous studies[20] has investigated both environmental and developmental factors implicated in defense mechanisms development. Porcerelli et al.[20] highlighted that the less frequent use of maladaptive defenses by mothers predicted greater attachment security, better social-emotional competence, and fewer behavior problems in children. Maternal ability to use adaptive defense mechanisms during stressful times allows her to support the child's psychological development and regulatory capacities[20] .

Moreover, Boerner et al.[21] suggested that the level of a mature defense style moderated the association between self-reported trauma experiences and both negative and positive affectivity.

Individuals with more functional defense mechanisms are able to cope with problems successfully, consequently their level of distress is reduced[22]. Previous findings show that personality traits predict individual defense mechanisms[23] and previous researches have shown how personality aspects play an increasingly prominent role in the relationship with defense mechanisms[24]. For instance, nevroticism has been shown to be a relevant factor in the prediction of the usage of dysfunctional defense mechanisms as a way to cope with stress[23].

Consistent findings have shown that an excessive use of immature defenses is related to both less favourable personality characteristics and affective disorders[25]. Moreover, immature defensive patterns are consistently related to alexithymia[26]. Defense mechanisms have been considered by clinical studies since they have special importance in clinical populations[27]. Some authors hypothesize that alexithymia represents a primitive mental defense, and that the deficit in processing emotional information subcomponent can be seen as a way of minimizing emotional involvement, in order to protect the self[28].

Defense mechanisms intervene in our way of perceiving reality and coping with problems, and for this reason they have a seminal role in EDs[29] and in both depression and anxiety[30,31].

EDs are characterized by various eating-related problems such as dietary restriction, purging and binge eating that cause severe distress or apprehension about weight and shape[32]. Depression is characterized by a loss of interest in previously pleasurable activities, sadness, irritability, feelings of worthlessness, hopelessness, guilt, concerns over death, or suicidal ideation, sleep disturbances, decreased energy, indecisiveness, or distracted attention[33], whereas anxiety is characterized by feelings of worry about something with an uncertain outcome that may cause physical symptoms, such as fast hear rate[32].

Several studies consistently found that, compared to healthy controls, individuals with an EDs used more maladaptive defensive functioning styles[34,35].

Tordjman et al.[36] showed differences in psychological functioning between patients and healthy subjects regarding projection, suppression and sublimation in particular.

Vidovic et al.[37] showed that people with anorexia with purging behaviour and bulimia scored higher levels of maladaptive defenses compared to people with anorexia with restrictive behaviour and healthy people.

Furthermore, previous findings showed that the symptoms of depression and anxiety positively relate with immature defense mechanisms, while did not relate with mature defense mechanisms in psychiatric population[31], and general population[38].

Furthermore, previous findings showed that depressive disorder uses an higher level of immature defenses compared to anxiety[39].

Since several findings have shown how emotional aspects play an increasingly relevant role in EDs, depression, Anxiety and general psychopatology[40-43]and how defense mechanisms predict adjustment[43], it seems reasonable to study these two aspects concurrently in the relationship with EDs, anxiety and depression.

The aims of this study are 1) to examine the relationships between the dimensions of alexithymia, defense mechanisms, EDs, depression and anxiety 2) to examine the mediation role of defense mechanisms in the relation between alexithymia, depression and Anxiety.

MATERIALS AND METHODS

Partecipants

A convenience sample took part in this study on a voluntary basis, without any form of compensation. The sample consisted of 283 subjects, aged 18-49 (M=2.33, DS=4.81). All participants were Italian. Regarding educational level, 77% had a high school diploma, 9% had a degree, while 14% did not report this information. Regarding occupational level, 2% had a dependent employment, 1% had independent employment, 77% were students, 7% were unemployed, 1% were retired, 2% were housewives, 17% did not report this information. Regarding marital status, 44% of the sample was unmarried, 5% was married, 2% was cohabitant, 2% was divorced, 49% was engaged.

Measures

Defense mechanisms

Defense Style Questionnaire[43,44] is a 88 item self-report instrument which measures conscious manifestations of defense mechanisms. Participants are required to rate, on a 9-point scale, their level of agreement with each item. It can be divided in four domains, Immature (e.g. "I often act impulsively when something is bothering me."), Mature (e.g. "I get satisfaction from helping others and if this were taken away from me I would get depressed"), Image-distorting (e.g. "I am superior to most people I know.") and Neurotic (e.g. "If someone mugged me and stole my money, I'd rather he'd be helped than punished.").

The Defense Style Questionnaire has been widely used and past research has shown good psychometric characteristics[44-46].

Alexithymia

Toronto Alexithymia Scale[47,48] is a 20 item self-report instrument which measures personal level of alexithymia. The TAS-20 consists of the three subscales, difficulty identifying feelings (DIF) (e.g. "I am often confused about what emotion I am feeling"), difficulty describing feelings (DDF) (e.g. "It is difficult for me to find the right words for my feelings") and externally oriented thinking (EOT) (e.g. "I prefer to just let things happen rather than to understand why they turned out that way"). Participants are required to rate, on a 5-point scale, their level of agreement with each item.

Past research has shown good psychometric characteristics[12,47,48].

Depression

Beck Depression Inventory II[49,50] is a 21 item self-report instrument which measures personal level of depression (e.g. "I can't get any pleasure from the things I used to enjoy"). The measure focuses on depressive symptoms that have occurred over the preceding two weeks. Participants are required to rate, on a 4-point scale, their level of agreement with each item. Past research has shown good psychometric properties[50-54].

Anxiety

Beck Anxiety Inventory[54,55] is a 21 item self-report instrument which measures personal level of anxiety. The questions used in this measure ask about several common symptoms of anxiety that the participant has had during the past week (e.g. "Difficulty in breathing"). Participants are required to rate, on a 4-point scale, their level of agreement with each item. Past research has shown good psychometric properties[53,56].

Eating disorders

The Eating Disorder Inventory-3[57,58] is a 91 item self-report questionnaire used to assess the presence of EDs. The EDI-3 consists of subscales low self-esteem (LSE), personal alienation (PA), interpersonal insecurity (II), interpersonal alienation (IA), interoceptive deficits (ID), emotional dysregulation (ED), perfectionism (P), asceticism (AS) and maturity fear (MF). The Eating Disorder Risk (EDR) scale comprises three of the subscales and describes a global measure of eating concerns and control over both food and body (e.g. "I eat sweets and carbohydrates without being nervous"), and the General Psychological Maladjustment (GPM) scale comprises the remaining nine subscales, and describes psychological – related maladjustment related to EDs behaviors (e.g. "I feel extremely guilty after eating too much."). Participants are required to rate, on a 6-point scale, their level of agreement with each item. For the purpose of this study, the latter two subscales have been used. EDI – 3 was widely used in several studies[59,60]. Past research has shown good psychometric properties[61].

Procedures

The subjects were recruited from among friends and acquaintances of psychology students. After describing the study's purpose, participants signed the informed consent to participate in the study. Privacy and the anonymity of their answers were guaranteed. Administration took place in a calm and peaceful environment in the presence of a properly trained psychologist. The protocol described above took about 30 min to be completed. The data were then analyzed using IBM SPSS-22 and EQS 6.2.

RESULTS

Table 1 shows Means, Standard Deviations (SD) and the correlations among the dimensions of the questionnaires. DIF correlated with depression, anxiety, maladaptive style (MS), image-distorting style (IS), self-sacrificing style (SS), GPM and EDR. DDF correlated with depression, anxiety, MS, IS, and GPM. External-oriented thinking (EOT) negatively correlated with adaptive style (AS). Depression correlated with anxiety, MS, IS, SS, GPM and EDR. Similarly anxiety correlated with MS, IS, SS, GPM and EDR. MS correlated with GPM and EDR. IS and SS correlated with GPM.

In our study, we used Structural Equation Modeling (SEM) to examine the relationship of variables. In this model DDF and EOT are the predictor variables, MS, IS, SS and AS are variable mediation, depression, anxiety, GPM and EDR are the outcomes.

Analysis of the covariance matrices was conducted using EQS 6.2 and solutions were generated based on maximum-likelihood estimation.

Estimation of the saturated model, and therefore no fit indices were reported, showed a significant path from DIF to MS (b=.46; p<.05), SS (b=.21; p<.01), depression (b=.24; p<.05), anxiety (b=.33; p<.05), and GPM (b=.30; p<.05). DDF was related with IS (b=.15; p<.05). Furthermore EOT was related with AS (b=-.17; p<.05), and anxiety (b=-.14; p<.05). Moreover MS was predicted depression (b=.45; p<.05), anxiety (b=.39; p<.05), GPM (b=.52; p<.05) and EDR (b=.38; p<.05). AS was predicted depression (b=-.17; p<.05), anxiety (b=-.15; p<.05) and GPM (b=-.12; p<.05).

In according with common procedure to test the saturated model[62] all nonsignificant paths were removed and several indices indicated that the data fit the final model (Figure 1), $\chi^2(24)=32.55$; p=.11, CFI =.99, RMSEA=.04 (90% CI=.00-.06). The results showed a significant path from DIF to MS (β=.46; p<.05), SS (β=.16; p<.05), GPM (β=.32; p<.05), depression (β=.26; p<.05) and anxiety (β=.30; p<.05). DDF was related to IS (β=.18; p<.05), while EOT was related with AS (β=-.18; p<.05) and anxiety (β=-.14; p<.05). Moreover there were a significant path from MS (β=.34; p<.05) and AS (β=-.12; p<.05), to anxiety, and from MS (β=.44; p<.05), and AS (β=-.13; p<.05) to depression. Furthermore there were a significant path from MS (β=.49; p<.05), and AS (β=-.11; p<.05) to GPM. Moreover there was a significant path from MS to EDR (β=.30; p<.05).

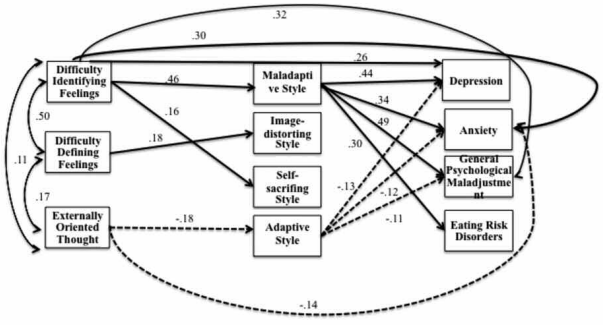
CONCLUSIONS

As expected, depression was positively related with DIF, DDF, MS, IS, SS, anxiety, GPM and EDR. These findings are consistent to previous studies, which shown that high level of

Table 1. Descriptive analyses and correlations.

		M	SD	1	2	3	4	5	6	7	8	9	10	11
1	Difficulty identifying feelings	14.12	5.39											
2	Difficulty defining feelings	11.86	4.22	.51**										
3	Expressive externally oriented thought	15.47	4.05	.11	.22**									
4	Alexithymia	41.44	9.91	.80**	.79**	.56**								
5	Depression	9.93	7.60	.47**	.30**	.01	.39**							
6	Anxiety	15.08	11.73	.46**	.19**	-.08	.30**	.62**						
7	Maladaptive style	3.79	.93	.50**	.31**	.05	.42**	.51**	.46**					
8	Image – distorting style	3.85	1.01	.20**	.21**	.06	.22**	.14*	.12*	.51*				
9	Self – sacrificing style	3.99	1.03	.18**	.05	-.04	.10	.18**	.15**	.34**	.18**			
10	Adaptive style	5.06	1.25	.02	-.09	-.19**	-.03	-.08	-.05	.18**	.17**	.28**		
11	General psychological maladjustment	52.48	18.43	.57**	.38**	.11	.52**	.63**	.53**	.63**	.27**	.15**	-.05	
12	Eating disorder risk	26.85	24.71	.18**	.11	.06	.17**	.37**	.33**	.30**	.06	.03	-.06	.53**

Note: ** p<.01; *p<.05



Note: coefficients shown are standardized path coefficients. Dotted lines represent non-significant parameters.

Figure 1. Full mediation models between alexithymia, defense mechanism, anxiety, depression and eating disorders.

Alexithymia are related to depression[12]. Depressive symptoms are associated with a worse outcome in a wide range of diseases[63-65] and patients with depression typically engage in emotional inhibition strategies to deal with their symptoms and consequently they have more difficulties in subjectively identifying and describing their emotions[66]. Patients with depression typically are not able to use functional way to recognize emotions properly, consequently they may be more prone to maladjustment[12].

Furthermore, depression was positively related to MS, IS, SS. These results are consistent to previous findings which highlighted how low defense maturity were associated with depressive symptoms[16] and how mature defense style is less common[38]. The usage of dysfunctional defense mechanisms by individuals with depression may represent either the influence of an active disabling illness, or a potentially premorbid risk factor for the development and maintenance of the disorder itself[67].

Furthermore, depression was positively related with anxiety, GPM and EDR. Negative affectivity may intervene in the way of perceiving reality and coping with problems, predisposing individuals to a greater extent of

global maladjustment in presence of both dysfunctional mood and eating disorders subcomponents[68].

As expected, anxiety was positively related with DIF, difficulty defining feelings and TAS global score. These results are consistent with previous findings[11].

An inability to modulate emotions might explain why some people with alexithymia are prone to discharge tension arising from unpleasant emotional states through dysfunctional behaviors and unpleasant physical states[69].

As expected, anxiety positively correlated with GPM and EDR. These results suggest that these anxiety processes may not only contribute to specific symptomatology that are commonly found in specific ED[14], but also to the anxious and depressive processes underlying general ED functioning.

Furthermore, Depression positively correlated with anxiety, MS, IS, SS. These results are consistent to previous findings, which highlighted a positive correlation between anxiety and depression and how mature defense mechanism positively relate with them[38,40]. In presence of anxiety, individuals may have difficulties to successfully adjust to both contextual and emotional demands, consequently they may use less adaptive defense mechanisms in order to cope with potential threats[31].

As expected, GPM positively related with DIF, DDF and TAS total score.

ED might be a result of difficulty in regulating the negative emotions that accompany perceptions, and people with low levels of emotion management usually experience difficulties in identifying and expressing emotions, and in distinguishing between emotional states and physical sensations[68,69].

Furthermore, GPM was positively related with MS, IS, SS. These results are consistent to previous findings[29,37] which showed how maladaptive defense mechanisms are more relevant than AS mechanisms in ED. These findings are consistent with previous results that consistently found, compared to non-eating-disordered controls, individuals with an eating disorder used more maladaptive defensive functioning styles[34,35].

The usage of immature defense mechanisms in ED may represent either the influence of an active impairment, the result of a prolonged disorder that affects one's functioning, or a potentially premorbid risk factor for the development and maintenance of the disorder[37].

These findings provide general support a hierarchical view of defense mechanisms[70-72].

Our results may support the hypothesis that mature defense mechanisms promote adjustment, since they allow an individual to view his environment in a functional way, protecting him against depression, anxiety and eating disorder[73].

The purpose of this study was to test a mediation model in which the relationship between alexithymia depression, anxiety and eating disorders is mediated by defense mechanisms.

Our results are in line with previous findings that integrate alexithymia and defense mechanisms concurrently[26], suggesting that less presence of alexithymia is (indirectly, through increased mature defence mechanisms) associated with fewer eating disorders, depression and anxiety. The persistent experience of emotion processing impairment may not allow the development of adequate strategies to self-regulate emotion, and this could be translated into maladaptive compensatory behaviours to modulate emotions, such as eating disorders[74], whereas individuals with more adaptive defense mechanisms may be more likely to understand, regulate, and use emotional information to cope with daily stressors and threats, consequently they may tend to be more adapted to their environment and have a better adjustment, resulting in a better level of adaptation[14,37,38]. Difficulties in identifying and describing emotions and dysfunctional emotion regulation may be associated with dysfunctional support-seeking strategies, and consequently this may inhibit the development of adaptive defense mechanisms, whereas an adaptive ability to understand, regulate, and use emotional information may facilitate the usage of more mature defense mechanisms[67].

Finally, this study provides a relevant contribution to the relationship between alexithymia, depression, anxiety and eating disorders. In the present study, there are some limitations to take into account. Firstly, the small number of participants necessitates caution about the generalizability of the results. Secondly, the exclusive use of self-reports for measuring a subjective experience could increase measurement bias, for this reason, future studies should use objective measures and/or multi-rating sources.

Despite these limitations, this study provides significant practical and theoretical insights.

First of all, from a practical point of view, the results underline the fact that individuals with immature defense mechanisms and high levels of alexithymia might be vulnerable to developing maladjustment.

Psychotherapies and psychological training programmes that have shown their efficacy in preventive and clinical contexts[75-79] could integrate alexithymia and defense mechanisms assessment in order to provide a more complete view of psychopathology.

Assessing alexithymia and defense mechanism may facilitate adherence in psychotherapy and constitute a beneficial factor of outcome[7], consequently, changing in defense mechanism functioning may be an important aspect of psychotherapy that is related to improved symptoms during psychotherapy[80,81].

Finally, integrating aspects of alexithymia and defense mechanisms should provide a more holistic and comprehensive model for the understanding of psychological mechanisms underlying psychological maladjustment.

Conflict of interests: the authors have no conflict of interests to declare.

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