



# Alexithymia in anorexia nervosa: The mediating role of depression



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## ABSTRACT

The role of depression in the expression of alexithymia in anorexia nervosa (AN) has been controversially explained and several variables that may mask or increase the presence of emotional difficulties have scant examination in previous studies. This study aims to analyze the associations between alexithymia and state variables, such as age, BMI, illness duration, treatment duration, and medication status in AN participants, and to test the mediating role of depression in emotional difficulties. The Toronto Alexithymia Scale (TAS-20) and the Zung Self-Rating Depression Scale were administered to 160 females: 80 participants with AN and 80 healthy controls. High levels of alexithymia were not a function of state variables. The mediating role of depression differed by the alexithymia dimension, with total mediation found for the TAS-DDF and partial mediation found for the TAS-DIF. Alexithymia is a relevant feature throughout the spectrum of AN and does not seem to be related to developmental maturation and some clinical features. Depression is probably the variable that best accounts for the variance in alexithymia, but is not a complete explanation for the known cognitive–affective disturbances in AN. Specific emotional competencies require scrutiny during psychiatric treatment.

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## 1. Introduction

Emotional dysfunctions in anorexia nervosa (AN) were recently synthesized in two systematic reviews (cf. Hatch et al., 2010; Oldershaw et al., 2011). Evidence indicates that a broad range of emotional difficulties exist in AN, including poor emotion recognition and deficits in the processing of emotional information. Historically, a well reported disturbance in cognitive processing and regulation of emotions in AN is that of alexithymia. This cognitive–affective deficit is characterized by (a) a difficulty in identifying feelings and distinguishing emotions from physical sensations (DIF), (b) a difficulty in describing feelings to others (DDF), and (c) a diminution of imagination and an externally oriented thinking (EOT) (Taylor et al., 1997). Due to high levels of alexithymia observed in AN patients (e.g., Corcos et al., 2000; Eizaguirre et al., 2004; Speranza et al., 2005; Torres et al., 2011b), it has been hypothesized that eating-disordered behaviors such as starving, bingeing or purging, offer a strategy to avoid, suppress, or regulate affect (e.g., Wildes et al., 2010; Haynos

and Fruzzetti, 2011; Brockmeyer et al., 2012), thus redirecting attention from negative emotions to the body and eating (e.g., Taylor et al., 1997; Overton et al., 2005). For this reason, it is suggested that alexithymia can affect recovery from eating disorders, because such cognitive limitations in emotion regulation may predispose the use of maladaptive eating behaviors to deal with stressful situations (Speranza et al., 2007). In addition, the reduced ability of reporting emotions to the therapist represents another obstacle for therapeutic efficacy (Jänsch et al., 2009; Haynos and Fruzzetti, 2011).

### 1.1. Alexithymia and depression in AN

Considering that alexithymia can perpetuate the clinical expression of ED, several studies in AN have questioned if this emotional deficit is explained by the presence of depressed mood (e.g., Corcos et al., 2000; Eizaguirre et al., 2004; Speranza et al., 2005). Theoretically, is reasonable to assume that there is an association between alexithymia and depression, as both constructs share many characteristics. In particular, negative affect (Saarijärvi et al., 2001; Mattila et al., 2008), anhedonia (Saarijärvi et al., 2001), less clarity about their feelings (Rude and McCarthy, 2003), decreased ability to communicate affect to other people, use of less adaptive emotion-regulation strategies, such as suppression of affect (Saarijärvi et al.,

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2001), and problems with interpersonal communication (Mattila et al., 2008). Several studies have also reported a significant, positive correlation between alexithymia and depression in patients with eating disorders (Corcos et al., 2000; Eizaguirre et al., 2004; Bydlowski et al., 2005). However, the role of depression in the relationship between AN and alexithymia continues to be controversial, dividing the authors into two camps: those who consider alexithymia a condition secondary to depressed mood, and those who defend that alexithymia reflects an independent aspect of psychological functioning in AN.

In defense of alexithymia as a secondary diagnosis to depression in patients with AN, Corcos et al. (2000) and Gilboa-Schechtman et al. (2006) found that increased rates of alexithymia in individuals with AN, compared to those with bulimia nervosa (BN), were closely related to depression. The results suggested that after controlling for depression, rates of alexithymia did not vary according to the type of ED. Additionally, Bydlowski et al. (2005), Gilboa-Schechtman et al. (2006) and Montebanocci et al. (2006) found that high alexithymia levels among patients with ED, compared to healthy matched controls, were primarily related to negative affect. Taken together, these studies supported the view that alexithymia is a state-dependent phenomena linked to depression.

Conversely, de Zwaan et al. (1996) found that participants with eating disorders presented higher rates of alexithymia when compared to a control group, even after adjusting for depression. Geller et al. (2000) achieved the same conclusion when they analyzed the DDF component of alexithymia. These studies are consistent with the view of alexithymia being independent from depression.

Incorporating these two perspectives, a third approach has emerged which contends that, depending on the factor being analyzed, alexithymia can to be both state-dependent, strongly related to depression, and a stable trait, not changing in the presence of depressive symptoms. Two studies concluded that AN patients with restricting subtype are less able to describe their emotions when compared to controls, and this difficulty does not seem to be influenced by the level of depression, opposed to the DIF factor, which was associated with depression in both AN subtypes (Sexton et al., 1998; Speranza et al., 2005). With this unified approach, we can also explain the findings by Eizaguirre et al. (2004) in which alexithymic features were closely linked to, and explained as, depression. These features also represented distinct personality traits in some patients with ED.

In conclusion, findings in this area are controversial and the role of depression in the relationship between alexithymia and AN remains unknown. Due to the potential negative impact of alexithymia in recovery from eating disorders, the clarification of this issue is of significant interest, and has been advocated by several authors (Fox and Power, 2009; Hatch et al., 2010; Oldershaw et al., 2011). Therefore, the goal of this study was to analyze the impact of mood disorder symptoms on the expression of alexithymia in individuals with AN.

### 1.2. State variables in alexithymia

In order to achieve this goal, there are confounding variables that should be considered as they may mask or exacerbate the presence of emotional difficulties. In particular, the importance of controlling for the use of psychotropic medication (Jansch et al., 2009; Oldershaw et al., 2011) and the effect of other “state variables” such as body mass index (BMI), illness duration, treatment duration, and age on the variation of emotion-processing deficits (Oldershaw et al., 2011). It is possible that some alexithymia dimensions can be less prevalent in less severe ED cases, as suggested by Laquatra and Clopton (1994). For example, how long someone has had an ED may interfere both in DDF and depression levels, as patients typically become increasingly socially isolated

the longer they are ill (Oldershaw et al., 2011). The overall time spent in treatment can account for a substantial symptom reduction (Brauhardt et al., 2014), including impaired emotional functioning. Age can also produce differences in the expression of alexithymia, in that affect development occurs in stages and may be influenced by environmental and developmental variables (Lane et al., 1998).

With these considerations, first we examined whether depression and the aforementioned state variables (use of psychotropic medication, BMI, illness duration, overall treatment duration, and age) were able to predict alexithymia. Then we tested whether and how much depression explains (i.e., mediates) the relationship between AN and alexithymia.

### 1.3. Methodological considerations

We addressed some methodological limitations in previous studies that may explain the divergent results. First, we employed the use of a large sample and parsed out individuals with AN from those with BN, as some researches have noted differences in emotion processing between people with these two eating disorders (e.g., Gilboa-Schechtman et al., 2006). In contrast to previous studies which used a total score, we emphasized the multidimensional nature of alexithymia (Taylor et al., 2000) by conducting separate analyses for each facet of the construct (Corcos et al., 2000; Bydlowski et al., 2005; Montebanocci et al., 2006).

Methodologically, the most common assessment used for depression symptoms is the Beck Depression Inventory (BDI; Beck et al., 1961). BDI is well known and widely used, but is limited in scope as it does not assess all potential indicators or symptoms of depression. Considering that there is substantial variability in the symptom areas covered by the BDI and other tests of depression symptomology (Shafer, 2006), we used an alternative depression measure to help clarify the divergent results achieved using the BDI. For this study we chose the Zung Self-Rating Depression Scale (SDS; Zung, 1965), which is also a common tool in depression assessment, and presents a similar validity and reliability to that of the BDI (Rush et al., 2008). The use of the SDS may have three potential advantages over the BDI. Firstly, the SDS allows for assessment of positive affect (e.g., “feeling happy,” “enjoying things,” “feel useful and needed”) that is a valued component in current models of affect, particularly in combination with depressive symptomology (Reich et al., 2003). While positive and negative affect are inversely related, they can occur simultaneously. Therefore, emotional indicators should be assessed within a model that allows for the co-occurrence of positive and negative affect. Secondly, because the SDS includes depression-absent items it may be more sensitive for assessing low-levels of depression (Spielberger et al., 2003), and consequently provide a more accurate assessment of the effect of the range of depressive symptoms in alexithymia. Thirdly, the SDS has a relatively low literacy level, and low level of complexity in the question phraseology (Shumway et al., 2004), making it an ideal assessment of depression in young samples, as is true with AN samples.

### 1.4. Study hypothesis

The current study had two main hypotheses. One, that alexithymia in AN would not vary with age, BMI, illness and treatment duration, or medication status. Two, it was speculated that the link between alexithymia and AN would be partially explained by the presence of depression, and that the mediating role of depression symptoms would vary according to the three alexithymia dimensions. Inherent is the assumption that, although alexithymia may be a tendentious personality trait at the individual level, features of alexithymia may be state-dependent, particularly dependent on the presence of depressive symptoms (Henry et al., 2006). No specific predictions were made for the current study about the mediating role

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