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The role of emotional dysregulation in concurrent eating disorders and substance use disorders

Sarah Spence [a,*], Christine Courbasson [b]

[a] Psychology Department, University of Toronto, St. George Campus, 100 St. George St., Toronto, ON, Canada M5S 3G3
[b] Cognitive-Behavioural, Dialectical-Behavioural, and Humanistic Therapy Centre, 1504 Yonge Street, 3rd Floor, Toronto, Ontario, Canada M4T 1Z2

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ABSTRACT

This study explored the role of emotional dysregulation in 178 participants with concurrent EDs and SUDs. We ran two path analyses: Model 1 predicted negative mood regulation from alexithymia, and Model 2 predicted emotional eating from negative mood regulation. For Model 1, difficulty identifying and describing feelings was related to poor coping expectancies, while externally-oriented thinking was related to greater coping expectancies. For Model 2, poor coping expectancies in general were related to emotional eating, while greater coping expectancies in relation to behavior (i.e., the belief that some behavior or action can alleviate one's negative affect) also resulted in increased emotional eating. This finding suggests that there may be differences in the purpose of emotional eating; some people may believe that emotional eating can be used as an effective coping strategy to deal with negative affect.

1. Introduction

Emotional dysregulation is a core feature in eating disorders, and one that has not received much research attention (Holliday, Uher, Landau, Collier, and Treasure, 2006). Emotional dysregulation is a broad term that can encompass emotion identification and description (i.e., alexithymia), regulation (e.g., negative mood regulation), and behavior (e.g., emotional eating). This study will explore the link between these three components of emotional dysregulation, alexithymia, negative mood regulation, and emotional eating, to better understand the underlying affective deficits present in eating disorders (EDs) and substance use disorders (SUDs). The results will inform both researchers and clinicians about the best treatment options for these clients.

1.1. Emotional eating

Emotional eating, or eating in response to negative affect, is a dysregulated physiological response to intense emotion since the typical response to negative affect is a loss of appetite. Emotional eating is more common in individuals with bulimia nervosa (BN) than anorexia nervosa (AN); however, within AN, emotional eating is more common in those who purge (Vervaet, Audenaert, and van Heeringen, 2003). Emotional eating has also been linked with substance use, although this has not been frequently studied (Courbasson, Rizea, and Weiskopf, 2008).

1.2. Alexithymia

Alexithymia refers to the inability to express, describe, differentiate, and understand emotion, as well as a poor imagination and externally-oriented thinking (i.e., focusing on external stimuli rather than one's emotions). It has been argued that people who experience alexithymia may turn to self-stimulatory behaviors such as starvation or binge-eating in order to quell the uncontrollable and unidentifiable sensations they experience (Sperenza et al., 2005). Alexithymia has been found in individuals with AN and individuals with BN (Cochrane, Brewerton, Wilson, and Hodges, 1993; Corcos et al., 2000; Lawson, Emanuelli, Sines, and Waller, 2008) as well as in individuals with alcohol and drug dependence (Guilbaud et al., 2002). Alexithymia seems to manifest in people with EDs as an affective (difficulty identifying and describing feelings) rather than a cognitive phenomenon (externally-oriented thinking) (Corcos et al., 2000; Taylor, Parker, Bagby, and Bourke, 1996; Troop, Schmidt, and Treasure, 1995).

1.3. Negative mood regulation

While it is clear that the identification and description of emotions play a role in EDs, and presumably, affect regulation would be an obvious corollary of this, it has been given relatively little research attention. Catanzaro and Mearns (1990) developed the Negative Mood Regulation Scale (NMR), which assesses an individual's perception that some behavior or cognition will alleviate a negative mood state. Lower NMR scores (i.e., self-perceived inability to regulate one's mood) are found in individuals with depression (Backenstrass et al., 2010; Burns, Shaw, and Crocker, 1987), EDs (Gilboa-Schechtman, Avnon, Zubery, and Jeczmien, 2006) and SUDs (Thorberg and Lyvers, 2006).

* Corresponding author. Tel.: +1 416 720 4282.
E-mail addresses: sarah.spence@utoronto.ca (S. Spence), cbtdbtht@sympatico.ca (C. Courbasson).

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1.4. The relation between alexithymia, emotional eating, and mood regulation

Negative mood has been consistently linked with emotional eating; indeed, negative affect has been shown to increase before a binge-eating episode (Davis, Freeman, and Solyom, 1985) and emotional eating may serve as a distraction from negative affect (Elmore and de Castro, 1990). It has also been found that alexithymia predicts emotional eating in participants with binge-eating disorder (BED) (Pinaquy, Chabrol, Simon, Louvet, and Barbe, 2003); however, no research has linked NMR with alexithymia and emotional eating.

1.5. The present study

The purpose of this study was to explore the relation between alexithymia, negative mood regulation, and emotional eating in order to identify the effects that emotional dysregulation has on participants with concurrent EDs and SUDs. It was hypothesized that alexithymia and NMR would be correlated as difficulty identifying and describing emotions would lead to difficulty regulating these unrecognizable/indescribable feelings. It was also hypothesized that NMR would be negatively correlated with emotional eating as difficulty regulating one's mood would likely result in greater emotional eating as a means of quelling negative affect.

2. Methods

2.1. Participants and procedures

Participants included in this study were 178 men and women who sought treatment for ED and substance use at a community EDs and substance addiction clinic. The most common eating disorder was BN (46.1%), followed by ED-NOS (23%), AN (18.5%), and BED (10.7%). In total, 56.8% of the sample had a mood disorder, 65.2% had an anxiety disorder, and 57.3% had at least one Axis II diagnosis.

Clients who were seeking treatment at a community hospital for concurrent EDs and SUD were asked at assessment if they were willing to participate in research on EDs and SUD, on a voluntary basis without financial compensation. After obtaining informed consent participants were given the outcome measures. Research was approved by the Research Ethics Board at the hospital and all ethical guidelines were followed at all times.

2.2. Measures

2.2.1. Addiction

The Addiction Severity Index (ASI; McLellan et al., 1992) measures substance addiction using a composite score ranging from 0 to 1 (higher scores indicate greater severity). Reliability coefficients range from 0.89 to 0.92 (McLellan, Luborsky, O'Brien, and Woody, 1980).

2.2.2. Depression

The Beck Depression Inventory (BDI-2; Beck, Steer, and Brown, 1996) is a 21-item scale assessing the severity of depressive symptoms on a Likert scale. Strong internal reliability and validity have been demonstrated for the BDI-2 (Beck et al., 1996).

2.2.3. Anxiety

The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, and Steer, 1988) is a 21-item measure assessing the severity of anxiety. Adequate reliability and validity have been demonstrated for the BAI (Beck et al., 1988).

2.2.4. Emotional eating

The Emotional Eating Scale (EES; Arnow, Kenardy, and Agras, 1995) was used to assess the relation between negative emotions (anger/frustration, anxiety, and depression) and overeating as a coping strategy. It has a strong internal consistency ranging from 0.81 (Arnow et al., 1995) to 0.93 (Waller and Osman, 1998).

2.2.5. Mood regulation

The Negative Mood Regulation Scale (NMRS; Catanzaro and Mearns, 1990) is a 30-item measure used to assess beliefs about the ability to alleviate negative affect. Three subscales reflect cognitive, behavioral, and general means of reducing negative affect. The NMRS has demonstrated good psychometric properties (Catanzaro and Mearns, 1990).

2.2.6. DSM diagnosis

The Structured Clinical Interview for Diagnostic and Statistical Manual for Mental Disorders-IV (SCID-IV; First, Spitzer, Gibbon, and Williams, 1995) was used to confirm a diagnosis of EDs and SUD. The SCID is a semi-structured diagnostic interview administered by a trained clinician who evaluates specific criteria for the Axis I (Clinical Disorders) diagnoses of the DSM-IV. The SCID is a commonly used diagnostic tool with good psychometric properties.

2.2.7. Alexithymia

The Toronto Alexithymia Scale (TAS-20; Bagby, Parker, and Taylor, 1994a) is a 20-item self-report measure used to assess alexithymia. Three subscales comprise the TAS: Difficulty Describing Feelings, Difficulty Identifying Feelings, and Externally-Oriented Thinking. The TAS-20 has high reliability and validity (Bagby et al., 1994a; Bagby, Parker, and Taylor, 1994b).

2.3. Analytic plan

A path analysis was chosen to test the predictive ability of alexithymia on mood regulation and mood regulation on emotional eating. We ran two analyses: Model 1 predicted the subscales of the NMRS (depression, anxiety, general) from the subscales of the TAS (DDF, DIF, EOT). Model 2 predicted the subscales of the EES (anger, anxiety, and depression) from the subscales of the NMRS.

In order to control for diagnosis, current depression, anxiety, substance use, and Axis II disorders, preliminary regressions were run on these variables for each of the nine subscales and the standardized residuals were saved and used in the path analysis.

3. Results

3.1. Model testing

The hypothesized path models, tested using Mplus software, revealed excellent fit for Model 1, CFI = 1.00, TLI = 1.00, RMSEA = .000, and for Model 2, CFI = 1.00, TLI = 1.00, RMSEA = .000. There were no degrees of freedom, and therefore the chi-square test was zero.

For Model 1 (see Fig. 1) the hypotheses were generally confirmed. The TAS DDF subscale was negatively related to the NMR behavior subscale ($p = .058$) although this was only marginally significant. The TAS DIF subscale was negatively related to both the NMR general ($p = .001$) and NMR cognitive subscales ($p < .001$), and the TAS EOT subscale was positively related to both the NMR cognitive ($p = .002$) and NMR behavior subscales ($p = .025$).

For Model 2 (see Fig. 2) we see that the NMR general subscale was negatively related to emotional eating due to anger ($p = .005$) and depression ($p = .013$); however, the NMR behavior subscale was positively associated with emotional eating due to anger ($p = .001$), anxiety ($p = .061$), and depression ($p < .001$). The cognitive subscale did not predict any of the emotional eating subscales.