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Personality profiles in Eating Disorders: Further evidence of the clinical utility of examining subtypes based on temperament ☆

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ABSTRACT

Despite recent modifications to the DSM-V diagnostic criteria for Eating Disorders (ED; American Psychiatric Association, 2013), sources of variability in the clinical presentation of ED patients remain poorly understood. Consistent with previous research that has used underlying personality dimensions to identify distinct subgroups of ED patients, the present study examined (1) whether we could identify clinically meaningful subgroups of patients based on temperamental factors including Behavioral Inhibition (BIS), Behavioral Activation (BAS) and Effortful Control (EC), and (2) whether the identified subgroups would also differ with respect to ED, Axis-I and Axis-II psychopathology. One hundred and forty five ED inpatients participated in this study. Results of a k-means analysis identified three distinct groups of patients: an Overcontrolled/Inhibited group ($n=53$), an Undercontrolled/Dysregulated group ($n=58$) and a Resilient group ($n=34$). Further, group comparisons revealed that patients in the Undercontrolled/Dysregulated group demonstrated more severe symptoms of bulimia, hostility and Cluster B Personality Disorders compared to the other groups, while patients in the Resilient group demonstrated the least severe psychopathology. These findings have important implications for understanding how individual differences in personality may impact patterns of ED symptoms and co-occurring psychopathology in patients with ED.

1. Introduction

Eating Disorders (ED) are serious psychiatric conditions that confer a high risk of mortality (Norring and Sohlberg, 1993; Harris and Barraclough, 1997; Keel et al., 2003). There is a substantial variability in the clinical presentation of individuals with EDs (Fairburn et al., 2007; Fairburn and Cooper, 2011), yet sources of this variability remain poorly understood (Fairburn and Cooper, 2007, 2011). The DSM-V diagnostic criteria (American Psychiatric Association, 2013) aim to better capture the observed presentations of ED symptoms through modifications to the previous diagnostic criteria for ED. Some researchers remain concerned, however, that these adjustments will fail to adequately address the substantial heterogeneity in clinical presentations that characterize patients with ED (Fairburn and Cooper, 2011). To the extent that distinct subgroups of ED patients can be reliably identified, it is possible that these groupings could be used to inform assessment, treatment and future diagnostic nosologies.

Consistent with the recent call from the National Institute for Mental Health (NIMH) to decrease the emphasis on discrete, symptom-based diagnostic groups and increase focus on transdiagnostic biological and cognitive processes that underlie psychopathology (Sanislow et al., 2010), the examination of underlying personality dimensions that can classify distinct patient groups can pave the way for new nosologies, which in turn could improve treatment matching and illuminate new avenues for intervention. In this regard, temperament is a promising neurobiological, transdiagnostic process (Muris and Ollendick, 2005; Nigg, 2006; Amodio et al., 2008; Wiersema and Roeyers, 2009) that can be used to understand underlying mechanisms that may drive distinct clinical presentations in ED patients.

Personality features, in particular, have been shown to distinguish ED patients with an Overcontrolled, constricted presentation, who often have primarily restricting symptoms, from those

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with an Undercontrolled, dysregulated presentation, who often exhibit primarily binging and purging symptoms (Westen and Harnden-Fischer, 2001; Espelage et al., 2002; Wonderlich et al., 2005a; Claes et al., 2006b). For example, whereas ED patients with restricting presentations tend to score high on measures of rigidity and obsessive-compulsiveness (Vitousek and Manke, 1994; Anderluh et al., 2003), patients with binging and purging presentations score high on measures of impulsivity, extraversion and affective instability (Strober, 1983; Vitousek and Manke, 1994). Patients with both restricting and binging/purging presentations report high levels of perfectionism and negative affectivity (see Vitousek and Manke, 1994). Further, cluster analytic studies have consistently identified a third, Resilient or high functioning group of ED patients who demonstrate relatively little psychiatric comorbidity and better overall functioning compared to the other groups (Strober, 1983; Goldner et al., 1999; Westen and Harnden-Fischer, 2001; Espelage et al., 2002; Wonderlich et al., 2005a; Claes et al., 2006b), despite displaying a range of ED pathology (e.g., in inpatients, 53.9% of resilient patients had Anorexia Nervosa and 42.1% had Bulimia Nervosa; Claes et al., 2006b; in outpatients, 58% of resilient patients had Bulimia Nervosa and 30% had an Eating Disorder Not Otherwise Specified). These three groups of ED patients have been found to differ with respect to a variety of factors that can impact clinical service delivery, including Axis-I and Axis-II comorbidity, adaptive and interpersonal functioning, impulsivity and childhood trauma histories (Strober, 1983; Goldner et al., 1999; Westen and Harnden-Fischer, 2001; Espelage et al., 2002; Wonderlich et al., 2005a; Claes et al., 2006b). Personality disorders, in particular, have been found to be important for distinguishing different subgroups of ED patients (Espelage et al., 2002; Westen and Harnden-Fischer, 2001). Further, research examining descriptions of ED patients given by their treating clinicians suggested that patients who were described as dysregulated were also reported to have the worst outcome in treatment, compared to patients who were identified as constricted or high functioning (Thompson-Brenner and Westen, 2005). Indeed, patients who were described as dysregulated were reported to achieve recovery from ED symptoms 19 weeks later than patients with a constricted presentation and 41 week later than high functioning patients, providing indirect evidence of the differential treatment needs of these groups.

Despite the strikingly consistent body of evidence that has identified tripartite groupings in ED patients based on personality pathology, to date only a few studies have considered the role of temperament in distinguishing different types of ED patients. In particular, Gray's (1970, 1982) Reinforcement Sensitivity Theory (RST) provides a useful framework for distinguishing various types of psychopathology, but has rarely been applied to Eating Disorders (see Bijttebier et al., 2009 for a review). According to RST, human behavior is governed by two complimentary neurobiological motivation systems: the first, known as the Behavioral Inhibition System (BIS), is responsible for guiding avoidance of behaviors or situations that are likely to result in aversive consequences, while the second system, the Behavioral Activation System (BAS), is responsible for appetitive motivation to approach situations that are likely to result in reward. Previous work shows that ED patients with a primarily restricting presentation tend to score higher than those with a primarily binging/purging presentation on measures of BIS (Claes et al., 2006a, 2010). Results regarding differences in BAS tendencies of ED patients have been mixed: Whereas one study found that binging/purging patients scored higher than restrictive patients on a measure of Fun Seeking, an integral component of the BAS (Beck et al., 2009), another study found that binging/purging and restrictive patients did not significantly differ with respect to BAS (Claes et al., 2010). Further research is necessary, therefore, to clarify how these motivational systems may account for differences in ED symptoms, and whether these differences may also account for differing patterns of psychiatric comorbidity.

Researchers have recently argued that, in addition to considering motivational systems that influence behavior in a reactive manner, a complete understanding of human behavior requires incorporating a consideration of regulatory processes that influence behavior in a top-down or effortful manner (Nigg, 2006; Claes et al., 2009). Specifically, Effortful Control (EC), defined as the ability to regulate behavioral and emotional reactivity, is an important component of top-down regulation. Whereas temperamental tendencies can be observed early in development and have been linked to sub-cortical regions of the brain (Avila, 2001; Fowles, 2006), self-regulation develops later in childhood and is linked with the frontal and prefrontal cortices (Rueda et al., 2005). General clinical research suggests that EC may play an important role in protecting against psychopathology by helping individuals plan and choose adaptive coping responses under circumstances that elicit distress (Rothbart and Sheese, 2006). In this way, EC plays a fundamental role in the development of emotion regulation abilities. In ED patients, however, the relationship between EC and psychopathology may not be so clear-cut. For example, ED patients with a primarily restricting presentation scored higher on a self-report and cognitive measure of top-down control compared to those with a binging/purging presentation (Claes et al., 2010). One possibility is that EC has a curvilinear relationship with resilience – while too little EC results in problems related to impulsivity and poor affect regulation (Muris and Ollendick, 2005), too much EC may also be problematic, especially among those who become highly focused on ineffective coping responses such as extreme calorie restriction. To our knowledge, no extant studies have examined whether EC can be used to identify distinct groups of ED patients.

In sum, examining whether individual differences in temperament can be used to identify distinct subtypes of ED patients has important implications for understanding mechanisms that may account for the complex patterns of co-occurring psychopathology and resilience that are often seen in psychiatric patients, and ED patients in particular. To our knowledge, few studies have combined an examination of reactive temperament, particularly Gray's RST, with an investigation of effortful processes that can modulate reactive tendencies in delineating different groups of ED patients.

1.1. Aims and hypotheses

This study aimed to extend existing research by examining whether motivational and self-regulatory processes could distinguish unique groups of ED patients. Further, we examined whether the groupings identified on the basis of these constructs differed with respect to ED symptoms and associated clinical problems, Axis-I related symptoms and Axis-II psychopathology. Consistent with prior work demonstrating group-based differences in BIS, BAS and EC among ED patients (Claes et al., 2010), as well as a range of studies that have identified tripartite classifications in ED patients (Strober, 1983; Espelage et al., 2002; Westen and Harnden-Fischer, 2001; Goldner et al., 1999; Wonderlich et al., 2005a; Claes et al., 2006b), we expected a three group solution to fit the data, with an Undercontrolled/Dysregulated group (moderate BIS, high BAS, low EC), an Overcontrolled/Inhibited group (high BIS, moderate EC, low BAS) and a Resilient group (low BIS, high EC, low BAS). Further, we expected that these groups would demonstrate reliable differences in their associations with other indices of psychopathology. Specifically, we expected that the Undercontrolled/Dysregulated group would exhibit more externalizing symptoms, as indexed by more binging/purging and bulimia symptoms, problems with hostility and more severe Cluster B