The relationship of momentary anger and impulsivity to bulimic behavior

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Abstract

Past research has suggested that negative affect may be a causal factor for eating disordered behaviors. More specifically, research has shown that anger appears to be one aspect of negative affect that is particularly relevant in bulimic patients. Previous studies have also shown that the relationship between negative affect and eating disordered behaviors may partially depend upon personality variables such as impulsivity. The present study examined whether the relationship between anger and eating disordered behaviors is moderated by impulsivity. Subjects completed an ecological momentary assessment (EMA) protocol for an average of 2 weeks. Findings revealed that overall antecedent anger level and the variability of antecedent anger predicted binge-eating episodes and that these relationships were moderated by participants' level of impulsivity. These findings suggest that personality variables impact the way that anger and eating behaviors relate. They also suggest that the variability of antecedent anger may be a fruitful avenue for future research for those interested in causal variables associated with bulimia nervosa.

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Introduction

Conceptual models of bulimia nervosa (BN) have frequently stressed the importance of personality. Various traits (e.g., perfectionism, neuroticism, obsessive-compulsiveness, and impulsivity) have been considered important causal variables in models of BN as well as serving as key variables in many empirical studies (Cassin & von Ranson, 2005). Of particular relevance to the current study, impulsivity appears to be a particularly important trait in bulimia nervosa (Steiger et al., 2001). Although a specific subgroup of impulsive
bulimic patients (Espelage, Mazzeo, Sherman, & Thompson, 2002; Goldner, Srikantharasan, Schroeder, Livesley, & Birmingham, 1999; Westen & Harden-Fischer, 2001) may account for the difference, BN patients have generally been found to have higher levels of impulsivity than non-patients (Claes, Vandereycken, & Vertommen, 2002). However, within bulimic samples, impulsivity has not typically predicted symptom severity (Steiger & Stotland, 1996; Wonderlich & Swift, 1990).

Conceptual models of BN have also invoked emotional states as potential antecedent variables for bulimic behavior (e.g., Heatherton & Baumeister, 1991; Meyer, Waller, & Waters, 1998). Rather than focusing primarily on food restriction or starvation-related precipitating variables for bulimic behavior, these models imply that such behavior may be an effort to avoid or escape the experience of negative affect (e.g., dysphoria, anxiety, depression). Several lines of evidence suggest that emotional variables may be related to bulimic behaviors. First, eating disordered individuals commonly have high rates of mood disorders (Wonderlich & Mitchell, 1997). Second, mood-related variables have been shown to be significant antecedents of bulimic behavior in naturalistic studies (Carter & Bulik, 1994). Third, eating disordered individuals show evidence of mood related interference on cognitive processing tasks (Cooper & Fairburn, 1993; Meyer & Waller, 1999). Fourth, longitudinal studies have demonstrated that negative affect is a prospective risk factor for the onset of disordered eating behavior development (Stice, 2002).

In spite of increasing evidence suggesting that mood, impulsivity, and bulimic behavior may be intimately linked (Peterson, Wonderlich, Mitchell, & Crow, 2004), the nature of this relationship remains relatively unclear. For example, most theoretical speculation and early naturalistic studies have focused on mean or average levels of negative mood or negative affect as possible antecedents for bulimic behavior. However, other parameters of mood may also be associated with bulimic behavior. For example, variability in negative affect states over the course of a day may be a significant mood-related variable associated with the triggering of bulimic behavior. Similarly, trajectory or slope of negative affective states over the course of a given day may also provide significant information regarding the daily relationship of negative affect and bulimic behavior. Also, few studies have considered interactive effects of both mood states and personality variables, such as impulsivity.

Past research studies investigating the mood-eating disorder relationship are also limited by the fact that they have focused on measurement strategies that rely heavily on retrospective recall of mood states and bulimic behaviors. There is growing evidence that reliance on retrospective recall strategies for assessing environmental events or psychological states may be biased by a variety of factors such as remembering events in accord with pre-existing views regarding behavior or human nature (i.e., effort after meaning) and the influence of events occurring after the event to be recalled on the recall itself (i.e., retroactive reconstruction; Stone & Shiffman, 1994). Additionally, remembering events may be particularly influenced by the current affective state of the individual (negative events are more easily and frequently recalled during negative mood states; Teasdale & Fogarty, 1979). Furthermore, data collection strategies in some naturalistic studies cannot verify that subjects actually complete affect ratings at those times when assigned to do so. Finally, prospective studies of risk factors which reflect a summary or aggregate of a phenomenon (e.g., negative affect) over a period of days or weeks do not clarify if affective variables actually precipitate bulimic behavior in a momentary fashion. All of these methodological limitations may significantly impact the study of the relationship between putative antecedent affective conditions and eating disordered behavior.

In response to these limitations, longitudinal daily sampling research methodologies have emerged, which are frequently called ecological momentary assessment (EMA; Stone & Shiffman, 1994; Smyth et al., 2001). EMA relies on portable measurement strategies which can be applied in “real time” in the subject’s natural environment. EMA involves signaling participants multiple times each day for a period of days or weeks to report on current or recent psychological states, behaviors, and environmental conditions. Importantly, assessing subjects multiple times per day allows the exploration of complex affect-bulimic behavior relationships such as the association between bulimic behavior and antecedent affect variability or trajectory in a given day.

The introduction of palmtop computers for the collection of the EMA data has led to a significant advance in this technology, as participant responses can be time- and date-stamped in a manner that allows researchers to know exactly when data were provided. Importantly, this reduces the length of the recall period for events and behaviors considerably. Participants recall information over periods of minutes or hours rather than days.
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