Rigid and flexible control of eating behavior in a college population

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Abstract

The objective of this study was to explore the relationship between rigid control (RC) and flexible control (FC) of eating behavior and their relationship to traditional weight, eating, and affective measurements in a large heterogeneous population. Participants were 639 underweight to obese male and female college students. Multiple regression analyses (MRA) revealed that high RC was associated with high Body Mass Index (BMI) and high Disinhibition (DIS), and high FC was associated with low BMI and low DIS in women. In men, high RC was associated with high BMI and high DIS, whereas FC was not related to BMI or DIS. Multiple regression analyses of BMI on RC and FC in the female subsample revealed that the control variables interact in such a way that the relationship between RC and BMI is stronger when FC is lower. In men, there was no interaction between these variables. This study is the first full replication of Westenhoefer’s Gezügeltes Essen und Störbarkeit des Essverhaltens: 2. Auflage. Göttingen: Verlag für Psychologie (Westenhoefer, 1996) findings regarding RC and FC and their relationship to weight (BMI) and Disinhibition (DIS) in women. This is also the only second study to use the expanded, more reliable versions of the RC and FC scales. Overall, high RC in women and men was associated with greater eating and affective pathology.

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1. Introduction

In 1991, Westenhoefer posited that dietary restraint was not a homogeneous construct but could be differentiated into two types of control of eating behavior: Flexible Control (FC) and Rigid Control (RC). Both RC and FC were derived from the Cognitive Restraint (CR) scale of the Eating Inventory (EI; Stunkard & Messick, 1985) and are measured using the RC16 and FC12 scales, respectively. RC is described by Westenhoefer (1991, p. 53) as being “characterized by a dichotomized ‘all or nothing’ approach to eating,” whereas FC is associated with an ability to plan and self-regulate caloric intake, including small amounts of sweets (Westenhoefer, Broekman, Münnch, & Pudel, 1994). An individual with higher FC could plan for periods of increased consumption (such as an event later in the day) by eating less beforehand or could respond to a period of increased consumption by eating less afterwards. Westenhoefer (1996) found that when entered into regression analyses, increasing scores on the RC16 were associated with higher Body Mass Index (BMI) and higher scores on the Disinhibition (DIS) subscale of the EI, whereas increasing scores on the FC12 were associated with lower BMI and lower scores on DIS.

The majority of studies published to date investigating RC and FC have used very specific populations and earlier less reliable seven-item RC and FC scales. Results in regard to the constructs’ relationship to BMI have been conflicting (e.g., Masheb & Grilo, 2002; McGuire, Jeffery, French, & Hannan, 2001; Shearin, Russ, Hull, Clarkin, & Smith, 1994; Smith, Williamson, Bray, & Ryan, 1999; Williamson et al., 1995), and none has completely replicated Westenhoefer, Stunkard, and Pudel’s (1999) findings. The relationship between RC, FC, and DIS has also been investigated, and once again, results across studies are often contradictory and in conflict with Westenhoefer’s (e.g., Provencher, Drapeau, Tremblay, Després, & Lemieux, 2003; Smith et al., 1999; Williamson et al., 1995).

Due to these inconsistent findings regarding the relationship and usefulness of RC and FC when using the seven-item scales, Stewart, Williamson, and White (2002) sought to investigate these variables and their relationships to BMI and various affective and weight-related variables using the expanded and more reliable scales. They found that both expanded scales were correlated with each other but, contrary to Westenhoefer et al. (1999) findings, found that both RC16 and FC12 were positively correlated with BMI. Also contrary to Westenhoefer et al., only the RC16 was correlated with DIS (in that the correlation was negative). Although these more recent findings conflict with what Westenhoefer has reported to date (Westenhoefer, 1996; Westenhoefer et al., 1999), the conclusion reached is the same—that both RC and FC are forms of restraint, with FC being more beneficial than RC. Nonetheless, the majority of studies investigating these constructs has been correlational in nature, have used the less reliable scales, and have used fairly homogeneous samples in terms of gender and weight.

The original population studied by Westenhoefer using the expanded scales was very large (N=1338, Westenhoefer, 1996; Westenhoefer et al., 1999) and diverse in terms of geographic location, weight, and gender. Therefore, a primary goal of the current study was to replicate Westenhoefer et al.’s findings regarding the relationships between FC, RC, and a variety of weight, eating, and affective variables in a large heterogeneous sample (e.g., BMI, depression, anxiety, body image). It was hypothesized that high FC would be associated with both low BMI and DIS as well as lower scores on measures of body dissatisfaction, eating disorder symptomology, and affective disturbance (i.e., depression and anxiety). It was further hypothesized that high RC would be associated with higher BMI and DIS scores as well as higher levels of body dissatisfaction, more eating disorder symptomology, and more affective disturbance.
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