



Counterregulatory eating behavior in multiple item test meals

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Received 15 December 2003; received in revised form 10 August 2004; accepted 30 August 2004

Abstract

Restrained eaters have been shown to disinhibit their eating when under stressful situations. However, the majority of laboratory studies that have demonstrated this effect utilized a single test food, typically ice cream. There is a lack of research investigating if this interaction is still evident when multiple foods are offered, and if so, the food choices that restrained and non-restrained eaters make when under stressful situations. The present study examined the impact of stress on food choices in individuals with varying degrees of restraint. Several classes of foods were offered (i.e., high fat/high sugar; low fat/high sugar; high fat/low sugar; low fat/low sugar). A total of 153 females were randomly assigned to either a stress or no-stress situation, and then both groups participated in a taste test. There was no significant difference in total amount of consumption between restrained and non-restrained eaters when under stress. However, further analyses found that restrained eaters under stress consumed more potato chips than those who were not under stress. Findings are discussed in terms of possible limitations of the stress-induced eating paradigm for restrained eaters.

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Keywords: Dietary restraint; Eating disorders; Obesity; Stress

1. Introduction

Restrained eaters are individuals who constantly struggle to maintain control over their food intake and weight (Heatherton, Herman, Polivy, King, & McGree, 1988; Lowe, 1993). Not all dieters are

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described as restrained eaters however; restrained eaters experience occasional lapses in restraint (Heatherton et al., 1988; Ward & Mann, 2000). Thus, restrained eaters may be trapped in a vicious cycle; chronic dieting results in overeating, and this overeating results in a further need for dieting (Herman & Polivy, 1975; Lowe, 1993).

A robust finding of research concerning stress induced eating is that restrained eaters demonstrate counterregulatory eating behaviors when anxious or stressed (Baucom & Aiken, 1981; Heatherton, Herman, & Polivy, 1991; Heatherton, Polivy, Herman, & Baumister, 1993; Herman & Polivy, 1975, 1980; Polivy & Herman, 1999; Ruderman & Christensen, 1983; Ruderman & Wilson, 1979; Tanofsky-Kraff, Wilfley, & Spurrell, 2000). In these studies, restrained eaters paradoxically consume more than non-restrained eaters when subjected to emotional stress. In contrast, other studies have demonstrated that non-restrained individuals consume less food when under stress (Schachter, Goldman, & Gordon, 1968; Stone & Brownell, 1994) than they would consume regularly. Many of these studies have used a similar methodology (i.e., the “taste-test” paradigm) to investigate the effects of stress on eating.

1.1. The laboratory “taste-test” paradigm

The taste test paradigm has been widely used to examine the eating behavior of restrained eaters. This paradigm was designed to disguise the true purpose of the experiment and unobtrusively determine how much food an individual will eat because eating is often reactive to observation. In this paradigm, the participant is exposed to a stressor and then is usually asked to taste and rate ice cream flavors, although the main variable of interest is caloric intake (Heatherton et al., 1991, 1993; Heatherton, Striepe, & Wittenberg, 1998; Lowe, 1994; Lowe, Whitlow, & Bellwoar, 1991; Polivy & Herman, 1991, 1999; Tanofsky-Kraff et al., 2000). The majority of these experiments find an interaction between stress and restraint in the amount of food consumed. This paradigm provides only a limited model for understanding stress-induced eating, however, because ice cream is generally the only type of food offered. Ice cream is high in both sugar and fat and needs to be consumed rather quickly in order to prevent melting. Also, in the natural environment, ice cream is only one of several types of foods available and may not be chosen when alternative foods (perhaps lower in sugar/fat) are accessible. This is an important consideration that may limit the external validity of the results from previous laboratory studies.

Only a limited number of laboratory studies have used foods other than ice cream to examine stress-induced eating. Ward & Mann (2000) used a variety of foods and found differences in amount of consumption between restrained and non-restrained eaters; however all foods were high in fat and sugar. Conversely, Oliver, Wardle, & Gibson (2000) used both low and high fat meal-type foods and did not find a restraint by stress interaction in amount of consumption. Levine and Marcus (1997) also used several food classes and did not find differences in the amount of consumption between bulimics and normal controls after a stress induction.

Recently, researchers have begun to examine the external validity of stress and eating in more naturalistic studies by analyzing real life stressors and self-reported daily consumption. Several of these more naturalistic studies have not found an interaction between restraint and stress in amount of food consumed (Ball, Lee, & Brown, 1999; Conner, Fitter, & Fletcher, 1999); thus the restraint by eating interaction may be an artifact of the taste-test methodology.

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