RELATION OF DIETARY RESTRAINT TO BULIMIC SYMPTOMATOLOGY: THE EFFECTS OF THE CRITERION CONFOUNGING OF THE RESTRAINT SCALE

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Summary—Studies indicate that various measures of dietary restraint show inconsistent relations to bulimic symptomatology. The present study tested the assertion that this is because the scales differ in the extent to which they reflect the success or failure of dietary efforts. This study also tested the competing hypothesis that criterion confounding of the Restraint Scale produced the inconsistent findings. Data from 117 undergraduates indicated that both the Restraint Scale and the Dutch Restrained Eating Scale were correlated with bulimic pathology, but that the magnitude to the relations were higher for the former. These results supported the dietary success–failure hypothesis, however, this difference disappeared when the two disinhibited eating items from the Restraint Scale were deleted. Thus, the inconsistent findings in prior research appear to be due to the criterion confounding of the Restraint Scale. Implications for the measurement of restraint are discussed. Copyright © 1997 Elsevier Science Ltd

INTRODUCTION

Investigators have proposed that dietary restraint plays a causal role in the etiology of bulimia nervosa (Heatherton & Polivy, 1992; Polivy & Herman, 1985; Stice, 1994; Striegel-Moore, 1993). Dietary restraint refers to intentional efforts to achieve or maintain a desired weight through reduced caloric intake (Laessle, Tuschl, Kotthaus & Pirke, 1989). Theoretically, restraint leads to binge eating because of both physiological (e.g. altered hormonal reflexes) and psychological mechanisms (e.g. cognitively produced disinhibition; Polivy & Herman, 1985). Binge eating, in turn, is thought to precipitate the full binge–purge cycle of bulimia in at-risk individuals.

There is a large body of research supporting the proposed relation between dietary restraint and bulimia nervosa. First, longitudinal studies have found that restraint predicts future bulimic symptomatology (Greenberg & Harvey, 1986; Marchi & Cohen, 1990) and the onset of bulimia (Kendler et al., 1991; Patton, 1988). Second, both naturalistic and laboratory experiments indicate that dietary restraint increases the likelihood of disinhibited eating (Franklin, Schiele, Brozek & Keys, 1948; Polivy, Herman & MacFarlane, 1994a; Polivy, Zeitlin, Herman & Beal, 1994b). Further, the majority of bulimics report that the onset of binge eating occurred during a period of voluntary dieting (Hall & Hay, 1991; Lacey, Coker & Birtchnell, 1986), and many bulimics report that they are actively dieting and skipping meals (Davis, Freeman & Garner, 1988; Kendler et al., 1991). Finally, bulimics score higher on restraint scales than controls (Jansen, van den Hout & Griez, 1990; Ruderman & Besbeas, 1992).

Although an extensive body of research has developed around the concept of dietary restraint (Brownell & Rodin, 1994; Lowe, 1993), investigators have raised major questions about the measurement of this construct (Heatherton, Herman, Polivy, King & McGree, 1988; Laessle et al., 1989; Ruderman, 1986). One central problem is that various measures of restraint are differentially predictive of disinhibited eating (Lowe, 1993). There are three widely used measures of restraint: the Restraint Scale (RS; Herman & Polivy, 1980), the Dutch Restrained Eating Scale...
(DRES; Van Strien, Frijters, Van Staveren, Defares & Deurenberg, 1986b), and the Cognitive
Restraint Scale from the Three-Factor Eating Questionnaire (TFEQ-R; Stunkard & Messick,
1985). Although the RS has consistently identified dieters who show disinhibited eating in re-
response to preloads or negative affect inductions (Herman & Mack, 1975; Polivy et al., 1994a),
the DRES and the TFEQ-R do not predict such disinhibited eating (Jansen, Oosterlaan,
Similarly, although studies have found relations between the RS and bulimic symptoms
(Hawkins & Clement, 1980; Ruderman, 1985; Ruderman & Besbeas, 1992), some research has
failed to find such a linkage for the TFEQ-R (Berland, Thompson & Linton, 1986). Finally,
although the DRES and TFEQ-R predict reduced caloric intake in the natural environment
(Laessle et al., 1989; Van Strien et al., 1986b; Wardle, 1987; Wardle & Beales, 1987), the RS
does not (Kirkley, Burge & Ammerman, 1988; Laessle et al., 1989). Collectively, these studies
indicate that the RS is more strongly related to disinhibited eating than the DRES and TFEQ-R,
and that the DRES and TFEQ-R are more predictive of decreased food consumption than the
RS.

The dietary success-failure hypothesis

Heatherton et al. (1988) posit that the inconsistent findings for the various measures of
restraint result from the fact that the DRES and TFEQ-R assess "successful food restriction"
(dietary success), whereas the RS measures "relatively unsuccessful dieting" (dietary failure).
Heatherton's dietary success-failure hypothesis is consistent with the pattern of findings, in that
the RS does not predict decreased daily caloric intake (e.g. Kirkley et al., 1988), whereas the
DRES and TFEQ-R do (e.g. Laassle et al., 1989). Similarly consistent with this account is the
finding that the RS predicts disinhibited eating in the laboratory and natural environment (e.g.
Polivy et al., 1994a), and the DRES and TFEQ-R do not (e.g. Jansen et al., 1988). This asser-
tion also converges with Laassle and colleagues' (1989) factor analyses of restraint scales and re-
lated constructs. They found that the RS loaded with variables such as the bulimia scale of the
Eating Disorder Inventory and the disinhibition scale of the TFEQ, whereas the DRES and
TFEQ-R loaded with reduced daily caloric intake. Although these results are consonant with
the dietary success-failure hypothesis, the magnitude of the relations between the various
restraint scales and bulimic symptoms were never directly compared. Accordingly, the first aim
of this study was to provide a test of Heatherton's dietary success-failure hypothesis.

Heatherton's success-failure hypothesis was tested by regressing binge eating criteria on the
scales that purportedly measure dietary success and failure. Assuming that binge eating and
bulimic symptomatology reflect dietary failure, the RS (a putative measure of dietary failure)
should be most predictive of these criteria, and the DRES (a putative measure of dietary suc-
cess)* should be least predictive. Thus, we examined the predictive utility of these two measures
of dietary restraint varying along the success-failure continuum. We elected to use binge eating
in the natural environment as the criterion, rather than laboratory analogs, in an effort to
enhance the external validity of the findings. Although laboratory experiments can offer strong
internal validity, the disinhibited eating observed in standard laboratory paradigms is less
extreme than that observed in naturalistic binges (Polivy & Herman, 1985).

The criterion confound hypothesis

An alternative explanation for the fact that the RS is more predictive of disinhibited eating
than the DRES or TFEQ-R is criterion confounding. As Wardle and Beales (1987) note, the RS
contains items that clearly refer to disinhibited eating: "Do you eat sensibly in front of others
and splurge alone?" and "Do you have feelings of guilt after overeating?" (see Appendix for RS

*As Heatherton and colleagues (1988) proposed that both the DRES and the TFEQ-R assess dietary success, we decided
that it was only necessary to include one of these scales. We elected to use the DRES instead of the TFEQ-R because
there was slightly more reliability and validity data for this scale (e.g. Van Strien, Frijters, Bergers & Defares, 1986a;
Van Strien et al., 1986b; Wardle, 1987).
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