Adequately Predicting Emotional Eating With Self-Reports: Not as Easy as Pie

The extent to which people are emotional eaters has typically been assessed with emotional eater scales, tapping people's self-reported desire to eat when feeling emotional. Testing the validity of these scales by assessing their association with objectively measured food intake during emotional encounters has revealed inconsistent findings. Although stressed self-assessed emotional eaters have been found to eat more than unstressed and nonemotional eaters (e.g., O'Connor, Jones, Conner, McMillan, & Ferguson, 2008), other studies have failed to find such relationships (e.g., Adriaanse, De Ridder, & Evers, 2010; Conner, Fitter, & Fletcher, 1999).

These contradictory findings raise doubts about whether individuals scoring high on emotional eater scales truly increase food intake in response to negative emotions. Especially because elevated scores on these scales are considered a risk factor for developing eating pathology and obesity, critically examining whether self-assessed emotional eaters truly increase food intake when feeling emotional seemed prudent. Accordingly, we conducted four controlled laboratory studies (Evers, De Ridder, & Adriaanse, 2009) illustrating that elevated scores on the emotional eater scale were not related to increased food intake, regardless of being emotional or not.

The commenters raised some concerns about our conclusions. First, they claimed that the core feature of emotional eating is that *nonemotional* eaters eat *less* and that emotional eaters do not show this typical stress response of decreased eating. This claim seems incompatible with the way emotional eating has typically been defined, namely, as "the tendency to overeat in response to negative emotions such as anxiety or irritability" (Van Strien et al., 2007, p. 106) or "increased eating in response to psychological distress" (Van Strien, Engels, Van Leeuwe, & Snoeck, 2005, p. 206). Thus, the core feature of emotional eating is that emotional eaters *increase* their food intake when being emotional, not that nonemotional eaters decrease their food intake in this context. Therefore, our studies focused on individuals with elevated scores on emotional eater scales compared with those scoring lower on these scales and whether the former did indeed increase their food intake in response to emotions. As we did not find any predictive ability of the emotional eater scale, we neither found that individuals with higher scores on emotional eating increased their food intake nor that those with lower scores decreased their food intake when feeling negative.

Second, our findings are claimed to be the result of misclassification of nonemotional eaters because of our use of median splits. However, as clearly noted in our data analysis section (Evers et al., 2009), the emotional eater scale is used in its total in regression analyses; analyses of variance with median splits were reported only for ease of interpretation because they provided results similar to the regressions. Therefore, it is unlikely that we misclassified emotional eaters or nonemotional eaters because the scale is used as a continuous measure.

In reaction to this unjust claim, we were surprised to see that the commenters themselves used only the extreme ends of the scale rather than the entire scale in reanalyzing a previously published dataset (Anschutz, van Strien, & Engels, 2008). Although this technique is reasonable for functional MRI studies (Bohon, Stice, & Spoor, 2009), it is problematic for the current purpose of illustrating the validity of emotional eater scales. Some of the noteworthy problems include that rather than one variable, two extreme variables are created with cut-off scores applicable only to that particular random sample, which implies that individuals with certain scores would be classified as emotional eaters in one research sample, but not in another. Moreover, if researchers or clinicians want to know who can be classified as an emotional eater, fluctuating cut-off points are not useful. Besides neglecting the norm scores, one cannot simply label the highest 20% of one's research population as emotional eaters and the lowest 20% as nonemotional eaters and get rid of the 60% falling in between.

Moreover, this study (Anschutz et al., 2008) was not designed to test the predictive validity of the emotional eater scale but rather to explore the effects of exposure to slim images in commercials on food intake in relation to dietary restraint. In the reanalyzed results, this manipulated independent variable (advertisement type) is not controlled for. Nevertheless, these results largely replicate our own results. That is, these findings also imply that the emotional eater scale lacks predictive validity because emotional eaters do not eat more calories during the sad condition than nonemotional eaters, and overall nonemotional eaters eat even more than emotional eaters.

Third, it is claimed that we "simply" added up the amount of the various food types and did not report caloric content. This claim is incorrect because we also analyzed each food type separately (see Evers et al., 2009, Table 1). We additionally calculated total food intake, but we standardized food intake within the studies in our multilevel analyses (see p. 723). Thus, contrary to this claim, we corrected for the different weights of the various food types. Additionally, we reported amount rather than caloric content because we felt that overeating in response to emotions indicates eating too much. Nevertheless, if we reanalyze our data on caloric intake, the results are identical: Self-reported emotional eating does not predict caloric intake, regardless of whether someone is emotional or not ($p = .833$).

Finally, it is argued that the results of a functional MRI study (Bohon et al., 2009) contradict our results because emotional eaters revealed greater reward activation during negative relative to neutral moods than nonemotional eaters. We do not see this as a contradiction because greater reward activation in brain regions is not equal to increased food consumption. Moreover, research has even indicated that overweight people reveal less reward activation after food consumption (Spoor & Zald, 2009).

In conclusion, the purpose of our study was to provide a valid experimental test of whether raised scores on emotional eater scales truly result in increased food intake during emotional encounters. Our results are in line with studies that have indicated that self-assessed emotional eating may reflect beliefs about emotional eating rather than one's actual eating behavior when being emotional (e.g., Wardle et al., 1992). However, future research is certainly necessary to see whether these scales have more validity in other samples, such as obese individuals. Altogether, the prediction of emotional

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eating by self-report is certainly not a piece of cake, and we hope that the current discussion facilitates additional research leading to increased attention to what it means when someone is categorized as an emotional eater.

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