



## Is desire to eat in response to positive emotions an 'obese' eating style: Is *Kummerspeck* for some people a misnomer?



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### ABSTRACT

Is desire to eat in response to positive emotions an 'obese' eating style: a style more prevalent in people with obesity? In other words: Is *Kummerspeck* (German: sorrow-fat) for some people a misnomer? This question was addressed in three studies on women. Study 1 ( $n = 188$ ) tested the moderator effect of subjective well-being on the association of BMI with the scale on desire to eat in response to negative emotions (DEBQ-E). Study 2 tested in women ( $n = 832$ ) whether items on desire to eat in response to positive emotions loaded on the same factor as those in response to negative emotions and body mass. Study 3 assessed in the total sample ( $n = 203$ ) and an overweight subsample ( $n = 40$ ) a) whether self-reported desire to eat in response to positive emotions predicted actual food intake and b) whether this also held true over and above self-reported desire to eat in response to negative emotions. Study 1 showed only for women with *low positive affect* a significant positive association of BMI with DEBQ-E. In Study 2, only items on desire to eat in response to *negative* emotions loaded on the same factor as BMI. Study 3: In the *total sample*, the significant effect on food intake of the scale on desire to eat in response to positive emotions disappeared when a scale on desire to eat in response to negative emotions was added to the model. In the overweight-subsample there was only an effect on food intake for desire to eat in response to negative emotions. It is concluded that only desire to eat in response to negative emotions is an 'obese' eating style, suggesting that *Kummerspeck* is not a misnomer.

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### 1. Introduction

Happy eating, that is, eating in response to positive emotions, has been classified as a neglected trigger for food intake (Bongers, Jansen, Havermans, Roefs, & Nederkoorn, 2013; Evers, Adriaanse, de Ridder, & de Witt Hubers, 2013). Indeed, though eating in response to positive emotions has been reported to occur as frequently as eating in response to negative emotions (Macht, Haupt, & Salewski, 2004), there is only little research into eating in response to positive emotions (references in Evers et al., 2013; Bongers et al., 2013).

There is some evidence that eating in response to positive and to negative emotions refer to different constructs (Nolan, Halperin, &

Geliebter, 2010; Van Strien et al., 2013). Results with the Emotional Appetite Questionnaire (EMAQ; Geliebter & Aversa, 2003), a questionnaire that includes both scales on eating in response to negative and to positive emotions and situations, showed that the EMAQ positive emotion eating scales were significantly and negatively correlated with the scale for desire to eat in response to negative emotions of the Dutch Eating Behavior Questionnaire (DEBQ-E; Van Strien, Frijters, Bergers & Defares, 1986) (Nolan et al., 2010). Similarly, after a mood induction that successfully induced joy or sadness, women with high scores on the DEBQ-E ate significantly more snack-food after the sad mood induction than after the joy mood induction (Van Strien et al., 2013). Together these studies provide evidence that people who report a high desire to eat in response to negative emotions do not report a high desire to eat or show a high food intake in response to positive emotions, thus suggesting a difference in construct.

For the present study we wanted to pursue our search into the construct of eating in response to positive emotions further, this

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time with as main research question: Is desire to eat in response to positive emotions also an ‘obese’ eating style, an eating style associated with a higher Body Mass Index (BMI) or overweight? Specifically: is *Kummerspeck* (German: sorrow-fat, [Rewboss, 2014](#)) for some people a misnomer, and are there also overweight people with happy-fat?

*Kummerspeck*, “a wonderful German expression with no English equivalent” ([Mental\\_floss, 2011](#)), refers to excess weight gained because of stress-induced emotional overeating ([Rewboss, 2014](#); [Pudel, 1978](#), p. 97). Self-reported overeating in response to various negative emotions is indeed an ‘obese’ eating style, as it was found to be associated with overweight and prospective weight gain ([Koenders & Van Strien, 2011](#); [Sung, Lee, & Song, 2009](#); [Van Strien, Herman, & Verheijden, 2009](#); [Van Strien, Herman & Verheijden, 2012](#)), also in interaction with negative life events ([Van Strien, Rookus, Bergers, Frijters, & Defares, 1986b](#)) and short sleep duration ([Van Strien & Koenders, 2014](#)). Emotional overeating is derived from psychosomatic theory (e.g. [Bruch, 1961, 1964](#)) and refers to desire to overeat in response to *negative* emotions. Emotional overeating is an atypical stress response. The typical response to negative emotions and/or stress is namely loss of appetite, due to physiological reactions that are designed to prepare the individual for a fight or flight response, thereby suppressing feelings of hunger and satiety ([Gold & Chrousos, 2002](#)) (see for empirical support i.e. [Van Strien & Ouwens, 2007](#); [Van Strien, Herman, Anschutz, Engels & de Weerth, 2012](#)).

Previous research on the association of overweight with self-reported eating in response to positive versus negative emotions revealed that BMI was positively associated with desire to eat in response to negative emotions, whereas BMI was inversely correlated with eating in response to positive emotions ([Geliebter & Aversa, 2003](#); [Nolan et al., 2010](#)). These findings suggest that *Kummerspeck* may not be a misnomer for most people with overweight. However, in both studies results on the associations with overweight were only reported for both sexes combined, so we do not know whether the above findings hold true for each of the sexes separately. [Nolan et al. \(2010\)](#) observed in the same study that there were sex differences in motivation to eat in response to positive versus negative emotions, with men having higher motivation to eat after positive emotions than women. Additionally, in a study by [Macht, Roth, and Ellgring \(2002\)](#), men reported a higher motivation to eat after a positive mood induction whereas they showed the typical lower motivation to eat after a negative mood induction.

In the following three studies we assessed only for women whether eating in response to positive emotions is an ‘obese’ eating style, which is an eating style that is associated with higher BMI or overweight. We chose women, because a) there is greater prevalence of stress-induced food intake in women ([O’Connor, Jones, Conner, McMillan, & Ferguson, 2008](#)), b) most of the earlier (experimental) research on distress induced food intake is conducted on samples with (mainly) women and c) there is increasing evidence that the underlying mechanisms of emotional eating may be different in women than in men (see also [Van Strien, Levitan, Engels, & Homburg, 2015](#)). In the first study we tested the possible moderator effect of subjective well-being on the association of BMI with self-reported desire to eat in response to negative emotions (see further, study 1). In the second study we assessed the construct validity of self-reported eating in response to negative and to positive emotions on the level of the items and which kind of emotional eating (self-reports of desire to eat in response to various positive emotions versus those on desire to eat in response to various negative emotions) is more indicative of body mass (see further study 2). In the third study on young adult women we assessed in a total sample and a subsample with overweight a)

whether self-reported desire to eat in response to positive emotions predicted actual food intake and b) whether this also held true over and above self-reported desire to eat in response to negative emotions (see further study 3).

## 2. Study 1

### 2.1. Rationale and aim

[Nolan et al. \(2010\)](#) assessed, as already indicated, the direct associations between self-reported emotional eating and BMI. They found that desire to eat in response to negative emotions was positively associated with BMI, whereas eating in response to positive emotions was negatively associated with BMI. There is also evidence that eating in response to negative emotions is associated with high negative affect, low spiritual well-being, overweight and prospective weight gain ([Hawks, Goudy, & Gast, 2003](#); [Van Strien, Frijters, Roosen, Knuijman-Hijl, & Defares, 1985](#); [Van Strien et al., 2009, 2012](#)), also in interaction with negative life events ([Van Strien et al., 1986b](#)). What we do not yet know is whether a respondent’s mood or subjective spiritual well-being acts as a moderator variable in the association between BMI and self-reported eating in response to negative emotions. So, with the aim of filling this knowledge gap, study one was conducted.

Following [Diener \(1984\)](#), three different components of spiritual subjective well-being were identified, namely the two affective emotional constructs of positive and negative affect, and the cognitive-judgmental aspect of life satisfaction: ‘the global assessment of a person’s quality of life according to his chosen criteria’ ([Shin & Johnson, 1978](#), p. 478).

There is some debate on the relative importance for psychopathology of positive versus negative affect ([Wong, 2010](#)). One position stresses the importance of the absence of negative affect (negative cognition model by [Kendall, 1984](#)), whereas the other position stresses the importance of the presence of positive affect (positive cognition model by [Ingram, Kendall, Siegle, & Guarino, 1995](#)). A third position is taken in the states of mind model (SOM, by [Schwartz, 1986](#) and [Schwartz & Garamoni, 1989](#)), where psychological well-being is conceived as the outcome of an optimal balance between positive and negative affect as assessed with the SOM ratio of positive thoughts to the sum of positive plus negative thoughts ( $[(\text{positive affect})/(\text{positive} + \text{negative affect})]$ ). There is accumulating evidence that ‘bad is stronger than good’ ([Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001](#)), and that for an optimal balance the positive experiences should outnumber the negative ones “to overcome the toxicity of negative affect and to promote flourishing experiences”: ([Fredrickson & Losada, 2005](#), p. 681). This is also reflected in the high ratio of positive to negative affect in the optimal SOM ratio, where a SOM ratio of  $.618 \pm .06$  (.56–.68) is thought to represent the optimal balance of positive and negative affect ([Wong, 2010](#)).<sup>1</sup>

So, in addition to the three individual components of subjective well-being put forward by [Diener \(1984\)](#), we also assessed in this study the relative balance of positive and negative aspects of well-being, by using the SOM ration of positive and negative affect suggested by [Schwartz and Garamoni \(1989\)](#). Inspired by the earlier results of [Nolan et al. \(2010\)](#) and [Van Strien et al. \(1986\)](#), we hypothesised that the various aspects of subjective well-being would moderate the associations of BMI with eating in response to negative emotions. Specifically, we expected that the association

<sup>1</sup> This optimum ratio of positive to negative experiences follows the *golden section proportion*, namely 61.8% positive and 38.2% negative adjectives (see further [Schwartz & Garamoni, 1989](#), p. 272).

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