Background

Food craving refers to an intense desire to consume a specific food. In Western societies, the most often craved food is chocolate [1]. The Food Cravings Questionnaires (FCQs) are the most often used instruments for the measurement of trait (FCQ-T) and state food craving (FCQ-S)[2]. In the current investigation, the reduced version of the FCQ-T (FCQ-T-r)[3] and the FCQ-S were modified to refer to chocolate and their psychometric properties and correlates were examined in two studies.

Methods

In study 1, students (n = 492; 81.3% female) completed chocolate versions of the FCQs among other measures online.

In study 2, students (n = 76; 73.7% female) underwent a chocolate exposure in the laboratory, during which they were instructed to choose one out of five sorts of chocolate bars (Fig. 1.), to unwrap it, snap off one piece, and to smell it. Participants completed the FCQ-S at several time points (four times in total). Salivary flow was measured with cotton dental rolls prior to and during chocolate exposure (for 1 min each). At the end of the experiment, during questionnaire completion, participants were allowed to eat as much of the chocolate bar as they wished and the remaining chocolate was weighed after participants had left.

Results

In study 1, the FCQ-T-r (α = .94) comprised two subscales representing lack of control (α = .91) and thoughts about chocolate (α = .91). The FCQ-S (α = .87) comprised two subscales representing chocolate craving (α = .90) and hunger (α = .85). FCQ-T-r scores were positively correlated with self-reported frequency of consuming chocolate (r = .41, p < .001) and with scores on the Attitudes to Chocolate Questionnaire (craving subscale r = .80, p < .001; guilt subscale r = .49, p < .001).

In study 2, FCQ-S scores increased during chocolate exposure (Fig. 2) and increases in momentary craving (β = .30, p < .008) and hunger (β = .30, p < .008) were associated with increases in salivary flow during chocolate exposure (Fig. 3). Participants consumed on average M = 25.76 g (SD = 23.46) of chocolate (or M = 140.49 kcal, SD = 127.06). Higher current chocolate craving were positively correlated with increases in salivary flow (Fig. 3). Participants consumed on average M = 25.76 g (SD = 23.46) of chocolate (or M = 140.49 kcal, SD = 127.06). Higher current hunger (r = .30, p < .008) was correlated with higher chocolate consumption (r = .41, p < .001). Increases in salivary flow were only associated with increased chocolate consumption in participants scoring high (β = .68, p = .007), but not low (β = -2.2, ns) on trait chocolate craving (Fig. 4).

In both studies, length of food deprivation was positively correlated with current hunger (r = .38-.48, p < .001), but not current chocolate craving, while trait chocolate craving was positively correlated with current chocolate craving (r = .42-.55, p < .001), but not with current hunger.

Conclusion

The chocolate versions of the FCQ-T-r and FCQ-S represent reliable and valid self-report measures for the assessment of trait and state chocolate craving.

References


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