The Effectiveness of Control-based and Acceptance-based Coping Strategies for Chocolate Cravings

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Introduction

- **Obesity management programs have had minimal success** in helping participants adhere to diet regimens largely due to an inability to resist food cravings.

- The gold standard treatment for weight management is a cognitive-behavioral approach which utilizes *control-based coping strategies* to help participants distract themselves from their cravings.

- A newer, rapidly evolving method for dealing with cravings is *acceptance-based coping strategies*. These strategies help individuals to accept, be aware of, and distance themselves from their cravings without acting on them.

- This analog study evaluates the **relative effectiveness of training individuals in a control-based or an acceptance-based strategy** to cope with chocolate cravings.

- Based on the theory that the mere presence of food can evoke strong cravings and influence subsequent eating behavior (i.e., the **power of food theory**), participants were asked to carry chocolate Kisses with them for 48 hours without eating them.

- The **power of food theory** suggests that control-based strategies will produce the best outcome, whereas research on the **paradoxical effects** of thought control indicates that the acceptance-based strategies will produce superior outcomes.

- *Main Research Questions*: **What type of coping strategy is the most effective at helping people manage food cravings, and does this vary as a function of susceptibility to the power of food?**

Method

- Participants were 107 undergraduate students (48.6% female and 50.5% male; M age = 19.98) recruited from Drexel University and Chestnut Hill College.

- Participants were randomized to one of three intervention groups: a *control-based coping strategy group*, an *acceptance-based coping strategy group*, or a *no intervention group*.

- Participants in the *control-based coping strategy group* were taught skills designed to help distract themselves from their food cravings and were told that utilizing the strategies would most likely result in a reduction in the frequency and intensity of their cravings to eat chocolate.

- Participants in the *acceptance-based coping strategy group* were taught to distance themselves from the cravings and to accept them without trying to change them.

- Transparent boxes of Kisses were provided to all participants. They were instructed to keep the Kisses with them for 48 hours. Participants were told to try not to eat the Kisses or other foods containing chocolate during the study period.

- At the end of the 48 hour period, participants were instructed to return the Kisses and craving measures.

- Independent variables were intervention group and scores on the Power of Food Scale (PFS).

- Outcome measures included number of Kisses consumed and 48-hour self-report ratings of chocolate cravings (e.g., temptation and distress).

Results and Discussion

Abstinence: Logistic Regression of Power of Food and Intervention Group on Abstinence
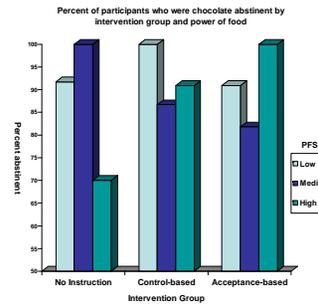
•**Main effects**

•PFS was associated with abstinence (trend; Odds Ratio = 1.12, Ward's X^2 = 3.77, p = .05).

•There was an indication (trend) that individuals in the two coping strategy groups were better able to resist eating the Kisses than those in the no coping strategy group, though the two coping strategy groups did not differ from each other.

•**Results suggest that the two active interventions were equally effective.**

- **Interaction effect (PFS x Group)**

  - PFS x Membership in acceptance-based coping strategy group predicted abstinence (weak trend; Odds Ratio of Acceptance-based vs other = .87, Ward's X^2 = 2.90, p=.09)

  - **Results hinted that the acceptance-based coping strategy was associated with a higher percentage of abstinence for participants with high susceptibility to the power of food, whereas the control-based coping strategy was associated with a higher percentage of abstinence for participants with low-medium susceptibility to the power of food.**


Percent of participants who were chocolate abstinent by intervention group and power of food

Craving: MANCOVA: PFS and Coping Strategy Group predicting Craving Measures

- **Main effects**

  - PFS was positively associated with craving measures. E.g., Food Cravings Questionnaire - State (FCQ-S), $F_{(1,97)}$=14.62, p<.001; craving distress, $F_{(1,94)}$=6.37, p=.01; thinking about chocolate, $F_{(1,94)}$=3.98, p=.05; and desire for chocolate, $F_{(1,94)}$=5.15, p=.03.

  - Independent effects of group with craving measures varied according to outcome measure, with no one group consistently more effective.

- **Interaction effects**

  - PFS x Group was a significant predictor of: *craving intensity* and *craving distress*, E.g., Food Cravings Questionnaire – State (FCQ-S), $F_{(2,97)}$ = 2.84, p=.06; craving distress, $F_{(2,94)}$ = 2.82, p=.06; craving intensity, $F_{(2,94)}$ = 3.37, p=.04; temptation to eat chocolate, $F_{(2,94)}$ = 3.32, p=.04.

  - **In terms of reducing craving intensity and distress, the control-based group appeared to offer an advantage for individuals with low-medium susceptibility to the power of food, whereas the acceptance-based group appeared to offer an advantage for individuals with high susceptibility to power of food.**

  - **An equivalent conclusion of the interaction effect: Power of food strongly predicted craving intensity and distress. However, this main effect was moderated by group such that the relationship between craving and power of food was negligible for the participants who receiving the acceptance-based group. I.e. the acceptance-based group appeared to strongly mitigate the relationship between participants' susceptibility to the power of food and their experience of craving.**
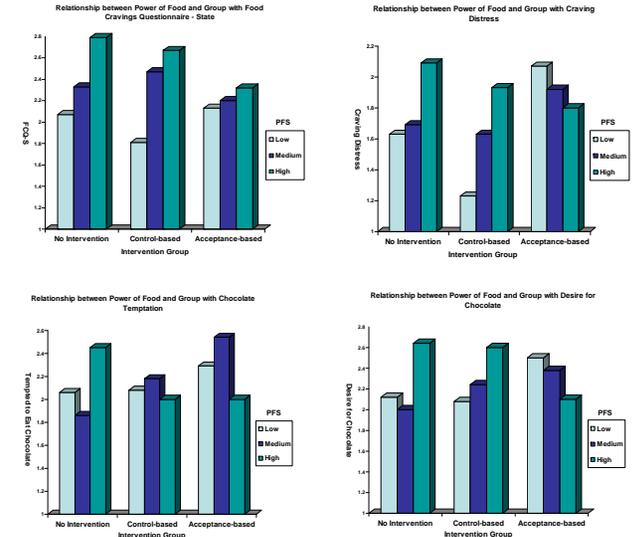
Conclusions: **Study results suggest that relative effectiveness of coping strategies depends on susceptibility to power of food. Acceptance-based strategies may be superior to traditional control-based strategies, but only among individuals highly susceptible to the power of food. Acceptance-based strategies may have an important place in obesity management programs.**