

# Acute exercise bout affects urges for sweets and physical activity participation in overweight regular sweet consumers



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## Background

Research has shown that acute moderate intensity exercise can reduce urges for chocolate in normal weight people (Taylor & Oliver, 2009). In addition to that it has been shown that affective response to an acute moderate-intensity exercise stimulus may predict self-reported physical activity 12 month later (Williams et al., 2008).

We investigated the effects of an acute exercise bout on urges to consume sweets, affect and responses to stress and a sweet cue. Potential long-term effects on physical activity were assessed 12 months later.

## Methods

Following 3 days of chocolate-abstinence 47 overweight, sweet consumers were assessed, on separate days, in 2 randomly ordered conditions, in a within-subject design: 15-min brisk walk or passive control. Following each, participants completed 2 tasks: Stroop color-word interference task, and handling sweets. Urges for sweets, affective activation and valence were assessed. 30 of the 47 participants completed questionnaires about their exercise behaviour 12 months later.

## Findings

ANOVAs revealed sig. condition x time interaction effects for: urges for sweets ( $p < 0.01$ ,  $\eta^2 = 0,245$ ), valence ( $p < 0.01$ ,  $\eta^2 = 0,183$ ), and activation ( $p < 0.01$ ,  $\eta^2 = 0,130$ ). 65.6 percent of those surveyed reported more PA since study participation. Wilcoxon tests have shown that participants spent significant more time practicing strenuous ( $p = 0.019$ ) and moderate ( $p = 0.028$ ) PA after the moderate-intensity exercise stimulus compared to time before participating in the PA intervention study. Respondents reported to be more refreshed, calm, energetic, happy, revived and enthusiastic following PA instead of nibbling.

## Diskussion

Obtained data show a potential of an acute exercise bout in reducing food craving in overweight people; participating in an acute exercise bout study may increase physical activity levels. The potential of an acute exercise bout in weight reduction programs should be explored.

## References

Taylor, A. H. & Oliver, A. J. (2009). Acute effects of brisk walking on urges to eat chocolate, affect, and responses to a stressor and chocolate cue. An experimental study. *Appetite*, 52: 155- 160.

Williams, D. M., Dunsiger, S., Ciccolo, J. T., Lewis, B. A., Albrecht, A. E., & Marcus, B. H. (2008). Acute affective response to a moderate-intensity exercise stimulus predicts physical activity participation 6 and 12 months later. *Psychology of Sport and Exercise*, 9(3), 231–245.

