Why Exercise Makes Us Fat: Compensation Between Physical Activity and Food Consumption

Carolina O.C. Werle, Grenoble Ecole de Management, CERAG, France
Brian Wansink, Cornell University, USA
Collin Payne, New Mexico State University, USA

When people begin exercise programs they often report gaining instead of losing weight (Time Magazine, 2009). Why? It is not because they are building muscles; it is probably because they are overeating. People may be overeating because they underestimate calories of what they eat or probably because they are compensating. This paper examines whether this is true and presents a potential solution: being distracted while exercising.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/1009581/volumes/v39/NA-39

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com/.
EXTENDED ABSTRACT

When people begin exercise programs they often report gaining weight instead of losing it (Time Magazine, 2009). One of the reasons why individuals may overeat after exercising might be related to calorie underestimation. Another reason may be related to rewarding the self through compensation for the hard time spent while exercising. This paper examines whether compensation through food consumption occurs and investigates a potential solution for these effects: being distracted while exercising.

The purpose of this article is to investigate specifically the relationship between exercising and food consumption—an important issue in the actual context of obesity prevention. Previous research suggests that the presence of a distraction alters the perception of the first action (Fillingim, Roth, & Haley, 1989; Karageorghis & Terry, 1997) and can impact subsequent evaluations, and decisions (Lerouge, 2009; Nowlis & Shiv, 2005; Shiv & Nowlis, 2004). Therefore, the presence or absence of distraction could be one of the keys to better understand the relationship between physical activity and food consumption.

We suggest that the presence of distraction in an initial exertion activity helps consumers to subsequently control themselves during food consumption leading to smaller food intake. Previous research shows that being distracted can be positive, increasing motivation and leading to better choices (Dijksterhuis, Bos, Nordgren, & Van Baaren, 2006; Sanders & Baron, 1975). Additionally, in the context of sequential behaviors (exercise – food intake), previous research suggests that when distracted individuals tend to feel less physical symptoms (like fatigue) associated with physical activity and better mood compared to not being distracted. Therefore, we posit that absence of distraction will result in individuals feeling more exertion (Kivetz & Zheng, 2006), thereby feeling more “licensed” (in search for a reward) and may be more prone to compensate (increasing subsequent food intake).

We further examine how people compensate. It is not clear if people will either compensate exercising in an indiscriminate manner (all types of foods) or in more selective manner over-consuming specific types of food (for instance, hedonic food). Research on hedonic versus utilitarian consumption indicate that hedonic food, specifically, serves as reward (Khan, Dhar, & Wertenbroch, 2005). We thus propose that compensation will be selective and directed to hedonic food (and not a generalized overconsumption). Furthermore, we propose that these effects will be stronger for consumers that are highly conscious of what they eat.

Through two experiments using realistic settings we investigate: 1) whether the presence of a distraction during the physical activity (action 1) influences the subsequent amount of food consumed (action 2); 2) whether the compensation is indiscriminate or selective, and 3) which individuals are more vulnerable to such compensation effects.

Study 1 used a one factor, three-level between-subjects design with three conditions: distraction while engaging in physical activity, no distraction, and control – no physical activity). Ninety-five (95) female participants (mean age = 44.52 years old and SD=10.59) were randomly assigned to one of the three conditions. The study was divided in two parts: activity and lunch. Participants in the no distraction condition were told that the activity was exercising—walking through a route in the campus—and that this part of the study would take approximately half an hour, and that after that lunch would be served. In the distraction condition, participants followed the same walking route, but they did so while performing a fun activity: listening to music. When the participants arrived from their walk, they served themselves lunch out of a buffet composed of pasta with meat, green beans, bread, and a choice of two desserts, apple sauce and chocolate pudding. Portions served were unobtrusively weighed while participants served themselves drinks. When participants finished their lunches, they answered a questionnaire about their lunch experience and were thanked and dismissed.

Results indicate that, in the no distraction condition, participants felt more tired (Mdistraction = 3.48 versus Mno distraction = 4.79, F(55,1) = 3.85, p=.04) after the physical activity than those in the distraction condition. In the same sense, individuals in the distraction condition were in a more positive mood after exercising than those in the no distraction condition (Mdistraction = 7.91 versus Mno distraction = 7.12, F(55,1) = 7.19, p=.01). Results also indicate that participants in the no distraction condition who chose chocolate pudding as a desert served themselves 35% more desert than participants in the distraction condition who made the same choice (calories served - chocolate pudding no distraction condition = 135.30; calories in the chocolate pudding distraction condition = 100.10; p=0.037). Finally, as expected, there were no statistical differences across conditions in the total amount of calories served or consumed during the experiment. Together, these results indicate that participants in the no distraction condition compensated for exercising but this compensation was selective and exclusively directed to hedonic foods.

In Study 2 we used a different kind of distraction—sightseeing—and we also explored individual differences in compensation effects. We used a one factor, two-level between-subjects design, presence versus absence of distraction during physical activity as the manipulated factor. Fifty-six (56) participants were assigned to one of the two conditions. The instructions and the walking route was the same as in study1, except that in the distraction condition, participants were told that the activity was a campus visit (sightseeing). When the participants arrived from their walk, as a thank-you for their participation, we offered them a sweet snack (M&M’s) which was to be poured into zip-lot bags. Results show a significant main effect of the manipulated factor on the amount of M&M’s served, such that participants in the no distraction condition took more M&M’s (Mno distraction = 372.3 calorie, SD = 391.9) than those who were in the distraction condition sightseeing (Mdistraction = 166.2 calorie, SD = 222.9; F(1,45) = 5.06, p = .029). These effects were stronger for females and for individuals that are highly conscious of what they eat.

While diet and exercise recommendations seem relatively straightforward, many find it extremely difficult to comply. Our results demonstrate that being distracted during the physical activity can have positive consequences in terms of subsequent food decisions. It avoids compensation that is mainly directed towards hedonic foods.
REFERENCES


