

Letters

RESEARCH LETTER

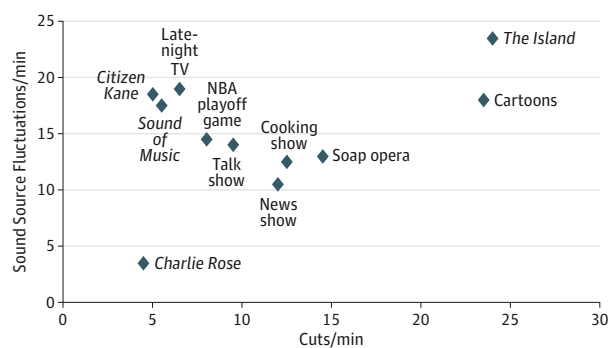
Watch What You Eat: Action-Related Television Content Increases Food Intake

Television (TV) has generally been blamed for helping make Americans overweight¹ owing to both its distracting influence and its encouragement of a sedentary lifestyle.²⁻⁴ Indeed, a recent correlational analysis⁵ of dinner patterns illustrated that the frequency of TV viewing during dinner was 1 of the 2 largest correlates of adult and child body mass index.

However, the focus to date has been on the medium and not the message. Granted, TV may lead distracted viewers to mindlessly eat past the point at which a person would usually stop. In this, it is not unlike other distracting activities that increase food intake, such as reading, listening to the radio, and interacting with dining companions.⁶ However, little is known about whether the content, valence, or pace of content influences how much a viewer eats while watching TV. For instance, how do objective technical characteristics, such as the frequency of visual camera cuts or the variation in sound, influence how much food is eaten?

Methods | Ninety-four undergraduate students (57 female; mean age, 19.9 years) completed this institutional review board-approved study in exchange for class credit. Participants provided written informed consent. They gathered in groups of up to 20 people and watched 20 minutes of TV programming. They were randomly assigned to 1 of 3 conditions. In 1 condition, viewers watched an excerpt from *The Island*, a Hollywood action movie (24.7 camera cuts/min; 24.5 sound source fluctuations/min). In a second condition, viewers watched an excerpt from *Charlie Rose*, an interview program (4.8 camera cuts/min; 3.2 sound source fluctuations/min) (Figure 1). In a third condition, viewers watched the same excerpt from *The Island*, but with no sound.

Figure 1. Sample Camera Cuts and Sound Fluctuations in Different Television (TV) Programs



NBA indicates National Basketball Association.

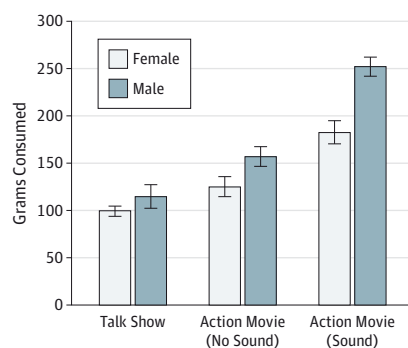
While watching the programming, participants were given generous amounts of 4 snacks (M&Ms, cookies, carrots, and grapes) and allowed to eat as much as they wished. Food was weighed before and after the programs to determine the amount eaten by each viewer.

Results | When pre-served an array of 4 different popular foods, more distracting television shows led viewers to eat significantly more food. Participants watching *The Island*, which includes highly stimulating and distracting programming featuring high camera cuts and high sound variation, ate 98% more grams of food (206.5 vs 104.3 g) and 65% more calories (354.1 vs 214.6) than did participants watching *Charlie Rose*. Even while watching the silent version of *The Island*, featuring increased camera cuts but no sound, participants ate 36% more grams of food (142.1 vs 104.3 g) and 46% more calories (314.5 vs 214.6) than participants watching *Charlie Rose*. The difference in amount consumed between groups watching different programs was significant ($P < .001$ level; $F_{2,92} = 12.07$). The effect of the program on calorie consumption was also significant ($P = .01$ level; $F_{2,91} = 4.48$). The effects were robust across sex, though directionally more pronounced for males (Figure 2).

Discussion | More distracting TV content appears to increase food consumption: action and sound variation are bad for one's diet. The more distracting a TV show, the less attention people appear to pay to eating, and the more they eat. Other potential causes, such as increased anxiety, agitation, and stimulation level, should be examined as contributing causes in future research.

When counseling patients physicians should stress the dangers of overeating while watching TV. Physicians and others who deal with patients struggling with their weight may want to warn in particular against the potential effect that highly distracting

Figure 2. High Sensory Distraction Television Shows Encourage Greater Food Intake



Bars indicate means; limit lines, 95% CI.

content, such as action movies, may have on overeating. When watching highly distracting TV content, it may be best to avoid snacking. If people wish to watch TV while eating, they should use preportioned quantities to avoid overeating.

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Study concept and design: All authors.

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Drafting of the manuscript: Tal.

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