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That's Not So Bad, I'll Eat More! Backfire Effects of Calories-per-Serving Information on Snack Consumption

Understanding how calorie information influences consumer behavior is crucial for promoting healthier consumption decisions. The study "That's Not So Bad, I'll Eat More! Backfire Effects of Calories-per-Serving Information on Snack Consumption" by Tangari et al. delves into the intricate relationship between calorie labels and snack consumption. The research investigates the phenomenon of backfire effects associated with providing standard calories-per-serving information for unhealthy snacks, wherein consumers tend to increase their consumption. By exploring a series of five studies, the paper systematically examines the impact of calorie information on consumption behavior, shedding light on the underlying mechanisms and implications for policymakers, snack manufacturers, and consumers.

First, Study 1 sets the stage by exploring the basic disconfirmation backfire effect, revealing that participants consumed more of an unhealthy snack when presented with standard calorie labels compared to when no label was provided. For instance, participants consumed an average of 35.0 grams of the snack under the standard label condition, whereas consumption decreased to 30.0 grams in the absence of any label. 137 participants were offered two variations of snack based on health perceptions (healthy and unhealthy) and three variations of information shown on the label (no information, calories, calories and serving size). The results of the survey supported the hypothesis that calorie information on the serving size label affected consumption differently depending on the framing of the snack as healthy or less healthy. Calorie information on the less healthy snacks caused participants to consume more compared to the control but had no effect on snacks perceived as healthy. The serving size information seemed to anchor consumption and calorie information increasing consumption beyond this

baseline, suggesting a strong backfire effect, whereas there was no significant difference between the control and the serving size only condition.

Building upon this finding, Study 2 further investigates the influence of calorie information by manipulating participants' expectations regarding serving sizes. This study included 403 participants who were first asked how hungry they were and then shown a picture of a small cookie. They were given its calorie disconfirmation and then asked how many cookies they would eat based on this information. In this study, participants perceived the calorie level to be higher in the negative calorie disconfirmation condition versus in the positive calorie disconfirmation condition. The results demonstrate that when calories per serving were lower than expected, the disconfirmation backfire effect was exacerbated, leading to increased consumption. The study concluded that people will eat more when presented with positive calorie disconfirmation information. Some other factors that affected participants' intended consumption included their body mass, their age, and their gender.

In Study 3, the researchers delve into the role of motivation, revealing that individuals with active weight management goals were more susceptible to labeling effects, consuming more when presented with calorie information. This study found that the hypothesis, positive disconfirmation of calorie expectations would lead individuals to eat more of that item and vice versa with negative disconfirmation, was supported by the behaviors of the 106 participants. For the study, participants received a bag of potato chips and were told that they can eat as much as they want. Additionally, the nutrition labels on the bags were manipulated where the calorie and serving size either reflected much more or less than expected. Overall, participants ate more when presented with the bag of chips that contained the manipulated label reflecting a positive disconfirmation while those who ate the bag of chips with the label reflecting the negative disconfirmation, had less. Lastly, the study found that participants who were watching their weight or who had weight goals played into the disconfirmation effect which, in the long run, may affect or harm their progress reaching their goal.

Study 4 explores the moderating role of attention to calorie information, showing that participants who paid more attention to calorie labels exhibited greater susceptibility to the backfire effect. There were 3 hypotheses for this study, and each of them focused on 81 undergraduate and graduate students aged 26 years. Hypothesis 1 predicted that providing standard serving size and calorie labels would increase snack consumption compared to a control condition with no label, replicating findings from previous studies. Hypothesis 2 predicted that doubling the serving size and calorie label would decrease consumption compared to the standard label condition. Lastly, hypothesis 3 focused on predicting that the impact of the standard versus the doubled serving size labels would be greater for those who pay attention to the calorie information. The observation was that the results supported all three hypotheses, which also showcased a backfire effect as people consumed more calories and chips in the standard label packaging as compared to the double label.

Lastly, Study 5 provides additional evidence for the backfire effect and its mitigation through an FDA-inspired intervention increasing serving sizes. This study aimed to explore two main hypotheses. The first hypothesis predicts that providing standard serving size and calorie labels would increase snack consumption compared to a control condition with no label, replicating findings from previous studies. The second hypothesis predicts that doubling the serving size and calorie label would decrease consumption compared to the standard label condition. There were a total of 115 participants included in the study, consisting of graduate and undergraduate students.

Before receiving chips labeled in one of three ways, participants were asked to estimate the calorie counts. They were then allowed to eat the chips freely while watching a video, and their consumption was later measured by weighing the leftover chips. The findings confirmed our hypotheses. Participants consumed more when presented with the standard label compared to the double label and control conditions, revealing a backfire effect as predicted. For instance, under the double label condition, consumption decreased to 22.5 grams, compared to 33.1

grams under the standard label condition. This underscores the significance of considering individual variations, such as motivation and attention to calorie information, in comprehending how snack labeling influences consumption behaviors. Participants consumed significantly less when presented with double serving size and calorie labels compared to standard labels, highlighting the effectiveness of the intervention in countering the backfire effect.

Our recent article, “U.S. Adults Eat a Meal’s Worth of Calories of Snacks in a Day” written by Emily Caldwell, discusses a study conducted by researchers from The Ohio State University. This article found that adults in the United States consume the equivalent of an entire meal’s worth of calories from snacks every day. The study analyzed data from a national survey with over 20,000 participants, whose diets were monitored 24 hours each day, and found that on average, adults get about 580 calories per day from snacks alone, which is equivalent to a typical meal. Additionally, the study found that the highest intake of snack calories was among young adults aged 20-39, with older adults consuming fewer snack calories. The researchers noted that in today’s current diet culture, specific foods or attributes are demonized such as snack foods and high calorie or high sugar foods.

However, the study raises the question of whether a healthy lifestyle is more about balance or cutting certain foods from one’s diet. The researchers stated that even making the active choice to remove foods from a diet needs to be a carefully thought out choice: “When you take something out, you have to put something back in, and the substitution becomes just as important as the removal” (Caldwell, 2023). Understanding consumer behavior is crucial in marketing. This study highlights a significant behavior pattern among adults in the United States regarding snacking habits. Marketers can use such insights to tailor their product offerings, marketing messages, and distribution channels to better align with consumer preferences and habits.

This study has many marketing implications since food manufacturers, policy makers, and consumers are the key stakeholders. In terms of product development and positioning, the

knowledge that adults consume a substantial portion of their daily calories from snacks is important for marketers who can then develop and position products that cater to this specific need. This could involve creating healthier snack options, offering portion-controlled packs, or promoting snacks with added nutritional benefits. Furthermore, for targeted marketing campaigns, recognizing that young adults are the highest consumers of snack calories, marketers can tailor their advertising and promotional efforts to target this demographic specifically.

Leveraging platforms and channels popular among young adults, such as social media and digital advertising, can effectively reach and engage this audience. To reach and impact the target audience, marketers need to be intentional about health and wellness messaging in the food and diet space. Given the increasing emphasis on health and wellness, marketers can incorporate messaging that highlights the nutritional value or health benefits of their snack products. This can resonate with consumers who are conscious of their dietary choices and seek healthier snack options.

References

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