

Advertising and Obesity

Does the Research Support a Claim for Causality?

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Abstract

It is often claimed that food advertising influences what foods one chooses to eat and how much one consumes. As a result, food advertising is often considered to be a contributing factor in the obesity epidemic. There are however, a number of counter arguments that challenge this perspective. The purpose of this paper is to present these arguments so that a balanced understanding of the relationship between advertising and food consumption can be gained.

Introduction

The World Health Organization has identified obesity as a worldwide health epidemic. In 2008 it reported 1.5 billion adults were overweight or obese. Child obesity is also on the rise. In 2010 the World Health Organization reported 43 million children under the age of five years of age were overweight (Ahima, 2011). Obesity is associated with many health problems including increased risk of diabetes, fatty liver disease, hypertension, heart disease, sleep apnea, cancer, endocrine and orthopaedic disorders as well as psychiatric disorders (Lobstein & Dobb, 2005).

Many biological and environmental factors have been linked with obesity. The challenge has been to understand how these factors are related to obesity and whether these factors are causal, or spurious associations.

Is Advertising a Causal Factor in Obesity?

It is often stated that advertising of food products is a contributing factor to the problem of obesity (Hoek, 2006., Thomson, Spence, Raine, & Laing, 2008., Palmer, 2010). While this claim is often made, researchers admit their research cannot prove conclusively that a causal link exists, but rather the data infer the existence of a causal relationship. Lobstein and Dobb (2005) reviewed the research that looks at the relationship between food advertising and obesity and concluded while it appears a relationship exists, there was a lack of clear evidence to support the claim of causality.

The goal of the scientific approach is to provide systematic and responsibly supported explanations (Hunt, 2003). It is therefore considered unscientific to make an inference of causality in the absence of supportive empirical data. It may be more appropriate to claim the research supports an association rather than a causal relationship. For this reason some researchers have concluded a causal relationship between advertising and obesity cannot be made (Jenvey, 2007). Other researchers conclude advertising cannot be a causal factor because children's food preferences are well-established before advertising is understood and because many other sociocultural variables, such as parents, peers and schools can influence consumption decisions (Ambler, 2006., Young, 2003., Young & Hetherington, 1996., Harker, Harker & Burns, 2007). Based on a comprehensive literature review, Lobstein and Dobb (2005) concluded advertising of foods on television may influence children's food choices and encourage unhealthy diets, but there was a lack of clear evidence to support the belief that advertising food leads to excessive consumption. Young & Hetherington (1996) came to the same conclusion and stated there is no evidence to suggest that advertising is the principle influence on children's eating behavior" (p. 17).

Obesity is complex phenomena and no single factor can be identified as a cause. Rather than asking if advertising can cause obesity, perhaps a more pragmatic question is does advertising 'contribute' to over-consumption and obesity? Second, if it does, what is the process?

A Review of Psychological Priming Concepts and Food Consumption

What is Psychological Priming?

Psychological Priming is also known as the Priming Effect and the Mere Exposure Effect. Priming involves exposing an individual to a stimuli and eliciting an associated response. The response can be affective; to feel something (Ishii, 2005), cognitive; to think something (Goolkasian & Woodberry, 2010) or behavioural; to do something (Cornell, Rodin & Winggarten, 1989). What's more is that people do not need to consciously pay attention to the stimuli. Unconscious perception of stimuli can also influence post thoughts, feelings and behaviour (Janiszewsk, 1993). Veltkamp et al. (2011) qualifies this statement by claiming food priming will only motivate consumers if they are in a state of deprivation or have an unmet need.

It is important to recognize that being in a state of deprivation can be considered a confounding variable that diminishes support for the perspective that priming has a meaningful impact on the volume of food one consumes.

How Powerful is Psychological Priming?

A number of studies have concluded that advertising food products has a cueing or priming effect that can lead to increased food consumption (Cornell, Rodin & Winggarten, 1989, Harris, Bargh & Brownell, 2009., Hoek, 2006., Lowe & Butryn, 2007., Rogers & Hill, 1989., Thomson, Spence, Raine, & Laing, 2008., Palmer, 2010). However, caution must be taken when drawing a conclusion between priming through advertisements and obesity. Seeing a chocolate bar on a store shelf or, a waiter carrying food on a tray could also have a priming effect. Primes may create an awareness of a product and may influence brand choice. However, one cannot conclude that this priming effect will lead to excessive consumption and obesity.

Babin and Harris (2012) state being exposed to a prior stimuli has a weak or marginal effect on attitude development and is more influential with low involvement cognitive processing. What's more, the priming effect can be diminished by a strong cohesive argument. For example, "a Notre Dame (Indiana) football fan might develop a preference for a face to which he's repeatedly exposed, but if he finds that the face belongs to a University of Southern California fan, the preference will likely go away based on strong information" (p.56).

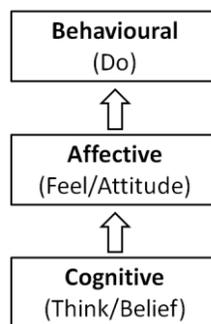
It is also worth noting that people who work in grocery stores and in restaurants are continually primed with many delicious foods. One would have to conclude that if priming had a strong effect, these workers should have higher obesity rates than those who are not exposed to these food primes. This however does not appear to be the case. In addition, one should ask, if priming does work, will it increase the desire for low energy dense foods such as fruits and vegetables or, does it only impact the desire for high energy dense foods?

Priming can also be an outcome of associative learning. The famous Russian researcher Ivan Pavlov paired the ringing of a bell with food. The bell was rung seconds before food was presented to the dog. The dog learned to associate the ringing of the bell (the prime) with food. The dog's physiological response was to salivate. It would be an error to over generalize this finding and assume that a ringing bell 'causes' the dog to salivate. What's more, if the dog was not hungry, the prime had no effect and would not respond by salivating. Likewise, a dinner bell, fork, plate, or

refrigerator could be paired or associated with food and thus, be considered a prime. However, we would not assume that a dinner bell prime or a fork prime is a causal or contributing factor in obesity.

The claim that being exposed to a prior stimulus has a weak or marginal effect on attitude development may be misunderstood when used in the context of understanding primes through advertising. This statement is best understood when placed in the context of the Hierarchy of Response model. The Hierarchy of Response model aims to describe the relationship between advertising and behavioural responses. The model states consumers pass through a three-step process before they buy or consume a product. The model has a cognitive component, an affective component and a behavioural component (Belch, Belch & Guolla, 2008).

The hierarch of effects process is illustrated below.



When Babin and Harris' statement is placed in the context of this model, one can see they are not specifically saying that priming has a weak or marginal effect on behaviour, but rather on attitudes. It also important to note while consumers often follow this process, sometimes consumers act on feelings without reasoning (Vakratsas & Ambler, 1999). It is also important to note as feelings are generated in the limbic part of the brain, one's feelings can override logic and reasoning which occurs in the prefrontal cortex (Carter, 2009). For example, a consumer could have excellent knowledge of the negative health consequences of unhealthy food. They could also have an attitude that it would not be healthy to consume a particular food type. However, their logic and reasoning can be overcome by their emotional desire for a food product. Therefore, behaviour is often inconsistent with ones beliefs and attitudes (Belch, Belch & Guolla, 2008).

Other researchers who have looked specifically at food primes through advertising conclude that the priming effect is strong. In one experiment snack food were placed in front of children as they

watch television. The results showed that children consumed 45% more when exposed to food advertising (Harris, Bargh & Brownell, 2009). Stating this increase as a percentage may be misinterpreted and possibly misleading. It would be more meaningful if this statistic was expressed in calories. Thus, we could determine how strong of an effect this is. What's more, is that the results of this study may not be generalizable to the larger marketplace as most people do not normally have a bowl of snacks in front of them while they watch TV.

Variables the Diminish the Effect of Food Advertising

Previous studies may not accurately reflect the consumer advertising viewing environment. There are factors in the viewing environment that may moderate and mediate the effectiveness of food advertisements. The three variables include zipping, zapping and message habituation. For advertising to have an effect on consumer attitudes and behaviour they must pay attention to the advertisement. As attention decreases so too does advertising's effectiveness (Dix & Phau, 2010., Cronin, 1995).

Over thirty years ago developmental studies of children's attention to television commercials revealed an inverse relationship between age and attending to commercials; that is, as age goes up attention to television commercials go down (Zuckerman, Ziegler & Stevenson, 1978). With the advent of on-demand television such as Pay-Per View and Bell Express View consumers can mechanically fast-forward both television shows and commercials. "Zipping" is the term used to describe the behaviour of mechanically using the televisions remote control to fast-forward through commercials. "Zapping" involves using a remote control to change stations as soon a commercial comes onto the screen (van Meurs, 1998). In a study by Cronin (1995) it was found that 60% of television viewers zapped commercials and less than 20% of commercials were evaluated prior to being zapped. In a follow-up study by Cronin & Menelly (1992) it was found that 9 out of 10 commercials were zipped. Almost a third of all zippers practiced block zipping which involved zipping through all commercials that were played back to back.

The third factor that can render advertising effective is too much repetition. Excessive repetition can lead to a psychological state where consumers become desensitized to a stimulus. This condition is called habituation (Rankin et al. 2008). As stated by Schiffman and Kanuk (2010), consumers can get so used to a print ad or television commercial that the ad will no longer provide sufficient

sensory input to be noticed. Despite the fact that consumers are physically exposed to an ad they will no longer cognitively process the ad message.

Conclusion

In this paper I have presented a number of counter-arguments to the theory that food advertising and priming influence of food choice and consumption. Based on these counter-arguments, it can be safe to conclude that at this time, due to a number of confounding variables, one cannot infer that a relationship exists between food advertising and obesity. Nor, can one conclude that priming has any effect on the volume of food that one eats.

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