Media Influences on Adolescents’ Beliefs About the Health Risks of Fast Food Consumption: the Interplay of Television Viewing and Direct Experience

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Cumulative TV exposure is linked to audiences’ generalized, and often skewed, views of reality. Survey data of American teenagers show that adolescents’ beliefs about the risks associated with fast food consumption vary as a function of television exposure and their actual experience of fast food.

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Special Session Summaries

Health Implications of The Marketing Mix: Environmental and Situational Moderators of Unhealthy Food Consumption
Chairs: Sonya Grier and Cristel Antonia Russell
American University Washington, DC

Paper #1: The Influence of Place on Consumption: Exploring Adolescent Unhealthy Consumption in Low versus High-Income and Urban versus non-Urban Neighborhoods of the United States
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Michael Bader, American University, USA
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Paper #2: Media Influences on Adolescents’ Beliefs about the Health Risks of Fast Food Consumption: The Interplay of Television Viewing and Direct Experience
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Paper #3: Time of Day Effects on the Regulation of Food Consumption After Exposure to Advertisements for Healthy and Unhealthy Foods
Wendy Boland, American University, USA
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Paper #4: Does Cash or Credit Increase Unhealthy Food Purchasing? A Reconciliation of Conflicting Evidence
Lauren Bloch, Baruch College, USA*
Rajesh Bagchi, Virginia Tech, USA*

SESSION OVERVIEW

Obesity is a worldwide epidemic and significant public health concern. In the U.S., analyses of nationally representative data demonstrate that 36% of adults and 16.9% of children and adolescents from 2 through 19 years of age were obese (Ogden et al. 2012; Ogden et al. 2002). Obesity and overweight result in a variety of health risks including increased risk for cancer, cardiovascular disease and hypertension, stigmatization and premature death (WHO Consultation 2000). In addition there are a breadth of psychological and social consequences including stigmatization, eating disorders and discrimination (Grier and Moore 2012; WHO Consultation 2000). Obesity also has significant economic implications, with estimates for the costs to U.S. companies alone estimated at $12.7 billion annually (Grossman 2004).

Prior research in marketing asserts that food marketing serves as an environmental influence on obesity (Seiders and Petty 2004). Now the goal is to understand the ways in which marketing may wield an influence on consumer behavior, a subject of increasing interest to the consumer research community (such as the food research curation at JCR; Block, forthcoming). As illustrated in the figure, the four papers in the session focus on various aspects of the marketing process, namely place, promotion, price, and product, to understand their relationship with consumers’ food beliefs, attitudes, and behaviors.

Together the papers demonstrate several environmental and situational factors that are directly shaped by marketing practices and that impact unhealthy food consumption. We focus on food consumption and measure multiple levels (e.g. cognitive, behavioral and health outcomes) of the impact of food marketing: beliefs about the health risks of fast food, actual consumption choices and obesity rates. The first paper investigates the relationship between where people live and unhealthy consumption, specifically teens in urban areas, to investigate how proximity to fast food is linked to unhealthy consumption in the context of obesity. The second and third papers in the session emphasize the interplay between the promotional and product elements, specifically looking at the influence of food advertising and direct product experience (paper 2) and whether the product advertised is healthy or not (paper 3), as well as moderators of these effects. Specifically, paper 2 shows that the more adolescents watch TV, the less they perceive the health risks of fast food but only when they have limited direct experience of fast food. And paper 3 demonstrates that the ways in which TV advertisements for healthy or unhealthy foods affect actual food intake vary as a function of the time of day. Finally, the fourth paper tackles issues of price with experiments that manipulate the method of payment to investigate whether and how the “pain” of payment influences food choices.

The session draws together a mix of methodological approaches: from macro level geospatial analysis (paper 1) to cross sectional data from a national panel (paper 2) and lab-based experiments (papers 3 and 4). Embracing the value of multiple levels of analysis, the session addresses both cumulative effects (papers 1 and 2) linked to actual and individual level effects (papers 3 and 4), with insights on the processes that drive observed effects. We also acknowledge the importance of addressing the obesity crisis by measuring both cumulative and individual impact of marketing mix variables. For instance, to offer a comprehensive picture of the promotional environment in which consumers live, the impact of food advertising exposure should be evaluated in terms of its cumulative effect (paper 2) as well as at the individual message level (paper 3).

Given the global concerns of the obesity epidemic, as well as with unhealthy consumption, the session should appeal to a diverse
The Influence of Place on Consumption: Exploring Adolescent Unhealthy Consumption in Low versus High-Income and Urban versus non-Urban Neighborhoods of the United States

EXTENDED ABSTRACT

Obesity and overweight among youth is a major concern worldwide, and it is estimated that 110 million children are overweight worldwide (World Health Organization, 2009). Disparities in obesity rates exist among groups of youth identified by ethnicity, income and gender in the U.S, as well as worldwide (Grier and Moore 2012). In the United States alone, 16.9% of youth were obese while 31.7% were obese or overweight during 2007-2008 (Ogden et al. 2010). The consequential health risks, such as asthma, kidney disease, hypertension, type 2 diabetes, cardiovascular disease, and depression (Caprio 2006) affect not only the child, but also create social and economic costs for society. Estimates place the costs of childhood obesity amount to over $14 billion, and are expected to account for 1 in every 6 dollars spent on health care by 2030 (Cawley 2010; Wang et al. 2008).

Current arguments emphasize studying the specific environmental factors that support overeating for the population as a whole and by specific racial, ethnic, and socioeconomic groups. Food marketing is an important part of the environment contributing to peoples’ health behaviors, including food consumption and physical activity (McGinnis, Gootman & Kraak 2006; Moore and Rideout 2007). A current emphasis of research in the food domain is to understand specific population-level environmental factors that support overeating as well factors that might influence specific groups and create obesity disparities. This research emphasizes the significance of understanding the contexts in which youth live, learn and play. One stream of research has centered on the food environment, both inside and outside schools. Prior research demonstrates that the proximity of fast-food restaurants to schools is related to higher youth body weight and also suggests that this relationship may be stronger in urban areas (Davis and Carpenter 2009; Grier and Davis 2012; Currie et al. 2009). Research also suggests that some lower income, and ethnic minority (Grier and Kumanyika 2008) youth may be more vulnerable to this relationship than others (Grier and Davis 2012).

The findings demonstrating an association with environmental factors and obesity in urban areas highlight the importance of understanding location-based strategies as an important dimension of the food environment. Investigating locational differences is especially relevant since consumer research has demonstrated consumption differences across lower versus higher income areas (Talukdar 2008) and predominantly black versus non-black neighborhoods (Grier and Kumanyika 2008). However, the relationship between location-based marketing strategies and unhealthy consumption has received little attention from marketers despite a burst of attention from public health, urban studies and other disciplines.

In the present research, we explore how place affects unhealthy consumption among youth. We focus on urban areas given the stronger effects observed in prior research as well as the potential for variation. We integrate research on the relationship between place and unhealthy consumption among youth to develop a conceptual framework and hypotheses regarding how specific characteristics within urban areas will influence unhealthy consumption among youth. Specifically, we model how intra-urban differences by income are associated with unhealthy consumption by adolescents; and how access to unhealthy retail mediates some of this association. Results demonstrate that adolescents living in low-income urban neighborhoods consume significantly more alcohol, cigarettes, soda and fries than their counterparts living in low-income non-urban neighborhoods, while adolescents in higher-income urban neighborhoods consume fewer of those items relative to adolescents in high-income non-urban neighborhoods. Focusing on the food outcomes, findings show that adolescents’ schools in lower-income urban areas are closer to fast food than non-urban areas while adolescents’ schools in higher-income areas are further from fast food than non-urban areas, explaining some of the intra-urban food consumption differences. Results contribute to an understanding of how place related issues influence unhealthy consumption.

Media Influences on Adolescents’ Beliefs about the Health Risks of Fast Food Consumption: The Interplay of Television Viewing and Direct Experience

EXTENDED ABSTRACT

This paper continues with a focus on adolescents to explore the relationship between cumulative TV viewing and adolescents’ beliefs about the consequences of fast food consumption. Adolescence is a key period of psychological development when many lifelong behaviors and beliefs are formed, including health-related beliefs. One of the major socialization forces for youth is television. In fact, television is often regarded as the most influential media source through which youth acquire knowledge, whether based on accurate or inaccurate information, and learn about social behaviors, including nutrition (Collins, Elliott, Berry, Kanouse, and Hunter 2003; Gerbner 1995) and TV content is potentially an influential source of health knowledge for teenagers (Pechman and Wang 2010). The majority of American youth have access to video entertainment and TV remains the primary source of entertainment for today’s youth, who watch an average of 3 hours and 20 minutes daily (Rideout, Foehr, and Roberts 2010; Nielsen Media 2009). Television exposure is directly related to advertising exposure and thus to advertising messages about fast food: Advertising spending of fast food on television (network and cable) continues to reach new levels, having increased 12.18% in the last five years to reach $2,776,264,900 in 2011 (AdSpender 2012).

Research from the cultivation paradigm of communications studies has documented that cumulative TV exposure is linked to audiences’ generalized, and often skewed, views of reality. This body of research linking cumulative exposure to TV to audiences’ real-life beliefs and perceptions suggests that the amount of TV watched by youths may be related to biased views about the consequences of eating fast food (Gerbner, Gross, Signorielli, and Morgan 1980; O’Guinn and Shrum 1997). The theoretical explanation for the cultivation effect is that TV viewing makes relevant information more accessible in memory for heavy viewers than for light viewers. This accessibility promotes a reliance on heuristic processing in how heavy viewers construct their judgments about the real world, hence explaining the positive relation between TV viewing and estimates of the frequency and probability of certain behaviors in society (Hawkins and Pingree 1982; Shrum, Wyer, and O’Guinn 1998).

We propose and test that teenagers’ perceptions of the health risks associated with fast food consumption vary as a function of their television exposure, per the cultivation paradigm. However, because direct experience shapes knowledge (Hoch 2002; John and
The relationships between TV exposure and those risk perceptions reduce its actual experience of fast food increases. We report the findings of two cross-sectional surveys of American teenagers conducted in the cultivation research tradition (N = 445 and N = 1,000). Children of members of an online panel representative of the US population were asked a series of questions about their media habits, fast food habits and beliefs about the consequences of eating fast food, as well as a series of personality and psychographic variables. The results indicate that the amount of TV watched by adolescents has a significant positive relationship with their positive perceptions about the consequences of eating fast food and an inverse relationship with their negative perceptions. This supports a cultivation effect of TV viewing: heavy TV exposure is related to adolescents’ beliefs about the consequences of eating fast food, they hold more positive perceptions and lesser negative perceptions about the consequences of eating fast food every day. However, this direct relationship only holds for positive fast food perceptions; for negative perceptions, it is qualified by youths’ direct experience with fast food. Adolescents’ level of prior direct experience with fast food moderates the relationship between TV viewing and negative perception of eating fast food. There are no differences in negative fast food perceptions amongst adolescents with prior direct fast food experience (i.e., no cultivation effect) as a function of the amount of TV they view. In contrast, adolescents’ negative perception of fast food consumption is a function of TV viewing if they do not have prior direct experience with fast food. In fact, heavy TV viewing decreases the perceptions of risks associated with fast food consumption for those adolescents with limited prior fast food experience. Therefore, while higher TV exposure is associated with lesser perceptions of the risks of fast food consumption (main effect), this effect is strongest amongst adolescents with limited prior fast food experience (interaction). Our findings are independent of the amount of physical activity adolescents engage in per week. This suggests that instead of TV viewing leading to reduced physical activity—in fact, there was a significant positive correlation between these two variables (r = .52, p < .01)—TV viewing rather exposes adolescents to programming content that influences their fast food perceptions. The results contribute to an understanding of how TV viewing and direct experience influence health beliefs, and how these beliefs in turn impact health outcomes.

Time of Day Effects on the Regulation of Food Consumption After Exposure to Advertisements for Healthy and Unhealthy Foods

EXTENDED ABSTRACT

As the previous paper shows, television watching is one of many practices that are associated with an unhealthy lifestyle (CDC 2012). Research demonstrates that exposure to food advertising increases food consumption, particularly for unhealthy foods. Individuals consume more of such foods when they watch a TV program that contains food advertisements compared to non-food ads (Falciglia and Gussow 1980; Harris, Bargh, and Brownell 2009). In effect, these ads act as automatic, real world primes for consumption (Harris et al. 2009).

Fortunately, individuals are able to automatically evoke self-regulatory strategies when facing primes that may prompt consumption. Such cues can lead consumers to activate measures to protect their own interests (e.g., planning to consume healthy fruits and vegetables as a means of avoiding less nutritious foods; Fishbach, Friedman, and Kruglanski 2003; Shah, Friedman, and Kruglanski 2002). Importantly, conceptualizations of self-regulation recognize that, with use, this resource becomes depleted (Baumeister 2002; Vohs et al. 2008). One implication of this is that self-regulatory failures may become increasingly more likely as the day wears on; while resources are likely to be quite strong in the morning, they are likely to decline as individuals engage in self-regulation throughout the day, rendering individuals more likely to succumb to temptations later versus earlier (Baumeister 2002). Thus, while individuals may be better equipped to guard against the consumption of food in response to ads early in the day, television watching later in the day—such as primetime viewing hours, when adult viewers are more likely to watch—may be more problematic from a dietary perspective.

This research explores the relationship between advertising content and food intake earlier versus later in the day. To date, no research has considered the differential manner in which consumers respond to food primes generated by advertising based on time of day. Across two studies, we show that while morning consumption does not vary with the type of food primed, individuals exposed to healthy food primes in the afternoon—all through ads (study 1) and via a word search task (study 2)—eat less than consumers who see ads for unhealthy foods or non-food control ads. This demonstrates that exposure to healthy advertisements may work to bolster depleted afternoon self-control, thus reducing food consumption. Interestingly, those exposed to unhealthy food primes did not consume less (or more) than those exposed to control ads in the afternoon, demonstrating that efforts to guard against indulgence are not bolstered (nor hindered) by priming temptations; the depletion of self-control in the afternoon may be sufficient to encourage increased consumption regardless of priming.

Our research carries important public policy implications given the proliferation of food advertisements targeted to adult consumers (Lee and Tseng 2005, Mink et al. 2010). Specifically, while the positive relationship between food advertisements and childhood eating (e.g., Halford et al. 2007; Halford et al. 2008, Halford et al. 2004) and obesity (Jackson et al. 2009) has been studied extensively and has resulted in policy implementations by governments to ban or limit food advertising to children (Hall 2007; Schultz 2011; Poggi and Schultz 2012), the impact of adult targeted food advertising has received far less attention. Thus, by demonstrating that the documented impact of food advertising on adult food consumption (see Falciglia and Gussow 1980; Harris, Bargh, and Brownell 2009) varies based on time of day, our research contributes to our understanding of the effect of time of day on consumer response to food-related environmental cues and, more generally, processes of self-regulation. Consequently, our findings carry implications for consumers and policy makers seeking to identify and mitigate the influence of environmental cues—particularly those outside of consumers’ conscious awareness—on overconsumption.

Does Cash or Credit Increase Unhealthy Food Purchasing? A Reconciliation of Conflicting Evidence

EXTENDED ABSTRACT

Are consumers more likely to buy more indulgent, high calorie foods when they pay by credit or when they pay by cash? Two recently published articles offer conflicting evidence: Thomas, Desai and Seenivasan (2011) present evidence that consumers are more likely to buy unhealthy food products when they pay by credit card, while Bagchi and Block’s (2011) findings support the opposite conclusion. In the current research, we reconcile these two contradictory sets of results by suggesting that the time between purchase and con-
sumption is the explanatory and moderating factor that can account for the differences.

We begin our theorizing with the emerging body of work on spending behavior that illustrates that the imputed cost of consumption (defined as the answer to a consumer’s question “How much is this pleasure costing me?” Prelec and Loewenstein 1998) is an important driver of spending and consumption decisions. Notably, imputed cost is greater for cash than for credit, and even specific cash bills themselves may differ in the pain of payment (Bagchi and Block 2011). Thomas et al. (2011) conducted studies that demonstrate that consumers are more likely to buy indulgent products when they pay with credit cards compared to cash. Results of their first field study support their theorizing that shoppers who paid with credit or debit cards had a larger proportion of vice products in their baskets. The result was replicated in lab experiments, in which participants were ostensibly helping a retail chain figure out what consumers would likely buy on a typical shopping trip. Importantly, in all these studies, purchase and consumption was temporally separated. Bagchi and Block (2011) find completely opposite results in a series of studies depicting scenarios when consumption occurs at the time of purchase. In their first field study, conducted at a frozen yogurt store, results confirm that consumers who paid with cash purchased and consumed significantly more calories than those who paid with a card. These results were replicated in three lab studies in which participants were instructed to select food items from a campus cafe for their afternoon snack. Results confirm not only that consumers made more indulgent choices when paying by cash compared to credit, but they made more indulgent choices when the cash itself was difficult (i.e., painful) to earn compared to easy to earn.

How can greater pain of payment explain the greater likelihood of indulgent food purchasing with credit as proposed by Thomas et al., and also explain the greater likelihood of indulgent food purchasing with cash as proposed by Bagchi and Block? Specifically, we suggest that when consumption immediately follows payment, a consumer is more likely to choose a higher calorie food option when paying in cash; however, when consumption is delayed, the consumer is more likely to choose a higher calorie food when paying by credit. We argue this occurs because in the immediate consumption scenario fulfillment from consumption alleviates the pain of payment. This does not occur when consumption is delayed.

We begin by testing this hypothesis in a study conducted as a 2 method of payment (cash vs. credit) x 2 temporal delay (immediate consumption vs. delayed consumption) between subjects design. In the first part of the study, the payment mechanism was made salient following the procedure used by Bagchi and Block (2011). Participants then read a description of either an immediate lunch consumption or a delayed consumption scenario (pick up food now for later consumption). All participants were then asked to select items from a menu (adapted from a large chain restaurant that includes a large variety of sandwiches, soups, salads, etc.) and to spend between $10 - $15 on their purchase. Results support our hypothesis that people choose more indulgent, higher calorie and generally unhealthy foods when paying in cash for immediate consumption and when paying by credit for delayed consumption. We also manipulated temporal delay similar to Study 1. Participants were provided with a menu and were asked to select items to order. We used the same menu that we used in study 1 and participants were asked to spend between $5 and $15 on their purchase. Results support our hypothesis that people choose more indulgent, higher calorie and generally unhealthy foods when pain of payment is higher for immediate consumption and when it is lower for delayed consumption (Total Calories: F(1,169) = 7.78, p < .010; Calories from Fat: F(1,169) = 9.45, p < .005; Fat(g): F(1,169) = 9.40, p < .005; Saturated fat (g): F(1,169) = 6.99, p < .01; Cholesterol (g): F(1,169) = 6.42, p < .02; Total carbs (g): F(1,169) = 4.06, p < .05; Total sugar (g): F(1,169) = 3.28, p < .08). We included perceptions of how healthy their product choice was and as age covariates in these analyses. Further analyses revealed that perceptions of how filling the product selection was mediated the effects of pain of payment on indulgence when consumption was in the immediate future but not when consumption was delayed. This is consistent with our argument that fulfillment derived from consuming more alleviates the pain for payment when consumption is in the near future. However, consistent with Thomas et al. (2011), fulfillment was not a mediator when consumption was delayed.

Taken together, these two studies reconcile previous findings on how pain of payment affects consumption. These findings are also suggestive of the possibility that other moderators may impact how pain of payment influences behaviors.