

Culturally-Contingent Cravings: How Holistic Thinking Increases Susceptibility to Occasion-Setting Cues in Food Appeals

Consistent with popular laymen perceptions, consumer behavior literature has often conceptualized Eastern consumers as archetypes of resolute discipline and self-restraint (Hong & Chang, 2015; Zhang & Shrum, 2009). However, recent statistics paint a different picture of the Eastern consumer, documenting a rise in maladaptive behaviors associated with the absence of self-control. Specifically, an increasing number of Eastern consumers appear to be gambling more (Global Betting and Gaming Consultancy, 2011; The Economist, 2013), consuming more alcohol (Canadean Alcohol Strategies in Asia Conference, 2016), and over-eating (Ramachandran & Snehath, 2010). The last of these is of particular concern, given that obesity rates in some Eastern countries are growing faster than anywhere else in the world (Wang & Lobstein, 2006; WHO, 2010).

While multiple determinants may collectively be driving the escalating obesity problem, the rise does coincide with a noticeable increase in advertising expenditure from food and beverage companies within Asia (Consumers International, 2008; Kelly et al., 2014). Accordingly, it is not surprising that some organizations and researchers suggest that the increased prevalence of advertisements portraying indulgent foods (i.e., foods consumed for the primary purpose of immediate pleasure, but that are typically unhealthy) may be partially contributing to rising obesity rates. Due to these suggestions, several organizations have called for stronger regulations on such advertisements within Asia (Consumers International, 2008; Kelly et al., 2014; WHO, 2010). Such rhetoric has long persisted outside of Asia, with health organizations and specialists attributing the increasingly obesogenic environment to the ubiquity of food media (Bublitz, Peracchio, & Block, 2010). While there is no definitive causal link between the two coinciding phenomena, it is worthwhile to consider whether food advertising can indeed increase Asian consumers' propensity to indulge. However, since little

is known about how Eastern thinking styles influence consumers' reactions to food advertisements, it is difficult to discern whether such advertising plays a role in driving indulgent consumption, and if so, when and why that might be the case.

We begin to explore these questions by examining how one well-established characteristic of Eastern culture, holistic thinking (i.e., the tendency to focus on relationships and interconnectedness among objects and their contexts; Masuda & Nisbett, 2001; Monga & John, 2007; Nisbett et al., 2001), might influence consumers' responsiveness to particular forms of food advertising. We propose that holistic thinkers will be especially susceptible to advertising that situates a food item in a context associated with its consumption. Indeed, it is common for advertisers to portray food products in a situational context, whether it is popcorn in a movie theater, a bowl of cereal at the breakfast table, or cotton candy in an amusement park (see marketplace examples in Appendix A). The literature has labeled such contextual reminders as *occasion setters*, as they have been shown to evoke or set the occasion of consuming particular foods (especially for indulgent, high-calorie products; Hall et al., 2015; Holland & Petrovich, 2005; Roefs et al., 2006), thereby increasing one's subsequent craving and consumption of those foods (Gawronski, Rydell, Vervliet, & De Houwer, 2010; González, García-Burgos, & Hall, 2012; Kavanagh, Andrade, & May, 2005; Van Gucht, Vansteenwegen, Beckers, Hermans, et al., 2008). Given that holistic thinkers are particularly likely to focus on relationships between an object and its context or field, while analytic thinkers are more likely to isolate a focal object from its surroundings and focus on its inherent attributes (Masuda & Nisbett, 2001; Monga & John, 2007; Wyer & Xu, 2010), we propose that holistic thinkers will be more susceptible to advertisements that contain occasion-setting cues than analytic thinkers will be.

Across three experiments, we demonstrate that occasion-setting advertisements for indulgent foods lead holistic thinkers to crave more than their analytic thinking counterparts.

In addition to establishing this interactive effect with both subjective and physiological measures of craving (i.e., salivation), we also shed light on the mechanism underlying the observed effects: consumption imagery. While past studies have found situations in which Eastern cultural values decrease indulgent behavior (Hong & Chang, 2015; Kacen & Lee, 2002; Zhang & Shrum, 2009), we contribute to cross-cultural research by identifying an ordinary circumstance in which holistic thinking, a characteristic of Eastern cultures, might potentially increase one's craving and subsequent indulgence. In addition, we contribute to advertising literature by being the first to examine how, when, and why occasion-setting cues, a common element in advertisements, influence craving of the featured product. Further, we contribute to consumer motivation literature by demonstrating an interactive effect of occasion-setting cues and thinking style on one's desire to consume indulgent food.

Conceptual Background

Occasion-Setting and Craving

Consumer choice and consumption of food does not occur in a vacuum; rather, these behaviors often transpire alongside various contextual cues. Indeed, the gratification of one's own appetites, desires, and whims is often situated within a context of some sort. The context may simply be the physical location in which consumption takes place (e.g., in a restaurant), but may also include other idiosyncratic cues (e.g., pre-consumption rituals) that may systematically accompany food consumption (González et al., 2012). Over time, consumers learn to associate such contexts with their partnered consumption acts or stimuli (see Bouton, 2011; Holland & Petrovich, 2005). Once a context has been mentally linked to food consumption, merely exposing consumers to that context can evoke the occasion for consumption (González et al., 2012) and thereby increase craving for and consumption of the focal product (Holland & Petrovich, 2005; Kavanagh et al., 2005; Van Gucht,

Vansteenwegen, Beckers, Hermans, et al., 2008). These contextual cues are referred to as *occasion setters* or *occasion-setting cues* (Gawronski et al., 2010; González et al., 2012; Van Gucht et al., 2008).

Occasion-setting cues (e.g., a restaurant or a movie theater) often evoke imagery related to the consumption of a particular product and can thereby elicit anticipatory reactions from consumption of that food (Berry, Andrade, & May, 2007; Kavanagh et al., 2005). These reactions can include explicit outcome expectancies (e.g., more positive consumption expectations) and automatic physiological responses (e.g., increased salivation), and consequentially drive craving, consumption likelihood, and intake volume (Bossert et al., 2011; Kavanagh et al., 2005; Koob, 2011; Van Gucht, Vansteenwegen, Beckers, Hermans, et al., 2008). Notably, because indulgent products are more likely to evoke situated consumption imagery and feelings of desire than their non-indulgent counterparts (Bouton, 2011; Papies, 2013; Siep et al., 2009), occasion-setting cues are particularly likely to induce craving when paired with indulgent products (Holland & Petrovich, 2005; Richard et al., 2017).

While it is not always feasible for food marketers to manipulate a consumer's actual physical environment, advertisers often evoke consumption occasions through images, by employing visual advertisement backgrounds that remind consumers of such environments. Past research on mental imagery (Decety & Grèzes, 2006; Kosslyn, Ganis, & Thompson, 2001; Morewedge, Huh, & Vosgerau, 2010) and narrative transportation (Escalas, Moore, & Britton, 2004; Green & Brock, 2000; McFerran, Dahl, Gorn, & Honea, 2010) has demonstrated that experiences depicted through imagery have the power to induce similar affective responses as actual experiences. This account is underscored by findings showing that exposure to an imagery-evoking advertisement increases the likelihood that consumers mistakenly believe that they have gone through consumption experiences similar to those

portrayed in the ad (Rajagopal & Montgomery, 2011). Therefore, imagery-based occasion-setting cues should function similarly to environmentally-based occasion-setting cues.

Although occasion-setting cues have been widely studied within cognitive psychology (Bossert et al., 2011; Koob, 2011; Van Gucht et al., 2008), their potential role in advertising has yet to be studied. Furthermore, the literature in cognitive psychology is rather mute regarding how individual and/or cultural values can influence the effect of occasion-setting cues. We begin to address these gaps by exploring how cultural differences might moderate the effect of occasion-setting cues on the craving and consumption of indulgent foods.

Culturally-Contingent Indulgence

Extant research has typically found that Eastern styles of thinking increase one's ability to exercise self-control. For instance, Hong and Chang (2015) found interdependence (a common characteristic of Eastern culture) leads individuals to rely less on their feelings and more on reason while making decisions, thus consuming products that are superior in utilitarian (e.g., healthiness) as opposed to hedonic (e.g., taste) attributes. Further, correlational (Kacen & Lee, 2002) and experimental (Zhang & Shrum, 2009) data show that Easterners, or those with thinking styles similar to Easterners, are less likely to consume impulsively in social situations. However, the aforementioned spike in indulgent behavior among Easterners suggests that there may be conditions under which Eastern consumers show less self-control, and it is important from both a theoretical and practical standpoint to better understand the particular cultural characteristics that may influence the tendency to indulge.

Holism and Relational Thinking

Consumers are constantly exposed to cultural practices and environments that prompt particular cultural patterns of attention (Nisbett & Miyamoto, 2005). For instance, in contrast

to Western societies, Eastern societies have a more complex and interdependent social structure, leading them to have a more interdependent self-construal (i.e., valuing connectedness, conformity, and group harmony; Zhang & Shrum, 2009).

Importantly, the tendency of Eastern individuals to think in relational terms does not stop at social interdependence but extends to Easterners' holistic style of thinking. *Holistic thinking* is characterized by the tendency to assume that every element in the world is somehow interconnected, whereas analytic thinking conceptualizes the universe as being composed of independent objects (e.g., Munro, 1985; Nakamura, 1985; Needham, 1962). While holistic thinking tendency is a multifaceted construct, its primary dimension is relational thinking (also known as the causality dimension, referring to the notion that holistic thinkers focus more on the relationships and interactions between an object and its surrounding situation than do their analytic-thinking counterparts; Choi, Koo, & Choi, 2007).

As a result of this greater focus on the relationship between an object of evaluation and its surrounding context, holistic (versus analytic) thinkers generally direct their attention to the context of an object (Ishii, Reyes, & Kitayama, 2003), have a better memory of an object's context (Masuda & Nisbett, 2001), and are more likely to use the context during inference processing and causal reasoning (Choi, Nisbett, & Norenzayan, 1999; Miyamoto & Kitayama, 2002; Norenzayan & Nisbett, 2000). For instance, using eye tracking technology, researchers have demonstrated that holistic (versus analytic) thinkers not only look at a stimulus' background more often, but also alternate more frequently between fixating on the object and background than analytic thinkers do, an indication that they try harder to understand how the external cue and object of evaluation relate with each other (Chua, Boland, & Nisbett, 2005; Goh, Tan, & Park, 2009). Additional evidence comes from research showing that, in contrast to analytic thinkers, those with holistic tendency are more likely to

base their judgments of a given individual's emotions on the facial expressions of people around the individual (Masuda, Gonzalez, Kwan, & Nisbett, 2008).

Consumption Imagery as an Underlying Process

In sum, extant evidence shows that holistic thinking does not merely increase attention to a focal object's background, but instead increases one's focus on the *relationship* between a focal object and its background. For a similar reason, holistic (versus analytic) thinkers are more likely to consider not only whether or not a product fits with its background, but also *how* and *why* it relates to the background (Nisbett & Miyamoto, 2005). In the context of an occasion-setting food advertisement, this means thinking about the relationship between a food and its pictured context (e.g., the relationship between a pizza and a pizzeria), which may accordingly invoke imagery of consumption (e.g., one tends to eat pizza in a pizzeria). Importantly, previous literature has established that inducing such consumption imagery increases indulgent food cravings (Kavanagh et al., 2005; May, Andrade, Panabokke, & Kavanagh, 2004; Tiggemann & Kemps, 2005), purchase intentions for food products (Elder & Krishna, 2012) and choice of hedonic food options (Shen, Zhang, & Krishna, 2016). While visual cues are indeed often capable of triggering such consumption imagery in general (Elder & Krishna, 2012; Larson, Redden, and Elder 2014), the current work explores how holistic thinking may amplify consumption imagery upon exposure to specific visual stimuli (i.e., occasion-setting cues) and consequently increase craving for indulgent foods that are featured alongside such cues. We outline our specific predictions next.

Predictions

Drawing from the literatures on occasion-setting cues, holistic thinking, and consumption imagery, we produce a framework that makes several predictions regarding the

effects of occasion-setting cues and holistic thinking on craving of indulgent products. First, we build on the cognitive psychology literature to suggest that the presence of occasion-setting cues should increase cravings for indulgent foods. Given that holistic thinkers (as compared to analytic thinkers) devote more attention and consideration to an object's relationship with its environmental surroundings, we propose that they will demonstrate greater consumption imagery in response to occasion-setting cues and consequently show increased craving for indulgent foods that are featured alongside such cues. Importantly, we expect that the effect of holistic thinking on craving will be especially driven by the relational aspect of a consumer's style of thinking style, and that differences in the intention to consume an occasion-set indulgent food will be mediated by the degree to which the individual imagines consuming the product.

Similar to other recent research in consumer psychology (e.g., Moore & Konrath, 2015), in the present research we sought to understand how thinking style and occasion-setting cues affect craving (as opposed to general favorability) because of its demonstrated motivational power in driving food consumption. Accordingly, because indulgent foods have a special ability to drive craving (Siep et al., 2009), as well as stronger memory links with occasion-setting cues and consumption imagery than non-indulgent foods (Bouton, 2011; Papies, 2013), we expect our proposed effects to be particularly pervasive among indulgent foods, and thus focus our hypotheses on this product category. Formally, we propose:

H1: When an indulgent food is presented with occasion-setting cues, holistic (versus analytic) thinking will increase cravings for the featured food.

H2: When an indulgent food is presented with occasion-setting cues, holistic (versus analytic) thinking will increase consumption imagery.

H3: The degree to which a consumer imagines consuming the featured indulgent food will mediate the interactive effect of holistic thinking and occasion-setting cues on subsequent craving.

Overview of Studies

We conducted three experiments to empirically test our proposed hypotheses. In study 1, we test H1 by examining the interactive effect of holistic thinking and occasion-setting cues on craving. Using a salivation measure (an established physiological measure of craving; Peck, 1959; Van Gucht et al., 2008), we find that holistic (versus analytic) thinkers are more likely to crave an indulgent product when it is portrayed in an advertisement that includes an occasion-setting background. In study 2, we sought to provide initial support for our consumption imagery mechanism by testing the moderating role of product type (indulgent versus non-indulgent) under the premise that, unlike predictions from alternative explanations (i.e., social norms, perception of fit), the effect of consumption imagery on craving is expected to be stronger for indulgent (versus non-indulgent) products. We also extended our findings by measuring not only feelings of craving but also purchase intentions for the featured products. In study 3, we directly assessed the role of consumption imagery by asking participants to indicate the extent they imagined consuming the featured food and testing its mediational role in the interactive effect of thinking style and occasion-setting on feelings of craving (thus testing H2 and H3).

Given its primacy and central role in our theorizing, we followed previous research protocol (DeMotta, Chao, & Kramer, 2016) and focused our analysis on the relational dimension of the Analysis-Holism Scale (AHS). Notwithstanding, we collected all items from the full AHS (Choi et al., 2007) in our studies 1 and 2 to provide discriminant validity with respect to the other dimensions (results show that the interactive effect of thinking style and

occasion-setting on craving is not significant for the other dimensions; these analyses are reported in the web appendix).

Study 1

The goal of study 1 was to test H1 by examining the effect of holistic (versus analytic) thinking on participants' craving for an indulgent food portrayed in an advertisement with or without an occasion-setting background. We relied on a salivation measure to serve as an objective, physiological measure of craving (Peck, 1959; Van Gucht, Vansteenwegen, Beckers, Hermans, et al., 2008).

Method

Stimuli selection. For this particular study, we chose chocolate as the indulgent food to be featured in the advertisements. This product category choice was based on previous research using chocolate as craving-inducing stimuli (Mehta, Zhu, & Meyers-Levy, 2014; Redden & Haws, 2012) and the prevalence of chocolate craving in the general population (Rozin, Levine, & Stoess, 1991). The occasion-setting backgrounds (i.e., an airport, a train station, an amusement park, and two movie theater backgrounds) were selected based on an online pretest ($N = 84$) in which we examined whether the specific occasion-setting images were considered common places to eat chocolate bars ("The setting above is a common place to eat a chocolate bar," anchored by 1 = Strongly Disagree, and 5 = Strongly Agree), with mean scores significantly above the mid-point ($M_{\text{Airport}} = 3.50$, $SD = .98$, $p < .001$; $M_{\text{TrainStation}} = 3.52$, $SD = 1.00$; $p < .001$; $M_{\text{AmusementPark}} = 3.21$, $SD = 1.13$, $p = .08$; $M_{\text{MovieTheater1}} = 3.71$, $SD = 1.13$, $p < .001$; $M_{\text{MovieTheater2}} = 3.63$, $SD = 1.18$, $p < .001$).

Main study design and procedure. One hundred and one undergraduate students (57% female; $M_{\text{age}} = 21.77$, $SD = 2.85$) participated in our laboratory study in exchange for

course credit, and were instructed to refrain from eating at least one hour before the start of the experiment (see Erskine & Georgiou, 2010). We determined the sample size based on power analysis from a pilot study. The study had a 2 level (background: control versus occasion-setting) between-subjects design with thinking style (i.e., holistic versus analytic) included as a continuous predictor. After entering the lab, qualifying participants completed a consent form and prepared for the salivation measurement using the Strongin-Hinsie-Peck procedure (Peck, 1959; Van Gucht et al., 2008). Specifically, participants were shown a diagram and instructed to insert 3 pre-weighed cotton dental rolls inside their mouths (the first and second ones between the cheek and lower gum, and the third one under the tongue). After inserting the cotton rolls, participants were shown five advertisements of common chocolate bars. The backgrounds of each chocolate bar advertisement were manipulated so that half of the participants saw each chocolate bar in front of the occasion-setting backgrounds from our pretest, while the rest of participants always saw the chocolate bar in front of a plain, neutral background (i.e., a gray colored background; see Appendix B for an example from each condition).

After viewing the advertisements, participants removed the cotton rolls from their mouths and place them in a sealed bag. All cotton rolls were weighed within 2 minutes after collection (to avoid loss in weight due to evaporation). Our dependent variable of interest was the difference in weight of the cotton rolls before they were placed in the participants' mouth (i.e., baseline) and after they were taken out. Afterwards, we measured participants' holistic thinking tendency using the 6 items related to relational thinking from the Analysis-Holism Scale (from Choi et al., 2007; e.g., "Everything in the universe is somehow related to each other," measured on 7-point Likert scales, $\alpha = .71$, $M = 5.06$, $SD = .84$).

Results

One participant who did not follow the instructions (i.e., removed the cotton-roll later than he was instructed to do so) was excluded from further analysis (results did not significantly change when including the participant; we report the results with the full sample in the web appendix). We ran a multiple regression with the mean-centered holistic thinking measure as the independent variable, background as the moderator, and salivation (in grams) as the dependent variable. We log-transformed the salivation measure because it was right skewed (Noble & Lader, 1971). Results revealed a significant interactive effect ($\beta = .32$, $t(96) = 2.47$, $p < .05$) and a significant main effect of background ($\beta = -1.62$, $t(96) = -2.43$, $p < .05$); no other effect was significant. To probe the interactive effect, we followed prior research protocol (e.g., DeMotta, Chao, & Kramer, 2016) and conceptualized holistic (analytic) thinkers as individuals located at one standard deviation above (below) the mean score. A simple slopes analysis showed that holistic (versus analytic) thinking increased salivation among those exposed to an occasion-setting background ($M_{\text{Analytic}} = .87$ versus $M_{\text{Holistic}} = 1.16$; $\beta = .17$, $t(96) = 2.00$, $p < .05$). However, thinking style had no impact on salivation for those exposed to a neutral background ($M_{\text{Analytic}} = 1.13$ versus $M_{\text{Holistic}} = .88$; $\beta = -.15$, $t(96) = -1.53$, $p > .10$). Further, exposure to the occasion-setting (versus neutral) background increased salivation (albeit marginally) for those with holistic thinking tendencies ($\beta = .28$, $t(1,96) = 1.81$, $p = .07$) and, interestingly, though not central to our hypothesizing, marginally decreased salivation for those with analytic thinking tendencies ($\beta = -.26$, $t(1,96) = -1.7$, $p = .09$). The resulting means are illustrated in Figure 1.

INSERT FIGURE 1 HERE

Discussion

Supporting H1, results from this study demonstrate that participants with holistic (versus analytic) thinking tendencies salivated more (indicating a greater degree of craving) when exposed to chocolate bars portrayed with occasion-setting backgrounds. To augment the robustness of our results, we ran an online replication of this study using a self-reported measure of craving (as measured in study 2 below) and an alternative control condition (a plain red background; see Appendix B). This allowed us to ensure the effects reported above were not merely driven by arousal stemming from the color red in the cinema background. The results replicated our study 1 findings, with a significant interactive effect ($\beta = .34$, $t(180) = 1.98$, $p < .05$), a significant effect of holism in the occasion-setting background condition ($\beta = .44$, $t(180) = 3.15$, $p < .01$), and a non-significant effect in the red (control) background condition ($\beta = .05$, $t(180) = .39$, $p > .10$; detailed results are provided in the web appendix).

Study 2

While our first study demonstrated that holistic thinking increases the effect of occasion-setting cues on craving, study 2 served three main purposes. First, we wished to replicate the effect of study 1 across different product categories (i.e., pizza and Mexican food) to add robustness to our empirical findings. Second, while craving has been shown to influence important behavioral intentions such as desire to eat or buy products (Moore & Konrath, 2015), we wished to confirm such downstream effects by also measuring participants' likelihood of purchasing the featured products. Lastly, while our theorizing suggests that holistic thinkers' increased craving for occasion-set foods is due to increased consumption-related thoughts, the effect observed in study 1 might also be explained by factors such as social norms or a gestalt perception of fit between the food and the background. We tested these alternative explanations by asking subjects to report feelings of craving and purchase likelihood for indulgent and non-indulgent foods that are equally

associated with a particular occasion-setting background (e.g., both a cheesy burrito and a taco salad are strongly associated with a Mexican restaurant). Since indulgent products are more likely to evoke situated consumption imagery than non-indulgent products (Bouton, 2011; Papies, 2013), a consumption imagery explanation would predict that product type should moderate the hypothesized effect, such that differences in craving among holistic and analytic consumers exposed to occasion-setting cues should be stronger among indulgent (versus non-indulgent) foods. Importantly, alternative explanations based on a gestalt perspective of fit or social norms would be unlikely to produce similar interactive effects (see more details in the General Discussion). Thus, to lend support for the consumption imagery process explanation, we manipulated both occasion-setting background (as a between-subjects factor) and featured food type (indulgent versus non-indulgent; as a within-subjects factor), and tested their potential moderating influence on the effect of thinking style on craving.

Method

Stimuli selection. We conducted two online pretests that allowed us to select sufficiently indulgent/non-indulgent food options that were perceived to equally fit with a particular occasion-setting background. Specifically, in the first pretest ($N = 50$), we asked participants to indicate how indulgent or non-indulgent a series of food items were (using a 3 item measure from Wilcox, Vallen, Block, & Fitzsimons, 2009; “This product is unhealthy,” “This product is bad for you,” This product is not nutritious,” measured on 7-point Likert scales, $\alpha_{\text{TacoSalad}} = .92$, $\alpha_{\text{Burrito}} = .92$, $\alpha_{\text{ArugulaPizza}} = .93$, $\alpha_{\text{CheesePizza}} = .93$). Analysis results showed that the taco salad ($M = 3.25$, $SD = 1.25$) and arugula pizza ($M = 3.28$, $SD = 1.39$) were considered to be non-indulgent food items (with means significantly below the midpoint, $t(49) = -4.22$, $p < .001$; and $t(49) = -3.67$, $p < .01$; respectively), while the burrito ($M = 4.60$, $SD = 1.38$) and cheese pizza ($M = 5.23$, $SD = 1.39$) were considered sufficiently

indulgent food items (with means significantly above the mid-point indulgence score, $t(49) = 3.07, p < .01$; and $t(49) = 6.24, p < .001$, respectively; see images of all four food items in Appendix C). In a separate online pretest ($N = 84$), we asked participants to assess whether the specific occasion-setting images we selected (a Mexican restaurant for the taco salad and burrito and a pizzeria for the two pizzas) were indeed considered common places to eat the respective food items (“How common would it be to find the following products in the setting pictured above?” anchored by 1 = extremely uncommon, and 5 = extremely common). Importantly, the taco salad and burrito were found to be equally common for the Mexican restaurant background ($M_{\text{TacoSalad}} = 4.08, SD = 1.20$; $M_{\text{Burrito}} = 4.04, SD = 1.11$; $F(1,82) = .03, p > .80$), and the arugula pizza and cheese pizza were found to be equally common for the pizzeria background ($M_{\text{ArugulaPizza}} = 4.53, SD = .74$; $M_{\text{CheesePizza}} = 4.48, SD = .88$; $F(1,82) = .07, p > .70$). Both backgrounds are presented in Appendix D.

Main study design and procedure. Study 2 had a 2 (background: control versus occasion-setting) between-subjects by 2 (product type: indulgent versus non-indulgent) within-subjects design with thinking style measured as a continuous moderator. Three hundred and thirty five participants recruited from Amazon Mechanical Turk completed an online survey in exchange for a small fee (on the recruitment post, workers were told not to participate if they had eaten within the last hour; Erskine & Georgiou, 2010). After indicating consent, all participants were shown four advertisements: two for non-indulgent products (i.e., a taco salad and an arugula pizza) and two for indulgent products (i.e., a burrito and a cheese pizza). The backgrounds of the advertisements were manipulated so that half of the participants were randomly assigned either occasion-setting backgrounds (i.e., a Mexican restaurant for the taco and burrito, and a pizzeria for the arugula pizza and cheese pizza) or blank backgrounds (representing the control condition).

After looking at each advertisement for at least 8 seconds, participants were asked to indicate the extent to which they craved each of the products presented using two seven-point semantic differential (1= Extremely weak 7 = Extremely strong) items (“How strong is your urge to eat the product above?”; “How strong are your cravings for the product above”; $r = .83$) adapted from Van Gucht et al., 2008. We then assessed purchase likelihood using one item: “How likely would you be to purchase the product above?” (anchored by 1= Not at all likely and 7 = Very likely; Elder & Krishna, 2012). Next, participants completed the same Analysis-Holism Scale as in study 1 ($\alpha = .89$), indicated whether or not they were lactose intolerant (due to the fact that both indulgent items included dairy; Hagen, Krishna, & McFerran, 2017), and responded to demographic questions.

Results

Thirty-one participants (9.2%) who did not follow instructions (i.e., skipped the food ads or failed to complete the survey) and twenty-four participants (7.2%) who reported being lactose intolerant were eliminated from the final analysis, resulting in a final sample of two hundred and eighty participants (152 females; $M_{age} = 36.31$, $SD = 10.62$). Results were similar when including the entire sample (see full sample results in the web appendix).

Craving. Since one of the factors was operationalized within subjects, we tested our hypotheses with a standard multilevel linear regression model where the measurement of craving of each food was operationalized at the level 1 and the participant at the level 2 (see Bryk & Raudenbush, 1992) using the lme4 package for R (Bates, Maechler, Bolker, & Walker, 2015; R Core Team, 2013). This model had product type as a within-subjects factor (1 = indulgent; 0 = non-indulgent), background as a between-subjects factor (1 = occasion-setting; 0 = control), mean-centered holistic thinking as a continuous moderator, and craving towards the product as a dependent variable. The standard multilevel model included a

normally distributed error at both level 1 (each individual measure) and level 2 (each participant). As predicted, we found a significant three-way interaction on craving ($\beta = .56$, $t(550) = 2.46$, $p < .05$). We also found the expected significant main effect of product type ($\beta = .58$, $t(550) = 2.84$, $p < .01$) and the interactive effect of thinking style and product type ($\beta = -.24$, $t(550) = -2.20$, $p < .05$) on craving. No other effects were significant. Simple interaction tests revealed that the two-way interaction of thinking style and background on craving was significant for indulgent products ($\beta = .44$, $t(550) = 2.04$, $p < .05$) and not significant for non-indulgent products ($\beta = -.12$, $t(550) = -.57$, $p > .10$). We then ran a simple slopes analysis to probe the significant interaction. As in study 1, to illustrate the effects we report estimated means for individuals with relatively low (-1 SD: analytic thinking) and relatively high (+1 SD: holistic thinking) scores on the Analytic-Holism Scale measure. As predicted, in the occasion-setting background condition, holistic thinking increased participants' craving for the indulgent products ($M_{\text{Analytic}} = 4.61$ versus $M_{\text{Holistic}} = 5.82$; $\beta = .38$, $t(550) = 2.06$, $p < .05$); but had no impact on craving when the indulgent products were presented with a blank background ($M_{\text{Analytic}} = 4.68$ versus $M_{\text{Holistic}} = 4.51$; $\beta = -.05$, $t(550) = .50$, $p > .10$), or on craving when the non-indulgent product was presented with the occasion-setting background ($M_{\text{Analytic}} = 4.18$ versus $M_{\text{Holistic}} = 4.39$; $\beta = .07$, $t(550) = .37$, $p > .10$). Results also revealed a marginally positive effect for craving for the non-indulgent product in the blank background condition ($M_{\text{Analytic}} = 3.71$ versus $M_{\text{Holistic}} = 4.32$; $\beta = .19$, $t(550) = 1.84$, $p = .07$). While this is consistent with research on social norms (e.g., Hong and Chang 2015), given the overall low means and tangential relevance to the phenomenon of interest (i.e., effect of holism in occasion-setting backgrounds), we refrain from discussing it further. The resulting means for both indulgent and non-indulgent products are illustrated in Figure 2.

INSERT FIGURE 2 HERE

Purchase likelihood. We tested the effect of holistic thinking, background, and food type on purchase likelihood using a similar multilevel linear regression model. Mirroring the results for craving, we found a significant three-way interaction ($\beta = .60$, $t(550) = 2.52$, $p < .05$), as well as a significant main effect of product type ($\beta = .59$, $t(550) = 2.72$, $p < .01$) and the two-way interactive effect of product type and thinking style ($\beta = -.31$, $t(550) = 2.64$, $p < .05$) on purchase likelihood. The simple interaction between background and thinking style was significant for indulgent foods ($\beta = .48$, $t(550) = 2.27$, $p < .05$), but not for non-indulgent foods ($\beta = -.12$, $t(550) = -.56$, $p > .10$). A simple slopes analysis for purchase likelihood also echoed those of craving, with a significant effect of thinking style on purchase likelihood of indulgent foods among individuals exposed to the advertisements with occasion-setting backgrounds ($\beta = .38$, $t(550) = 2.04$, $p < .05$), but not for those exposed to the advertisements with the control backgrounds ($\beta = -.11$, $t(550) = -1.01$, $p > .10$). For purchase likelihood for non-indulgent foods, we again found no significant effect of thinking style for the occasion-setting background ($\beta = .08$, $t(550) = .45$, $p > .10$) and a marginally significant effect for the control background ($\beta = .20$, $t(550) = 1.95$, $p = .06$).

Discussion

Results from this study demonstrate that holistic thinking increases craving for and purchase likelihood of an indulgent food product when that product is portrayed with an occasion-setting background. Importantly, it also shows that this effect is weaker for non-indulgent products, providing initial support for our proposed consumption imagery mechanism and reducing concerns that adherence to social norms or perception of fit drives the effects. In our next study, we more definitively test the meditational role of consumption imagery on the interactive effect of holistic thinking and occasion-setting cues on craving.

Study 3

The goal of study 3 was two-fold. First, we wanted to extend studies 1 and 2 by testing the effects of a holistic thinking style when it is procedurally manipulated (as opposed to being measured). Second, and more importantly, we wanted to provide more evidence for the underlying mechanism driving the effects (H2 and H3). Specifically, our theorizing suggests that because holistic thinking increases consumers' focus on the relationship between the background and the object of evaluation, they are more likely to think about the nature of this relationship, that is, they are more likely to imagine consuming the food portrayed, thus increasing craving. Accordingly, we asked participants the extent to which they thought about consuming the object portrayed and tested for its potential mediating effect.

To further rule out product-background fit as an alternative explanation, in addition to measuring consumption imagery, we also assessed participants' attitudes toward the ad materials. As previously mentioned, a greater perception of (or sensitivity toward) the fit between the featured food and its background could lead to more positive evaluations of the ad material, consequently increasing desire for the advertised food (Kwon et al., 2015; Mourey, Oyserman, & Yoon, 2013). Although we expect that occasion-setting backgrounds will be perceived to have a high fit with the portrayed food, we argue that its influence on craving is not produced solely by a more positive evaluation of the advertisement that stems from such fit but also, and mainly, from actively imagining consumption of the product portrayed. Thus, to rule out fit-driven favorability toward the ad as a stand-alone alternative explanation, we measured participants' attitudes toward the ad and tested its potentially mediating effect in parallel with our proposed consumption imagery process.

Method

Pretest of thinking style manipulation. Although we employed an established manipulation of thinking style in this study (borrowed from Murata, Park, Kovelman, Hu, & Kitayama, 2015; originally developed by Kitayama, Duffy, Kawamura, & Larsen, 2003), we ran a short pre-test to test its effectiveness in priming the relational dimension of holism, which we found to drive the effects in our previous studies. We tested the manipulation on ninety-one online participants (35 females; $M_{\text{age}} = 30.53$, $SD = 9.77$). Specifically, they were given a task in which they were shown a series of framed lines. Each framed line was presented for 5 seconds, after which participants were shown a different framed line and asked to judge whether the current stimuli differed in dimensions from the most recently presented framed line. Those in the analytic thinking condition were asked to judge whether the line length in the current stimuli matched the line length in the most recently presented line. In contrast, those in the holistic thinking condition were asked to judge whether the line-to-square proportion matched the proportion in the most recent stimuli. Thus, while those in the analytic thinking condition were asked to systematically isolate the line while ignoring its surrounding environment, those in the holistic thinking condition were asked to think of the line size relative to the surrounding frame, thus priming a relational mindset. Participants were shown a total of forty pairs of framed lines to perform the thinking style manipulation, and, after a filler task intended to reduce experimental demand, were asked to complete the six items related to the relational thinking dimension of the AHS (as measured in studies 1 and 2, $\alpha = .80$) as a manipulation check. An ANOVA revealed a significant main effect of the thinking style manipulation such that those in the holistic condition reported higher means in relational thinking ($M = 5.36$, $SD = 1.12$) than those in the analytic condition ($M = 4.84$, $SD = 1.16$; $F(1, 89) = 4.56$, $p < .05$). Thus, this pre-test established that our manipulation influences the relational thinking dimension of one's thinking style.

Stimuli selection. We used cheese pizza as the featured product in this study because of its high indulgence ranking in the study 2 pretest but chose a different background to increase the generalizability of our findings. We pretested this alternative pizzeria background to ensure it was considered to fit with the featured pizza. An online pretest (N=84) confirmed that the chosen background was indeed considered a common place to eat the pictured cheese pizza (“How common would it be to eat the following pizza in the setting pictured above?” anchored by 1 = extremely uncommon, and 5 = extremely common), with a mean score significantly above the mid-point ($M = 4.36$, $SD = .91$; $t(83) = 13.61$, $p < .001$).

Main study design and procedure. This study had a 2 (thinking style: analytic versus holistic) X 2 (background: control versus occasion-setting) between-subjects design. Three hundred and fifty-six individuals recruited from Amazon Mechanical Turk completed the online survey in exchange for a small fee (as in study 2, the recruitment post explained workers should not to participate if they had eaten within the last hour). After indicating consent, participants were told that they would complete a few unrelated studies. Participants were first assigned to one of two tasks as per the thinking style manipulation described above. After performing the task, participants were asked to evaluate a pizza advertisement. We manipulated whether the participants saw the pizza with an occasion-setting background (i.e., the brick oven pizzeria pretested above) or a control background (a blank background).

Participants then indicated their level of craving using the same items as in study 2 ($r = .96$) and answered questions assessing consumption imagery and favorability toward ad materials. Consumption imagery was measured using three items (adapted from Krishna & Elder, 2012; “I could imagine myself eating the pizza displayed,” “I could see myself eating the pizza displayed,” “I thought about myself eating the pizza displayed,” anchored by 1 = Totally disagree, and 7 = Totally agree; $\alpha = .94$). Favorability toward the ad materials was measured with two items (taken from Werle, Birau, & Lasalletta, 2017; “I liked the image,”

“The image attracted my attention;” anchored by 1 = Totally disagree, and 7 = Totally agree; $r = .89$). Next, participants exposed to the occasion-setting background completed a series of ancillary questions intended to probe the potential role of fit and locus of attention in explaining differences in craving between holistic and analytic thinking consumers exposed to occasion-setting cues. Perceptions of fit between product and background was measured using three seven-point semantic differential items (“How well did the products presented fit with the background they were presented with?” 1 = Not compatible, Not a good fit, Not congruent; 7 = Compatible, Good fit, Congruent; $\alpha = .96$) and locus of attention toward the product and the background was measured by asking participants to indicate the extent to which they paid attention to each (“Please indicate how much attention you paid to the following components,” 1 = Not at all, and 7 = A great deal). Finally, participants indicated whether or not they were lactose intolerant and responded to general demographic questions.

Results

Thirty-eight participants (10.7%) who reported being lactose intolerant and seven participants (1.9%) who did not follow instructions (i.e., skipped the ads or did not respond to all questions) were excluded from the final sample. We were thus left with a final sample of 311 participants (153 females; $M_{\text{age}} = 36.26$, $SD_{\text{age}} = 11.15$). Results followed the same pattern when including the full sample; regression outputs are provided in the web appendix.

Craving. Results from a 2 (thinking style: analytic versus holistic) X 2 (background: control versus occasion-setting) ANOVA revealed a significant two-way interaction of thinking style and background ($F(1, 307) = 11.23$, $p < .01$) and a significant main effect of background ($F(1, 307) = 28.45$, $p < .01$) on craving. A probe of the interaction revealed the same pattern found in studies 1 and 2: among those exposed to the occasion-setting background, those in the holistic (versus analytic) thinking condition indicated greater craving

($M_{\text{Holistic}} = 5.02$, $SD_{\text{Holistic}} = 1.79$ versus $M_{\text{Analytic}} = 4.25$, $SD_{\text{Analytic}} = 2.08$; $F(1, 307) = 3.88$, $p = .05$). We also found that the holistic (versus analytic) manipulation unexpectedly decreased craving for those exposed to the blank background ($M_{\text{Holistic}} = 3.07$, $SD_{\text{Holistic}} = 1.91$ versus $M_{\text{Analytic}} = 3.81$, $SD_{\text{Analytic}} = 2.05$; $F(1, 307) < 4.68$, $p < .05$). In addition, individuals who performed the holistic thinking manipulation reported higher craving when exposed to the occasion-setting background than the blank background ($F(1, 307) = 34.89$, $p < .01$). We observed no differences in craving among those who performed the analytic thinking manipulation ($F(1, 307) = 2.14$, $p > .10$). The resulting means are illustrated in Figure 3.

INSERT FIGURE 3 HERE

Consumption imagery. We ran a similar ANOVA but with consumption imagery included as the dependent variable and found a significant two-way interaction between thinking style and background ($F(1, 307) = 15.04$, $p < .01$) and a significant main effect of background ($F(1, 307) = 10.22$, $p < .01$). Planned contrast analyses revealed a pattern similar to that of craving, as participants who saw the occasion-setting background reported thinking more about consumption of the product after performing the holistic (versus analytic) thinking priming task ($M_{\text{Holistic}} = 5.84$, $SD_{\text{Holistic}} = 1.39$ versus $M_{\text{Analytic}} = 5.01$, $SD_{\text{Analytic}} = 1.81$, $F(1, 307) = 7.52$, $p < .01$). We also found that the holistic (versus analytic) manipulation decreased consumption imagery for those exposed to the blank background ($M_{\text{Holistic}} = 4.46$, $SD_{\text{Holistic}} = 1.88$ versus $M_{\text{Analytic}} = 5.14$, $SD_{\text{Analytic}} = 1.67$; $F(1, 307) = 5.67$, $p < .05$). Finally, we found a significant effect of background on consumption imagery among holistic thinkers ($F(1, 307) = 23.03$, $p < .01$), but no significant effect among analytic thinkers ($F(1, 307) = .26$, $p > .10$). The resulting means are illustrated in Figure 4.

INSERT FIGURE 4 HERE

Ad favorability. We then ran an ANOVA with ad favorability as the dependent variable. Results revealed a significant main effect of background such that all participants were more favorable towards the occasion-setting background ($M = 5.51$, $SD = 1.49$) than the control background ($M = 4.47$, $SD = 1.66$, $F(1, 307) = 35.22$, $p < .01$). We also found a marginally significant interactive effect of thinking style and ad background ($F(1, 307) = 2.98$, $p = .08$). The relevance of this marginally significant interactive effect was undermined, however, by results from planned contrast analyses. Specifically, we found a non-significant effect of holism for individuals exposed to either the control ($M_{\text{Holistic}} = 4.28$, $SD_{\text{Holistic}} = 1.62$ versus $M_{\text{Analytic}} = 4.65$, $SD_{\text{Analytic}} = 1.68$; $F(1, 307) = 1.60$, $p > .10$) or the occasion-setting background ($M_{\text{Holistic}} = 5.65$, $SD_{\text{Holistic}} = 1.44$ versus $M_{\text{Analytic}} = 5.41$, $SD_{\text{Analytic}} = 1.54$; $F(1, 307) = .25$, $p > .10$). It is thus unlikely that fit-driven ad favorability explains the influence of holism on craving for foods featured with an occasion-setting background (a more stringent test of this process explanation follows below).

Test of mediation. To test whether consumption imagery mediates the interactive effect of thinking style and background on craving for the pizza, we applied a bootstrapping procedure using the PROCESS macro with 10,000 resamples (Hayes, 2013; model 8). Specifically, we produced bootstrap confidence intervals (CIs) for the indirect effect of thinking style on craving through consumption imagery and ad favorability at both occasion-setting and control background conditions. We included thinking style as the independent variable, background as the moderator, craving for the pizza as the dependent variable, and consumption imagery and ad favorability as parallel mediators. The effects of our manipulations on consumption imagery and ad favorability were reported above. Further, when we regressed craving on both mediators while controlling for holistic thinking,

background, and their interaction, we found a significant effect of both consumption imagery ($\beta = .54$, $t(305) = 7.37$, $p < .01$) and ad favorability ($\beta = .76$, $t(305) = 9.54$, $p < .01$). Most importantly, we found that the indirect effect of holistic thinking prime on craving through consumption imagery was positive in the occasion-setting condition ($\beta = .45$, 95% CI: .18 to .82) and negative in the control background condition ($\beta = -.37$, 95% CI: -.75 to -.08). The confidence intervals for the indirect effect through ad favorability revealed non-significant effects in either background condition (occasion-setting: $\beta = .19$, 95% CI: -.16 to .56; control: $\beta = -.28$, 95% CI: -.69 to .11). Finally, the direct effect of holistic thinking after controlling for the two alternative mediators was not significant in either background condition (occasion-setting: $\beta = .34$, 95% CI: -.19 to .88; control: $\beta = -.30$, 95% CI: -.82 to .21), suggesting that consumption imagery (the only significant mediator on the model) is a sufficient mechanism to explain the effect of occasion-setting and thinking style on craving.

Ancillary measures. Finally, we ran a series of ANOVAs to examine differences in perception of fit and locus of attention between holistic and analytical thinkers exposed to occasion-setting backgrounds ($N = 153$). Results revealed non-significant effects of thinking style on perception of fit ($M_{\text{Analytic}} = 5.91$, $M_{\text{Holistic}} = 6.09$, $F(1, 151) = .73$, $p > .10$), attention to product ($M_{\text{Analytic}} = 6.28$, $M_{\text{Holistic}} = 6.26$, $F(1, 151) = .01$, $p > .10$), and attention to background ($M_{\text{Analytic}} = 4.90$, $M_{\text{Holistic}} = 5.07$, $F(1, 151) = .44$, $p > .10$). Lastly, to examine whether participants primed with holistic (versus analytic) thinking were more sensitive to the high fit of the occasion-setting background, we examined the interactive effect of perceptions of fit and thinking style on feelings of craving. Inconsistent with a fit explanation, results revealed only main effects of fit ($\beta = .87$, $t(149) = 5.84$, $p < .01$) and thinking style ($\beta = .84$, $t(149) = 2.25$, $p < .05$) but, importantly, no interactive effect ($\beta = -.20$, $t(149) = .51$, $p > .10$).

Discussion

This study replicated the findings of studies 1 and 2 by demonstrating the interactive effect of thinking style and occasion-setting background on craving, thus lending more definitive support to H1. We also extended earlier findings by demonstrating that the effect holds when holistic thinking is procedurally manipulated as opposed to measured. Notably, mediation analysis in study 3 established the role of consumption imagery, lending support to H2 and H3, and helped us rule out an alternative explanation based on ad favorability. Ancillary analysis results allowed us to rule out additional alternative explanations. Specifically, as in prior research (Kwon et al., 2015) our findings indicate that individuals primed with holistic (versus analytic) thinking were not focusing more on the product or on the background. This finding is also in line with prior research that used evidence from an eye-tracking study to demonstrate that holistic thinkers do not spend more time looking at the background, but rather shift more often between the background and the object of evaluation, actively trying to understand how they are related (Chua et al., 2005). Results also show that fit is an unlikely explanation for our effects (as already implied by the non-significant effects of thinking style on ad favorability in study 3 and the overall results of study 2).

General Discussion

Across three empirical studies, we demonstrate that when an indulgent food is featured with an occasion-setting background, holistic (versus analytic) thinking increases craving and subsequent purchase likelihood for the featured product. Further, this effect holds whether thinking style is measured or manipulated and is driven by increased consumption imagery that holistic thinkers generate when in the presence of occasion-setting cues.

Past literature has often associated Eastern consumers with displays of self-control and self-restraint (e.g., Hong & Chang, 2015; Kacen & Lee, 2002; Zhang & Shrum, 2009). For example, Zhang and Shrum (2009) found that because interdependence (a characteristic of

Eastern cultures) increases social norm sensitivity, it decreases impulsive consumption within a social context (e.g., people drink less when at a party with friends). Yet our research identifies contextual conditions under which holistic thinking (also a common trait in Eastern cultures) actually increases the likelihood of indulgence. While on the surface these findings may seem to be in conflict, we in fact add nuance to the previous literature by teasing apart the influence of context and sociality. Specifically, by examining non-social contextual cues, we demonstrate how a common advertising practice (featuring food items with occasion-setting backgrounds) can make holistic thinking become a catalyst for craving and indulgence. In doing so, we uncover specific conditions in which a typically Eastern characteristic (holistic thinking) may be a liability to self-control efforts.

Our findings also add cultural nuance to the occasion-setting literature. While this literature has thus far documented the general impact of occasion-setting cues on craving and consumption (Birch, 1999; Bossert et al., 2011; Koob, 2011; Van Gucht et al., 2008), to our knowledge the literature has yet to explore how individual-level characteristics might come into play. We contribute to this stream of research by demonstrating that occasion-setting cues have a greater impact on holistic thinkers than on analytic thinkers.

It is also worthwhile to consider how these findings might relate to research on classical conditioning. On the surface, the occasion-setting literature is similar to classical Pavlovian conditioning literature, in that both theories involve the pairing of otherwise unrelated stimuli that become closely associated with one another. However, the major difference is that in classical Pavlovian conditioning, a neutral stimulus “replaces” the food, inducing craving even when the food is absent (Van Gucht et al., 2008). For example, one might crave a chocolate bar after hearing the brand’s popular jingle on the radio, even though the chocolate bar is nowhere to be seen. Importantly, given that holistic thinkers focus on the relationship between a focal object and its visible surroundings, we would not predict holistic

thinking to increase consumption thoughts and consequent craving in absence of the focal object. In fact, the lack of a focal object might render the environmental cues non-contextualized and meaningless, arguably making holistic thinkers less prone to conditioning effects, which would be an interesting future research avenue.

We also contribute to advertising literature by being the first to examine the impact of occasion-setting advertisement backgrounds on consumer behavior. While the impact of occasion-setting through environmental or locational changes has previously been studied, little is known about the impact of occasion-setting cues through advertisement backgrounds. We show that, even in cases where marketers do not physically manipulate a person's environmental surroundings, marketers can still take advantage of occasion-setting through imagery by including the occasion-setting environment in the advertisement background, particularly while targeting holistic thinking customers.

Lastly, our findings contribute to research linking consumption imagery to increased craving and indulgence (May et al., 2004; Tiggemann & Kemps, 2005). While previous research has shown that manipulated consumption imagery can increase cravings and indulgent choice (Harvey, Kemps, & Tiggemann, 2005; Hofmann, De Houwer, Perugini, Baeyens, & Crombez, 2010) and a dispositional tendency to generate such mental imagery has been linked to higher BMIs (Patel, Aschenbrenner, Shamah, & Small, 2015), we are, to the best of our knowledge, the first to demonstrate how a cultural characteristic, holistic thinking, may leave people dispositionally more inclined to generate such imagery under specific conditions (i.e., the presence of occasion-setting cues).

The current findings have important practical implications for consumers and public policy makers. Given the previously mentioned rise in maladaptive indulgent behaviors in Asia (Canadean Alcohol Strategies in Asia Conference, 2016; Global Betting and Gaming Consultancy, 2011; Ramachandran & Snehath, 2010; The Economist, 2013), it is valuable

to understand any potential mechanisms that might even minimally be contributing to the phenomenon. Our findings suggest a common trait in Asian countries (holistic thinking) can in fact leave consumers more susceptible to a particular form of advertising communications (those presenting indulgent foods in the context of occasion-setting cues). By focusing on craving, a well-established antecedent to both over-eating and obesity (Holland & Petrovich, 2005; Wurtman & Wurtman, 1995), as the main dependent variable in our studies, our findings hint that at the very least, advertising for indulgent foods is not completely innocuous in Eastern countries. Given the recent rise in food advertising expenditure in the region (Consumers International, 2008; Kelly et al., 2014), our research may begin to shed light onto which forms of advertising are particularly likely to induce indulgent behavior. In understanding such nuance, public policy makers and consumer advocacy groups can be better equipped to tackle such challenges and design more efficacious interventions.

For example, school and work cafeterias might be redesigned to eliminate atmospheric elements associated with indulgent occasions and instead opt for more minimalist design concepts. Further, given our finding that consumption imagery is the mechanism driving increased craving, elaborated intrusion methods (Harvey et al., 2005) may also prove effective in curbing craving for holistic thinkers. For example, providing concurrent visual imagery that is unassociated with indulgent occasions (e.g., pictures of nature) may be an especially a useful technique for reducing food cravings among holistic thinkers.

It is important to acknowledge that throughout our studies we analyzed the effect of thinking styles within a single culture. We did so to control for any confounding role of cross-cultural differences in preferences for different types of food or in types of occasion-setting backgrounds, thus ensuring greater validity of our findings. This approach is in line with extant literature (Choi et al., 2007; Nisbett, Peng, Choi, & Norenzayan, 2001) that conceptualizes thinking styles as a toolbox people use to interpret the world around them,

where the use of tools (i.e., analytic or holistic thinking) varies not only across cultures, but also across individuals within a culture and even within individuals across different tasks or situations (indeed, our study 3 confirmed that these thinking styles can be manipulated). Notably, however, we did run a cross-national study which found that individuals from a country characterized by holistic thinking tendencies (i.e., India) reported experiencing higher craving in the presence of occasion-setting advertisements than those from a country characterized by analytic thinking (i.e., United States). Future research could expand this effort and replicate our findings across cultures with varying levels of holistic thinking.

While this paper primarily focuses on the moderating impact of holistic thinking and occasion-setting cues on the craving and purchase likelihood of indulgent foods, future research could explore whether or not this effect manifests with other, non-food related vice behavior. For instance, Eastern countries are not only seeing alarming rises in obesity rates, but are also experiencing rises in maladaptive behaviors such as gambling (Global Betting and Gaming Consultancy, 2011; The Economist, 2013) and alcohol consumption (Canadean Alcohol Strategies in Asia Conference, 2016). Since occasion-setting has been shown to impact drug use among former drug addicts (Bossert et al., 2011; Koob, 2011), it is possible that advertisements containing alcohol or gambling occasion-setting cues may also play a contributing role in the East's recent rise in the incidence of those maladaptive behaviors.

Future research could also broaden findings from this paper by exploring alternative operationalizations of occasion-setting cues. While we demonstrated effects driven by visual advertisements, it is likely that actual environmental surroundings, sounds, and smells might have an even stronger effect on inducing indulgence from holistic thinkers.

Regardless of the specific future direction, we hope our findings inspire work towards a more comprehensive and nuanced account of how, when, and why cross-cultural characteristics interact with advertising to influence consequential consumption behaviors.

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