

Impact of Meal Context on Food Advertising Outcomes

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Abstract

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This research examines to what extent the presence of meal context as a visual component embedded in food advertisements influences consumers' responses. It empirically tested whether meal context (vs. no meal context) impacts consumers' attitude towards the advertisement, the advertised brand, brand purchase intentions, product evaluation and appetitive motivation. An experiment involving a range of existing food products and brands was conducted with a sample of adult Canadian consumers. Contrary to predictions, meal context did not significantly impact consumer responses. Brand familiarity and product preference emerged as the most important predictors of consumer responses. This research has a number of implications for future research on meal context effects.

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Table of Contents

List of Figures	v
Introduction	1
Theoretical Background	2
Consumption Context and Consumer Response	3
Consumer Processing of Advertising	5
Impact of Visual Cues in Ads on Consumers' Attitudinal Responses	6
The Mediating Role of Attitude Towards the Ad	8
Impact of Visual Cues in Ads on Product Evaluation and Appetitive Motivation	10
Conceptual Framework	12
Method	13
Pretest	14
Design and Sample.....	14
Measures and Stimuli.....	14
Results.....	15
Discussion.....	15
Main Study	16
Design and Sample.....	16
Stimuli.....	16
Measures.....	16
Analysis and Results	17
Factor Analysis	18
Hypotheses Tests	19
Assumption Testing.....	20
Multivariate Analysis of Covariance (MANCOVA).....	20
Process Based Regression.....	24
Discussion.....	25
General Discussion	28
Summary and Conclusions	28
Theoretical and Managerial Contribution	28
Limitations and Future Research	29
References	33

List of Figures

Figure 1: Conceptual Framework	13
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Appendix

Appendix A: Main Study Questionnaire	39
A.1 Information and Consent Form	39
A.2 Product Evaluation Scale	40
A.3 Motivational Salience Scale	41
A.4 Brand Purchase Intention Scale	41
A.5 Attitude towards the ad scale	41
A.6 Attitude towards the brand Scale	42
A.7 Product Knowledge scale	42
A.8 Product Preference Scale	42
A.9 Brand Familiarity Scale	43
A.10 Perceived Meal Component	43
A.11 Perceived Calorie Content	43
A.12 Demographic Information	43
Appendix B: Main Study Stimuli	45
B.1 Pizza	45
B.2 Pork Ribs	45
B.3 Grilled Salmon	45
B.4 Grilled Chicken	46
B.5 French Fries	46
B.6 Creamy Pasta Salad	46
B.7 Protein Bar	47
B.8 Cauliflower Rice	47
B.9 Caesar Salad	47
B.10 Chocolate Pound Cake	48
B.11 Chocolate Chip Ice Cream	48
B.12 Flavoured Yogurt	48
B.13 Brand Logos	49
Table B.14: List of Category-wise Food Products	50
Appendix C: Statistical Analysis Results	51
Table C.1: One sample test: test value = 4 for mean familiarity score for the brand's products ..	51
Table C.2: One sample test: test value = 4 for mean brand knowledge score for all brands	52
Table C.3: Categorization of meal component for all product categories	53
Table C.4: Categorization of calorie content for all product categories	54
Table C.5: Reliability Analysis of Measurement Scales	55
C.6: Factor Analysis of Measurement Scales	59
C.7: MANCOVA analysis	65
Table C.8: Hayes Process Based Regression	69
C.9: Additional Analysis: Regression	70

Introduction

An advertisement is a promotional tool widely used by marketers to create awareness about the advertised brand and products, reach potential customers and influence their attitudes and buying behaviour (Adelaar et al., 2003; Ayanwale et al., 2005; Niazi et al., 2012). The visual components of an advertisement influence consumers' response towards the ad, the advertised brand and product, as well as their willingness to purchase (Mitchell, 1986; Mitchell & Olson, 1981; Shimp, 1981; Thorson, 1990). Food advertising, in particular, relies heavily on the usage of appealing visuals to influence consumers' preferences and subsequent consumption behaviour. Nonetheless, there is a scarcity of research on how the visual design of food advertisements influences consumer responses.

An important factor that influences consumers' choice and consumption of food products is the consumption context. Consumption context refers to the conditions under which food consumption occurs (King, Weber, Meiselman, & Lv, 2004). For example, the experience of having a meal in a social setting versus having it alone enhances the overall experience of the meal (Sommer et al., 2013). Previous research suggested that evoking a consumption context enhances the overall experience of food consumption as well as consumers' choice and evaluation of food products (Edwards, Hartwell, & Brown, 2013; Meiselman, 2002), their emotional response as well as attitude towards the food product (Desmet & Schifferstein, 2008; Meiselman, 2002; Piqueras-Fiszman & Jaeger, 2014; Richins, 1997). More appropriate consumption contexts elicit a higher number of positive emotions (Piqueras-Fiszman & Jaeger, 2014), play an important role in the enjoyment of food during eating or drinking occasions (Hersleth, Monteleone, Segtnan, & Naes, 2012; King, Meiselman, Hottenstein, Work, & Cronk, 2007; Koster, 2003; Petit & Siefferman, 2007; Stroebele & De Castro, 2004) and contribute to positive feelings (Richins, 1997).

Meal component, social interaction and consumption environment are some of the commonly researched consumption contexts that strongly influence consumers' perception of food products (Meiselman, 2002). Meal context is a type of consumption context that is most relevant to food advertising. A meal comprises a combination of food items usually consumed together, such as at breakfast, lunch, or dinner. A meal frequently includes a main dish, a side dish, a beverage and possibly a dessert. Meal context further describes various situational and environmental conditions in which a meal is consumed. The literature suggests that the presence

of an evoked meal context has a positive impact on consumer response (King, Weber, Meiselman, & Lv, 2004; Sommer et al., 2013).

The role of an evoked meal context in advertisements has not been widely examined. The current research study aims to fill this gap by examining whether evoking a meal context in food advertisements (by manipulating the visual design of the ad) will influence consumers' attitude towards the ad, the advertised brand and the advertised product. It also examines whether the presence of a meal context results in higher purchase intentions for the advertised brand and whether the presence of meal context increases consumers' appetitive motivation towards the food product. This research aims to contribute to the literature by shedding light on how the presence of an evoked meal context in an ad influences consumers' processing of the ad and their subsequent response. It aims to contribute to managerial practice by providing guidelines with regard to the design of food advertisements in order to enhance consumer responses to food products.

More specifically, this research makes the following contributions: First, this research introduces a definition and conceptualization of meal context that builds on yet diverges from prior research in order to have increased relevance to a food advertising context. Second, it is among the first to explore the impact of meal context, along with the impact of various food product categories (meal component and calorie content), on consumers' attitudinal and intentional responses to food advertising, such as attitude towards ad, attitude towards brand, and brand purchase intentions. It demonstrates a hierarchy-of-effects model in a food advertising context, in which the impact of meal context on brand purchase intention is serially mediated by attitude towards ad and attitude towards brand

In order to investigate the impact of meal context and build a supporting theoretical framework, the current research first reviews the literature on the impact of evoked consumption context on consumer response, followed by a review of consumer processing of advertisements and the impact of visual components of an ad on consumer response in a food advertising context. This thesis then introduces hypotheses and describes the methodology. The description of results is followed by a discussion of theoretical and managerial implications.

Theoretical Background

Consumption Context and Consumer Response

Contextual factors influence consumers' response towards consumption. Meiselman and colleagues (1988) defined context as "the numerous variables in our eating environment, which makes it easier or harder for us to begin, continue or complete a meal" (p.78). In other words, consumption context refers to the circumstances (past, simultaneous or future) which influence consumption (King, Weber, Meiselman, & Lv, 2004).

Evoked consumption contexts influence consumers' emotional response and product perceptions (Meiselman, 2002; Piqueras-Fiszman & Jaeger, 2014; Richins, 1997). Richins (1997) measured several consumption-related emotions experienced by consumers across different consumption contexts (i.e., use of a favourite possession, an important recent purchase or a recent purchase of a clothing item, a food item, a durable good, or a service). These emotions were incorporated into the Consumption Emotion Descriptors (CES) framework and broadly categorized as anger, discontent, worry, sadness, fear, shame, envy, loneliness, love, peacefulness, content, and optimism.

Piqueras-Fiszman and Jaeger (2014) suggested that evoked consumption contexts influenced positive emotional responses, based on appropriateness of the consumption context. The authors analyzed the impact of three different consumption contexts (i.e., breakfast on a weekend morning, afternoon break snack on a weekday, and after a special dinner at home with good company) on consumers response to two generic food products (i.e., apple and chocolate brownies). The results suggested that positive emotion terms were more frequently used in more appropriate consumption contexts. In contrast, negative emotion terms were more often used during less appropriate consumption contexts for the product. Piqueras-Fiszman and Jaeger (2014) conducted another study to analyze the impact of various means of evoking a consumption context on consumers' emotional response. In this study, evoked consumption contexts similar to the previous study were used and the following means of context evocation was measured: food evaluation (i.e., tasting versus seeing image), the presentation style of the food stimulus (i.e., an image of isolated food versus food served on plate and cutlery), and means of context evocation (i.e., written only versus written and pictorial). Results indicated that food evaluation as a means of context did not have a significant impact, but the overall emotional response was positive. However, the style of food presentation and the means of context evocation impacted the perceived appropriateness of a food product in a focal consumption

context. Hence more negative emotion terms were used for less appropriate consumption contexts, while more positive emotion terms were used for more appropriate consumption contexts.

Meiselman (2002) suggested that four major types of consumption contexts that alter consumers' perception of food and beverages are "meal component, social interaction during consumption, the environment in which food is consumed and food choice freedom" (p. 645). The current research focuses on meal context as the evoked consumption context.

Previous research has conceptualized meal context in various ways. King, Weber, Meiselman and Lv (2004) conceptualized meal context as a combination of several food items (i.e., main dish and side dish), whereas Sommer and colleagues (2013) manipulated meal context by varying the social context associated with the meal consumption (i.e., having a restaurant meal with company versus a solitary meal in the office). There is no widely accepted definition of meal context in the literature. In an attempt to put forward a useful definition relevant to the context of food consumption and food advertising, the current research defines meal context as "a visual representation of fully prepared food embedded an advertisement that evokes the feeling of having a meal." Although proposed definition and conceptualization of meal context in the current research deviates from those used in previous research, it is more easily applicable to food advertising context.

Previous research showed that the presence of a meal context influenced consumers' emotional response as well as their evaluation of various food products. King, Weber, Meiselman and Lv (2004) analyzed the impact of meal context on consumers' acceptance of food. The meal context was operationalized by presenting a combination of several food items by combining various meal components (e.g., pizza, salad dressing, and iced tea). The results indicated that the presence of a meal context had a significant positive impact on side dishes (i.e., ice tea and salad) when these food items were presented as a part of a meal, but no impact on the main dish (i.e., pizza). Scores for food acceptance were significantly higher for ice tea and salad in a meal context compared to the individual presentation. Hence, this research indicated that the impact of meal context on consumers' food acceptability depends on the type of meal component the food represented.

Sommer and colleagues (2013) analysed the impact of meal context on consumers' emotion and cognition. The authors compared two different meal situations by varying the social

setting of the meal consumption (i.e., having a restaurant meal with company versus having a meal alone in an office setting). The impact of meal context on participants' cognitive control, semantic memory and the processing of emotional facial expressions was measured.

Measurements were taken using event-related potentials and mood rating questionnaires. Results indicated that the meal context condition (i.e., restaurant meal in a social setting) had no effect on semantic memory, but was more relaxing and reduced cognitive control as compared to the solitary meal in an office.

However, the impact of meal context on consumers' response remains a sparsely researched area. The current research examines the impact of the presence of a meal context displayed in food advertisements on consumers' responses towards the ad, brand and product. In order to determine the underlying mechanism explaining the impact of meal context in an advertising context, it is important to understand how consumers process advertising information.

Consumer Processing of Advertising

Davies (1998) defines advertising as any paid form of non-personal media presentation aimed at promoting ideas, concepts, goods or services by a sponsor. The efficacy of advertising as a promotional tool depends on its ability to influence consumers' attitudinal and behavioural response (Ayanwale et al., 2005). Advertisements, in general, comprise visual and verbal components. The manipulation of both visual and verbal components of advertisements impacts consumers' attitudinal response (Rossiter & Percy, 1980). Consumers process advertising-related information in a series of processing stages that influence preference formation, attention, comprehension, memory agreement and acceptance, to name a few (Gresham & Shimp, 1985).

Since the focus of the current research is on how visual components influence advertising outcomes, it builds on theoretical models of consumers' interpretation of visual information in advertisements. Thorson (1990) reviewed two theoretical models that explained how consumers processed and responded to visual cues within ads. The first is the two-states involvement model. Thorson (1990) suggested that consumers alternated between different information processing strategies depending on certain antecedent conditions. This phenomenon is also explained by the Elaboration Likelihood Model (ELM) of persuasion, established by Petty and Cacioppo (1986).

The model posits two routes (i.e., central and peripheral) that can be followed for information processing and attitude formation. The central route to information processing is taken under high-involvement conditions, while the peripheral route is taken under low-involvement conditions. Similarly, in an advertising context, the processing of ad-related information and attitude formation upon exposure to the ad can follow either the central or peripheral route of persuasion. Visual cues (e.g., images, background colour) act as peripheral cues. Therefore, consumers follow the peripheral route of processing when they evaluate the ad based on visual cues.

The second model is the classical conditioning theory (Staats & Staats, 1957). It states that attitudes can be formed by repeatedly pairing a neutral, unconditioned stimulus (e.g., branded product) with a positively or negatively valenced stimulus (conditioned stimulus). In an advertising context, if a product brand is associated with a positively valenced ad visual, the affect generated from the stimulus is transferred and triggers positive attitude formation towards the brand (Mitchell & Olson, 1981).

Similarly, the affect transfer hypothesis (ATH) is another model widely used for research related to attitude formation. The model posits that there is a direct transfer of affect from a positively valenced stimulus that further leads to attitude formation. In an advertising context, pairing a brand with a positively evaluated stimulus causes a direct transfer of positive affect to the brand (Mitchell & Olson, 1981). These theoretical models explain the potential underlying mechanism of the impact of an evoked meal context within food advertisements on consumer responses.

Impact of Visual Cues in Ads on Consumers' Attitudinal Responses

The impact of the visual component of an ad on advertising outcomes has widely been researched (Mitchell, 1986; Mitchell & Olson, 1981; Shimp, 1981; Thorson, 1990). The current research focuses on the following advertising outcomes: Attitude towards the ad, attitude towards the brand and consumers' brand purchase intention.

Attitude towards the ad "accurately reflects the subject's evaluation of the overall advertising stimulus" (Mitchell & Olson, 1981, p.327). MacKenzie, Lutz and Belch (1986) defined attitude towards the ad as a "predisposition to respond in a favourable or unfavourable manner to a particular advertising stimulus during a particular exposure situation" (p.130).

Whereas brand attitude is defined as consumers' overall evaluation of a brand (Mitchell & Olson, 1981), brand purchase intention refers to consumers' behavioural intentions to purchase the advertised brand's products.

Mitchell and Olson (1981) analyzed the direct impact of ad visuals on consumers' evaluation of the ad as well as the advertised brand, in order to test the validity of Fishbein's (1963; Fishbein & Ajzen, 1975) attitude theory which posited that beliefs are the sole mediators of attitude formation. The authors used four different ads of facial tissues, each for a different brand and manipulated repetition of ad exposure (i.e., the number of times an ad was repeated: 2, 4, 6, 8 exposures) and advertising content (i.e., the ads contained either a visual image or a verbal claim about a product attribute, paired with a brand name). Results indicated that the brands associated with positive visual stimuli had significantly more positive brand attitude and purchase intention as compared to the brands associated with neutral visual stimuli and verbal claims as the ad content. The authors concluded that product attribute beliefs mediate the impact of ad visuals on brand attitude, which mediates the impact of ad visuals on purchase intentions. Attitude towards the ad was also found to partially mediate the impact of ad content on attitude towards the brand. The authors inferred from the results that the participants converted visual information shown in the ad into meaningful semantic information that led to the formation of product attribute beliefs and influenced their attitude towards the ad and brand.

Mitchell (1986) conducted an extension study in order to strengthen these findings further. Mitchell (1986) varied the valence of the visual stimuli (i.e., positive, negative and neutral) used in the ads along with a constant ad copy. Mitchell (1986) posited the dual-component model, which suggested that brand attitudes formed through advertising are based on two determinants: first, attitude towards the advertisement, and second, product attribute beliefs. The findings indicated that attitude towards the ad had a direct impact on brand attitude.

The impact of the visual component of ads on attitude towards the brand is conditional on the level of product involvement. Flores and colleagues (2014) conducted a study in an online context that analyzed the impact of various ad types (i.e., display banner versus text-only ads) on attitude towards the advertised brand, with the level of product involvement as moderator. Results indicated that display ads led to positive brand attitude for high involvement products, while text ads led to positive brand attitude for low-involvement products. This finding was further explained in a study conducted by Wyer (2002), who posited that display banner ads led

participants in low-involvement conditions to engage in elaboration and counterfactual thinking, which negatively influenced their attitude towards the advertised brand. Goodrich (2011) conducted a similar study in an online advertising context, which suggested that visual ads (versus text ads) had an indirect positive impact on consumers' purchase intention. Visual ads attracted greater ad attention, which led to a higher willingness to purchase among consumers when compared to text ads.

Based on previous research, we argue that incorporating an evoked meal context as a visual component of a food advertisement, will have a direct impact on consumers' attitude towards the ad and an indirect impact on attitude towards the brand and consumers' brand purchase intentions. Therefore, the current research proposes the following hypotheses:

H1: The presence (vs. absence) of a meal context (as a visual component of food advertisements) will have a direct positive impact on consumers' attitude towards the advertisement.

H2: The presence (vs. absence) of a meal context (as a visual component of food advertisements) will result in a more positive attitude towards the advertised brand.

H3: The presence (vs. absence) of a meal context (as a visual component of food advertisements) will result in greater purchase intention for the advertised brand.

The preceding discussion of the literature also points towards a mediating role of attitude towards the ad in the relation between ad visuals and attitude towards the brand, which further mediates the impact of ad visuals on consumer purchase intention.

The Mediating Role of Attitude Towards the Ad

The ad-brand attitude relationship has been widely researched, and its underlying mechanism has been explained using several theoretical models. Attitude towards the ad impacts attitude towards the advertised brand both directly and indirectly through brand cognitions (Mackenzie, Lutz & Belch, 1986; Mackenzie & Lutz, 1989; Mitchell & Olson, 1981; Moore & Hutchison, 1983; Shimp, 1981; Shaouf et al., 2016). Shimp (1981) suggested that attitude towards the ad

had a direct positive impact on attitude towards the brand through affect transference, in that the positive affect or feelings elicited by liked ads were transferred to the advertised brands. Affect transference is considered to be a classical conditioning process (Thorson, 1990).

In order to determine the structural relationship between attitude towards the ad, attitude towards the brand, and purchase intentions, Mackenzie, Lutz and Belch (1986) tested four alternative models that define the causal relationship between attitude towards the ad, brand and purchase intentions: The affect transfer hypothesis (ATH), dual mediation hypothesis (DMH), reciprocal mediation hypothesis (RMH), and independent influences hypothesis (IIH). The ATH and DMH models are the two most commonly researched mechanisms for investigating the ad-brand attitude causal relationship. All models are based on a hierarchy-of-effects framework, with cognition leading to affect, which leads to conation (i.e., behaviour). The ATH model posited a direct impact of attitude towards the ad on attitude towards the brand (Gardner, 1985; Mitchell & Olson, 1981; Moore & Hutchison, 1983; Park & Young, 1984; Shimp, 1981). Mackenzie, Lutz and Belch (1986) also suggested that the ad-brand attitude link in the ATH can be explained by Petty and Cacioppo's (1986) elaboration likelihood model (ELM). The ATH model can be seen as the peripheral route to persuasion. The DMH posited an impact of attitude towards the ad on brand attitude, both directly and indirectly, through brand cognitions (Lutz and Swasy 1977). Mackenzie, Lutz and Belch (1986) tested all four models to find the best-fitting model. Results indicated that the dual mediation hypothesis (DMH) was the best fitting model to explain the impact of ad attitude on brand attitude. Attitude towards the ad had a strong positive impact on brand attitude and a moderate positive impact on brand cognition. However, brand cognition did not have any significant impact on brand attitude.

The impact of attitude towards the ad on attitude towards the brand is conditional upon level of involvement and brand familiarity. Park and Young (1984) found that under low affective involvement conditions, attitude towards the ad influenced brand attitude, but had no impact under high cognitive involvement conditions. In addition, Rhee and Jung (2019) found that attitude towards the ad was found to have a direct impact on attitude towards the brand, under varying levels of brand familiarity. For a brand with low (vs. high) familiarity, attitude towards the ad had a stronger impact on brand attitude.

The theory of reasoned action (Fishbein & Ajzen, 1975) suggested that a person's attitude guides behavioural intentions. Fazio, Powell and Herr (1983) proposed a process model that

explained how attitude guides behaviour. This model also applies to an advertising context. Previous research suggested that the impact of advertising on consumers' purchase intentions was mediated by ad attitude and brand attitude (Mackenzie & Lutz, 1989; Mitchell & Olson, 1981; Shimp, 1981). More specifically, attitude towards the ad has an indirect (through brand attitude) impact on purchase intention, while brand attitude has a direct impact on purchase intention (Mackenzie & Lutz, 1989). Accumulating evidence from previous research suggested that brand attitude has a positive impact on consumers' purchase intentions (Holbrook & Batra, 1987; Homer, 1990, Mackenzie & Lutz, 1989; Mitchell & Olson, 1981; Shimp, 1981).

In a similar manner, the impact of visual components of an ad on advertising outcomes can be best explained by a hierarchy-of-effects framework. Shaouf and colleagues (2016) investigated the impact of visual design in web advertisements on purchase intention. The study proposed a theoretical framework based on hierarchy-of-effects that demonstrated the mediating role of attitude towards the ad and attitude towards the advertised brand. The findings indicated that web advertising visual design had a significant positive impact on attitude towards the ad and brand, but its impact on online purchase intentions was not significant. Attitude towards the ad had a significant positive impact on attitude towards the brand and online purchase intentions, and attitude towards the brand had a significant positive impact on online purchase intentions.

However, previous research also suggested that behavioural intentions can be influenced by visual components of marketing messages without the mediating role of attitude (Goodrich, 2011; Sundar & Noseworthy, 2014). Hence, this research seeks to clarify how the presence of a meal context as a visual component of a food advertisement influences consumers' attitudinal responses to advertising, the brand, and their purchase intentions. The current research proposes the following hypotheses:

H4: The impact of the presence (vs. absence) of meal context on brand purchase intention is serially mediated by attitude towards the ad and attitude towards the advertised brand.

Impact of Visual Cues in Ads on Product Evaluation and Appetitive Motivation

Based on previous research, ad visuals also impact consumers' product evaluation and motivational responses towards food. Rossiter and Percy (1980) presented a theoretical model that helped explain how the visual components of an ad influenced product attitude ratings. The

authors proposed a dual loop theory in which the visual content of an ad influenced product attitude ratings through the visual imagery loop, while the verbal content influenced product attitude ratings through the verbal belief loop. In the experiment, the authors varied both visual (i.e., high versus low visual emphasis) and verbal (i.e., explicit versus implicit claim) content of a print advertisement for beer, in order to determine participants' attitude towards the advertised product. Results indicated that the combination of high visual emphasis with explicit verbal claims resulted in the highest mean product attitude rating. The authors also suggested that the visual content of the print ad influenced consumers' product attitude ratings. Product attitude rating is similar to product evaluation, such that a high product rating implies positive product evaluation. Hence, it is likely that the visual component of ads directly impacts consumers' product evaluation. Based on these findings, the current research argues that incorporating a meal context as a visual component of food ads, which increases the visual emphasis of the ads, lead to more positive evaluations of the advertised product. Therefore, the following hypothesis is proposed:

H5: The presence (vs. absence) of a meal context (as a visual component of food advertisements) will result in a more positive evaluation of the advertised product.

In a food advertising context, food-related visual cues have also been found to impact consumers' motivational response towards food in terms of appetitive motivation. Appetitive motivation, a type of motivational response, deals with the motivational aspect of appetitive stimuli which further prompts approach behaviour (Jackson & Smillie, 2004). In the context of food advertising, appetitive motivation indicates the extent to which appealing visual cues of food influence consumers to demonstrate a favourable behavioural or attitudinal response towards the advertised product. Bailey (2015) analyzed the impact of the directness of food cues in food advertisements on consumers' motivational response, purchase intention, and attitude towards the food and the advertised brand. The study compares the impact of exposure to direct versus indirect food cues in advertisements. In this study, Bailey (2015) manipulated direct food cues as unpackaged, ready-to-eat food and indirect food cues as packaged food products. The food cues were shown as television ads that appeared for 17 to 20 seconds on national television. The participants' motivational response to the stimuli was measured physiologically, based on

orbicularis oculi activation and skin conductivity level. Greater orbicularis oculi activation is an indicator of positive emotional response and greater appetitive motivation, while higher skin conductivity is an indicator of sympathetic arousal or high intensity of motivational activation (Potter & Bolls, 2012). Results revealed that ads containing direct, ready-to-eat food cues showed significantly higher activation in the orbicularis oculi and skin conductance level, as compared to indirect, packaged food cues and also led to a more favourable response for attitude towards the ad, product and purchase intention, as compared to indirect cues. Therefore, it is likely that there is a positive impact of the presence of meal context (in the ready-to-eat form) within food ads on consumers' motivational response. Hence, the current research proposes the following hypothesis:

H6: The presence (vs. absence) of a meal context (as a visual component of food advertisements) will lead to a higher appetitive motivation.

Conceptual Framework

The current research aims to investigate the impact of the presence of an evoked meal context within food advertisements on consumers' attitudinal and behavioural responses. Specifically, it aims to analyze whether meal context has a direct or indirect impact on consumers' attitude towards the ad, the advertised brand, intention to purchase the advertised brand's product, evaluation of the advertised product as well as consumers' appetitive motivation.

The conceptual framework of the current research is partly based on Shaouf and colleagues' (2016) study. It posits that the impact of the presence of an evoked meal context within food advertisements on consumers' attitude towards the ad, brand as well as brand purchase intention is best explained by a hierarchy-of-effects model.

The current research also aims to examine the effect of including different categories of food products (based on calorie content: high or low; and type of meal component: main dish, side dish, dessert) as replicates, to ensure that the effect holds across categories. Based on evolutionary arguments, it is possible that people might find high-calorie foods more appealing or demonstrate higher appetitive motivation. Based on previous research, the impact of the presence of meal context might be more significant for side dish food items (King, Weber,

Meiselman, & Lv, 2004). Hence, the current research proposes the following conceptual framework:

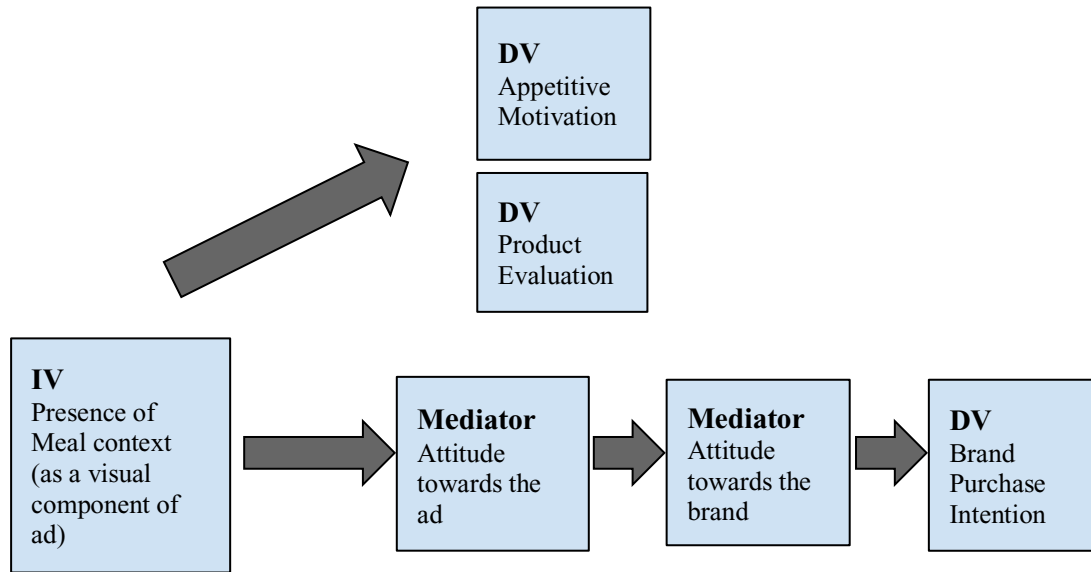


Figure 1: Conceptual Framework

The proposed framework consists of the presence (vs. absence) of meal context shown in the ad as the predictor, attitude towards the ad and the attitude towards the brand as serial mediators, and consumers' intention to purchase the advertised brand is the criterion. Consumers' appetitive motivation and evaluation of the advertised product serve as additional criteria. This research includes meal component category (i.e., main dish, side dish or dessert) and the calorie content category (i.e., high or low) of the food products. Although no specific moderation hypotheses are proposed, their inclusion allows for a test of the robustness of the effect of meal context across meal component categories and foods differing in calorie content.

Method

In this research, meal context was experimentally manipulated as a visual component of food advertisements. The presence (vs. absence) of meal context was manipulated within the ad by including an image of the advertised product in a ready-to-eat or fully prepared format, placed in the background, behind the image of the product package. The current study analyzed twelve

food product categories. Each product category contained two brands (i.e., a total of 24 brands). Food products were first selected for each of the meal categories (i.e., main dish, side dish, dessert) and categorized as high or low in calorie content based on their calorie content per unit or per 100 mg (Appendix B: Table B.14). The current study included US and Europe based brands of low familiarity that are not widely available in Canada.

Pretest

A pretest verified perceptions of meal component and calorie content and informed brand selection for the main study by establishing whether the chosen brands were indeed of low familiarity in order to preclude the effects of prior brand knowledge.

Design and Sample

The pretest was a 2 (calorie content: low, high) \times 3 (meal component: main dish, side dish, dessert) within-participants experiment. Participants residing in Canada were recruited online on the Amazon Mturk platform ($n = 43$, 51.2% female, age: 23-65 years, $M_{\text{age}} = 35.12$, $SD = 11.69$).

Measures and Stimuli

Participants answered questions related to the twelve product categories, displayed in random order. For each product category, participants indicated the perceived meal component category (main dish/side dish/dessert) and the perceived calorie content category (high calorie/low calorie), product preference (-5 = highly aversive, 5 = highly appealing; Killgore et al., 2003), product familiarity in terms of consumption frequency (1 = never, 7 = every time; Bredahl, 2004) and product knowledge (three items, e.g., “I had a lot of experience with [product name]”; 1 = strongly disagree, 7 = strongly agree; $\alpha = .95$; Beatty & Talpade, 1994).

For each product category, two brand logos were displayed (Appendix B.13) and participants indicated their overall familiarity with the brand’s product, experience and knowledge of the respective brands (1 = not at all familiar/experienced/knowledgeable, 7 = extremely familiar/experienced/knowledgeable; $\alpha = .98$; Machleit, Allen & Madden, 1993). Participants also provided demographic information.

Results

The mean familiarity score ($M = 1.67$ to 4.12 , $SD = 1.63$ to 2.42) for most of the brand's products was statistically significantly lower than scale midpoint value of 4.0 ($t(42) = -9.36$ to -2.22 ; all $ps < .05$), except for Green Giant's cauliflower rice ($t(42) = -3.79$, $p = .71$), Sara Lee chocolate cake ($t(42) = -3.27$, $p = .74$), Club House's pasta salad ($t(42) = 0.34$, $p = .73$) and Kind protein bar ($t(42) = -1.26$, $p = .21$), whose mean familiarity scores were not statistically significantly different from the scale midpoint value of 4 (Appendix C:Table C.1).Familiarity with the brand's product did differ between male and female participants ($p > .05$).

Brand knowledge (i.e., the mean of brand experience and brand knowledge scores) was significantly lower than scale midpoint ($M = 1.69$ to 4.58 , $SD = 1.69$ to 2.26 ; $t(42) = -8.88$ to -2.36 , all $ps < .05$), except for Green Giant's cauliflower rice ($t(42) = 1.94$, $p = .06$), Sara Lee's chocolate cake ($t(42) = -1.21$, $p = .23$) and Clubhouse's pasta salad ($t(42) = 1.59$, $p = .12$; Appendix C:Table C.2). Brand knowledge did not differ between male and female participants ($p > .05$).

A significant amount of discrepancy was noted between the actual (experimentally manipulated) and perceived (self-reported) categorization of the calorie content (high, low) and meal component (main dish, side dish, dessert) variables for some of the food product categories. The pretest indicates that only 60.50% of participants correctly categorized cauliflower rice as a side dish, and 20.90% correctly categorized a protein bar as a dessert. (Appendix C: Table C.3). Less than 60 % of participants correctly categorized the calorie content for a protein bar (34.90%), caesar salad (37.20 %) and flavoured yogurt (53.50%) as low. (Appendix C: Table C.4).

Discussion

Due to the high discrepancy in the categorization of actual versus perceived calorie content and meal component variables, perceived meal component and calorie content were included in the main experiment not only as manipulated factors but also measured. Based on the low brand familiarity and brand knowledge scores, the twelve food products and their respective brands ($12 \times 2 = 24$) were retained for the main experiment.

Main Study

Design and Sample

For the main study, participants residing in Canada were recruited online on Amazon Mturk ($n = 560$, 45.90% female, age = 18-68 years, $M_{age} = 33.68$, $SD = 10.75$; compensation \$0.75).

Participants were randomly assigned to one of twelve conditions in a 2 (presence of meal context: present, absent) \times 2 (calorie content: low, high) \times 3 (meal component: main dish, side dish, dessert) between-participants experimental design.

Stimuli

The stimuli were food advertisements that displayed a packaged food product, including its brand name. For every product category, one ad displayed a product brand with the image of meal context (test condition) while the other ad displayed a second product brand without the image of meal context (control condition). The presence of meal context was operationalized by manipulating the design of food ads, such that a ready-to-eat or fully prepared form of the advertised food product was placed in the background of the product package (See Appendix B.1-B.12 for the full set of stimuli). The following factors were controlled throughout the design of ad stimuli across meal context conditions:

1. Nutritional Facts: any information related to nutrition and ingredients were eliminated
2. Packaging design: The design of the product package was identical for both control and test ads. Only the brand logos differed.
3. Packaging size: The size of the product package within the ad, the alignment and positioning of the product package within the ad was identical across conditions.
4. Any text provided within the ad remained identical across ads.

Measures

After viewing each of the two advertisements, participants provided ratings of attitude towards the advertised product (three items; “This is a superior product”, “This is an “eye-catching”

product”, “This is a high-quality product”; 1 = strongly disagree, 7 = strongly agree; $\alpha = .89$; Becker et al., 2011) and product evaluation (seven items, e.g., “The product appears to be: appealing/tasty/desirable/high quality/appetizing”, “ I would be likely to purchase this product”, “I would be likely to recommend this product to a friend”; 1 = not at all, 7 = extremely; $\alpha = .96$; Peracchio & Tybout, 1996). Participants indicated their appetitive motivation towards the food product displayed in the advertisement. The motivation salience scale was used to measure consumers’ appetitive motivation in a food consumption context (-5 = highly aversive, 5 = highly appealing; Killgore et al., 2003). The participants also reported their brand purchase intention (three items; “It is very likely that I will buy [brand name]”, “I will buy [brand name] the next time I need a [product name]”, “I will definitely try [brand name]”; 1 = strongly disagree, 7 = strongly agree; $\alpha = .95$; Putrevu & Lord, 1994), attitude towards the brand (three items; 1 = dislike/unfavourable/negative, 7 = like/favourable/ positive; $\alpha = .96$; Alpert & Kamins, 1995), attitude towards the ad (five items; 1 = bad/boring /unpleasant/unlikable/tasteless; good/interesting/boring/pleasant/likable/tasteful; $\alpha = .95$; Kellaris, Cox & Cox, 1993), and familiarity with the product in terms of frequency of consumption (1 = never, 7 = every time; Bredahl, 2004) and product knowledge (three items; “I had a lot of experience with [product name]”, “As compared to an average person, I would have said that I was highly knowledgeable about [product name]”, “I would have described myself as being very familiar with [product name]”; 1 = strongly disagree, 7 = strongly agree; $\alpha = .95$; Beatty & Talpade, 1994). Participants also indicated their overall familiarity with the brand’s product, experience and knowledge of the respective brands (1 = not at all familiar/experienced/knowledgeable, 7 = extremely familiar/experienced/knowledgeable; $\alpha=.96$; Machleit, Allen & Madden, 1990). Participants indicated their preference for consumption of the product (-5 = highly aversive, 5 = highly appealing; Killgore et al., 2003; see Appendix C: Table C.5: reliability analysis of measurement scales). As for manipulation checks, participants indicated the perceived meal component category and calorie content category of the product displayed in the ad. Finally, participants provided demographic information and completed an attention check question (see Appendix A for measurement scales).

Analysis and Results

Data were excluded for participants who failed to answer the attention check question correctly, blank entries, and for participants who did not categorize perceived meal component and calorie content (i.e., answered “not sure”). This resulted in the deletion of 220 data points and a final sample of 560 participants.

Factor Analysis

After collection of the data, the statistical analysis was carried out using the SPSS software. In order to check for the construct validity of the multi-item scales, factor analysis was performed to check whether items of each scale loaded on a single factor or not. Factor analysis was conducted for the following multi-item scales: product evaluation (10 items), brand purchase intention (3 items), attitude towards the ad (5 items), attitude towards the brand (3 items), product knowledge (3 items) and brand familiarity (3 items).

First, factor analysis was conducted for the ten-item product evaluation scale. The Kaiser-Meyer-Olkin measure of sampling adequacy was .94, above the commonly recommended value of .6 and Bartlett’s test of sphericity was significant ($\chi^2(45) = 12484.59, p < .05$). Principal Component Analysis was conducted to check whether all ten items loaded on one single factor representing product evaluation. Initial eigenvalues indicated that the first factor extracted, explained 75.83% of the total variance. All items loaded on one factor and had high factor loadings ranging from .83 to .91 (Appendix C: Table C.6.1).

A factor analysis was conducted for the three-item brand purchase intention scale. The Kaiser-Meyer-Olkin measure of sampling adequacy was .77, above the commonly recommended value of .6 and Bartlett’s test of sphericity was significant ($\chi^2(3) = 3197.11, p < .05$). Principal Component Analysis was conducted to check whether all three items loaded on one single factor representing brand purchase intention. Initial eigenvalues indicated that the first factor extracted, explained 90.35% of the total variance. All items loaded on one factor and had high factor loadings ranging from .94 to .96 (Appendix C: Table C.6.2).

A factor analysis was conducted for the five-item attitude towards the ad scale. The Kaiser-Meyer-Olkin measure of sampling adequacy was .90, above the commonly recommended value of .6 and Bartlett’s test of sphericity was significant ($\chi^2(10) = 5498.14, p < .05$). Principal Component Analysis was conducted to check whether all five items loaded on one single factor representing attitude towards the ad. Initial eigenvalues indicated that the first factor extracted,

explained 82.62% of the total variance. All items loaded on one factor and had high factor loadings ranging from .86 to .94 (Appendix C: Table C.6.3).

Next, factor analysis was conducted for the three-item attitude towards the brand scale. The Kaiser-Meyer-Olkin measure of sampling adequacy was .78, above the commonly recommended value of .6 and Bartlett's test of sphericity was significant ($\chi^2(3) = 3933.86, p < .05$). Principal Component Analysis was conducted to check whether all three items loaded on one single factor representing attitude towards the brand. Initial eigenvalues indicated that the first factor extracted, explained 93.29% of the total variance. All items loaded on one factor and had very high factor loadings ranging from .96 to .97 (Appendix C: Table C.6.4).

Factor analysis for the three-item product knowledge scale was also conducted. The Kaiser-Meyer-Olkin measure of sampling adequacy was .77, above the commonly recommended value of .6 and Bartlett's test of sphericity was significant ($\chi^2(3) = 3264.60, p < .05$). Principal Component Analysis was conducted to check whether all three items loaded on one single factor representing product knowledge. Initial eigenvalues indicated that the first factor extracted, explained 90.75% of the total variance. All items loaded on one factor and had very high factor loadings ranging from .95 to .96 (Appendix C: Table C.6.5).

Finally, factor analysis was conducted for the three-item brand familiarity scale was measured. Assumptions were tested for the factor analysis. The Kaiser-Meyer-Olkin measure of sampling adequacy was .77, above the commonly recommended value of .6 and Bartlett's test of sphericity was significant ($\chi^2(3) = 3981.96, p < .05$). Principal Component Analysis was conducted to check whether all three items loaded on one single factor representing brand familiarity. Initial eigenvalues indicated that the first factor extracted, explained 92.96% of the total variance. All items loaded on one factor and had very high factor loadings ranging from .95 to .97 (Appendix C: Table C.6.6).

The results of the factor analyses indicated that the items for all measurement scales loaded on a single factor indicating high construct validity for all multi-item scales.

Hypotheses Tests

In order to test H1, H2, H3, H5 and H6, a three-way multivariate analysis of covariance (MANCOVA) was conducted. Meal context (MC), the perceived meal component (PMeal) and

the perceived calorie content (PCal) of the food product categories served as independent variables (IVs). Product evaluation (PE), appetitive motivation (AM), attitude towards the ad (ATA), attitude towards the brand (ATB) and brand purchase intention (BPI) served as dependent variables (DVs). Product knowledge (PK), product preference (PP) and brand familiarity (BF) were used as covariates.

Assumption Testing

Prior to conducting the MANCOVA, a series of assumption tests were conducted.

In order to test for multivariate normality of all dependent variables and covariates, the Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted (Appendix C.7: Table C.7.1). Both tests indicated that all the dependent variables and covariates (i.e., product evaluation, appetitive motivation, brand purchase intention, attitude towards the ad, attitude towards the brand as well as product knowledge, product preference and brand familiarity) did not follow a normal distribution. The Shapiro-Wilk test showed a significant departure from normality for all the dependent and covariate variables: attitude towards the ad (ATA; $W(1106) = 0.96, p < .001$), attitude towards the brand (ATB; $W(1106) = 0.96, p < .001$), brand purchase intention (BPI; $W(1106) = 0.95, p < .001$), product evaluation (PE; $W(1106) = 0.97, p < .001$), appetitive motivation (AM; $W(1106) = 0.93, p < .001$), product knowledge (PK; $W(1106) = 0.93, p < .001$), product preference (PP; $W(1106) = 0.86, p < .001$) and brand familiarity (BF; $W(1106) = 0.76, p < .001$).

High positive correlations were found between the dependent variables ($r = .68$ to $.88, n = 1106$, all $ps < .001$). Multicollinearity was not detected. Additionally, the test for homogeneity of covariances was conducted. The Box's M test was found to be significant (Box's $M = 365.45, F(165, 155049) = 2.15, p < .001$; Appendix C.7: Table C.7.2). This indicated that the observed covariance matrices of all the DVs are not equal across groups.

Multivariate Analysis of Covariance (MANCOVA)

The current study conducted a three-way MANCOVA (Meal Context \times Perceived Meal Component \times Perceived Calorie Content) to test whether meal context (present, absent), perceived meal component (main dish, side dish, dessert) and perceived calorie content (high,

low) influenced the dependent variables. The following factors were used as covariates in the analysis: product knowledge (PK), product preference (PP) and brand familiarity (BF).

A series of multivariate tests (Appendix C.7: Table C.7.3) showed no significant multivariate effect of meal context (MC) on product evaluation, appetitive motivation, brand purchase intention, attitude towards the ad and attitude towards the brand (Wilk's $\Lambda = .99$, $F(5, 1087) = 1.16$, $p = .33$, partial $\eta^2 = .005$). However, a significant multivariate effect emerged for meal component (PMeal; main dish, side dish and dessert; Wilk's $\Lambda = .98$, $F(10, 2174) = 2.65$, $p < .05$, partial $\eta^2 = .01$). A significant effect of calorie content (PCal) was found (Wilk's $\Lambda = .98$, $F(5, 1087) = 3.23$, $p < .05$, partial $\eta^2 = .01$). The multivariate interactions between meal context and meal component (MC \times PMeal), meal context and calorie content (MC \times PCal) as well as the three-way interaction of meal context, meal component and calorie content (MC \times PMeal \times PCal) were not significant (all $ps > .05$). Similarly, the multivariate interaction between the perceived meal component and perceived calorie content (PMeal \times PCal) was not significant (Wilk's $\Lambda = .99$, $F(10, 2174) = 1.48$, $p = .14$, partial $\eta^2 = .01$). The covariates emerged as significant: product knowledge (PK; Wilk's $\Lambda = .99$, $F(5, 1087) = 2.96$, $p < .05$, partial $\eta^2 = .01$), product preference (PP; Wilk's $\Lambda = .85$, $F(5, 1087) = 38.71$, $p < .05$, partial $\eta^2 = .15$) and brand familiarity (BF; Wilk's $\Lambda = .84$, $F(5, 1087) = 41.04$, $p < .05$, partial $\eta^2 = .16$).

In a series of tests for homogeneity of variances, Levenes test of Equality of error variances (Appendix C: Table C.7.4) indicated unequal variances for product evaluation (PE; $F(11, 1094) = 2.88$, $p < .05$), appetitive motivation (AM; $F(11, 1094) = 3.97$, $p < .05$), attitude towards ad (ATA; $F(11, 1094) = 1.85$, $p < .05$) and brand purchase intention (BPI; $F(11, 1094) = 2.91$, $p < .05$) across groups, and equal variances for attitude towards the brand (ATB; $F(11, 1094) = 1.66$, $p = 0.07$) across groups.

A univariate ANCOVA was conducted for product evaluation (PE), appetitive motivation (AM), brand purchase intention (BPI), attitude towards the ad (ATA) and attitude towards the brand (ATB), with meal context (MC), perceived meal component (PMeal) and perceived calorie component (PCal) serving as independent variables, and product knowledge (PK), product preference (PP) and brand familiarity (BF) as covariates. (Appendix C: Table C.7.4 and C.7.5).

There was no statistically significant main effect of meal context (MC) within the food advertisements on product evaluation (PE; $F(1, 1091) = 2.03$, $p = .15$, $M = 2.82$, partial $\eta^2 = .00$), appetitive motivation (AM; $F(1, 1091) = 2.65$, $p = .10$, $M = 12.93$, partial $\eta^2 = .00$), brand

purchase intention (BPI) ($F(2, 1091) = .32, p = .57, M = .64, \text{partial } \eta^2 = .00$), attitude towards the ad (ATA) ($F(2, 1091) = .71, p = .40, M = 1.33, \text{partial } \eta^2 = .00$) and attitude towards the brand (ATB) ($F(2, 1091) = .01, p = .92, M = .02, \text{partial } \eta^2 = .00$). Hypotheses 1, 2, 3, 5, and 6 were thus not supported.

For product evaluation (PE), there was a significant main effect of perceived meal component (PMeal: main dish, side dish, dessert; $F(2, 1091) = 9.09, p < .05, M = 12.61, \text{partial } \eta^2 = .02$). Pairwise comparisons revealed that participants who viewed a side dish ($M = 4.39, SD = 1.29, p < .01, 95\% CI [.11, .45]$) and dessert ($M = 4.45, SD = 1.37, p < .01, 95\% CI [.21, .64]$) reported a statistically significant higher rating of product evaluation (PE), compared to those who viewed a main dish ($M = 4.23, SD = 1.43$). There was also a significant main effect of perceived calorie content (PCal: high, low; $F(1, 1091) = 14.58, p < .01, M = 20.23, \text{partial } \eta^2 = .01$) for product evaluation (PE). Pairwise comparisons revealed that participants who viewed high calorie food items ($M = 4.26, SD = 1.36, p < .01, 95\% CI [-.48, -.16]$), reported more positive product evaluation (PE), compared to those who viewed low calorie food items ($M = 4.53, SD = 1.36$). The interaction of meal component and calorie content of the advertised food products (PMeal \times PCal) ($F(2, 1091) = 3.01, p = .05, M = 4.17, \text{partial } \eta^2 = .01$) was significant. The covariates product preference (PP; $F(1, 1091) = 155.64, p < .05, M = 216.04, \text{partial } \eta^2 = .12$) and brand familiarity (BF; $F(1, 1091) = 69.38, p < .05, M = 96.31, \text{partial } \eta^2 = .06$) were significant as well.

For appetitive motivation (AM), there was a significant main effect of meal component (PMeal: main dish, side dish, dessert; $F(2, 1091) = 7.46, p < .05, M = 36.45, \text{partial } \eta^2 = .01$). Pairwise comparisons revealed that participants who viewed a side dish ($M = 1.40, SD = 2.42, p < .01, 95\% CI [.15, .79]$) and dessert ($M = 1.50, SD = 2.52, p < .01, 95\% CI [.32, 1.13]$) reported greater appetitive motivation (AM) compared to those who viewed main dish food items ($M = 1.15, SD = 2.68$). The main effect of perceived calorie content (PCal: high, low; $F(1, 1091) = 10.19, p < .05, M = 49.80, \text{partial } \eta^2 = .01$) was also significant. Pairwise comparisons revealed that participants who viewed high calorie food items ($M = 1.20, SD = 2.56, p < .01, 95\% CI [-.81, -.19]$) reported greater appetitive motivation (AM) compared to those who viewed low calorie food items ($M = 1.61, SD = 2.48$). The covariates product preference (PP; $F(1, 1091) = 181.96, p < .05, M = 889.06, \text{partial } \eta^2 = .14$) and brand familiarity (BF; $F(1, 1091) = 52.88, p < .05, M = 258.39, \text{partial } \eta^2 = .05$) were significant.

For brand purchase intention (BPI), there was a significant main effect of perceived meal component (PMeal: main dish, side dish, dessert; $F(2, 1091) = 8.43, p < .05, M = 16.60$, partial $\eta^2 = .01$). Pairwise comparisons revealed that participants who viewed side dish ($M = 3.91, SD = 1.64, p < .01, 95\% CI [.10, .56]$) and dessert ($M = 4.12, SD = 1.64, p < .01, 95\% CI [.24, .76]$) food items, reported a statistically significant higher rating of brand purchase intention (BPI), compared to those who viewed a main dish ($M = 3.78, SD = 1.75$). The main effect of calorie content (PCal: high, low; $F(1, 1091) = 11.56, p < .05, M = 22.77$, partial $\eta^2 = .01$) was also significant. Pairwise comparisons revealed that participants who viewed high calorie food items ($M = 3.87, SD = 1.66, p < .01, 95\% CI [-.53, -.14]$), reported greater brand purchase intention (BPI) compared to those who viewed low calorie food items ($M = 4.18, SD = 1.67$). The interaction meal component and calorie content was also significant (PMeal \times PCal; $F(2, 1091) = 3.08, p < .05, M = 6.07$, partial $\eta^2 = .01$), as were the covariates product preference (PP; $F(1, 1091) = 136.75, p < .05, M = 269.45$, partial $\eta^2 = .11$) and brand familiarity (BF; $F(1, 1091) = 174.26, p < .05, M = 343.37$, partial $\eta^2 = .14$).

For attitude towards the ad (ATA), there was a significant main effect of perceived meal component (PMeal: main dish, side dish, dessert; $F(2, 1091) = 2.93, p = .05, M = 5.48, SD = .01$). Participants who viewed a side dish ($M = 4.73, SD = 1.46, p = .02, 95\% CI [.04, .43]$) reported a more positive attitude towards the ad (ATA) compared to those who viewed main dish ($M = 4.63, SD = 1.46$). A significant main effect of perceived calorie content (PCal: high, low; $F(1, 1091) = 10.65, p < .05, M = 19.93$, partial $\eta^2 = .01$) also emerged. Pairwise comparisons revealed that participants who viewed high calorie food items ($M = 4.57, SD = 1.46, p < .05, 95\% CI [-.51, -.13]$) reported lower attitude towards the ad (ATA) compared to those who viewed low calorie food items ($M = 4.89, SD = 1.47$). The covariates product preference (PP; $F(1, 1091) = 75.65, p < .05, M = 141.54$, partial $\eta^2 = .06$) and brand familiarity (BF; $F(1, 1091) = 17.62, p < .05, M = 32.97$, partial $\eta^2 = .02$) were significant.

For attitude towards the brand (ATB), there was a significant main effect for perceived calorie content (PCal: high, low; $F(1, 1091) = 12.03, p < .05, M = 23.01$, partial $\eta^2 = .01$), such that participants who viewed high calorie food items ($M = 4.59, SD = 1.50, p < .01, 95\% CI [-.53, -.15]$) reported a statistically significant lower attitude towards the brand (ATB) compared to those who viewed low calorie food items ($M = 4.95, SD = 1.50$). The interaction of the type of meal component and calorie content of the advertised food products (PMeal \times PCal; $F(2, 1091)$

= 2.98, $p = .05$, $M = 5.70$, partial $\eta^2 = .01$) was marginally significant. The covariates product preference (PP; $F(1, 1091) = 88.81$, $p < .01$, $M = 169.85$, partial $\eta^2 = .07$) and brand familiarity (BF; $F(1, 1091) = 37.17$, $p < .01$, $M = 71.08$, partial $\eta^2 = .03$) were significant.

Overall, there was no statistically significant main effect of meal context (MC) on any of the dependent variables (PE, AM, BPI, ATA, ATB). However, the calorie content (PCal) had consistent significant effects main effects on all the dependent variables (PE, AM, BPI, ATA, ATB). The meal component (PMeal) had consistent significant effects main effects on all the dependent variables except brand attitude. The interaction of meal component and calorie content (PMeal \times PCal) had consistent significant main effects on most of the dependent variables (PE, BPI, ATB). Whereas, the interactions involving meal context (MC \times PMeal, MC \times PCal or MC \times PMeal \times PCal) were not statistically significant.

Hence H1, H2, H3, H5 and H6 were not supported.

Process Based Regression

In order to test the hypothesis (H4) based on the hierarchy-of-effects framework, a PROCESS (Hayes, 2012) based regression with a serial mediation model (model 6 with 5,000 bootstrap samples) was conducted. Product knowledge (PK), product preference (PP) and brand familiarity (BF) served as covariates (Appendix C: Table C.8).

The results indicated that meal context (MC) has no statistically significant direct effect on attitude towards the ad (ATA; $\beta = .08$, $SE = .08$, 95% CI [-.09, .24], $t(1101) = .92$, $p = .36$), attitude towards the brand (ATB; $\beta = -.07$, $SE = .05$, 95% CI [-.17, .02], $t(1100) = -1.48$, $p = .14$) as well as brand purchase intention (BPI; $\beta = .04$, $SE = .06$, 95% CI [-.08, .17], $t(1099) = .66$, $p = .51$). However, a statistically significant, positive, direct effect of attitude towards the ad (ATA) was found on attitude towards the brand (ATB) ($\beta = .82$, $SE = .02$, 95% CI [.78, .85], $t(1100) = 45.30$, $p < .05$) and brand purchase intention (BPI) ($\beta = .33$, $SE = .04$, 95% CI [.25, .40], $t(1099) = 8.46$, $p < .05$). A statistically significant, positive, direct effect of attitude towards the brand (ATB) was found on brand purchase intention (BPI; $\beta = .39$, $SE = .04$, 95% CI [.31, .46], $t(1099) = 10.14$, $p < .05$). Hence, H4 was partially supported.

Among covariates, product preference (PP; $\beta = .19$, $SE = .02$, 95% CI [.15, .24], $t(1101) = 8.80$, $p < .05$) and brand familiarity (BF; $\beta = .12$, $SE = .02$, 95% CI [.07, .17], $t(1101) = 5.08$, $p < .05$) had significant and positive direct effects on attitude towards the ad (ATA). For

attitude towards the brand (ATB), product knowledge (PK; $\beta = -.04$, $SE = .02$, 95% CI [-.09, -.00], $t(1100) = -2.06$, $p < .05$) had a significant negative direct effect, while product preference (PP; $\beta = .06$, $SE = .01$, 95% CI [.03, .08], $t(1100) = 4.06$, $p < .05$) and brand familiarity (BF; $\beta = .07$, $SE = .01$, 95% CI [.04, .10], $t(1100) = 5.07$, $p < .05$) had a significant positive direct effect on ATB. For brand purchase intention (BPI), a significant direct effect of product preference (PP; $\beta = .11$, $SE = .02$, 95% CI [.08, .15], $t(1099) = 6.55$, $p < .05$) and brand familiarity (BF; $\beta = .24$, $SE = .02$, 95% CI [.21, .28], $t(1099) = 13.12$, $p < .05$) emerged.

Discussion

The presence of a meal context in food advertisements did not have any statistically significant impact on any of the dependent variables. Food product characteristics (i.e., meal component and calorie content) were included in the analysis of the main study to control for their impact of meal context on the outcome variables. Based on evolutionary arguments and the study conducted by King and colleagues (2004), it was predicted that the impact of meal context would be more prominent for high-calorie and side dish food items. Although food product characteristics did not interact significantly with meal context in the current research, type of meal component and calorie content of the food products had a consistent, statistically significant impact on most of the dependent variables. Among the dependent variables, attitude towards the ad, attitude towards the brand, and brand purchase intentions were positively related.

The results of this study were not consistent with previous research. Previous research indicated that the presence of a meal context had a positive impact on consumers' response and increased consumers' overall acceptance of food (King, Weber, Meiselman, & Lv, 2004). It also induces a relaxing mood and reduced cognitive control among consumers (Sommer et al., 2013). These positive effects of meal context found in previous research studies did not emerge for attitude towards the ad, the advertised brand, brand purchase intention, product evaluation and appetitive motivation.

However, findings of the current research regarding the relatedness of advertising outcomes (ATA, ATB and BPI) were in line with the previous research findings. Results from the current study indicated that attitude towards the ad had a direct as well as indirect (through attitude towards the brand) significant positive impact on brand purchase intention. This finding is in line with previous research studies that investigated the relationship between attitude

towards the ad, attitude towards the brand, and brand purchase intention (Mackenzie, Lutz & Belch, 1986; Mackenzie & Lutz, 1989; Shimp, 1981; Thorson, 1990). Attitude towards the brand showed a positive direct effect on brand purchase intention, in line with a “hierarchy-of-effects” model, which is also consistent with the study by Shaouf and colleagues (2016).

The inconsistency in results may be due to the current study’s experimental design, which differed from prior research (King et al., 2004; Sommer et al., 2013). First, the operationalization of the construct meal context used in the current study (i.e., visual, displaying a ready-to-eat or fully prepared form of the advertised food product) differed from the operationalization in terms of a combination of several meal components served together as a complete meal (King, Weber, Meiselman, & Lv, 2004) or the social context of having a meal with company in a restaurant compared to having a meal alone in the laboratory (Sommer et al., 2013).

A second concern is that most of the product packaging contained an image of the advertised food product in a ready-to-eat or fully prepared format. This may have weakened the experimental manipulation of meal context in the ad. To examine this possibility, an additional analysis was carried out for the ad stimuli that did not contain any images evoking meal context within the product packaging. Among all the twelve food product categories, only flavoured yogurt and pork ribs did not contain meal context images on the product packaging.

The sample for this analysis consisted only of participants who were assigned the test (with meal context) or control (without meal context) condition for flavoured yogurt and pork ribs ($n = 174$). A PROCESS (Hayes, 2012) based regression (model 2) was conducted to test for hypotheses H1, H2, H3, H5, H6, with meal context serving as predictor and attitude towards the ad (ATA), attitude towards the brand (ATB), brand purchase intention (BPI), product evaluation (PE), appetitive motivation (AM) as criteria. Moderators consisted of perceived meal component (PMeal) and perceived calorie content (Pcal). In addition, a PROCESS (Hayes, 2012) based regression (model 6) was conducted, with serial mediation, to test H4, with meal context (MC) serving as predictor, attitude towards the ad (ATA), attitude towards the brand(ATB) as mediators, and brand purchase intention (BPI) as criterion. Product Knowledge (PK), product preference (PP) and brand familiarity (BF) served as covariates

Model 2 (5,000 samples) results indicated that the presence of meal context (MC) has a statistically significant negative effect on brand purchase intention (BPI; $\beta = -1.41$, $SE = .55$, 95% CI [-2.50, -.32], $t(163) = -2.55$, $p < .05$) only. Meal context (MC) has no statistically

significant path to attitude towards the ad (ATA; $\beta = -.02$, $SE = .54$, 95% CI [-1.10, 1.05], $t(163) = -.04$, $p = .97$), attitude towards the brand (ATB; $\beta = -.20$, $SE = .54$, 95% CI [-1.27, .87], $t(163) = -.36$, $p = .71$), product evaluation (PE; $\beta = -.41$, $SE = .47$, 95% CI [-1.33, .51], $t(163) = -.87$, $p = .38$) and appetitive motivation (AM; $\beta = -.80$, $SE = .88$, 95% CI [-2.54, .94], $t(163) = -.90$, $p = .37$) (Appendix C.9: Table C.9.1).

Model 6 (5,000 samples) results indicated that meal context (MC) had a statistically significant positive impact on attitude towards ad (ATA; $\beta = .40$, $SE = .20$, 95% CI [.00, .79], $t(169) = 1.98$, $p < .05$) as well as statistically significant negative impact on attitude towards the brand (ATB; $\beta = -.30$, $SE = .13$, 95% CI [-.57, -.04], $t(168) = -2.30$, $p < .05$) and a marginally significant negative impact on brand purchase intention (BPI; $\beta = -.33$, $SE = .17$, 95% CI [-.67, .00], $t(167) = -1.95$, $p = .05$). The attitude towards ad (ATA) had a statistically significant effect on attitude towards the brand (ATB; $\beta = .73$, $SE = .05$, 95% CI [.63, .83], $t(168) = 14.51$, $p < .05$) and brand purchase intention (BPI; $\beta = .30$, $SE = .10$, 95% CI [.11, .49], $t(167) = 3.12$, $p < .05$). Attitude towards the brand (ATB) also had a statistically significant positive effect on brand purchase intention (BPI; $\beta = .37$, $SE = .10$, 95% CI [.18, .57], $t(167) = 3.84$, $p < .05$) (Appendix C.9: Table C.9.2).

The results for this subset of stimuli diverge from those obtained for the full stimulus set, but they support only H4 in that the presence of meal context had an indirect impact on brand purchase intention, serially mediated by attitude towards the ad and attitude towards the brand.

Third, the current study was conducted online on the Amazon Mturk platform, whereas previous experiments were conducted in a laboratory (control group) or restaurant (test group). This further increased the generalizability of the previous research studies as the experiments were conducted in a more natural setting compared to the current study. A fourth difference relates to the number of products included in the study. The current study tested the proposed framework using a wider range of food product categories (i.e., twelve) as compared to previous studies (i.e., three). Fifth, as mentioned in the pretest of the current research, there was a discrepancy between the actual (manipulated) and perceived (self-reported) meal component and calorie content category measures. This discrepancy could be attributed to the level of calorie awareness and health consciousness of an individual as well as their general awareness regarding which meal category each food product belongs. Health-conscious consumers have been known to make healthy food choices (Jayanti & Burns, 1998) while consumers with a low level of

health consciousness determine their food choice based on attributes unrelated to health such as taste and price (Mai & Hoffmann, 2012). Hence, both these constructs calorie awareness and health consciousness needs to be measured in the current study in order to investigate this discrepancy.

Hence, there are a number of factors that could help explain the inconsistency in results between the current study and previous research. Unfortunately, there is no validated standard for the operationalization of the meal context construct, especially in an advertising context. This points to a very important avenue for future research: determining a standardized and appropriate operationalization of meal context in advertising research.

General Discussion

Summary and Conclusions

The purpose of the research was to investigate the impact of a meal context within food advertisements on consumers' response to the ad as well as the advertised brand and product. Results indicated that evoking the presence of a meal context as a visual component of food advertisements had no impact on consumers' response towards the ad or the advertised brand and product. The meal component and calorie content category of the advertised food products had a significant positive impact on consumers' attitude towards the ad, attitude towards the brand, brand purchase intention, product evaluation as well as appetitive motivation. Consumers' product preference, knowledge of the advertised product and familiarity with the advertised brand, had a significant impact on consumers' response to the ad, brand and product.

Theoretical and Managerial Contribution

It extends the literature on consumption context and advertising by indicating that, based on the current manipulation of the construct, evoking a meal context in food advertisements does not have any significant impact on consumers' response to the ad as well as the advertised brand and product. It also highlights that meal context as a construct is currently not well defined and lacks a standardized, validated approach to the operationalization and experimental manipulation of

the construct. This points to the necessity of developing a better definition and operationalization for future theory tests in this domain.

This research extends the branding literature in an advertising context, by suggesting that meal component (i.e., side dish and dessert items) and calorie content (high) of the advertised food products, as well as consumers' product preference and familiarity with the brand positively influences their attitude towards the advertised brand as well their intention to purchase the brand's products. Related managerial implications are that incorporating an evoked meal context within food advertisements does not seem to consistently improve consumers' attitude towards the ad itself or the advertised brand and product. However, this research indicates that advertisements representing certain categories of food (e.g., side dish and dessert items, high calorie foods) lead to more positive consumer responses as compared to advertisements containing low calorie foods and that positive effects of advertising arise consistently for such products. This finding is particularly important for food marketers and advertisers since it will help them strategically design effective advertisements for different food categories, to create more positive consumer responses.

The current research also indicates that consumers' attitude towards the ad had a direct positive impact on their attitude towards the advertised brand as well as their intention to purchase the product of that brand. Hence, brand managers can focus on creating promotion strategies that will have a positive influence on consumers' attitude towards the ad, which can be translated to their positive intention to purchase that brand's products.

Limitations and Future Research

This study possesses certain limitations, which provide a basis for future research in this domain. These limitations pertain to stimuli design, experimental design, and sample demographics.

Limitations with regards to stimuli design mainly apply to the design of the advertisements as well as the operationalization of the construct of meal context within the ad. The food advertisements used as experimental stimuli were comprised only of visual images. Unlike traditional print and digital ads, they did not contain additional ad copy, price or product-

related textual information. Future studies could consider including an ad copy for greater realism. The content and format could be kept constant in order to control for the confounding effect of verbal information. This would improve the generalizability of the study. Moreover, the experimental stimuli consisted of display-only, static ads, and can therefore not be applied to draw conclusions regarding dynamic or video advertisements. Future research can extend this study by testing the theoretical framework for video-based food advertisements. Perhaps the vividness of meal context in such ads increases its effect on consumer responses.

Consumption contexts can be evoked both visually (i.e., using images and illustrations) as well as verbally (i.e., using textual information). Hence, it would be interesting to compare how the means of evocation of the meal context (visual vs verbal) influences consumers' attitudinal and behavioural responses. Future research can compare the impact of food advertisements that evoke meal context using visuals, similar to this study, with those ads that evoke meal context through textual information or the ad copy.

As discussed previously, the operationalization of meal context within the food advertisements was limited to images of ready-to-eat or fully prepared versions of the advertised product. Future research might compare the impact of different operationalizations of meal context on consumers' response to the food advertisements and determine which form of operationalization is most effective. A pretest could test different operationalizations of meal context in order to determine the most effective one.

Moreover, additional analysis of the stimuli subset indicated that an evoked meal context shown on product packaging as a part of a food advertisement influences the consumer's attitude towards the ad and product brand. Hence, future research can investigate the impact of evoking a meal context within the product's packaging design on consumers' evaluation of the product and willingness to purchase the product.

There are certain limitations with regards to the experimental design of the current research study. The pretest did not include any manipulation check to determine whether the manipulation of meal context within the food advertisements was effective or not. Including a manipulation check for the meal context might have highlighted the confounding negative impact of the product packaging design which might have further weakened the meal context manipulation. It is highly recommended that future research includes a manipulation check to determine the efficacy of the meal context manipulation.

Also, no pretest was conducted for the selection of food products within each of the meal component and calorie content categories used in the study. Based on the calorie content and the type of meal component, twelve commonly consumed food products were chosen. Future studies should also include a pretest to select food products for every meal component and calorie content category, based on the participants' ratings. Moreover, the type of food products selected for the study was limited to "ready-to-eat" versions. Beverages, another commonly consumed item as a part of the meal, were not included in the experiment. Future studies could include various other food product categories, both ready-to-eat and uncooked versions, as well as beverages. It would be informative to see whether the different food categories (ready-to-eat vs raw; utilitarian vs hedonic) play a moderating role on the impact of meal context on consumer response.

Mostly European and US-based, less familiar food brands were used for this study, in order to preclude the effects of brand familiarity. Rhee and Jung (2019) suggested that the impact of attitude towards the ad on attitude towards the advertised brand, was greater for an unfamiliar brand, as compared to a familiar brand. Hence, it would be interesting to examine whether brand familiarity plays a moderating role or not on the impact of meal context on attitude towards the ad as well as the ad-brand attitude relationship.

The participants of the study were limited to Canadian residents. To examine whether the results generalize, future studies across different countries and cultures could explore the presence or absence of cross-cultural differences. In addition, analyzing the impact of the presence of meal context in food ads on consumers' attitudinal and behavioural response could be complemented by the use of physiological data (i.e. using eye movement and neural response data), such as used by Sommer and colleagues (2013) and Bailey (2015).

Moreover, conducting this study within a natural setting, i.e. in a shopping or store environment, will improve the external validity or generalizability of the study. Future research can conduct a similar study in an actual or simulated store environment, where food advertisements will be kept on display at the point-of-purchase and consumers' actual buying behaviour will be observed.

Advertising channels such as direct-email marketing, TV commercials, as well as in-store promotions, have been known to influence impulse purchases among consumers (Hulten & Vanyushyn, 2014). Hence, future research can analyze whether the presence of meal context

within food advertisements influences consumers to make impulse purchases of the advertised food products.

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Appendix

Appendix A: Main Study Questionnaire

A.1 Information and Consent Form

INFORMATION AND CONSENT FORM

Study Title: Consumers' Evaluation of Food Products

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Source of funding for the study: CASA grant

You are being invited to participate in the research study mentioned above. This form provides information about what participating would mean. Please read it carefully before deciding if you want to participate or not. If there is anything you do not understand, or if you want more information, please ask the researcher.

A. PURPOSE

The purpose of the research is to understand consumers' evaluation and choice of common food products.

B. PROCEDURES

If you participate, you will be asked to view pictures of different food products on a computer screen and answer a brief questionnaire about food consumption, your evaluation of food products, and demographics. In total, participating in this study will take about 5 minutes.

C. RISKS AND BENEFITS

This research is not intended to benefit you personally. There are no risks associated with the study.

D. CONFIDENTIALITY

We will gather the following information as part of this research:

Your evaluation and choice of different food products, and demographics (age, gender, profession).

We will not allow anyone to access the information, except people directly involved in conducting the research. We will only use the information for the purposes of the research described in this form.

The information gathered will be anonymous. That means that it will not be possible to make a link between you and the information you provide.

We intend to publish the results of the research. However, it will not be possible to identify you in the published results.

We will destroy the information five years after the end of the study.

F. CONDITIONS OF PARTICIPATION

You do not have to participate in this research. It is purely your decision. If you do participate, you can stop at any time.

You can also ask that the information you provided not be used, and your choice will be respected.

If you decide that you don't want us to use your information, you must tell the researcher **before the end of the experiment**. Because the data is anonymous, we cannot remove your data once the experiment has been completed.

If at any time you have questions about the current research, please contact the study's Principal Investigator: Upasana Banerjee (phone:438-494-6708; Email: upasana.banerjee29@gmail.com) of John Molson School of Business of Concordia University , or Dr. Bianca Grohmann of John Molson School of Business of Concordia University (phone:(phone: 514- 848-2424 ext. 4845; Email: bianca.grohmann@concordia.ca).

If at any time you have questions about your rights as a research participant, please contact the Research Ethics and Compliance Advisor, Concordia University, 514-848-2424 ex. 7481 ethics@alcor.concordia.ca

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT.

I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

A.2 Product Evaluation Scale

Please indicate to what extent you agree with the following statements about the product you see in the advertisement.

	Strongly Disagree 1	Disagree 2	Somewhat disagree 3	Neither agree nor disagree 4	Somewhat agree 5	Agree 6	Strongly agree 7
This is a superior product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This is an eye-catching product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This is a high-quality product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The product displayed in this advertisement is ...

	not at all 1	2	3	4	5	6	extremely 7
Appealing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tasty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Desirable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appetizing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be likely to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be likely to recommend this product to a friend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A.3 Motivational Salience Scale

Please indicate your opinion about the product shown in this advertisement.

Highly aversive	-5	-4	-3	-2	-1	Neutral	0	1	2	3	4	Highly appealing	5
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A.4 Brand Purchase Intention Scale

Please indicate to what extent you agree to the following statements regarding your intent to purchase the brand shown in this advertisement.

	Strongly Disagree 1	Disagree 2	Somewhat disagree 3	Neither agree nor disagree 4	Somewhat agree 5	Agree 6	Strongly agree 7
It is very likely that I will buy Palermo's.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will buy Palermo's the next time I need Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will definitely try Palermo's products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A.5 Attitude towards the ad scale

Please indicate your attitude towards this advertisement

	1	2	3	4	5	6	7	
Good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Bad
Interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Boring
Pleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unpleasant
Likeable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unlikeable
Tasteful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Tasteless

A.6 Attitude towards the brand Scale

Please indicate your attitude towards the brand 'Palermo's' displayed above

	1	2	3	4	5	6	7	
Like	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Dislike
Favourable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unfavourable
Positive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Negative

A.7 Product Knowledge scale

Please indicate to what extent you agree with the following statements.

	Strongly disagree 1	Disagree 2	Somewhat disagree 3	Neither agree nor disagree 4	Somewhat agree 5	Agree 6	Strongly agree 7
I had a lot of experience with Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As compared to an average person, I would have said that I was highly knowledgeable about Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would have described myself as being very familiar with Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A.8 Product Preference Scale

Please rate your preference for consumption of Pizza

Highly aversive					Neutral						Highly Appealing
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

A.9 Brand Familiarity Scale

Please indicate how familiar you are with the brand Palermo.

	not at all 1	2	3	4	5	6	extremely 7
How familiar are you with Palermo's Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How experienced are you with Palermo?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How knowledgeable are you about Palermo?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A.10 Perceived Meal Component

How would you categorize Pizza?

- Main Dish
- Side Dish
- Dessert
- Not Sure

A.11 Perceived Calorie Content

How would you characterize the relative calorie content of Pizza?

- High Calorie
- Low Calorie
- Not sure

A.12 Demographic Information

Please indicate your biological sex as registered at birth.

Male

Female

Please indicate your age (in years).

What is the highest level of education you have completed or the highest degree you have obtained?

- Less than High School Diploma
- High school graduate (high school diploma or equivalent including GED)
- Some college but no degree
- Associate degree (2 year college degree)
- Bachelor's degree (4 year college degree)
- Master's degree
- Doctoral degree (PhD)
- Professional degree (MD, JD)

Which of the following categories best describes your current employment status?

- Student
- Self-employed
- Employed full-time
- Employed part-time
- Unemployed
- Retired

How would you rate your knowledge of English?

- No knowledge at all
- Beginner
- Intermediate
- Advanced
- Totally fluent/native language

What language do you often speak at home?

- English
- French
- Spanish
- Other

Did you encounter any technical issues while completing this questionnaire? If Yes, please explain the issue briefly

- Yes

- No

What device did you use to complete this questionnaire?

- Laptop or Desktop Computer
- Tablet
- Smartphone

Tea is one of the world's most popular hot beverages.

Thanks to its high levels of antioxidants and beneficial nutrients, it also seems to be quite healthy.

Studies show that tea drinkers have a much lower risk of several serious diseases. Tea can help people feel less tired and increase energy levels.

We are interested in whether you actually take time to read the directions. If not, then some of our manipulations that rely on changes in the instructions will be ineffective. In order to demonstrate that you have read the instructions, please click only on the option "5" below and ignore the question and all other options below.

How frequently do you drink tea?

- | | | | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Not all | | | | | | | Extremely |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Appendix B: Main Study Stimuli

B.1 Pizza

A. Test (with meal context)



B. Control (without meal context)



B.2 Pork Ribs

A. Test (with meal context)



B. Control (without meal context)



B.3 Grilled Salmon

A. Test (with meal context)



B. Control (without meal context)



B.4 Grilled Chicken

A. Test (with meal context)



B. Control (without meal context)



B.5 French Fries

A. Test (with meal context)



B. Control (without meal context)



B.6 Creamy Pasta Salad

A. Test (with meal context)



B. Control (without meal context)



B.7 Protein Bar

A. Test (with meal context)



B. Control (without meal context)



B.8 Cauliflower Rice

A. Test (with meal context)



B. Control (without meal context)



B.9 Caesar Salad

A. Test (with meal context)



B. Control (without meal context)



B.10 Chocolate Pound Cake

A. Test (with meal context)



B. Control (without meal context)



B.11 Chocolate Chip Ice Cream

A. Test (with meal context)



B. Control (without meal context)



B.12 Flavoured Yogurt

A. Test (with meal context)



B. Control (without meal context)



B.13 Brand Logos



Table B.14: List of Category-wise Food Products

	Main Dish	Side Dish	Dessert
High Calorie	1.Product: pepperoniPizza	1.Product: Crinkle cut French Fries	1.Product: Chocolate chip Ice cream
	Brand name: Palermo's, Chicago town	Brand name: Birds eye , Alexia	Brand name: Edys, Rookbeare
	Qty/ Servings: 131 gm / 100gm	Qty/ Servings: 100gm	Qty/ Servings: per 100gm
	Calories: 350 / 267	Calories: 160	Calories: 240
	2.Product: Pork Ribs	2.Product: Creamy pasta salad	2.Product: Marble cake
	Brand name: Butcher's Prime, Aunt Bessie's	Brand name: Clubhouse , Hidden Valley	Brand name: Dan Cake , Sara Lee
Qty/ Servings: 5oz (141gm)/ 100gm	Qty/ Servings: 100 gm	Qty/ Servings: per 100gm	
Calories: 270/ 190	Calories: 285	Calories: 350	
Low Calorie	1.Product: grilled chicken breast	1.Product: Ceaser Lite Salad Bowl	1.Product: (Strawberry)Flavoured Greek yogurt
	Brand name: Foster Farms, Bell & Evans	Brand name: Ready Pac , Mann's	Brand name: Chobani, Stonyfield
	Qty/ Servings: 84gm (3z)/ 100gm	Qty/ Servings: 156 gm / 100gm	Qty/ Servings: 100gm (3.5 oz)
	Calories: 100/ 120	Calories: 180/ 115	Calories: 120
	2.Product: Grilled salmon	2.Product: Cauliflower rice	2.Product: Crunchy Protein Bar
	Brand name: Morey's , Gorton's	Brand name: Green Giant , Eat Smart	Brand name: Named Sport, Kind
Qty/ Servings: 100gm (3.5 oz) / 4z	Qty/ Servings: 85 gm	Qty/ Servings: 45gm /bar	
Calories: 148 / 170	Calories: 25	Calories: 152	

Appendix C: Statistical Analysis Results

Table C.1: One sample test: test value = 4 for mean familiarity score for the brand's products

T-Test

One-Sample Statistics						
Product	Brand		N	Mean	Std. Deviation	Std. Error Mean
Cauliflower Rice	EatSmart	Brndfm_brndnproduct	43	2.07	2.040	.311
	GreenGiant	Brndfm_brndnproduct	43	3.86	2.416	.368
CesarSalad	Manns	Brndfm_brndnproduct	43	2.07	1.857	.283
	ReadyPac	Brndfm_brndnproduct	43	2.12	1.854	.283
Chocolate Cake	Dan	Brndfm_brndnproduct	43	2.21	2.188	.334
	SaraLee	Brndfm_brndnproduct	43	3.88	2.332	.356
Flavoured Yogurt	Chobani	Brndfm_brndnproduct	43	2.77	2.389	.364
	Stonyfield	Brndfm_brndnproduct	43	2.19	1.967	.300
French Fries	Alexia	Brndfm_brndnproduct	43	1.91	1.862	.284
	birdseye	Brndfm_brndnproduct	43	2.40	2.248	.343
Grilled Chicken	bellevans	Brndfm_brndnproduct	43	1.93	1.932	.295
	French Friesarms	Brndfm_brndnproduct	43	2.33	1.961	.299
Grilled Salmon	Gortons	Brndfm_brndnproduct	43	2.60	2.025	.309
	Morey	Brndfm_brndnproduct	43	2.12	2.073	.316
Ice Cream	Edys	Brndfm_brndnproduct	43	2.12	1.979	.302
	Rookbeare	Brndfm_brndnproduct	43	1.84	1.838	.280
PastaSalad	Clubhouse	Brndfm_brndnproduct	43	4.12	2.228	.340
	HiddenValley	Brndfm_brndnproduct	43	3.21	2.336	.356
Pizza	ChicagoTown	Brndfm_brndnproduct	43	2.07	2.028	.309
	Palmeros	Brndfm_brndnproduct	43	3.09	2.213	.337
PorkRibs	AuntBessie	Brndfm_brndnproduct	43	2.14	1.910	.291
	ButchersPrime	Brndfm_brndnproduct	43	2.12	1.991	.304
Protein Bar	Kind	Brndfm_brndnproduct	43	3.58	2.174	.331
	NamedSport	Brndfm_brndnproduct	43	1.67	1.629	.248

One-Sample Test								
Product	Brand		Test Value = 4					
			t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Cauliflower Rice	EatSmart	Brndfm_brndnproduct	-6.205	42	.000	-1.930	-2.56	-1.30
	GreenGiant	Brndfm_brndnproduct	-.379	42	.707	-.140	-.88	.60
CesarSalad	Manns	Brndfm_brndnproduct	-6.817	42	.000	-1.930	-2.50	-1.36
	ReadyPac	Brndfm_brndnproduct	-6.661	42	.000	-1.884	-2.45	-1.31
Chocolate Cake	Dan	Brndfm_brndnproduct	-5.366	42	.000	-1.791	-2.46	-1.12
	SaraLee	Brndfm_brndnproduct	-.327	42	.745	-.116	-.83	.60
Flavoured Yogurt	Chobani	Brndfm_brndnproduct	-3.383	42	.002	-1.233	-1.97	-.50
	Stonyfield	Brndfm_brndnproduct	-6.047	42	.000	-1.814	-2.42	-1.21
French Fries	Alexia	Brndfm_brndnproduct	-7.371	42	.000	-2.093	-2.67	-1.52
	birdseye	Brndfm_brndnproduct	-4.680	42	.000	-1.605	-2.30	-.91
Grilled Chicken	bellevans	Brndfm_brndnproduct	-7.025	42	.000	-2.070	-2.66	-1.48
	French Friesarms	Brndfm_brndnproduct	-5.600	42	.000	-1.674	-2.28	-1.07
Grilled Salmon	Gortons	Brndfm_brndnproduct	-4.518	42	.000	-1.395	-2.02	-.77
	Morey	Brndfm_brndnproduct	-5.960	42	.000	-1.884	-2.52	-1.25
Ice Cream	Edys	Brndfm_brndnproduct	-6.243	42	.000	-1.884	-2.49	-1.27
	Rookbeare	Brndfm_brndnproduct	-7.717	42	.000	-2.163	-2.73	-1.60
PastaSalad	Clubhouse	Brndfm_brndnproduct	.342	42	.734	.116	-.57	.80
	HiddenValley	Brndfm_brndnproduct	-2.220	42	.032	-.791	-1.51	-.07
Pizza	ChicagoTown	Brndfm_brndnproduct	-6.240	42	.000	-1.930	-2.55	-1.31
	Palmeros	Brndfm_brndnproduct	-2.688	42	.010	-.907	-1.59	-.23
PorkRibs	AuntBessie	Brndfm_brndnproduct	-6.389	42	.000	-1.860	-2.45	-1.27
	ButchersPrime	Brndfm_brndnproduct	-6.205	42	.000	-1.884	-2.50	-1.27
Protein Bar	Kind	Brndfm_brndnproduct	-1.263	42	.214	-.419	-1.09	.25
	NamedSport	Brndfm_brndnproduct	-9.362	42	.000	-2.326	-2.83	-1.82

Table C.2: One sample test: test value = 4 for mean brand knowledge score for all brands

T-Test

One-Sample Statistics

Product	Brand		N	Mean	Std. Deviation	Std. Error Mean
Cauliflower Rice	EatSmart	mean_brand_knwldg	43	2.1860	2.05873	.31395
	GreenGiant	mean_brand_knwldg	43	4.5814	1.96678	.29993
CesarSalad	Manns	mean_brand_knwldg	43	2.0349	1.83678	.28011
	ReadyPac	mean_brand_knwldg	43	1.9651	1.76067	.26850
Chocolate Cake	Dan	mean_brand_knwldg	43	2.0465	1.99348	.30400
	SaraLee	mean_brand_knwldg	43	3.5814	2.26498	.34541
Flavoured Yogurt	Chobani	mean_brand_knwldg	43	2.5465	2.23557	.34092
	Stonyfield	mean_brand_knwldg	43	2.0930	1.82658	.27855
French Fries	Alexia	mean_brand_knwldg	43	1.9070	1.84280	.28102
	birdseye	mean_brand_knwldg	43	2.2209	2.06531	.31496
Grilled Chicken	bellevans	mean_brand_knwldg	43	1.8372	1.78859	.27276
	French Friesarms	mean_brand_knwldg	43	2.1512	1.85657	.28312
Grilled Salmon	Gortons	mean_brand_knwldg	43	2.5349	2.06846	.31544
	Morey	mean_brand_knwldg	43	2.0000	1.97001	.30042
Ice Cream	Edys	mean_brand_knwldg	43	2.0814	1.96375	.29947
	Rookbeare	mean_brand_knwldg	43	1.7791	1.73309	.26429
PastaSalad	Clubhouse	mean_brand_knwldg	43	4.4767	1.96079	.29902
	HiddenValley	mean_brand_knwldg	43	3.2209	2.09109	.31889
Pizza	ChicagoTown	mean_brand_knwldg	43	1.9651	1.93463	.29503
	Palmeros	mean_brand_knwldg	43	2.6860	2.07314	.31615
PorkRibs	AuntBessie	mean_brand_knwldg	43	1.9070	1.69473	.25844
	ButchersPrime	mean_brand_knwldg	43	2.0116	1.88506	.28747
Protein Bar	Kind	mean_brand_knwldg	43	3.2326	2.12790	.32450
	NamedSport	mean_brand_knwldg	43	1.6860	1.70791	.26045

			One-Sample Test					
			Test Value = 4					
Product	Brand		t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Cauliflower Rice	EatSmart	mean_brand_knwldg	-5.778	42	.000	-1.81395	-2.4475	-1.1804
	GreenGiant	mean_brand_knwldg	1.938	42	.059	.58140	-.0239	1.1867
CesarSalad	Manns	mean_brand_knwldg	-7.016	42	.000	-1.96512	-2.5304	-1.3998
	ReadyPac	mean_brand_knwldg	-7.579	42	.000	-2.03488	-2.5767	-1.4930
Chocolate Cake	Dan	mean_brand_knwldg	-6.426	42	.000	-1.95349	-2.5670	-1.3400
	SaraLee	mean_brand_knwldg	-1.212	42	.232	-.41860	-1.1157	.2785
Flavoured Yogurt	Chobani	mean_brand_knwldg	-4.263	42	.000	-1.45349	-2.1415	-.7655
	Stonyfield	mean_brand_knwldg	-6.846	42	.000	-1.90698	-2.4691	-1.3448
French Fries	Alexia	mean_brand_knwldg	-7.448	42	.000	-2.09302	-2.6602	-1.5259
	birdseye	mean_brand_knwldg	-5.649	42	.000	-1.77907	-2.4147	-1.1435
Grilled Chicken	bellevans	mean_brand_knwldg	-7.929	42	.000	-2.16279	-2.7132	-1.6123
	French Friesarms	mean_brand_knwldg	-6.530	42	.000	-1.84884	-2.4202	-1.2775
Grilled Salmon	Gortons	mean_brand_knwldg	-4.645	42	.000	-1.46512	-2.1017	-.8285
	Morey	mean_brand_knwldg	-6.657	42	.000	-2.00000	-2.6063	-1.3937
Ice Cream	Edys	mean_brand_knwldg	-6.407	42	.000	-1.91860	-2.5230	-1.3143
	Rookbeare	mean_brand_knwldg	-8.403	42	.000	-2.22093	-2.7543	-1.6876
PastaSalad	Clubhouse	mean_brand_knwldg	1.594	42	.118	.47674	-.1267	1.0802
	HiddenValley	mean_brand_knwldg	-2.443	42	.019	-.77907	-1.4226	-.1355
Pizza	ChicagoTown	mean_brand_knwldg	-6.897	42	.000	-2.03488	-2.6303	-1.4395
	Palmeros	mean_brand_knwldg	-4.156	42	.000	-1.31395	-1.9520	-.6759
PorkRibs	AuntBessie	mean_brand_knwldg	-8.099	42	.000	-2.09302	-2.6146	-1.5715
	ButchersPrime	mean_brand_knwldg	-6.917	42	.000	-1.98837	-2.5685	-1.4082
Protein Bar	Kind	mean_brand_knwldg	-2.365	42	.023	-.76744	-1.4223	-.1126
	NamedSport	mean_brand_knwldg	-8.884	42	.000	-2.31395	-2.8396	-1.7883

Table C.3: Categorization of meal component for all product categories

MEAL							
Product	Brand			Frequency	Percent	Valid Percent	Cumulative Percent
Cauliflower Rice	EatSmart	Valid	Not sure	3	7.0	7.0	7.0
			Main Dish	13	30.2	30.2	37.2
			Side Dish	26	60.5	60.5	97.7
			Dessert	1	2.3	2.3	100.0
			Total	43	100.0	100.0	
	GreenGiant	Valid	Not sure	3	7.0	7.0	7.0
			Main Dish	13	30.2	30.2	37.2
			Side Dish	26	60.5	60.5	97.7
			Dessert	1	2.3	2.3	100.0
			Total	43	100.0	100.0	
CesarSalad	Manns	Valid	Not sure	1	2.3	2.3	2.3
			Main Dish	6	14.0	14.0	16.3
			Side Dish	35	81.4	81.4	97.7
			Dessert	1	2.3	2.3	100.0
			Total	43	100.0	100.0	
	ReadyPac	Valid	Not sure	1	2.3	2.3	2.3
			Main Dish	6	14.0	14.0	16.3
			Side Dish	35	81.4	81.4	97.7
			Dessert	1	2.3	2.3	100.0
			Total	43	100.0	100.0	
Chocolate Cake	Dan	Valid	Side Dish	2	4.7	4.7	4.7
			Dessert	41	95.3	95.3	100.0
			Total	43	100.0	100.0	
	SaraLee	Valid	Side Dish	2	4.7	4.7	4.7
			Dessert	41	95.3	95.3	100.0
			Total	43	100.0	100.0	
Flavoured Yogurt	Chobani	Valid	Not sure	2	4.7	4.7	4.7
			Main Dish	2	4.7	4.7	9.3
			Side Dish	7	16.3	16.3	25.6
			Dessert	32	74.4	74.4	100.0
			Total	43	100.0	100.0	
	Stonyfield	Valid	Not sure	2	4.7	4.7	4.7
			Main Dish	2	4.7	4.7	9.3
			Side Dish	7	16.3	16.3	25.6
			Dessert	32	74.4	74.4	100.0
			Total	43	100.0	100.0	
MEAL							
Product	Brand			Frequency	Percent	Valid Percent	Cumulative Percent
French Fries	Alexia	Valid	Main Dish	1	2.3	2.3	2.3
			Side Dish	42	97.7	97.7	100.0
			Total	43	100.0	100.0	
	birdseye	Valid	Main Dish	1	2.3	2.3	2.3
			Side Dish	42	97.7	97.7	100.0
			Total	43	100.0	100.0	
Grilled Chicken	bellevans	Valid	Not sure	1	2.3	2.3	2.3
			Main Dish	38	88.4	88.4	90.7
			Side Dish	4	9.3	9.3	100.0
			Total	43	100.0	100.0	
	French Friesarms	Valid	Not sure	1	2.3	2.3	2.3
			Main Dish	38	88.4	88.4	90.7
Side Dish			4	9.3	9.3	100.0	
		Total	43	100.0	100.0		
Grilled Salmon	Gortons	Valid	Not sure	2	4.7	4.7	4.7
			Main Dish	36	83.7	83.7	88.4
			Side Dish	5	11.6	11.6	100.0
			Total	43	100.0	100.0	
	Morey	Valid	Not sure	2	4.7	4.7	4.7
			Main Dish	36	83.7	83.7	88.4
Side Dish			5	11.6	11.6	100.0	
		Total	43	100.0	100.0		
Ice Cream	Edys	Valid	Side Dish	1	2.3	2.3	2.3
			Dessert	42	97.7	97.7	100.0
			Total	43	100.0	100.0	
	Rookbeare	Valid	Side Dish	1	2.3	2.3	2.3
			Dessert	42	97.7	97.7	100.0
			Total	43	100.0	100.0	
PastaSalad	Clubhouse	Valid	Not sure	1	2.3	2.3	2.3
			Main Dish	7	16.3	16.3	18.6
			Side Dish	34	79.1	79.1	97.7
			Dessert	1	2.3	2.3	100.0
			Total	43	100.0	100.0	
	HiddenValley	Valid	Not sure	1	2.3	2.3	2.3
Main Dish			7	16.3	16.3	18.6	
Side Dish			34	79.1	79.1	97.7	
Dessert			1	2.3	2.3	100.0	
		Total	43	100.0	100.0		
Pizza	ChicagoTown	Valid	Main Dish	40	93.0	93.0	93.0
			Side Dish	2	4.7	4.7	97.7
			Dessert	1	2.3	2.3	100.0
			Total	43	100.0	100.0	
	Palmeros	Valid	Main Dish	40	93.0	93.0	93.0
			Side Dish	2	4.7	4.7	97.7
		Dessert	1	2.3	2.3	100.0	
		Total	43	100.0	100.0		
PorkRibs	AuntBessie	Valid	Not sure	4	9.3	9.3	9.3
			Main Dish	34	79.1	79.1	88.4
			Side Dish	5	11.6	11.6	100.0
			Total	43	100.0	100.0	
	ButchersPrime	Valid	Not sure	4	9.3	9.3	9.3
			Main Dish	34	79.1	79.1	88.4
Side Dish			5	11.6	11.6	100.0	
		Total	43	100.0	100.0		
Protein Bar	Kind	Valid	Not sure	20	46.5	46.5	46.5
			Main Dish	3	7.0	7.0	53.5
			Side Dish	11	25.6	25.6	79.1
			Dessert	9	20.9	20.9	100.0
			Total	43	100.0	100.0	
	NamedSport	Valid	Not sure	20	46.5	46.5	46.5
Main Dish			3	7.0	7.0	53.5	
Side Dish			11	25.6	25.6	79.1	
Dessert			9	20.9	20.9	100.0	
		Total	43	100.0	100.0		

Table C.4: Categorization of calorie content for all product categories

CAL									
Product	Brand			Frequency	Percent	Valid Percent		Cumulative Percent	
Cauliflower Rice	EatSmart	Valid	Not sure	7	16.3	16.3	16.3	16.3	
			High Calorie	3	7.0	7.0	23.3	23.3	
			Low Calorie	33	76.7	76.7	100.0	100.0	
			Total	43	100.0	100.0			
	GreenGiant	Valid	Not sure	7	16.3	16.3	16.3	16.3	
			High Calorie	3	7.0	7.0	23.3	23.3	
			Low Calorie	33	76.7	76.7	100.0	100.0	
			Total	43	100.0	100.0			
CesarSalad	Manns	Valid	Not sure	3	7.0	7.0	7.0	7.0	
			High Calorie	24	55.8	55.8	62.8	62.8	
			Low Calorie	16	37.2	37.2	100.0	100.0	
			Total	43	100.0	100.0			
	ReadyPac	Valid	Not sure	3	7.0	7.0	7.0	7.0	
			High Calorie	24	55.8	55.8	62.8	62.8	
			Low Calorie	16	37.2	37.2	100.0	100.0	
			Total	43	100.0	100.0			
Chocolate Cake	Dan	Valid	Not sure	2	4.7	4.7	4.7	4.7	
			High Calorie	40	93.0	93.0	97.7	97.7	
			Low Calorie	1	2.3	2.3	100.0	100.0	
			Total	43	100.0	100.0			
	SaraLee	Valid	Not sure	2	4.7	4.7	4.7	4.7	
			High Calorie	40	93.0	93.0	97.7	97.7	
			Low Calorie	1	2.3	2.3	100.0	100.0	
			Total	43	100.0	100.0			
Flavoured Yogurt	Chobani	Valid	Not sure	8	18.6	18.6	18.6	18.6	
			High Calorie	12	27.9	27.9	46.5	46.5	
			Low Calorie	23	53.5	53.5	100.0	100.0	
			Total	43	100.0	100.0			
	Stonyfield	Valid	Not sure	8	18.6	18.6	18.6	18.6	
			High Calorie	12	27.9	27.9	46.5	46.5	
			Low Calorie	23	53.5	53.5	100.0	100.0	
			Total	43	100.0	100.0			
French Fries	Alexia	Valid	High Calorie	42	97.7	97.7	97.7	97.7	
			Low Calorie	1	2.3	2.3	100.0	100.0	
			Total	43	100.0	100.0			
			birdseye	Valid	High Calorie	42	97.7	97.7	97.7
	Low Calorie	1			2.3	2.3	100.0	100.0	
	Total	43			100.0	100.0			
	Grilled Chicken	bellevans			Valid	Not sure	11	25.6	25.6
			High Calorie	3		7.0	7.0	32.6	32.6
Low Calorie			29	67.4		67.4	100.0	100.0	
Total			43	100.0		100.0			
French Friesarms		Valid	Not sure	11	25.6	25.6	25.6	25.6	
			High Calorie	3	7.0	7.0	32.6	32.6	
			Low Calorie	29	67.4	67.4	100.0	100.0	
			Total	43	100.0	100.0			
Grilled Salmon	Gortons	Valid	Not sure	8	18.6	18.6	18.6	18.6	
			High Calorie	6	14.0	14.0	32.6	32.6	
			Low Calorie	29	67.4	67.4	100.0	100.0	
			Total	43	100.0	100.0			
	Morey	Valid	Not sure	8	18.6	18.6	18.6	18.6	
			High Calorie	6	14.0	14.0	32.6	32.6	
			Low Calorie	29	67.4	67.4	100.0	100.0	
			Total	43	100.0	100.0			
Ice Cream	Edys	Valid	Not sure	4	9.3	9.3	9.3	9.3	
			High Calorie	37	86.0	86.0	95.3	95.3	
			Low Calorie	2	4.7	4.7	100.0	100.0	
			Total	43	100.0	100.0			
	Rookbeare	Valid	Not sure	4	9.3	9.3	9.3	9.3	
			High Calorie	37	86.0	86.0	95.3	95.3	
			Low Calorie	2	4.7	4.7	100.0	100.0	
			Total	43	100.0	100.0			
PastaSalad	Clubhouse	Valid	Not sure	2	4.7	4.7	4.7	4.7	
			High Calorie	35	81.4	81.4	86.0	86.0	
			Low Calorie	6	14.0	14.0	100.0	100.0	
			Total	43	100.0	100.0			
	HiddenValley	Valid	Not sure	2	4.7	4.7	4.7	4.7	
			High Calorie	35	81.4	81.4	86.0	86.0	
			Low Calorie	6	14.0	14.0	100.0	100.0	
			Total	43	100.0	100.0			
Pizza	ChicagoTown	Valid	Not sure	1	2.3	2.3	2.3	2.3	
			High Calorie	41	95.3	95.3	97.7	97.7	
			Low Calorie	1	2.3	2.3	100.0	100.0	
			Total	43	100.0	100.0			
	Palmeros	Valid	Not sure	1	2.3	2.3	2.3	2.3	
			High Calorie	41	95.3	95.3	97.7	97.7	
			Low Calorie	1	2.3	2.3	100.0	100.0	
			Total	43	100.0	100.0			
PorkRibs	AuntBessie	Valid	Not sure	8	18.6	18.6	18.6	18.6	
			High Calorie	31	72.1	72.1	90.7	90.7	
			Low Calorie	4	9.3	9.3	100.0	100.0	
			Total	43	100.0	100.0			
	ButchersPrime	Valid	Not sure	8	18.6	18.6	18.6	18.6	
			High Calorie	31	72.1	72.1	90.7	90.7	
			Low Calorie	4	9.3	9.3	100.0	100.0	
			Total	43	100.0	100.0			
Protein Bar	Kind	Valid	Not sure	5	11.6	11.6	11.6	11.6	
			High Calorie	23	53.5	53.5	65.1	65.1	
			Low Calorie	15	34.9	34.9	100.0	100.0	
			Total	43	100.0	100.0			
	NamedSport	Valid	Not sure	5	11.6	11.6	11.6	11.6	
			High Calorie	23	53.5	53.5	65.1	65.1	
			Low Calorie	15	34.9	34.9	100.0	100.0	
			Total	43	100.0	100.0			

Table C.5: Reliability Analysis of Measurement Scales

Table C.5.1: Reliability Analysis of Product Evaluation Scale

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	1106	100.0
	Excluded ^a	0	.0
	Total	1106	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.887	3

Item Statistics

	Mean	Std. Deviation	N
Product_Eval_set1_1	4.24	1.363	1106
Product_Eval_set1_2	4.58	1.534	1106
Product_Eval_set1_3	4.40	1.442	1106

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Product_Eval_set1_1	8.98	7.478	.811	.815
Product_Eval_set1_2	8.64	7.146	.717	.898
Product_Eval_set1_3	8.83	7.041	.817	.805

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.22	15.377	3.921	3

Reliability Statistics

Cronbach's Alpha	N of Items
.961	7

Item Statistics

	Mean	Std. Deviation	N
Product_Eval_Set2_1	4.56	1.581	1106
Product_Eval_Set2_2	4.60	1.501	1106
Product_Eval_Set2_3	4.50	1.562	1106
Product_Eval_Set2_4	4.31	1.528	1106
Product_Eval_Set2_5	4.54	1.615	1106
Product_Eval_Set2_6	4.04	1.821	1106
Product_Eval_Set2_7	3.72	1.744	1106

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Product_Eval_Set2_1	25.71	77.417	.890	.952
Product_Eval_Set2_2	25.67	79.531	.855	.955
Product_Eval_Set2_3	25.77	77.429	.903	.951
Product_Eval_Set2_4	25.96	80.044	.815	.958
Product_Eval_Set2_5	25.73	76.835	.891	.952
Product_Eval_Set2_6	26.23	74.049	.871	.954
Product_Eval_Set2_7	26.55	76.554	.821	.958

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
30.27	104.673	10.231	7

Table C.5.2: Reliability Analysis of Brand Purchase Intention Scale

Reliability Statistics			
Cronbach's Alpha	N of Items		
.947	3		

Item Statistics			
	Mean	Std. Deviation	N
Brand_PL_1	3.99	1.744	1106
Brand_PL_2	3.79	1.743	1106
Brand_PL_3	4.14	1.788	1106

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Brand_PL_1	7.92	11.428	.905	.909
Brand_PL_2	8.12	11.700	.873	.933
Brand_PL_3	7.77	11.291	.887	.923

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
11.91	25.142	5.014	3

Table C.5.3: Reliability Analysis of Attitude towards the brand Scale

Reliability Statistics	
Cronbach's Alpha	N of Items
.964	3

Item Statistics			
	Mean	Std. Deviation	N
Attitude_brand_1_RC	4.67	1.576	1106
Attitude_brand_2_RC	4.67	1.555	1106
Attitude_brand_3_RC	4.79	1.549	1106

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Attitude_brand_1_RC	9.46	9.132	.926	.945
Attitude_brand_2_RC	9.46	9.268	.924	.946
Attitude_brand_3_RC	9.34	9.336	.919	.950

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
14.13	20.434	4.520	3

Table C.5.4: Reliability Analysis of Attitude towards the Ad Scale

Reliability Statistics	
Cronbach's Alpha	N of Items
.947	5

Item Statistics			
	Mean	Std. Deviation	N
Attitude_Ad_1_RC	4.69	1.633	1106
Attitude_Ad_2_RC	4.37	1.669	1106
Attitude_Ad_3_RC	4.77	1.575	1106
Attitude_Ad_4_RC	4.74	1.596	1106
Attitude_Ad_5_RC	4.82	1.624	1106

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Attitude_Ad_1_RC	18.70	34.624	.872	.931
Attitude_Ad_2_RC	19.01	35.605	.787	.946
Attitude_Ad_3_RC	18.61	34.905	.895	.927
Attitude_Ad_4_RC	18.65	34.605	.900	.926
Attitude_Ad_5_RC	18.57	35.535	.820	.940

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
23.38	54.052	7.352	5

Table C.5.5: Reliability Analysis of Product Knowledge Scale

Reliability Statistics	
Cronbach's Alpha	N of Items
.949	3

Item Statistics			
	Mean	Std. Deviation	N
Prod_Knwldg_1	4.37	1.705	1106
Prod_Knwldg_2	3.94	1.618	1106
Prod_Knwldg_3	4.30	1.710	1106

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Prod_Knwldg_1	8.24	10.314	.892	.925
Prod_Knwldg_2	8.67	10.922	.883	.932
Prod_Knwldg_3	8.31	10.206	.903	.917

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
12.61	22.992	4.795	3

Table C.5.6: Reliability Analysis of Brand Familiarity Scale

Reliability Statistics

Cronbach's Alpha	N of Items
.962	3

Item Statistics

	Mean	Std. Deviation	N
Brndfm_brndnproduct	2.34	1.822	1106
Brndfm_brndexp	2.35	1.860	1106
Brndfm_brndknwldg	2.28	1.784	1106

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Brndfm_brndnproduct	4.63	12.830	.890	.965
Brndfm_brndexp	4.62	12.189	.934	.933
Brndfm_brndknwldg	4.69	12.718	.933	.934

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
6.97	27.774	5.270	3

C.6: Factor Analysis of Measurement Scales

C.6.1: Factor Analysis of Product Evaluation Scale

Factor Analysis

Correlation Matrix^a

	Product_Eval_set1_1	Product_Eval_set1_2	Product_Eval_set1_3	Product_Eval_Set2_1	Product_Eval_Set2_2	Product_Eval_Set2_3	Product_Eval_Set2_4	Product_Eval_Set2_5	Product_Eval_Set2_6	Product_Eval_Set2_7	
Correlation	Product_Eval_set1_1	1.000	.678	.817	.682	.664	.687	.757	.684	.668	.642
	Product_Eval_set1_2	.678	1.000	.689	.698	.622	.668	.632	.673	.652	.634
	Product_Eval_set1_3	.817	.689	1.000	.700	.657	.687	.828	.679	.679	.680
	Product_Eval_Set2_1	.682	.698	.700	1.000	.812	.866	.768	.851	.786	.732
	Product_Eval_Set2_2	.664	.622	.657	.812	1.000	.849	.716	.825	.757	.694
	Product_Eval_Set2_3	.687	.668	.687	.866	.849	1.000	.757	.856	.809	.738
	Product_Eval_Set2_4	.757	.632	.828	.768	.716	.757	1.000	.759	.721	.737
	Product_Eval_Set2_5	.684	.673	.679	.851	.825	.856	.759	1.000	.798	.732
	Product_Eval_Set2_6	.668	.652	.679	.786	.757	.809	.721	.798	1.000	.840
	Product_Eval_Set2_7	.642	.634	.680	.732	.694	.738	.732	.840	.840	1.000
Sig. (1-tailed)	Product_Eval_set1_1	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Product_Eval_set1_2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Product_Eval_set1_3	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Product_Eval_Set2_1	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Product_Eval_Set2_2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Product_Eval_Set2_3	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Product_Eval_Set2_4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Product_Eval_Set2_5	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Product_Eval_Set2_6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Product_Eval_Set2_7	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

a. Determinant = 1.19E-005

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.945
Bartlett's Test of Sphericity	Approx. Chi-Square	12484.589
	df	45
	Sig.	.000

Communalities

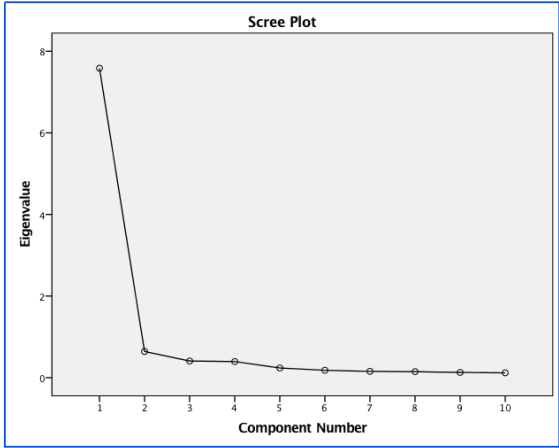
	Initial	Extraction
Product_Eval_set1_1	1.000	.695
Product_Eval_set1_2	1.000	.630
Product_Eval_set1_3	1.000	.722
Product_Eval_Set2_1	1.000	.827
Product_Eval_Set2_2	1.000	.766
Product_Eval_Set2_3	1.000	.832
Product_Eval_Set2_4	1.000	.778
Product_Eval_Set2_5	1.000	.819
Product_Eval_Set2_6	1.000	.787
Product_Eval_Set2_7	1.000	.728

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.584	75.838	75.838	7.584	75.838	75.838
2	.643	6.427	82.266			
3	.409	4.086	86.352			
4	.395	3.954	90.307			
5	.238	2.381	92.688			
6	.182	1.815	94.503			
7	.155	1.550	96.053			
8	.147	1.473	97.527			
9	.128	1.284	98.811			
10	.119	1.189	100.000			

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component
	1
Product_Eval_set1_1	.833
Product_Eval_set1_2	.794
Product_Eval_set1_3	.849
Product_Eval_Set2_1	.909
Product_Eval_Set2_2	.875
Product_Eval_Set2_3	.912
Product_Eval_Set2_4	.882
Product_Eval_Set2_5	.905
Product_Eval_Set2_6	.887
Product_Eval_Set2_7	.854

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

C.6.2: Factor Analysis of Brand Purchase Intention Scale

Correlation Matrix^a

	Brand_PL_1	Brand_PL_2	Brand_PL_3
Correlation	1.000	.857	.875
	.857	1.000	.833
	.875	.833	1.000
Sig. (1-tailed)		.000	.000
	.000		.000
	.000	.000	

a. Determinant = .055

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.769
Bartlett's Test of Sphericity	Approx. Chi-Square	3197.107
	df	3
	Sig.	.000

Communalities

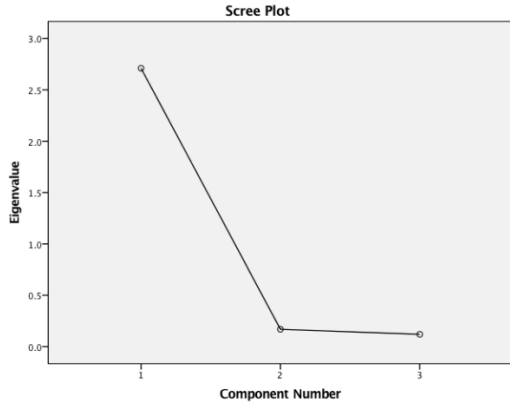
	Initial	Extraction
Brand_PL_1	1.000	.919
Brand_PL_2	1.000	.889
Brand_PL_3	1.000	.902

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.711	90.355	90.355	2.711	90.355	90.355
2	.169	5.635	95.990			
3	.120	4.010	100.000			

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component 1
Brand_Pl_1	.959
Brand_Pl_2	.943
Brand_Pl_3	.950

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Table C.6.3: Factor Analysis of Attitude towards the ad Scale

Correlation Matrix^a

	Attitude_Ad_1_RC	Attitude_Ad_2_RC	Attitude_Ad_3_RC	Attitude_Ad_4_RC	Attitude_Ad_5_RC
Correlation					
Attitude_Ad_1_RC	1.000	.765	.829	.835	.751
Attitude_Ad_2_RC	.765	1.000	.738	.745	.673
Attitude_Ad_3_RC	.829	.738	1.000	.880	.801
Attitude_Ad_4_RC	.835	.745	.880	1.000	.801
Attitude_Ad_5_RC	.751	.673	.801	.801	1.000
Sig. (1-tailed)					
Attitude_Ad_1_RC	.000	.000	.000	.000	.000
Attitude_Ad_2_RC	.000	.000	.000	.000	.000
Attitude_Ad_3_RC	.000	.000	.000	.000	.000
Attitude_Ad_4_RC	.000	.000	.000	.000	.000
Attitude_Ad_5_RC	.000	.000	.000	.000	.000

a. Determinant = .007

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.905
Bartlett's Test of Sphericity	Approx. Chi-Square	5498.137
	df	10
	Sig.	.000

Communalities

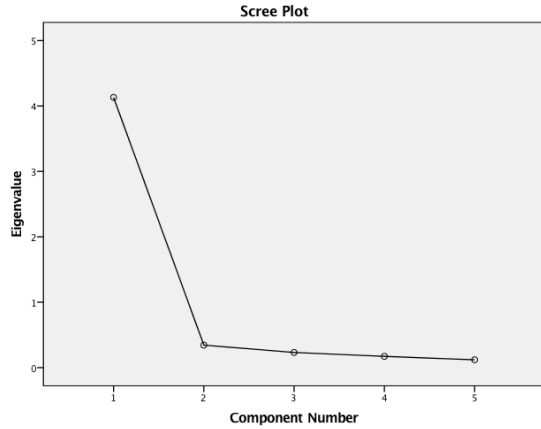
	Initial	Extraction
Attitude_Ad_1_RC	1.000	.848
Attitude_Ad_2_RC	1.000	.739
Attitude_Ad_3_RC	1.000	.878
Attitude_Ad_4_RC	1.000	.883
Attitude_Ad_5_RC	1.000	.784

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.131	82.625	82.625	4.131	82.625	82.625
2	.344	6.888	89.513			
3	.232	4.643	94.156			
4	.172	3.444	97.599			
5	.120	2.401	100.000			

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component
	1
Attitude_Ad_1_RC	.921
Attitude_Ad_2_RC	.860
Attitude_Ad_3_RC	.937
Attitude_Ad_4_RC	.940
Attitude_Ad_5_RC	.886

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Table C.6.4: Factor Analysis of Attitude towards the brand Scale

Correlation Matrix^a

		Attitude_brand_1_RC	Attitude_brand_2_RC	Attitude_brand_3_RC
Correlation	Attitude_brand_1_RC	1.000	.905	.897
	Attitude_brand_2_RC	.905	1.000	.896
	Attitude_brand_3_RC	.897	.896	1.000
Sig. (1-tailed)	Attitude_brand_1_RC		.000	.000
	Attitude_brand_2_RC	.000		.000
	Attitude_brand_3_RC	.000	.000	

a. Determinant = .028

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.782
Bartlett's Test of Sphericity	Approx. Chi-Square	3933.864
	df	3
	Sig.	.000

Communalities

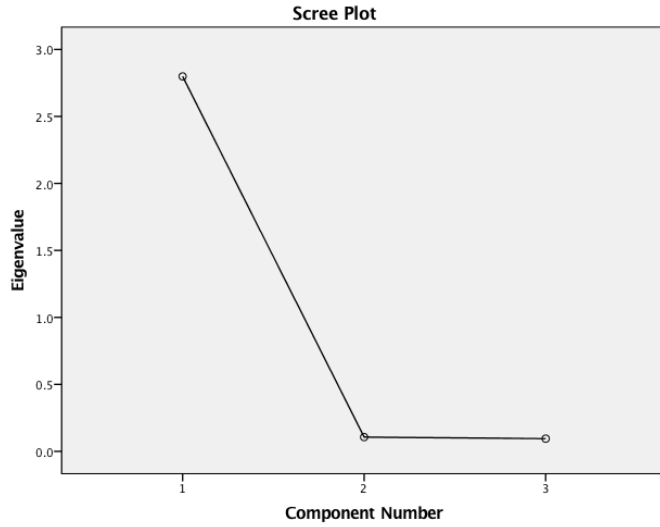
	Initial	Extraction
Attitude_brand_1_RC	1.000	.935
Attitude_brand_2_RC	1.000	.934
Attitude_brand_3_RC	1.000	.929

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.799	93.289	93.289	2.799	93.289	93.289
2	.106	3.547	96.836			
3	.095	3.164	100.000			

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component
	1
Attitude_brand_1_RC	.967
Attitude_brand_2_RC	.967
Attitude_brand_3_RC	.964

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table C.6.5: Factor Analysis of Product Knowledge Scale

Correlation Matrix^a

		Prod_Knwldg_1	Prod_Knwldg_2	Prod_Knwldg_3
Correlation	Prod_Knwldg_1	1.000	.848	.873
	Prod_Knwldg_2	.848	1.000	.862
	Prod_Knwldg_3	.873	.862	1.000
Sig. (1-tailed)	Prod_Knwldg_1		.000	.000
	Prod_Knwldg_2	.000		.000
	Prod_Knwldg_3	.000	.000	

a. Determinant = .052

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.774
Bartlett's Test of Sphericity	Asprox. Chi-Square	3264.600
	df	3
	Sig.	.000

Communalities

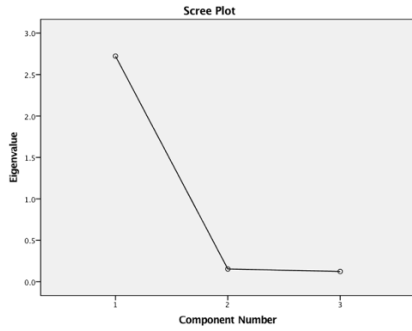
	Initial	Extraction
Prod_Knwldg_1	1.000	.907
Prod_Knwldg_2	1.000	.899
Prod_Knwldg_3	1.000	.917

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.722	90.746	90.746	2.722	90.746	90.746
2	.154	5.120	95.866			
3	.124	4.134	100.000			

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component
	1
Prod_Knwldg_1	.952
Prod_Knwldg_2	.948
Prod_Knwldg_3	.957

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Table C.6.6: Factor Analysis of Brand Familiarity Scale

Correlation Matrix^a

	Brndfm_brndproduct	Brndfm_brndexp	Brndfm_brndknwldg
Correlation	1.000	.876	.874
	.876	1.000	.932
	.874	.932	1.000
Sig. (1-tailed)		.000	.000
		.000	.000

a. Determinant = .027

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.766
Bartlett's Test of Sphericity	Approx. Chi-Square	3981.959
	df	3
	Sig.	.000

Communalities

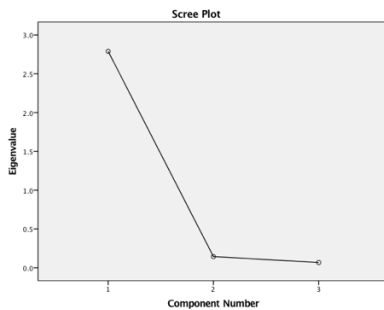
	Initial	Extraction
Brndfm_brndproduct	1.000	.903
Brndfm_brndexp	1.000	.944
Brndfm_brndknwldg	1.000	.942

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.789	92.959	92.959	2.789	92.959	92.959
2	.144	4.790	97.749			
3	.068	2.251	100.000			

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component
	1
Brndfm_brndproduct	.950
Brndfm_brndexp	.971
Brndfm_brndknwldg	.971

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

C.7: MANCOVA analysis

Table C.7.1: Assumption Testing: Normality Tests

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DV: Ad Attitude	.088	1106	.000	.965	1106	.000
DV: Brand Attitude	.093	1106	.000	.960	1106	.000
DV: Brand Purchase Intention	.115	1106	.000	.950	1106	.000
DV: Product evaluation	.084	1106	.000	.974	1106	.000
DV: Approach Motivation	.162	1106	.000	.929	1106	.000
Cov: Product Knowledge	.147	1106	.000	.931	1106	.000
Cov: Product Preference	.198	1106	.000	.862	1106	.000
Cov: Brand Familiarity	.302	1106	.000	.758	1106	.000

a. Lilliefors Significance Correction

Table C.7.2: Assumption Testing: Bivariate Correlations and Box's M Test

		Correlations				
		DV: Brand Purchase Intention	DV: Ad Attitude	DV: Brand Attitude	DV: Product evaluation	DV: Approach Motivation
DV: Brand Purchase Intention	Pearson Correlation	1	.678**	.702**	.838**	.806**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	1106	1106	1106	1106	1106
DV: Ad Attitude	Pearson Correlation	.678**	1	.831**	.756**	.751**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	1106	1106	1106	1106	1106
DV: Brand Attitude	Pearson Correlation	.702**	.831**	1	.750**	.727**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	1106	1106	1106	1106	1106
DV: Product evaluation	Pearson Correlation	.838**	.756**	.750**	1	.879**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	1106	1106	1106	1106	1106
DV: Approach Motivation	Pearson Correlation	.806**	.751**	.727**	.879**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	1106	1106	1106	1106	1106

** . Correlation is significant at the 0.01 level (2-tailed).

Box's Test of Equality of Covariance Matrices^a

Box's M	365.449
F	2.147
df1	165
df2	155049.935
Sig.	.000

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

Table C.7.3: Multivariate Tests

Multivariate Tests ^a									
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^b
Intercept	Pillai's Trace	.764	703.917 ^b	5.000	1087.000	.000	.764	3519.584	1.000
	Wilks' Lambda	.236	703.917 ^b	5.000	1087.000	.000	.764	3519.584	1.000
	Hotelling's Trace	3.238	703.917 ^b	5.000	1087.000	.000	.764	3519.584	1.000
	Roy's Largest Root	3.238	703.917 ^b	5.000	1087.000	.000	.764	3519.584	1.000
BF	Pillai's Trace	.159	41.038 ^b	5.000	1087.000	.000	.159	205.191	1.000
	Wilks' Lambda	.841	41.038 ^b	5.000	1087.000	.000	.159	205.191	1.000
	Hotelling's Trace	.189	41.038 ^b	5.000	1087.000	.000	.159	205.191	1.000
	Roy's Largest Root	.189	41.038 ^b	5.000	1087.000	.000	.159	205.191	1.000
Prod_Pref	Pillai's Trace	.151	38.704 ^b	5.000	1087.000	.000	.151	193.521	1.000
	Wilks' Lambda	.849	38.704 ^b	5.000	1087.000	.000	.151	193.521	1.000
	Hotelling's Trace	.178	38.704 ^b	5.000	1087.000	.000	.151	193.521	1.000
	Roy's Largest Root	.178	38.704 ^b	5.000	1087.000	.000	.151	193.521	1.000
PK	Pillai's Trace	.013	2.964 ^b	5.000	1087.000	.012	.013	14.821	.860
	Wilks' Lambda	.987	2.964 ^b	5.000	1087.000	.012	.013	14.821	.860
	Hotelling's Trace	.014	2.964 ^b	5.000	1087.000	.012	.013	14.821	.860
	Roy's Largest Root	.014	2.964 ^b	5.000	1087.000	.012	.013	14.821	.860
MC_num	Pillai's Trace	.005	1.157 ^b	5.000	1087.000	.329	.005	5.784	.416
	Wilks' Lambda	.995	1.157 ^b	5.000	1087.000	.329	.005	5.784	.416
	Hotelling's Trace	.005	1.157 ^b	5.000	1087.000	.329	.005	5.784	.416
	Roy's Largest Root	.005	1.157 ^b	5.000	1087.000	.329	.005	5.784	.416
Meal_Cat_num	Pillai's Trace	.024	2.646	10.000	2176.000	.003	.012	26.457	.966
	Wilks' Lambda	.976	2.653 ^b	10.000	2174.000	.003	.012	26.530	.966
	Hotelling's Trace	.024	2.660	10.000	2172.000	.003	.012	26.603	.967
	Roy's Largest Root	.022	4.738 ^c	5.000	1088.000	.000	.021	23.689	.979
Calorie_Cat_num	Pillai's Trace	.015	3.226 ^b	5.000	1087.000	.007	.015	16.132	.891
	Wilks' Lambda	.985	3.226 ^b	5.000	1087.000	.007	.015	16.132	.891
	Hotelling's Trace	.015	3.226 ^b	5.000	1087.000	.007	.015	16.132	.891
	Roy's Largest Root	.015	3.226 ^b	5.000	1087.000	.007	.015	16.132	.891
MC_num * Meal_Cat_num	Pillai's Trace	.009	.972	10.000	2176.000	.466	.004	9.721	.526
	Wilks' Lambda	.991	.973 ^b	10.000	2174.000	.465	.004	9.730	.526
	Hotelling's Trace	.009	.974	10.000	2172.000	.464	.004	9.738	.527
	Roy's Largest Root	.009	1.850 ^c	5.000	1088.000	.100	.008	9.250	.635
MC_num * Calorie_Cat_num	Pillai's Trace	.005	.987 ^b	5.000	1087.000	.424	.005	4.934	.356
	Wilks' Lambda	.995	.987 ^b	5.000	1087.000	.424	.005	4.934	.356
	Hotelling's Trace	.005	.987 ^b	5.000	1087.000	.424	.005	4.934	.356
	Roy's Largest Root	.005	.987 ^b	5.000	1087.000	.424	.005	4.934	.356
Meal_Cat_num * Calorie_Cat_num	Pillai's Trace	.014	1.480	10.000	2176.000	.140	.007	14.799	.751
	Wilks' Lambda	.987	1.479 ^b	10.000	2174.000	.141	.007	14.788	.750
	Hotelling's Trace	.014	1.478	10.000	2172.000	.141	.007	14.776	.750
	Roy's Largest Root	.008	1.760 ^c	5.000	1088.000	.118	.008	8.801	.610
MC_num * Meal_Cat_num * Calorie_Cat_num	Pillai's Trace	.010	1.072	10.000	2176.000	.380	.005	10.718	.577
	Wilks' Lambda	.990	1.071 ^b	10.000	2174.000	.381	.005	10.712	.576
	Hotelling's Trace	.010	1.070	10.000	2172.000	.381	.005	10.705	.576
	Roy's Largest Root	.007	1.450 ^c	5.000	1088.000	.204	.007	7.252	.515

Note: MC_num: Meal Context (MC); Meal_Cat_num: Perceived Meal Component (Pmeal); Calorie_Cat_num: Perceived Calorie Content (Pcal); PK: Product Knowledge; Prod_Pref: Product Preference; BF: Brand Familiarity.

Table C.7.4: Levene's Test and Test of Between-Subjects Effects

Levene's Test of Equality of Error Variances ^a				
	F	df1	df2	Sig.
DV: Product evaluation	2.881	11	1094	.001
DV: Approach Motivation	3.973	11	1094	.000
DV: Brand Purchase Intention	2.910	11	1094	.001
DV: Ad Attitude	1.853	11	1094	.042
DV: Brand Attitude	1.660	11	1094	.077

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + BF + Prod_Pref + PK + MC_num + Meal_Cat_num + Calorie_Cat_num + MC_num * Meal_Cat_num + MC_num * Calorie_Cat_num + Meal_Cat_num * Calorie_Cat_num + MC_num * Meal_Cat_num * Calorie_Cat_num

Tests of Between-Subjects Effects									
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Corrected Model	DV: Product evaluation	550.540 ^a	14	39.324	28.330	.000	.267	396.623	1.000
	DV: Approach Motivation	1816.133 ^b	14	129.724	26.550	.000	.254	371.693	1.000
	DV: Brand Purchase Intention	937.141 ^c	14	66.939	33.971	.000	.304	475.597	1.000
	DV: Ad Attitude	348.088 ^d	14	24.863	13.290	.000	.146	186.066	1.000
Intercept	DV: Brand Attitude	422.376 ^e	14	30.170	15.776	.000	.168	220.862	1.000
	DV: Product evaluation	1318.860	1	1318.860	950.139	.000	.465	950.139	1.000
	DV: Approach Motivation	26.153	1	26.153	5.352	.021	.005	5.352	.637
	DV: Brand Purchase Intention	850.085	1	850.085	431.416	.000	.283	431.416	1.000
BF	DV: Ad Attitude	1671.599	1	1671.599	893.531	.000	.450	893.531	1.000
	DV: Brand Attitude	1705.321	1	1705.321	891.717	.000	.450	891.717	1.000
	DV: Product evaluation	96.306	1	96.306	69.381	.000	.060	69.381	1.000
	DV: Approach Motivation	258.386	1	258.386	52.882	.000	.046	52.882	1.000
Prod_Pref	DV: Brand Purchase Intention	343.368	1	343.368	174.258	.000	.138	174.258	1.000
	DV: Ad Attitude	32.967	1	32.967	17.622	.000	.016	17.622	.987
	DV: Brand Attitude	71.081	1	71.081	37.169	.000	.033	37.169	1.000
	DV: Product evaluation	216.038	1	216.038	155.639	.000	.125	155.639	1.000
PK	DV: Approach Motivation	889.063	1	889.063	181.957	.000	.143	181.957	1.000
	DV: Brand Purchase Intention	269.454	1	269.454	136.747	.000	.111	136.747	1.000
	DV: Ad Attitude	141.542	1	141.542	75.659	.000	.065	75.659	1.000
	DV: Brand Attitude	169.846	1	169.846	88.813	.000	.075	88.813	1.000
MC_num	DV: Product evaluation	3.347	1	3.347	2.411	.121	.002	2.411	.342
	DV: Approach Motivation	40.865	1	40.865	8.363	.004	.008	8.363	.824
	DV: Brand Purchase Intention	5.333	1	5.333	2.706	.100	.002	2.706	.376
	DV: Ad Attitude	.914	1	.914	.489	.485	.000	.489	.107
Meal_Cat_num	DV: Brand Attitude	5.332	1	5.332	2.788	.095	.003	2.788	.385
	DV: Product evaluation	2.820	1	2.820	2.032	.154	.002	2.032	.296
	DV: Approach Motivation	12.933	1	12.933	2.647	.104	.002	2.647	.369
	DV: Brand Purchase Intention	.639	1	.639	.324	.569	.000	.324	.088
Calorie_Cat_num	DV: Ad Attitude	1.326	1	1.326	.709	.400	.001	.709	.134
	DV: Brand Attitude	.021	1	.021	.011	.916	.000	.011	.051
	DV: Product evaluation	25.228	2	12.614	9.088	.000	.016	18.175	.975
	DV: Approach Motivation	72.900	2	36.450	7.460	.001	.013	14.920	.942
MC_num * Meal_Cat_num	DV: Brand Purchase Intention	33.214	2	16.607	8.428	.000	.015	16.856	.965
	DV: Ad Attitude	10.966	2	5.483	2.931	.054	.005	5.862	.572
	DV: Brand Attitude	9.812	2	4.906	2.565	.077	.005	5.131	.513
	DV: Product evaluation	20.233	1	20.233	14.576	.000	.013	14.576	.968
MC_num * Calorie_Cat_num	DV: Approach Motivation	49.803	1	49.803	10.193	.001	.009	10.193	.891
	DV: Brand Purchase Intention	22.772	1	22.772	11.557	.001	.010	11.557	.925
	DV: Ad Attitude	19.930	1	19.930	10.653	.001	.010	10.653	.903
	DV: Brand Attitude	23.011	1	23.011	12.032	.001	.011	12.032	.934
MC_num * Meal_Cat_num * Calorie_Cat_num	DV: Product evaluation	-.483	2	-.241	-.174	.840	.000	-.348	.077
	DV: Approach Motivation	1.386	2	.693	.142	.868	.000	.284	.072
	DV: Brand Purchase Intention	1.286	2	.643	.326	.722	.001	.653	.102
	DV: Ad Attitude	2.507	2	1.254	.670	.512	.001	1.340	.163
MC_num * Calorie_Cat_num * Meal_Cat_num	DV: Brand Attitude	2.399	2	1.199	.627	.534	.001	1.254	.155
	DV: Product evaluation	.716	1	.716	.516	.473	.000	.516	.111
	DV: Approach Motivation	.005	1	.005	.001	.975	.000	.001	.050
	DV: Brand Purchase Intention	.001	1	.001	.001	.981	.000	.001	.050
MC_num * Meal_Cat_num * Calorie_Cat_num	DV: Ad Attitude	.419	1	.419	.224	.636	.000	.224	.076
	DV: Brand Attitude	1.560	1	1.560	.816	.367	.001	.816	.147
	DV: Product evaluation	8.347	2	4.174	3.007	.050	.005	6.013	.584
	DV: Approach Motivation	20.994	2	10.497	2.148	.117	.004	4.297	.441
MC_num * Calorie_Cat_num * Meal_Cat_num	DV: Brand Purchase Intention	12.139	2	6.070	3.080	.046	.006	6.161	.595
	DV: Ad Attitude	7.602	2	3.801	2.032	.132	.004	4.063	.420
	DV: Brand Attitude	11.395	2	5.698	2.979	.051	.005	5.959	.580
	DV: Product evaluation	2.828	2	1.414	1.019	.361	.002	2.037	.229
Error	DV: Approach Motivation	7.828	2	3.914	.801	.449	.001	1.602	.187
	DV: Brand Purchase Intention	1.194	2	.597	.303	.739	.001	.606	.098
	DV: Ad Attitude	2.764	2	1.382	.739	.478	.001	1.477	.176
	DV: Brand Attitude	3.541	2	1.770	.926	.397	.002	1.851	.211
Total	DV: Product evaluation	1514.384	1091	1.388					
	DV: Approach Motivation	5330.746	1091	4.886					
	DV: Brand Purchase Intention	2149.764	1091	1.970					
	DV: Ad Attitude	2041.020	1091	1.871					
Corrected Total	DV: Brand Attitude	2086.430	1091	1.912					
	DV: Product evaluation	22986.250	1106						
	DV: Approach Motivation	9122.000	1106						
	DV: Brand Purchase Intention	20519.889	1106						
Corrected Total	DV: Ad Attitude	26580.600	1106						
	DV: Brand Attitude	27045.111	1106						
	DV: Product evaluation	2064.924	1105						
	DV: Approach Motivation	7146.879	1105						
Corrected Total	DV: Brand Purchase Intention	3086.904	1105						
	DV: Ad Attitude	2389.107	1105						
	DV: Brand Attitude	2508.806	1105						

Table C.7.5: Contrast Analysis

a. Perceived meal category: Level 1: Main Dish, Level 2: Side Dish Level 3: Dessert

Custom Hypothesis Tests #2

		Contrast Results (K Matrix)				
		Dependent Variable				
Moderator: Meal Category Simple Contrast ^a		DV: Product evaluation	DV: Approach Motivation	DV: Brand Purchase Intention	DV: Ad Attitude	DV: Brand Attitude
Level 2 vs. Level 1	Contrast Estimate	.279	.472	.304	.240	.222
	Hypothesized Value	0	0	0	0	0
	Difference (Estimate – Hypothesized)	.279	.472	.304	.240	.222
	Std. Error	.087	.163	.104	.101	.102
	Sig.	.001	.004	.004	.018	.030
	95% Confidence Interval for Difference	Lower Bound Upper Bound	.108 .450	.151 .792	.100 .507	.041 .438
Level 3 vs. Level 1	Contrast Estimate	.427	.728	.502	.180	.191
	Hypothesized Value	0	0	0	0	0
	Difference (Estimate – Hypothesized)	.427	.728	.502	.180	.191
	Std. Error	.111	.207	.132	.128	.130
	Sig.	.000	.000	.000	.162	.142
	95% Confidence Interval for Difference	Lower Bound Upper Bound	.210 .644	.321 1.135	.244 .761	-.072 .432

a. Reference category = 1

b. Perceived calorie category: Level 1: Low Level 2: High

Custom Hypothesis Tests #3

		Contrast Results (K Matrix)				
		Dependent Variable				
Moderator: Calorie Category Simple Contrast ^a		DV: Product evaluation	DV: Approach Motivation	DV: Brand Purchase Intention	DV: Ad Attitude	DV: Brand Attitude
Level 2 vs. Level 1	Contrast Estimate	-.320	-.502	-.339	-.318	-.341
	Hypothesized Value	0	0	0	0	0
	Difference (Estimate – Hypothesized)	-.320	-.502	-.339	-.318	-.341
	Std. Error	.084	.157	.100	.097	.098
	Sig.	.000	.001	.001	.001	.001
	95% Confidence Interval for Difference	Lower Bound Upper Bound	-.484 -.156	-.810 -.193	-.535 -.144	-.508 -.127

a. Reference category = 1

Table C.8: Hayes Process Based Regression

```

.....
Model : 6
Y : BPI
X : MC_num
M1 : ATA_RC
M2 : ATB_RC

Covariates:
PK Prod_Pre BF

Sample
Size: 1106

*****
OUTCOME VARIABLE:
ATA_RC

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .3565   .1271   1.8942  40.0721  4.0000  1101.0000  .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  4.1303   .1429  28.8979  .0000   3.8499   4.4107
MC_num    .0763   .0829   .9199   .3578  -.0864   .2389
PK       -.0406   .0362  -1.1214   .2624  -.1115   .0304
Prod_Pre .1943   .0221   8.7979  .0000   .1510   .2377
BF       .1207   .0238   5.0816  .0000   .0741   .1673

Covariance matrix of regression parameter estimates:
      constant  MC_num  PK  Prod_Pre  BF
constant  .0204  -.0034  -.0042  .0013  -.0010
MC_num    -.0034  .0069  .0000  -.0001  .0000
PK        -.0042  .0000  .0013  -.0006  -.0001
Prod_Pre  .0013  -.0001  -.0006  .0005  .0000
BF        -.0010  .0000  -.0001  .0000  .0006

*****
OUTCOME VARIABLE:
ATB_RC

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .8383   .7027   .6781  519.9108  5.0000  1100.0000  .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  .8310   .1134   7.3274  .0000   .6085   1.0535
MC_num   -.0736   .0496  -1.4827  .1385  -.1709   .0238
ATA_RC   .8168   .0180  45.2980  .0000   .7815   .8522
PK       -.0446   .0217  -2.0606  .0396  -.0871  -.0021
Prod_Pre .0556   .0137   4.0649  .0001   .0288   .0824
BF       .0729   .0144   5.0724  .0000   .0447   .1012

Covariance matrix of regression parameter estimates:
      constant  MC_num  ATA_RC  PK  Prod_Pre  BF
constant  .0129  -.0011  -.0013  -.0015  .0007  -.0002
MC_num    -.0011  .0025  .0000  .0000  .0000  .0000
ATA_RC    -.0013  .0000  .0003  .0000  -.0001  .0000
PK        -.0015  .0000  .0000  .0005  -.0002  .0000
Prod_Pre  .0007  .0000  -.0001  -.0002  .0002  .0000
BF        -.0002  .0000  .0000  .0000  .0000  .0002

*****

```

```

.....
OUTCOME VARIABLE:
BPI

Model Summary
R          R-sq      MSE      F      df1      df2      p
.7792     .6071     1.1036   283.0268  6.0000  1099.0000  .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  -.1288    .1482   -.8695   .3848   -.4195    .1619
MC_num    .0417    .0634    .6574   .5111   -.0827    .1660
ATA_RC    .3293    .0389    8.4565   .0000    .2529    .4057
ATB_RC    .3900    .0385   10.1405   .0000    .3146    .4655
PK        -.0239    .0277   -.8651   .3872   -.0782    .0304
Prod_Pre  .1151    .0176   6.5479   .0000    .0806    .1495
BF        .2435    .0186   13.1208   .0000    .2071    .2799

Covariance matrix of regression parameter estimates:
      constant      MC_num      ATA_RC      ATB_RC      PK      Prod_Pre      BF
constant  .0220    -.0019    -.0012    -.0012    -.0026    .0013    -.0002
MC_num    -.0019    .0040    -.0001    .0001    .0000    .0000    .0000
ATA_RC    -.0012    -.0001    .0015    -.0012    .0000    .0000    .0000
ATB_RC    -.0012    .0001    -.0012    .0015    .0001    -.0001    -.0001
PK        -.0026    .0000    .0000    .0001    .0008    -.0003    -.0001
Prod_Pre  .0013    .0000    .0000    -.0001    -.0003    .0003    .0000
BF        -.0002    .0000    .0000    -.0001    -.0001    .0000    .0003

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
.0417    .0634    .6574   .5111   -.0827    .1660

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
TOTAL    .0207    .0574    -.0930    .1335
Ind1     .0251    .0280    -.0299    .0827
Ind2     -.0287    .0195    -.0684    .0073
Ind3     .0243    .0270    -.0271    .0779

Indirect effect key:
Ind1 MC_num  ->  ATA_RC  ->  BPI
Ind2 MC_num  ->  ATB_RC  ->  BPI
Ind3 MC_num  ->  ATA_RC  ->  ATB_RC  ->  BPI

```

C.9: Additional Analysis: Regression

Table C.9.1: Hayes Process Based Regression: Model 2

```

Model : 2
Y : ATA_RC
X : Mealcont
W : Calorie_
Z : Meal_Cat

Covariates:
BF      Prod_Pre PK

Sample
Size: 174

Coding of categorical Z variable for analysis:
Meal_Cat      Z1      Z2
.000          .000    .000
1.000        1.000    .000
2.000          .000    1.000

*****
OUTCOME VARIABLE:
ATA_RC

Model Summary
R          R-sq      MSE      F      df1      df2      p
.4669     .2180     1.6336   4.5432  10.0000  163.0000  .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  4.2405    .4722   8.9804   .0000    3.3081    5.1729
Mealcont  -.0226    .5451   -.0414   .9670   -1.0989    1.0538
Calorie_  -.4380    .3412  -1.2835   .2011   -1.1117    .2358
Int_1     .5366    .5089    1.0545   .2932   -.4682    1.5414
Z1        .4814    .3722    1.2933   .1977   -.2536    1.2164
Z2        .5424    .3796    1.4289   .1549   -.2071    1.2919
Int_2     .3062    .5691    .5381   .5913   -.8175    1.4299
Int_3     .1638    .5479    .2990   .7653   -.9180    1.2457
BF        .0302    .0667    .4526   .6515   -.1015    .1619
Prod_Pre  .1392    .0487    2.8574   .0048    .0430    .2354
PK        .0148    .0908    .1626   .8710   -.1646    .1941

```

```

Model : 2
Y : ATB_RC
X : Mealcont
W : Calorie_
Z : Meal_Cat

Covariates:
BF Prod_Pre PK

Sample
Size: 174

Coding of categorical Z variable for analysis:
Meal_Cat Z1 Z2
.000 .000 .000
1.000 1.000 .000
2.000 .000 1.000

*****
OUTCOME VARIABLE:
ATB_RC

Model Summary
R R-sq MSE F df1 df2 p
.4831 .2334 1.6152 4.9624 10.0000 163.0000 .0000

Model
coeff se t p LLCI ULCI
constant 4.6519 .4695 9.9074 .0000 3.7248 5.5791
Mealcont -.1967 .5420 -.3629 .7171 -1.2670 .8736
Calorie_ -.3161 .3393 -.9316 .3529 -.9861 .3539
Int_1 .1785 .5060 .3528 .7247 -.8207 1.1776
Z1 .2943 .3701 .7951 .4277 -.4366 1.0251
Z2 .3575 .3774 .9473 .3449 -.3878 1.1028
Int_2 .2909 .5659 .5141 .6079 -.8265 1.4083
Int_3 .1035 .5448 .1900 .8496 -.9723 1.1793
BF .0695 .0663 1.0482 .2961 -.0615 .2005
Prod_Pre .2155 .0484 4.4486 .0000 .1198 .3111
PK -.0533 .0903 -.5905 .5557 -.2317 .1250

```

```

*****
Model : 2
Y : BPI
X : Mealcont
W : Calorie_
Z : Meal_Cat

Covariates:
BF Prod_Pre PK

Sample
Size: 174

Coding of categorical Z variable for analysis:
Meal_Cat Z1 Z2
.000 .000 .000
1.000 1.000 .000
2.000 .000 1.000

*****
OUTCOME VARIABLE:
BPI

Model Summary
R R-sq MSE F df1 df2 p
.6582 .4333 1.6743 12.4613 10.0000 163.0000 .0000

Model
coeff se t p LLCI ULCI
constant 3.4387 .4780 7.1932 .0000 2.4947 4.3826
Mealcont -1.4114 .5518 -2.5577 .0114 -2.5010 -.3217
Calorie_ -.5113 .3454 -1.4801 .1408 -1.1934 .1708
Int_1 1.1984 .5152 2.3263 .0212 .1812 2.2157
Z1 .4208 .3768 1.1168 .2657 -.3233 1.1649
Z2 .4351 .3843 1.1323 .2592 -.3237 1.1939
Int_2 .9535 .5761 1.6550 .0998 -.1841 2.0912
Int_3 .9489 .5547 1.7108 .0890 -.1463 2.0442
BF .2772 .0675 4.1041 .0001 .1438 .4106
Prod_Pre .3115 .0493 6.3159 .0000 .2141 .4088
PK -.0913 .0920 -.9928 .3223 -.2729 .0903

```

```

*****
Model : 2
  Y : PE
  X : Mealcont
  W : Calorie_
  Z : Meal_Cat

Covariates:
BF      Prod_Pre PK

Sample
Size: 174

Coding of categorical Z variable for analysis:
Meal_Cat  Z1  Z2
.000      .000 .000
1.000     1.000 .000
2.000     .000 1.000

*****
OUTCOME VARIABLE:
PE

Model Summary
      R      R-sq      MSE      F      df1      df2      p
.6159  .3794  1.2040  9.9637  10.0000  163.0000  .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  3.9394  .4054  9.7176  .0000  3.1389  4.7398
Mealcont  -.4096  .4679  -.8754  .3827  -1.3336  .5144
Calorie_  -.5294  .2929  -1.8071  .0726  -1.1078  .0491
Int_1     .9218  .4369  2.1101  .0364  .0592  1.7845
Z1        .5216  .3195  1.6324  .1045  -.1094  1.1526
Z2        .6496  .3259  1.9933  .0479  .0061  1.2930
Int_2     .3317  .4886  .6789  .4982  -.6331  1.2964
Int_3     .1207  .4704  .2566  .7978  -.8081  1.0495
BF        .1447  .0573  2.5266  .0125  .0316  .2578
Prod_Pre  .2274  .0418  5.4382  .0000  .1448  .3100
PK        -.0581  .0780  -.7446  .4576  -.2120  .0959

```

```

*****
Model : 2
  Y : Approcah
  X : Mealcont
  W : Calorie_
  Z : Meal_Cat

Covariates:
BF      Prod_Pre PK

Sample
Size: 174

Coding of categorical Z variable for analysis:
Meal_Cat  Z1  Z2
.000      .000 .000
1.000     1.000 .000
2.000     .000 1.000

*****
OUTCOME VARIABLE:
Approcah

Model Summary
      R      R-sq      MSE      F      df1      df2      p
.6392  .4086  4.2660  11.2630  10.0000  163.0000  .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  .3665  .7631  .4804  .6316  -1.1402  1.8733
Mealcont  -.7969  .8808  -.9047  .3670  -2.5362  .9424
Calorie_  -.6015  .5514  -1.0909  .2769  -1.6904  .4873
Int_1     1.5232  .8223  1.8524  .0658  -.1005  3.1470
Z1        1.1939  .6015  1.9848  .0488  .0061  2.3816
Z2        1.2315  .6134  2.0077  .0463  .0203  2.4427
Int_2     1.0570  .9197  1.1493  .2521  -.7590  2.8729
Int_3     .6937  .8854  .7835  .4345  -1.0546  2.4420
BF        .3572  .1078  3.3133  .0011  .1443  .5701
Prod_Pre  .4882  .0787  6.2025  .0000  .3328  .6437
PK        -.2303  .1468  -1.5686  .1187  -.5201  .0596

```

Table C.9.2: Hayes Process Based Regression: Model 6

```

Model : 6
Y : BPI
X : Mealcont
M1 : ATA_RC
M2 : ATB_RC

Covariates:
BF Prod_Pre PK

Sample
Size: 174

*****
OUTCOME VARIABLE:
ATA_RC

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .3938      .1551      1.7023      7.7543      4.0000      169.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      3.8527      .3277      11.7554      .0000      3.2057      4.4996
Mealcont      .3971      .2002      1.9832      .0490      .0018      .7924
BF      .0441      .0678      .6513      .5157      -.0896      .1779
Prod_Pre      .1193      .0483      2.4696      .0145      .0239      .2147
PK      .1079      .0878      1.2289      .2208      -.0654      .2812

*****
OUTCOME VARIABLE:
ATB_RC

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .8017      .6427      .7304      60.4448      5.0000      168.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      1.5371      .2894      5.3107      .0000      .9657      2.1084
Mealcont      -.3052      .1327      -2.3002      .0227      -.5671      -.0433
ATA_RC      .7314      .0504      14.5153      .0000      .6319      .8308
BF      .0466      .0444      1.0490      .2957      -.0411      .1343
Prod_Pre      .1171      .0322      3.6367      .0004      .0536      .1807
PK      -.0673      .0578      -1.1652      .2456      -.1813      .0467

..
*****
OUTCOME VARIABLE:
BPI

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .7711      .5945      1.1692      40.8125      6.0000      167.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      .0609      .3957      .1539      .8779      -.7204      .8422
Mealcont      -.3318      .1705      -1.9462      .0533      -.6684      .0048
ATA_RC      .2989      .0957      3.1224      .0021      .1099      .4878
ATB_RC      .3752      .0976      3.8432      .0002      .1824      .5679
BF      .2586      .0564      4.5856      .0000      .1473      .3700
Prod_Pre      .1597      .0423      3.7737      .0002      .0762      .2433
PK      -.0034      .0734      -.0457      .9636      -.1482      .1415

```