# Affirmative Disclosure in Fast Food Advertisements: Its Effect on Attitudes Toward the Ad, Attitude Toward the Brand and Purchase Intentions

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# ABSTRACT

**Affirmative Disclosure in Fast Food Advertisements: its Effect on Attitudes Toward the Ad, Attitude Toward the Brand and Purchase Intentions**

**Tara Kayhani Kermanshahi**

The present study examined the literature in consumer attitudes and behavior toward ads and the impact of nutrition and health disclosures of food products on consumers' evaluations and perceptions of products. Three experiments were conducted using two different fast food restaurants; one perceived to be healthy (Subway) and the other perceived to be unhealthy (Burger King). The first study investigated the different effects of affirmative disclosure in ads on attitude toward ad and brand and purchase intentions. Study 2 compared the effect of two types of disclosures on attitudes and purchase intentions: one-sided and two-sided messages. Study 3 focused on consumers' dietary habits and the difference it makes on their attitudes and behaviors when affirmative disclosure appears in ads.

Affirmative disclosure has different effects on the two fast foods. Overall disclosure has greater effect on consumers of healthier fast food. However, when comparing one-sided versus two-sided disclosures, the findings suggest that one-sided messages are more effective for the fast foods perceived as healthy, like Subway. Consumers who follow healthy dietary habits have more favorable attitudes when exposed to disclosure compared to those that follow an unhealthy lifestyle.

The findings suggest innovative strategies for advertisers, marketers, managers and public policy makers searching for ways to make ads more persuasive and specifically more effective in fighting unhealthy eating and obesity.

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# INTRODUCTION

Day by day, as the popularity of healthy menus increases, so does the rate of obesity in America. From 1960-1962, according to the National Health and Nutrition Examination Survey (NHANES), 31.5 % of Americans age 20 and over were overweight or obese. In the later 2007-08 NHANES study, 68.3 % of Americans age 20 and over were overweight or obese. In today's health conscious environment, consumers are pay more attention to what they eat daily and try to follow what constitutes a healthy diet in general. Consumers show increasing interest in advertisements and nutritional labels on products. Nearly 52% of respondents to a survey on *The Guardian* web page stated that television is still the most memorable advertising medium among other forms like newspapers or online adverts. Further, according to the HSC Community Tracking Study Household Survey (2007), American adults with health concerns have increased from 38% in 2001 to 56% in 2007. This growth may be due to an increase in the rate of obesity in recent years, not only in America but also in other developed nations. Looking at the growing rate of people's health concerns, and given that obesity is still a national concern, this question arises: what is missing in our advertisements, or, what have we done wrong?

Taking into account modern dietary behavior and its resulting weight issues, it is no surprise that the food industry is blamed for undesirable changes in consumption trends (Dooley, Deshpande, and Adair 2010; WHO 2004). Even with the inclusion of nutrition information provisions and changing public policies, national health is still threatened by obesity and other health issues. Although advertising can be a significant first step in the formation of marketing communications (Shimp 1997; Smith and Swinyard 1982), its effectiveness and stability is not guaranteed. The present study, along with other research in this field, may help to further the understanding of consumers' behavior. The results of this study may also help to figure out that applying what type of affirmative disclosure would lead to better food choices, which may in turn, contribute to public health more generally (Ippolito and Mathios 1991; 1993).

Nutrition information and health warnings are made available to consumers to encourage them to make wiser choices and also raise the demand for healthier food

(Baltas 2001). Although it has been stated that low-fat labels may lead to overconsumption of poor-nutrient foods and snacks (Hedley et al. 2004), general studies show that nutrition labels and disclosures help improve dietary habits. Americans consume much of their diets outside of their home, and they spend a large part of their budget (an average of 42% of their food budget) on food, which is reported to be poorer in nutritional value than the alternatives prepared at home (Todd, Mancino, and Lin 2010). As food manufacturers have a vested interest in exhibiting their products in favorable manner, advertisements are not usually perceived to be a source of trustful information (Florack, Ineichen, and Bieri 2009). Therefore, it is important that the information and claims used for presenting food and its nutritional value be clear, accurate and understandable for consumers (CEC 2003) so they may trust that the claims and disclosures will have desirable effects in consumers' diet.

Recently, several fast food restaurants have started helping consumers to improve their diets and healthy eating by offering more lean-meat and vegetable sandwiches, in addition to following the calorie recommendations for each of their sandwiches. Tony Pace, Subway's chief marketing officer, emphasizes, "People are becoming more aware of the importance of eating healthier." Day by day, Subway is increasing its commitment by redefining the notion of fast food to make people believe that its food is a healthy option. This is reflected in their new commitment (February 2014) with First Lady Michelle Obama's campaign of "let's move!" against child obesity. The First Lady indicated the campaign would encourage healthier food in schools, better food labeling and more physical activity for children. In alignment with these goals, Subway announced its kids' marketing campaign with $41-million budget. Subway's new slogan, "Playtime: Powered by Veggies," is intended to promote healthy eating among children.

Despite numerous studies (Baltas 2001; Brown, Homer, and Inman 1998; Burton, Andrews and Netemeyer 2000; Derby and Levy 1995; Drichoutis et al. 2006; Pechman 1992; Scammon 1977; Viswanathan 1994, 1996), there have been mixed results concerning the effectiveness of the information provision and whether such information is effective in promoting dietary changes among consumers as a whole (Garde 2008, Seiders and Petty 2004). Derby and Levy (1995) reported that almost 48% of consumers changed their purchase behavior in the presence of nutrition information. Rotfeld (2008)

observed that behavioral changes are especially hard to evaluate due to their internal and external impacts on attitudes and perceptions in some cases, because some consumers intentionally ignore the provided nutritional information (Rotfeld 2008a). American consumers, on average, now consume one third of their total calories from foods outside their home. Labeling and disclosures in restaurants may help consumers make healthier choices, which may in turn contribute to preventing obesity (Burton and Kees 2011).

Historically, various forms of legislation and regulation were proposed, applied, and even critiqued in several countries (Bell 1974; Boddewyn 1989). For many years, there was no sign of nutrient claims (e.g., "high in fiber") or diet-disease health claims (i.e., claims that relate consumption or lack of consumption to a decreased specified disease or health condition). The consumer's right to information led to the Nutrition Labeling and Education Act (NLEA) in 1990 by the US Congress and specific health claims have been allowed since then. This has made it easier for consumers to find relevant nutrition information. While the food–labeling regulations by the Nutrition Labeling and Education Act (NLEA) of 1994 were intended to improve the consumer's general knowledge, it did not pertain to food advertising. The Federal Trade Commission (FTC) announced that claims and disclosures by food advertisers would be evaluated to prevent misinformation (Byrd-Bredbenner and Grasso 2001); however, advertisers were more interested in using nutrition labeling for sale purposes rather than to promoting a healthy lifestyle (Byrd-Bredbenner and Grasso 2001). These legislations and regulations are still changing toward healthier eating. As recent overhaul of nutrition labels by FDA's Center for Food Safety and Applied Nutrition, which suggests new redesigned labels with more emphasize on calories and added sugar as opposed to naturally occurred sugar.

Although several studies show the effects of information and health disclosures on consumer behaviors, research exerts on consumers' attitudes towards the advertisement (Aad) and attitude toward the brand (Ab) in presence of these guidelines (Burton and Creyer 2004; Burton et al. 2006; Crowley and Hoyer 1994; Etgar and Goodwin 1982; Kamins, Brand, Hoeke, and Moe 1989; Kozup, Creyer, and Burton 2003). The consumer's attitude toward both the ad and the brand is a widely studied phenomenon, as it may be used to predict consumer behavior patterns (MacKenzie and

Lutz 1989; MacKenzie, Lutz and Belch 1986; Mitchell and Olson 1981). However, this is still an emerging field due to the constant changes in the field of advertising.

The examination of the initial patterns of liking or disliking an advertisement might be helpful in determining the effects of initial triggers on further behavior of buying or not. When consumers are provided with positive information and claims of the product vs. the composition of positive and negative attributes, different effects may happen. There remains an ongoing debate over the effect of advertising, including product shortcomings, on both consumers' attitudes and their ultimate purchase intentions (Crowley and Hoyer 1994; Etgar and Goodwin 1982; Florack et al. 2009; Kamins, Brand, Hoeke, and Moe 1989). In practice, marketers and advertisers have found it important to determine which type of advertising will have the optimal effect on consumer attitudes and purchasing decisions. Advertisers should be very careful in presenting information and claims, especially in food industry due to consumers' health concerns and their interest in dietary habits. Despite this importance, the current literature on the mechanisms, which determine the consumer's assessment of nutrient content and health-related claims in advertising, is relatively undeveloped.

### Research Objectives

The current study has two primary and one secondary goal. On the primary level there is: (1) to discover whether two-sided ads significantly affect consumers' attitude toward the ad and brand; and (2) whether the information in the ad will ultimately affect their purchase intentions. The secondary goal of this study is to examine whether the fast food healthiness level and consumer's dietary habits have an influence on consumers. The bulk of the existing literature has focused on either food labels or nutrient claims displayed on restaurant menus (Kozup, Kreyer and Burton 2003; Levy, Fein and Schucker 1996; Russo et al. 1986). Furthermore, the effects of nutrient claims have chiefly focused only on the context of package design (Ford et al. 1996; Keller et al. 1997) and print advertising (Andrews, Netemeyer, and Burton 1998). Given the mixed results in the literature, this study examines the specific effects of disclosures in fast food market and healthy vs. unhealthy fast food. Further generalization of such effects onto broader markets may be possible given the potential findings of this study. The main questions that will be addressed are as follow: Is there a significant difference in attitudes

and behavior when facing one-sided vs. two-sided messages in ads? What is the typical reaction of consumers when they receive health information about a healthy fast food? Is it far from their reaction to the unhealthy one? Do they make a connection between the information they got and the dietary habit they follow?

# THEORETICAL FOUNDATIONS

## Overview

The following is a review of the literature and findings that are relevant to the current study. An overview of affirmative disclosure and its regulations is accompanied by the controversy around its effectiveness on consumer attitudes and behaviors. There has been an enormous amount of research done on the importance of health and nutrition disclosures in ads and the controversy still remains over the effectiveness of disclosing information on decision-making process of consumers (Garde 2008 Derby and Levy 1995; Drichoutis et al. 2006; Pechman 1992; Scammon 1977; Viswanathan 1994, 1996; Seiders and Petty 2004). Next, the literatures on attitudes toward the ad and brand are reviewed with the purpose of looking over the factors that affect these attitudes in health-related issues. In an attempt to gain better knowledge of consumers' reactions to affirmative disclosure, the effect of two types of affirmative disclosures on attitudes toward ad and brand is considered. Given that favorable attitudes toward ad and brand ultimately lead to purchasing the product, alongside the attitudes, purchase intention is also reviewed.

## Health Disclosures

The World Health Organization (WHO) estimated that in 2010, 44.2% of U.S. males and 48.3% of U.S. females aged 15 and above were obese. Such observations explain the recent emersion of public awareness aimed at promoting healthy dietary habits. There are several ways to educate people eating more healthy food and what to avoid in their daily diets. Millions of dollars are spent on food advertisements yearly and the companies can contribute to educating consumers by providing more useful information about their product in the ads.

There are multiple factors that affect the use of information and labels in consumers: age, gender, and education. For example, past studies have found that higher education is positively related to information persuasion (Drichoutis et al. 2005; McLean-Meyinsse 2001). It is important to address how this information affects the attitudes and behavior of consumers.

Consumer empowerment through regulation as well as the consumer's right to information is among the factors that enable consumers to make health-related decisions (Ippolito 1999; Wansink and Huckabee 2005). There remains significant controversy over the effectiveness of nutrition information and labeling (Garde 2008 Derby and Levy 1995; Drichoutis et al. 2006; Pechman 1992; Scammon 1977; Viswanathan 1994, 1996; Seiders and Petty 2004). It is not approved yet that the provision of information is in fact influential in communicating the information to consumer and, even more, whether it can change actually change consumer's eating habit (Garde 2008;Seiders and Petty 2004).

Since the 1970s, significant problems related to nutrition diet and food intake has been a concern. Problems such as increases in various high-risk diseases, including heart attack and obesity in both adults and children have emerged. Consumer activist groups assigned blame on the marketing practices of the food industry as a whole. Although they do not encourage poor eating per se, food manufacturers were not forthcoming with useful information for dietary or nutritional practices (Tyebjee 1979).

In reaction to several campaigns critical of food advertising, the Federal Trade Commission (FTC) imposed new regulations on advertising claims in 1971; advertisers were mandated to provide adequate data to support the claims made in their advertising. The new program also enriched the informative aspects of advertising by delivering consumers with more information to help make their decision (Coney and Patti 1979). They defined a claim as, "a comparison or promise implied made by an advertiser" (p.227). As it was reported to FTC, only 30% of the findings suggested that advertised claims were strongly supported. According to both Coney and Patti (1979) and Oliver (1979), claims are categorized by either puffery or data claims. Puffery claims usually do not have a strong scientific basis, in contrast with data claims, for which some kind of scientific basis has been provided (Oliver 1979). Krugman (1965) suggested that strong

puffery claims were low involvement claims but they could be as efficient and effective as high involvement data claims.

In general, it is important to understand whether providing information is mandatory or voluntary. Consumers do not consider restaurant food as rich in nutrition content as homemade food, so the worthiness of the information provided by restaurant may be significant (Burton et al., 2006). Providing information about nutritional content has been shown to affect attitudes and purchase intention (Burton and Creyer, 2004; Burton et al., 2006; Kozup, Creyer, and Burton, 2003); however, others studies show that providing nutrition information will result in no changes in intake calories and fat (Kral, Roe, and Rolls, 2002; Stubenitsky et al., 2000). When information is provided voluntarily, it may be perceived as part of a bigger plan of the company's marketing strategy for persuading consumers to buy the product (Drichoutis, Lazaridis and Nayga 2006). Hence, the merits of these regulations appeared to be grounded by the scientific evidence of several studies. For example, the French Minister of Health stated that all of the advertisements related to manufactured food products and beverages must include the following statement (Holdsworth, Kameli, and Delpeuch 2006):

*"For your health, do not eat foods that contain too much fat, too much sugar or salt; Eat at least 5 servings of fruit and vegetables every day; Avoid eating snacks; Do physical exercise regularly."*

As suggested by Tyebjee (1979), these regulations aim to define both the specific wording used in claims and advertising in addition to determining whether there is a need for disclosure of nutrient composition or health-related claims. Currently, the FTC regulates the content of the information disclosure in advertisements. Several studies have evaluated attitudinal and behavioral effects of one sided and two-sided advertisements in which both positive and negative claims are provided. They are aimed at promoting healthier food choices to consumers and reminding them of their options. Kozup et al. (2012) state that this kind of mixture of negative and positive disclosure is helpful in providing alternative decision-making processes to consumers. As the name suggests, one-sided messages only present positive attributes of a product. In case of two-sided messages, in addition to the positive attributes, the advertisement presents positive

and negative traits, such as unhealthy ingredients, which in large quantities make the food tastier (Desrochers and Maddox 2013).

Considering the food industry's competitive environment, it may seem that presenting negative aspects of a product is detrimental to the publicity of a brand (Eisend 2006). There are mixed results upon the effects of two-sided advertisements on persuasion. Although some studies have presented positive effects (Crowley and Hoyer 1994; Etgar and Goodwin 1982; Kamins, Brand, Hoeke, and Moe 1989), others have obtained non-significant or mixed results (Golden and Alpert 1987; Kamins and Assael 1987; Kamins and Marks 1988; Settle and Golden 1974). Presenting negative information is risky: while it increases the source's credibility, it also decreases product value; this may explain why studies have produced both nonsignificant and mixed results (Crowley and Hoyer 1994). One of the more consistent findings in recent studies has been that presenting at least a small amount of negative information about the product increases advertiser credibility (Bohner et al. 2003; Kamins and Assael 1987; Settle and Golden 1974; Swinyard 1981). This is likely due to the advertiser's acceptance of some negative product attributes contrasted their motive for profit. On the whole, this makes consumer more likely to trust the advertiser. Crowley and Hoyer (1994) reach a similar conclusion, also observing the importance of two-sided advertisement's persuasive mechanism in consumer attitudes and behaviors.

There are three theoretical approaches to describe how two-sided messages affect consumer's attitudes and behaviors: Attribution Theory, Optimal arousal Theory, and Inoculation Theory. Attribution theory suggests that consumers may decide to relate the claim either to the advertiser selling the product, or to the actual features of the product (Eisend 2006). In this case, providing negative claims helps the consumer to conclude that advertiser is telling the truth and leads to increasing advertiser's credibility. However, since the ad bares negative information about the brand, it may have negative effects on the consumer's attitude toward the brand. Two distinct outcomes may occur during the processing of two-sided messages that have an influence on attitude toward the brand. On one hand, consumers perceive high credibility from the source since the information is given voluntary. On the other hand, when they compare the product with others on the market, they may favor the brand itself or the competitor brands in light of

the negative information provided. Furthermore, the product may seen to be unique when a disclosure is unique (Meyers-Levy and Sternthal 1993). This theory has guided most of the existing studies on two-sided messages (Eisend, Hahn and Schuchert-Güler 2004; Eisend 2006; Kamins and Marks 1987, Stayman, Hoyer and Leon 1987).

Optimal arousal theory (Berlyn 1971) suggests that two-sided messages motivate consumers to pay more attention and to process the discrepancy of the message, which results in a favorable attitude toward the ad (Aad). This theory also implies that an optimal level of stimulus exists for maximum effectiveness. This theory is relatively new and has not been widely tested in the context of advertising influence, although it has been suggested as a possible explanation for contradictory results in previous findings (Crowley and Hoyer 1994). For two-sided messages to be effective the level of discrepancy must be low or moderate (Crowley and Hoyer 1994)

Finally inoculation theory (McGuire 1964) states that the combination of arguments with counterarguments is the core effect mechanism of two-sided messages. Beginning with mild arguments and then countering or refuting such arguments will raise both the awareness and cognition of the subject; which results in an enhanced attitude towards the ad. Advertisers usually present positive and negative information together and try to diminish the negative information effect. Only a small number of studies (Karmins and Assael 1987b; Sawyer 1973) have reviewed the effect of refutational appeals of two-sided messages, which is based on Inoculation theory in an advertising context.

Eisend (2006) conducted a meta-analysis to investigate the effects of a series of variables on the effectiveness of two-sided messages. Multiple variables were affected by the two-sidedness of the advertising: the amount of negative information and source credibility (Pechman 1992); the consumer's prior attitude toward the brand (Crowley and Hoyer 1994); and the perceived novelty of the message. Eisend (2006) observed that the level of negativity in an ad affected the degree of message impact on consumers. Although discussing a product shortage might increase an ad's credibility, given that it build trust in consumer's mind (Crowley and Hoyer 1994; Florack et al. 2009), presenting more number of product shortages does not lead to more credibility for the ad. There is a threshold (optimal level) of negative information presented in an

advertisement; beyond this point negative information will reverse the positive effects on attitudes and the resulting behavior. If the prior attitude of the consumer is negative or neutral, ads have a greater effect on changing evaluations and attitudes; consequently they foster purchase intentions (Crowley and Hoyer 1994). In case of prior positive attitudes, the negative side of an ad may generate counterarguments in the minds of consumers. Although the negative information motivates consumers to process the ad, this may still lead to unfavorable attitude changes on the whole, since additional counterarguments, perhaps otherwise unknown to the consumer, are considered.

Disclosure of information in ads provides consumers with both useful information and confidence, as they are assured that they are not being deceived (Burton et al. 2000). Burton and his colleagues also suggested that negative information makes consumers consider information that they might not have otherwise considered, which may lead to less favorable consumer attitudes toward both the ad and the brand. This will negatively affect ultimate purchase intentions. They concluded that Aad and PI were lowered in presence of negative information. In general Aad, Ab and PI are significant when there is affirmative disclosure.

Despite the existing work on two-sided messages, the findings concerning the effects on consumers' evaluations are mixed. There are multiple studies that support the effectiveness of two-sided communications (Crowley and Hoyer 1994; Eisend 2006; Etgar and Goodwin 1982; Kamins and Assael 1987; Lumsdaine and Janis 1953; Pechmann 1992); other studies have reached mixed or nonsignificant results. Golden and Alpert (1987) reported that consumers perceive two-sided ads to be more honest and useful. As a result, such ads are trusted more when compared to those that only use positive attributes to describe products. Kamins and Assael (1987) found that counterarguments are less effective when consumers have been previously exposed to two-sided messages. Although consumers appreciate the honesty and disclosure of ads, they do not evaluate the advertised product more positively after seeing two-sided versus one-sided messages (Golden and Alpert 1987). Additional studies indicate that two-sided messages decrease product evaluation. This may be explained by the negative effect of two-sided advertising on ad credibility. The mention of product shortcomings may offset the positive effects of two-sided ads on product evaluations. This may be the reason for

the lower level of source credibility when consumers are exposed exclusively to negative content (Eisned 2006). The effects of nutrient claims on products evaluations have also been studied by Garetson and Burton (2000). The study of claims specifically related to fat and fibers determined that consumers have an overreliance on nutrient fact panels. On the other hand, additional studies suggest that labeling will have varying effects depending on both the relevant consumer and product, however the effect is not homogeneous (e.g., Burton, Howlett, and Tangari 2009; Howlett et al. 2009).

Although Etgar and Goodwin (1982) found that two-sided messages increase purchase intentions, more recent studies indicate that two-sided ads are not always more persuasive than one-sided ads (Crowley and Hoyer 1994, Eisend 2006). Although presenting product shortcomings and negative claims may increase source credibility, such candor can also negatively affect final decision-making (Crowley and Hoyer 1994). Also the importance of the negative message may have contrary effect on the attitudes and purchase intention. If the negative message is not important for the consumer, therefore, the message may not necessarily be more effective than a one-sided message (Eisend 2006).

### Attitudes Toward the Ad and the Brand

Understanding how advertising or marketing communication influences consumer behavior is a well-researched topic. Lutz (1985) defined *attitude toward the ad* (Aad) as a unidimensional construct, "a predisposition to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure occasion" (Lutz 1985, p. 46). Further, based on additional conceptual and empirical research on Aad, four models of attitude toward the ad were hypothesized in a hierarchical approach (Lutz and MacKenzie 1982; Lutz, MacKenzie and Belch 1983). Multiple studies have documented the significant explanatory power of the attitude toward the ad (Batra and Ray 1986; Cacioppo and Petty 1985; Lutz and MacKenzie 1982; Lutz, MacKenzie and Belch 1983; MacKenzie, Lutz and Belch 1986; Mitchell and Olson, 198l; Moore and Hutchinson, 1983).

Following the Aad, *attitude toward the brand* (Ab) is defined as an "individual's internal evaluation of the brand" by Mitchell and Olson (1981, p.318). Spears and Singh (2004) augmented this definition with a more complete version stating, "attitude toward

the brand is a relatively enduring, unidimensional summary evaluation of the brand that presumably energizes behavior" (p. 227). The attitudes consumers hold toward a given advertisement have been linked to their attitudes toward the brand and ultimately to purchase intentions (MacKenzie and Lutz 1989; MacKenzie, Lutz and Belch 1986).

Olney et al. (1991) emphasized the first level of hierarchy in the general hierarchy-of-effects framework, originally introduced by MacKenzie et al. 1986. They suggested that technological innovations changed the viewing habits and attention levels of consumers. They pointed out that unidimensional measures are insufficient to define Aad, since the variance in items was not entirely attributable to the Aad (Olney, Holbrook and Batra 1991). Batra and Ahtola (1991) found two new dimensions related to attitude, which they labeled as "hedonic" and "utilitarian". Hedonic was characterized as the degree of pleasure or entertainment associated with the ad, and utilitarian attempts to describe the ultimate utility of the ad. Olney et al. (1991) refined the construct (Aad) by differentiating between hedonism, utilitarianism and interestingness as underlying attitudinal components. Interestingness was taken from Berlyn (1960), which considered the degree of curiosity.

With respect to the measurement of Ab, Spears and Singh (2004) noticed that Ab had been previously measured multiple times by a 4 items measure (useful/ useless, important/ unimportant, pleasant/ unpleasant, and nice/ awful), established by Batra and Ray (1986). A survey of the literature revealed that that there were inconsistencies in terminology. For instance MacKenzie, Lutz, and Belch (1986), use a three-item, seven-point scale (favorable/unfavorable, good/bad, and wise/foolish) to measure Ab. They also posited that there is no developed measure between Ab and PI.

Many studies propose Aad as a mediator that affects brand attitudes (Ab) (Edell and Burke 1987; Holbrook and Batra 1987; Lutz 1985; MacKenzie et al. 1986). One of the most important issues addressed in the recent studies surrounds the question of which attitude toward the ad constructs has final influence on consumer attitude and behavior. Several models have proposed the existence of a mediating effect of Aad via Ab and Ad-related and brand-related cognition. MacKenzie et al. (1986) based all of these models on the general hierarchy-of-effect framework and examined four structural models to explore the relationships between Aad and related measures of advertising effectiveness.

They suggested that brand cognition as an antecedent of attitudes and further behavior (Purchase Intentions) will follows attitudes. Here are the four proposed models:

Model 1. The Affect Transfer Hypothesis (ATH)

The model introduced by Shimp (1981) and then supported by Mitchell and Olsen (1981) suggests a one-way directional influence of Aad on Ab. The positive affect created by the ad is transferred to the evaluation of the product/brand itself without further examination of the information provided (Mitchell and Olson 1981). This model has attracted the most attention among the four models presented in this study.

Model 2. The Reciprocal Mediation Hypothesis (RMH)

The RMH suggests that Aad and Ab affect each other; in other words, there is two-way relationship between them. It has been suggested that flow direction may differ depending on situations and consumers (Heider 1946; MacKenzie et al. 1986). For instance, if a product is new or the brand is newly introduced, there will be relatively stronger flow from Aad to Ab; alternatively if a consumer is loyal to the brand, Ab may be stronger and affect the Aad (Edell and Burke 1984).

Model 3. The Independent Influence Hypothesis (IIH)

The third model assumes there is no relationship between Aad and Ab; instead, Aad and Ab are assumed to be independent determinants of purchase intentions (Howard 1977). Howard defined two attitudinal constructs: the "evaluative element" of the brand concept and "impersonal attitude" (p. 27) which is presented in Mackenzie et al.'s study as the attitude toward ad.

Model 4. The Dual Mediation Hypothesis (DMH)

This model suggests an indirect causation between Aad and Ab that starts from Aad to Brand Cognition (Cb) and then from Cb to Ab. In addition, there is a direct flow between Aad and Ab, which is an ATH relationship from MacKenzie et al. (1986). Lutz and Swasy (1977) had previously proposed that by assigning the relationship between Cb and Aad, more affective responses to the ad from consumers will result in the tendency to accept the claims made by an ad. They also suggested that more favorable feelings toward the ad help the customer better remember claims from the brand. Therefore, an affective relationship between Aad and Cb can be expected. Compared to other models,

dual mediation hypothesis seems to be the one that explains the ad effectiveness more completely (López and Ruiz 2011).

Gresham and Shimp (1985) also found strong evidence to support the dual mediation hypothesis and more recent work has examined the effects of new ad types on consumers' attitudes toward such ads. Claims (positive and negative) were included in ads and consumers involuntarily had to process claims in order to make decisions about the brand in the presence of negative traits. The effect of these claims on attitudes and purchase intentions has implications for marketers and advertisers (Burton, Andrews and Netemeyer 2000). As mentioned before, Derby and Levy (2001) reported in several surveys (Diet and Health Survey 1990; 1995; 1996) that consumers have shown to change their decisions due to nutrition labels on the product. Although it has been said that consumers generally put more value on the products with claims than the ones with no claims (Teranatavat et al. 2004), effects of such negative messages have not been fully studied.

Burton et al. (2000) indicated that the type of claim in an advertisement is crucial in the effect it has on consumer attitudes and purchase intentions. They emphasize two types of claims that focus on nutrient issues: nutrition information and verbal. The nutrition information type focused on the truthfulness of nutrition claims and the level of nutrition. The verbal type focused on verbal claims such as "healthy." Both consumers and health campaigns (e.g. Kellogg's All-Bran which presented specific diet to prevent some types of cancer), have recently criticized these types of generalization. Claims with higher levels of specificity and information may generate more favorable attitudes in consumers (Burton, Andrews, and Netemeyer 2000). Their study suggests that general claims make a more significant and favorable change in Aad than those which are more specific. Burton et al. (2000) also explored the interaction between ad disclosure and ad claim type. They found that specific claims have more favorable effects on Ab when compared to general claims.

Information provided in ads and labels takes different shapes and formats across different media, such as television, print ads and labels. Several studies indicate that different presentation formats have varying effects on consumers: summary information and use of numeric data in labels facilitate consumer usage of information provided on

foods (Viswanathan 1994). Additional studies have compared the use of qualitative statements such as "very low in fat" or "very healthy" with quantitative information (Scammon 1977; Viswanathan 1994, 1996).

Eisend (2006) also concluded that attitudes toward the ad and brand are significantly enhanced in the case of increased negative information. The negative information will not have the favorable effect on the Aad and Ab when the amount of negative information passes the consumer's threshold and two-sided message may not differ much with one-sided message. The presentation of negative attributes in the beginning or at the end of an ad may have effects on consumer evaluations of the source, brand and message. Placing negative attributes at the beginning causes consumers to process further positive messages in biased manner, and the expected favorable effects on attitude measures and purchase intentions may decrease (Alba, Hutchinson and Lynch 1991; Pechmann 1992). Regardless of attitude toward the ad, due to the strong relationship between the attitude toward the brand and purchase intentions, it is expected that more negative information will have the same effect on purchase intention.

Considerable evidence supports the theory that negative information and shortage mentioned in ads reduces the positive effects of positive information (Bohner, Einwiller, Erb and Siebler 2003; Florack et al. 2009; Pechmann 1992). However, there remains room for further understanding of the effect of such information on attitudes and further behaviors. It is still unresolved whether providing more information in the ad is helpful in the process of decision-making, or whether it simply drives consumers away from making optimal decisions.

### Purchase Intentions

The next step that follows attitude is behavioral intention; in other words, the personal tendency to buy the brand or product known as *purchase intention* (PI) (Bagozzi and et al. 1979; Ostrom 1969). Based on previous work on attitudes and four different hierarchy-of-effects models, exposure to the ads may lead to both favorable attitudes towards the product and ultimately, purchasing the product.

Purchase intention and attitude toward the brand have been widely studied due to their popularity and applicability. Some studies treat these constructs as independent and separate, while others categorize them as multidimensional constructs (Anand and

Sternthal 1990; Peracchio and Myers-Levy 1994; Leclerc and Little 1997). The absence of valid evidence that shows these construct are discriminant, leads one to believe in the studies that have found convincing evidence of a strong relationship between brand attitudes and purchase intentions.

Spears and Singh (2004) aimed to resolve this ambiguity by developing a set of measures both for PI and Ab, and posited that the core problem appeared to be the validity of measures. They suggested that attitude is the amount of affect for or against something, while behavioral intentions are related to a person's intention to perform specific behaviors; and this makes the two constructs distinct from one other. However, they may also be related due to the fact that an attitude toward the object leads to a behavioral intention. Past studies suggest that the relation between attitude toward the object and behavior is not always observable. In some cases, attitudes have a direct effect on behaviors (Bagozzi and Warshaw 1992; Bagozzi and Yi 1988), while in others they do not (Bagozzi 1992b). Spears and Singh (2004) considering them to be related, and thus they evaluated this relationship within the Aad framework. This framework is based on several consumer behavior studies (Burke and Edell 1989; Edell and Burk 1987; MacKenzie and Lutz 1989; MacKenzie, Lutz, and Belch 1986; see also Brown, Homer, and Inman 1998 and Brown and Stayman 1992). In this framework, while Aad is influenced by positive and negative feelings, it affects Ab. Positive and negative feelings also affect Ab, which ultimately has an impact on PI.

In general, nutrition and health-related claims have been shown to have a strong effect on purchase intentions and behavior, since they directly affect how consumers value the product and what perceptions they have about the product (Drichoutis et al. 2006). Shine et al. (1997b) suggested that the reason for this changing behavior is that consumers want to avoid harmful ingredients of the food. Wansink and Chandon (2006) found that providing "low-fat" labels raise consumption up to 28% compared to the regular-fat product. Moreoever, Burton et al. (2009) concluded that there are significant differences when calories are disclosed, especially in a negative disconfirmation manner. This counters the typical consumer's preconception about the food product and this disclosed calories information lowers purchase intention.

Wansink and Chandon (2006) concluded that for normal-weight people, low-fat labeling increases the consumption of foods that are perceived as healthy; for overweight people this increases their consumption of all foods. Many other claims or labels may provide the similar ambiguity with respect to nutrition information and are important to consider, such as the context of fast food advertising. Information without educating consumers may not lead to behavioral change; the resulting ambiguity may lead to unfavorable outcomes for consumer and company (Teisl et al. 2001).

### *Synthesis of Theoretical Foundations*

Consumers' seeking out health information continues to increase. Reading labels and paying attention to health disclosures are new concerns of consumers who care about their healthiness and eating habits. Due to research on affirmative disclosures, the effectiveness of disclosures depends on several factors like the amount of negative information and the importance of message but the controversy still remains. Although Crowley and Hoyer (1994) concluded that presenting negative attributes increases source credibility and consumer trust, however, Eisend (2006) emphasized that negative messages may have negative effect on consumer's perception of product itself and negatively affect final decision-making.

Due to literature on consumer's attitudes and purchase intention, consumers have shown to change their attitudes toward the ad and brand in regards to nutrition claims and affirmative disclosures (Derby and Levy 2001). Although providing negative information about the product alongside the positive points have shown to favorably affect consumer's evaluations (Eisend 2006), however, the question that providing them together is a right thing to do is still remains. Drichoutis et al (2006) stated that disclosing health-related claims have strong effect on purchase intentions since these claims directly influence consumers' concerns about healthy eating and avoiding harmful ingredients. Although it is stated that disclosing negative information may have favorable effects on attitudes and evaluations but whether it leads to purchase decision or not is still unproven.

This research attempts to clarify the different effects of affirmative disclosures in fast food ads and whether different types of affirmative disclosures have distinct effects on attitudes toward ad and brand and purchase intentions.

## RESEARCH DESIGN

Three studies were undertaken to evaluate the effects of different types of messages in fast food ads on three dependent variables (Aad, Ab and PI): Study 1 examined the different impacts of disclosure versus no disclosure in ads; Study 2 examined the effects of one-sided versus two-sided messages; and, Study 3 observed the effect of a healthy lifestyle on how customers are influenced by affirmative disclosures. Each study examines a different facet of Aad, Ab and PI and is presented below.

## STUDY 1: Disclosure versus No Disclosure

### Hypotheses

The primary objective of this study was to observe whether providing any disclosure (either one-sided or two-sided) will lead to better-informed consumers and whether informing them will motivate them to change their attitude and behaviors. Certain message type and consumer characteristics may change the impact of the disclosure (Andrews, Burton and Kees 2011).

Consumers perceive a product to be healthier when health and nutrient claims are provided (Roe, Levy, and Derby 1999). In order to extend the findings of previous research, if the health claims and disclosures influence product evaluations (Kozup et al. 2003), it is likely to influence the consumer's Aad, Ab and PI.

The following hypotheses are proposed:

***H1a.*** *The use of health disclosures leads to more favorable attitudes toward the ad for healthy and unhealthy fast food.*

***H1b.*** *The use of health disclosures leads to more favorable attitudes toward the brand for healthy and unhealthy fast food.*

***H1c.*** *The use of health disclosures leads to more favorable purchase intentions for healthy and unhealthy fast food.*

### Participants

A random sample of US Census stratified data was collected from a total of 300 participants (53.7% females). Details of the sample are presented in Table 1.

***Table 1: Sample Characteristics***

**Sample Characteristics (N=300)**

| | | | | |
|---|---|---|---|---|
| **Gender** | *Female: 53.7%* | *Male: 46.3%* | | |
| **Age** | *Min = 22* | *Max = 88* | *Mean = 53.2* | *SD = 15.68* |
| 18-35 | *16%* | | | |
| 36-55 | *37%* | | | |
| 56-75 | *39%* | | | |
| Over 76 | *8%* | | | |
| **Education** | *Mean = 3.79* | *SD = 1.47* | | |
| Some college | *31%* | | | |
| 5 years college degree | *22%* | | | |
| High school | *22%* | | | |
| **Income** | *Mean = 5.64* | *SD = 2.987* | | |
| Less than 20,000$ | *15%* | | | |
| 20,000$-40,000$ | *25%* | | | |
| 40,000$-60,000$ | *22%* | | | |
| 60,000$-80,000$ | *18%* | | | |
| 80,000$-100,000$ | *8%* | | | |
| Over 100,000$ | *10%* | | | |

## Design

A 2 (Disclosure: No disclosure vs. disclosure) × 2 (fast food: Subway vs. Burger King) experiment was designed to examine the different effects of disclosure for healthy and unhealthy fast food. Respondents were randomly assigned to one of the four conditions (Subway without disclosure, Subway with disclosure, Burger King without disclosure, Burger King with disclosure). Respondents were generally divided into four groups.

### *Design Considerations*

As mentioned before, certain message types and audience characteristics may change the effects of disclosure (Andrews, Burton and Kees 2011). Therefore, experimental conditions the experiments were defined as follows:

***Fast food level of healthiness***

Despite numerous academic studies and government-sponsored studies, it is still hard to anticipate the conditions in which affirmative disclosure will have the favorable effect on consumers. Due to the individual differences in beliefs and decision-making process, each consumer has its own way to react to disclosures (Kozup et al, 2012). For health or nutrient disclosures to have effects on consumers, there should be a motivation on the consumer side to use this kind of information (Berman and Lavizzo-Mourey 2008; Howlett et al. 2009; Keller et al. 1997). If consumers' expectations from fast food are the same as what is presented in the ad, disclosures will not have substantial effects (Burton and Kees 2012). Burton, Howlett, and Tangari (2009) stated that if consumers expect Burger King to have a 1500 calorie sandwich and the disclosure simply confirms 1500 calories, the expected attitude and behavior changes may not happen. They also reported that if the information were inconsistent with the expectations, information provision would decrease purchase intentions and choice.

In a related area, Tangari et al. (2010) presented that consumers' accuracy in estimating calories will differ from restaurant to another due to their perception from healthiness of the restaurant. As they concluded, consumers will have lower-calorie estimates for restaurants that are perceived as more healthful.

It is also stated in the literature that consumers who are familiar with the product, are likely to ignore the disclosed the information in the ad since they have previously noticed that information (Stewart and Martin 2004). Smokers have shown to avoid warnings because they claim that they have already seen them (Bhalla and Lastovicka 1984) and this is also true in case of alcohol warnings (Andrews, Netemeyer, and Durvasula 1991).

Roe, Levy, and Derby (1999) constitute that in general consumers consider a product to be healthier if the health disclosures and nutrition information are presented. Also estimation of the calories may be lower for the fast food that they believe is healthier and this may affect their following attitudes. The question still stands that if the consumer already consider the fast food as healthy or unhealthy, what will be his or her attitude toward the ad and brand after watching ads containing health disclosures? Further, will two different types of disclosures yield different effect on consumers?

***Identification of Restaurant and Ad***

At the time of this study, 21 fast foods were advertising in U.S. With some web search and media monitoring, two fast food restaurants were selected, one that is perceived as unhealthy fast food, and the other as healthy. A survey was conducted to ask respondents to identify which fast food they considered to be the healthiest and the unhealthiest. 1533 respondents answered the survey published in iResearch in Washington D.C., and evaluated each fast food on three item scale that shows perceived healthiness from fast food. Using the average score obtained from these items, the least healthy restaurant is Burger King, and the healthiest is Subway.

Two ads were selected with the most similarity regard to techniques. There is no testimonial, cartoon or humor applied in either of ads and both of them are focused on promotion ($5 foot long sandwiches at Subway, 2 hamburgers and 2 fries for $2 at Burger King).

Regarding the affirmative disclosure, there are three type of ads; one type with no disclosure, one with one-sided disclosure and one with two-sided disclosure. For Study1, ads with one-sided and two-sided disclosure are considered as one group. After selecting the ads, the disclosure messages were added to the end of the ads. The one-sided disclosure stated, *"Do not eat foods with too much fat, sugar, or salt. Eat 5 servings of fruit and vegetables a day. Avoid snacks. Exercise regularly. For more nutritional guidance, please visit http://mypyramid.gov".* The two-sided disclosure stated, *"Fat, sugar, and salt help food taste good and provide energy and nutrition. But, do not eat foods with too much fat, sugar, or salt. Eat 5 servings of fruit and vegetables a day. Avoid snacks. Exercise regularly. For more nutritional guidance, please visit http://mypyramid.gov".*

***Questionnaire Development***

*Key variables*

The focus of this study is to investigate different effects of providing health claims and disclosures have on consumers' attitudes and behavior. The presence of disclosure in ads will be the independent variable to show the impact of disclosures and will be in one of the following conditions: no disclosure, disclosure. To consider the fast

food choice, another independent variable is defined, where '1' indicates Subway, and '2' indicates Burger King.

Three dependent variables are reflecting the effects of disclosure: the consumer's attitude toward the ad, the consumer's attitude toward the advertised brand and the consumer's future intention to purchase the product. Each part in questionnaire is asking about on of these dependent variables with several items. The original items from available literature are drawn out from Spears and Singh (2004) study on scaling the attitude toward the ad and brand.

**Attitude Toward the Ad Scale.** First, there is measure of attitude toward the ad that assesses the extent of favorable or unfavorable manner to a particular advertising. Initially the scale was comprised of twenty-four items that ask about the level of agreement or disagreement of participant with the statements about the previously watched ad. The scale demonstrated excellent reliability ($\alpha$ = .96, $M$ = 80.50, $SD$ = 19.57).

**Attitude Toward the Brand Scale.** This seventeen-item scale assesses the internal evaluations of the brand in participants; items are adopted from Mitchell and Olson study (1981). Participants are asked to rate their level of agreement with the statements on five-point Likert scale to show how they feel about the brand and how they think the brand is performing in regard to the level of healthiness and other brands. The scale showed excellent reliability ($\alpha$ = 0.96, $M$ = 57.76, $SD$ = 13.37).

**Purchase Intention Scale.** This scale is made up of 14 items that are assessing action tendencies relating to the brand (Bagozzi et al. 1979). Questions are based on further action that might be taken, like wanting to buy more from the brand, more exercising, going on diet and sharing information with others. The scale demonstrated good reliability ($\alpha$ = 0.89, $M$ = 43.72, $SD$ = 10.08).

***Manipulation check***

Before conducting the study, a manipulation check was conducted to ensure that the ads created for the studies were in fact perceived to be different with respect to the different messages and also to ensure that the selected fast foods are perceived differently in their level of healthiness. Participants were asked a question and the analyses generated significant result for the manipulations checks.

For the first study, the analysis that whether the disclosure message in the ad is noticed by the respondents, the t-test resulted in t = -2.285, p = .022 (Question: I plan to avoid foods that contain too much fat).

Also healthiness of the fast food was tested by a pretest for the whole data to confirm the previous perceptions of the fast food among participants. Subway and Burger King were rated on a 5-point Likert scale from *very unhealthy* to *very healthy*. The mean for Subway was 4.00, and for Burger King, 2.60. A t-test confirmed a significant difference between the fast food brands ($t_{Subway}$= 45.653, p= .000; $t_{Burger\ King}$= 27.897, p= .000).

## Procedure

Participants were randomly assigned to one of four research conditions. They were asked to answer a questionnaire after watching one of the six advertisements. After watching ads (ads duration was 40 seconds), the ad was removed from screen. The questionnaire first asked about their attitudes toward the watched ad and the advertised brand; then asked about their intended behavior to purchase the product. There were then items asking about their eating habits and their willingness to follow a healthy lifestyle. Each item on the questionnaire was measured on a 5-point Likert scale from strongly disagree to strongly agree, with 3 as neutral. Regarding the demographic questions, respondents were asked to answer regular questions related to age, gender, education, income, height and weight.

## Data Collection

The data was collected online by iResearch in Washington D.C. Subjects were given a questionnaire with 77 items to measure the key variables. A total of four scales and ten descriptive questions were asked.

Normality assumption was tested and the scales were analyzed for skewness and kurtosis. Each variable met the normality assumption; therefore, they were used in subsequent analyses without transformation.

In order to verify for univariate outliers, standardized z-scores were created from the raw scores. Following Tabachnick and Fidell (2007), outliers were defined as any

z-score above or below 3.29 standard deviations from the mean. Results of this analysis identified no outliers in our measures.

## Results

### *Preliminary Analysis*

### *Data Reduction*

A factor analysis of all the three scales was undertaken in order to reduce the number of items being used for further analysis. A principal component analysis with oblimin rotation was conducted on the all the scales separately. Three analyses were conducted for a final result of 3 factors (Aad, Ab and PI).

#### *Aad*

Results showed that for Aad, 4 out of 24 items had cross loadings on two factors and after omitting those items, remaining items loaded on either first or second factor (eigenvalue for Factor One = 13.66, eigenvalue for Factor Two = 1.003; 73.325% of total variance explained). Therefore, in subsequent analyses, the Aad variable was tested using only the results from the factor analysis.

***Table 2: Factor analysis of Aad scale***

| | **Factor 1*** | **Factor 2** |
|---|---|---|
| **Total eigenvalue** | 13.662 | 1.003 |
| **% Of variance** | 68.310 | 5.016 |
| **Cumulative % of variance** | 68.310 | 73.325 |
| **KMO = 0.967** | | |

** Factor 1= Attitude toward the ad*

Since there was no qualitative difference between the one item loaded on Factor Two and the other items that loaded on Factor One based on their content, the data was analyzed with only the first factor.

#### *Ab*

For Ab there were 6 items (out of 17 items) cross loading over two factors. After omitting those items from analysis, there was no item cross loading (eigenvalue for Factor One = 7.135, eigenvalue for Factor Two = 1.101; 74.875% of total variance explained).

*Table 3: Factor analysis of Ab scale*

| | Factor 1* | Factor 2** |
|---|---|---|
| **Total eigenvalue** | 7.135 | 1.101 |
| **% Of variance** | 64.868 | 10.007 |
| **Cumulative % of variance** | 64.868 | 74.875 |
| **KMO = 0.934** | | |

** Factor 1=Relationship to brand*

*** Factor 2=Healthiness of brand*

***PI***

Regarding PI, results showed that after omitting 3 items, remaining items will load on three factors with no cross loading (Eigenvalues = 4.962,2.055, 1.276; 75.396% of total variance explained).

*Table 4: Factor analysis of PI scale*

| | Factor 1* | Factor 2** | Factor 3*** |
|---|---|---|---|
| **Total eigenvalue** | 4.962 | 2.055 | 1.276 |
| **% Of variance** | 45.108 | 18.684 | 11.603 |
| **Cumulative % of variance** | 45.108 | 63.795 | 75.396 |
| **KMO = 0.895** | | | |

** Factor 1=Search behavior*

*** Factor 2=Purchase decision*

**** Factor 3=Healthiness of decision*

***Main analysis – Model and Hypothesis Testing***

The means and standard deviations for the variables used in this experiment are displayed in Table 5.

***Table 5: Descriptive Statistics for Participants and Measures***

| | **Total Sample** *(N = 300)* | | **Subway** *(N=142)* | | **Burger King** *(N=158)* | |
|---|---|---|---|---|---|---|
| | ***M*** | ***SD*** | ***M*** | ***SD*** | ***M*** | ***SD*** |
| **Attitude Toward Ad** | 3.31 | 0.945 | 3.47 | 0.857 | 3.18 | 1.000 |
| **Attitude Toward Brand** | | | | | | |
| Relationship to Brand | 3.14 | 0.949 | 3.30 | 0.964 | 3.00 | 0.914 |
| Healthiness of Brand | 3.75 | 0.703 | 4.05 | 0.634 | 3.49 | 0.654 |
| **Purchase Intention** | | | | | | |
| Search Behavior | 2.55 | 0.912 | 2.63 | 0.936 | 2.48 | 0.886 |
| Purchase Decision | 3.70 | 0.940 | 3.85 | 0.916 | 3.57 | 0.943 |
| Healthiness of Decision | 3.18 | 0.911 | 3.25 | 0.882 | 3.13 | 0.935 |

The difference between ads with disclosure (either one-sided or two-sided) and ads with no disclosure between the two fast foods was analyzed using analysis of variance (two-way ANOVA). Table 6 provides the F-statistics for the ANOVA calculations. There was no significant effect of disclosure on Aad, Ab and PI (all p-values > .24). However, three significant results were found: a main effect of fast food on Aad ($F = 7.806$, $p = .006$), effect of fast food on Ab (Relationship to brand $F= 8.206$, $p = .004$; Healthiness of brand $F = 57.39$, $p= .000$) and effect of fast food on one factor of PI (Purchase decision $F= 7.214$, $p= .008$). There is no significant interaction between the effect of fast foods and the effect of disclosure.

*Table 6: ANOVA results (F-Values)*

| | Main Model | P-value | Fast food | P-value | Disclosure | P-value |
|---|---|---|---|---|---|---|
| **Effects on Aad** | 3.110 | 0.027* | 7.806 | 0.006** | 1.366 | 0.243 |
| **Effect on Ab** | | | | | | |
| Relationship to Brand | 3.227 | 0.023** | 8.206 | 0.004** | 1.268 | 0.261 |
| Healthiness of Brand | 19.167 | 0.000** | 57.392 | 0.000** | 0.464 | 0.496 |
| **Effect on PI** | | | | | | |
| Search Behavior | 0.723 | 0.539 | 2.164 | 0.142 | 0.011 | 0.915 |
| Purchase Decision | 2.570 | 0.054* | 7.214 | 0.008** | 0.782 | 0.733 |
| Healthiness of Decision | 0.898 | 0.443 | 1.554 | 0.214 | 1.190 | 0.276 |

Results show that there is no difference between ads with disclosure and ads without disclosure on consumers' Aad, Ab and PI. Thus, H1a, H1b and H1c are rejected.

For the condition of healthier fast food (Subway), consumers showed slightly more favorable attitudes toward the ad and brand in response to the ad with affirmative disclosure compared to the ad without affirmative disclosure, but the difference is not significant.

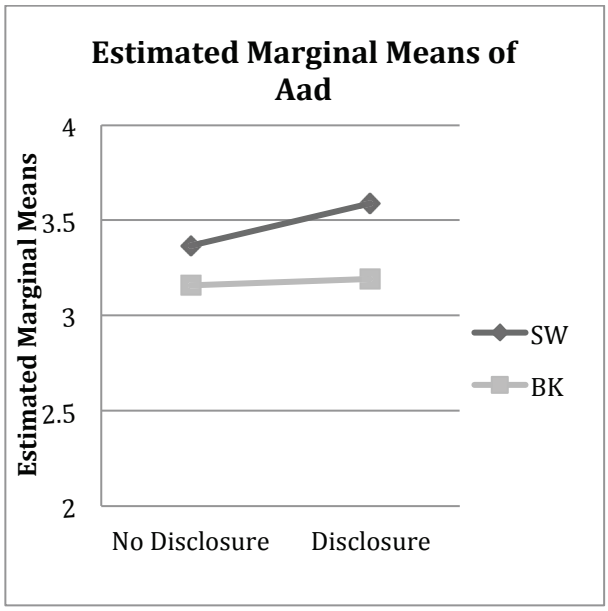



***Figure 1: Estimated marginal means for Aad, Study 1***

***Consumers showed more favorable Aad in response to presence of disclosure in the condition of healthier fast food (Subway).***

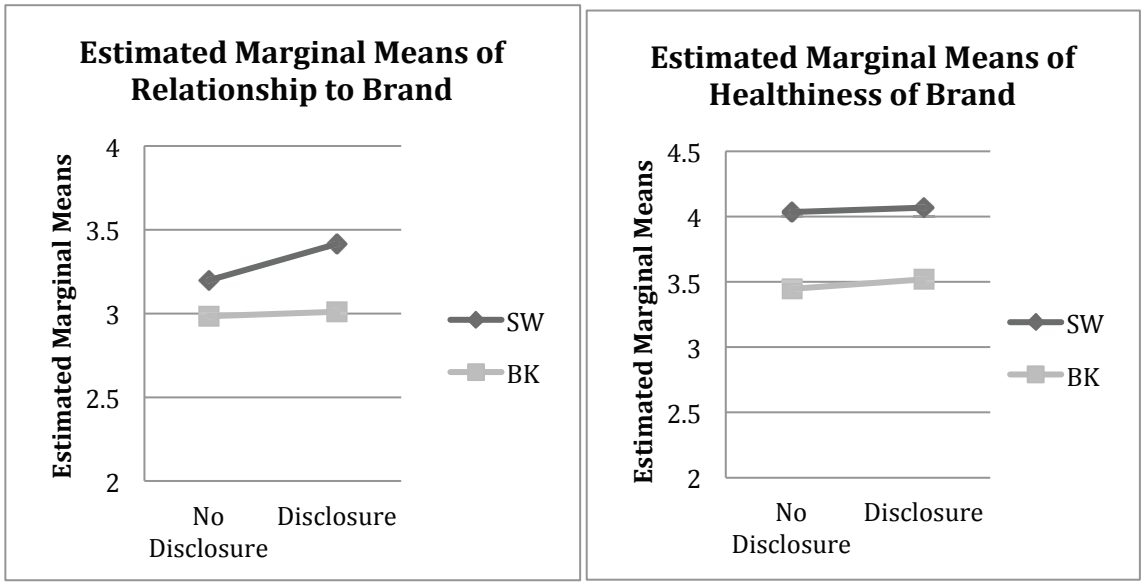



***Figure 2: Estimated marginal means for 2 Factors of Ab, Study 1***

***Consumers showed more favorable Ab in response to presence of affirmative disclosure in the condition of healthier fast food (Subway). The effect of fast food on both factors is significant (all p-values>.004)***

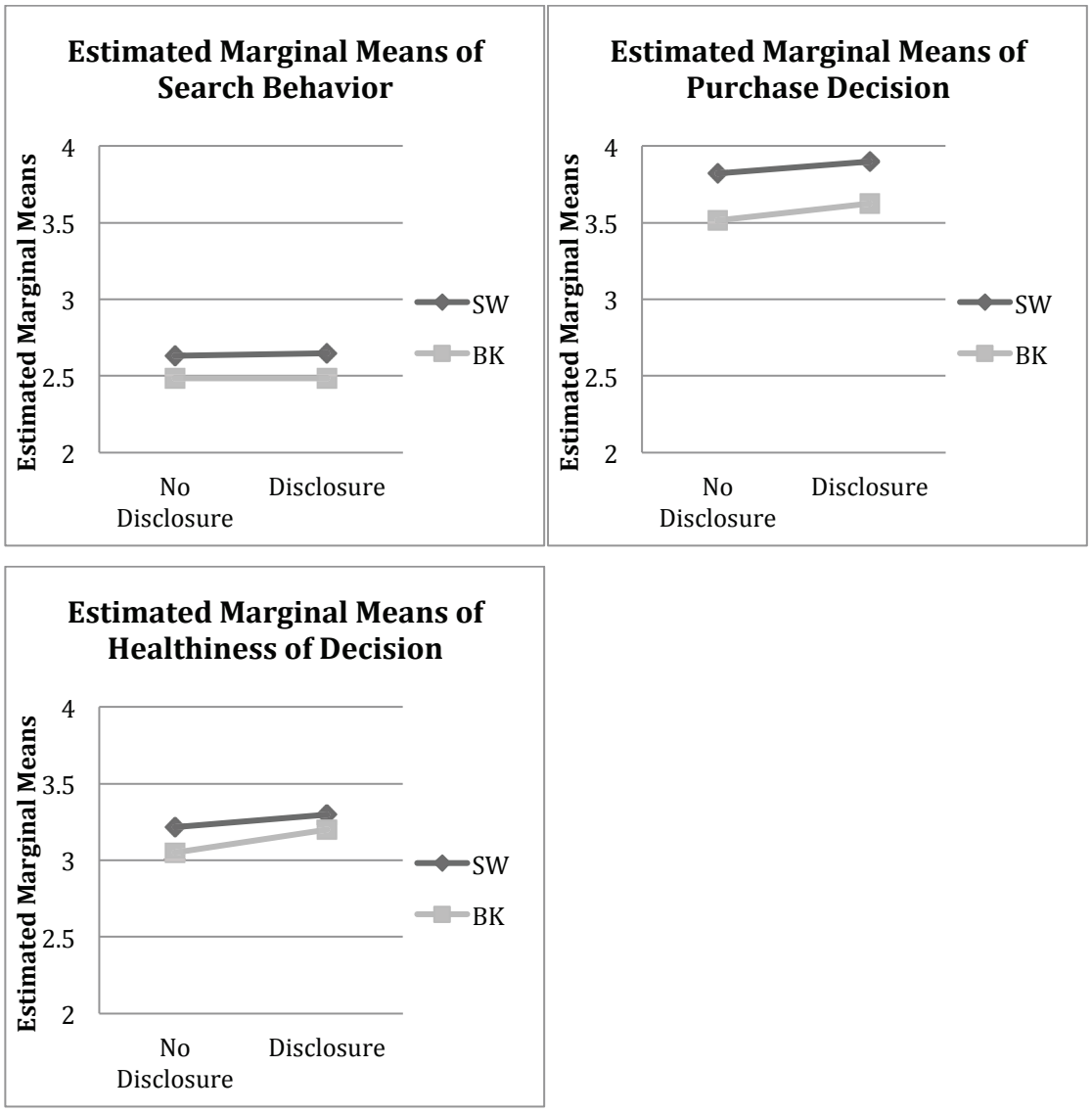



***Figure 3: Estimated marginal means for 3 Factors of PI, Study 1***

***Consumers showed more positive PI in the second factor (Purchase decision) for both fast foods and the effect of fast food is significant for this factor (p= 0.008). The difference of disclosure and no disclosure is not significant for PI factors.***

## STUDY 2: One-sided versus Two-sided Affirmative Disclosure

Based on results of Study 1, it also posited that the addition of one-sided versus two-sided messages might yield improved understanding of the constructs being studied.

### Hypotheses

Previous studies indicate that two-sided messages lead to more credibility perceptions and less counterargument (Bohner et al. 2003; Kamins and Assael 1987). The presentation of negative attributes of product is against an advertiser's self-interest to sell the product and consumer may deem the advertiser to be trustworthier than if the ad only presents positive attributes (Schlosser 2011). Pechmann (1992) emphasizes two-sided ads are more effective than one-sided ads when they are presenting attributes that are negatively correlated.

However, it is also in the literature that presenting negative attributes is risky. Providing negative information helps consumers in trusting the source, but it jeopardizes the process of evaluating the product in consumer's mind (Pechman 1992). Also it has been stated that although the negative information motivates consumers to process the ad, this may still lead to unfavorable attitude changes on the whole due to counterarguments (Crowley and Hoyer 1994). Eisend also stated that two-sided ads decreases product evaluation and it is likely that decrease in product evaluation lead to unfavorable changes in purchase intentions. Therefore:

***H2a.*** *Ads with one-sided messages lead to more favorable attitudes toward the ad than those with two-sided messages.*

***H2b.*** *Ads with one-sided messages lead to more favorable attitudes toward the brand than those with two-sided messages.*

***H2c.*** *Ads with one-sided messages lead to more favorable purchase intentions than those with two-sided messages.*

The interactions between fast food perception and the effect of affirmative disclosures were also considered. As previously stated, if a consumer has a prior negative attitude toward the brand, the ad will have greater effect (Crowley and Hoyer 1994). Also consumers expect unhealthy fast foods to have negative attributes and easily accept those

attributes but it is hard for them to accept the shortcomings of healthy fast food (Burton et al. 2009).

Therefore, the following hypotheses are proposed:

***H3a.*** *Healthier fast food choice has a positive effect on attitude toward the ad when one-sided message is disclosed.*

***H3b.*** *Healthier fast food choice has a positive effect on attitude toward the brand one-sided message is disclosed.*

***H3c.*** *Healthier fast food choice has a positive effect on purchase intention one-sided message is disclosed.*

## Participants and Design

Data was collected from a different set of 300 respondents that were taken from same online survey and randomly selected and US Census stratified. *152* participants were male (50.6%) and *148* were females (49.3%).

***Table 7: Sample Characteristics***

**Sample Characteristics (N=300)**

| | | | | |
|---|---|---|---|---|
| **Gender** | *Female: 49.3%* | *Male: 50.6%* | | |
| **Age** | *Min* = 22 | *Max = 85* | *Mean = 52.08* | *SD = 15.61* |
| 18-35 | 19% | | | |
| 36-55 | *36%* | | | |
| 56-75 | *40%* | | | |
| Over 76 | *5%* | | | |
| **Education** | *Mean = 3.51* | *SD = 1.427* | | |
| Some college | *31%* | | | |
| 5 years college degree | *21%* | | | |
| High school | *24%* | | | |
| **Income** | *Mean = 5.20* | *SD = 2.960* | | |
| Less than 20,000$ | *18%* | | | |
| 20,000$-40,000$ | *23%* | | | |
| 40,000$-60,000$ | *19%* | | | |
| 60,000$-80,000$ | *15%* | | | |
| 80,000$-100,000$ | *8%* | | | |
| Over 100,000$ | *8%* | | | |

The experimental design is a 3 (Disclosure: No disclosure vs. one-sided disclosure vs. two-sided disclosure) × 2 (Fast food: Subway vs. Burger King).

### *Manipulation Checks*

For the second study, to see whether respondents have noticed the difference between one-sided and two-sided messages, an ANOVA was conducted for three groups (no disclosure, one-sided, two-sided) and yielded $F = 3.456$, $p = .033$ (Question: I would watch this ad on TV or online).

## Procedure

The same procedure described in Study 1 was used here. Normality assumption was tested and the scales were analyzed for skewness and kurtosis. Each variable met the normality assumption. Also the z-score indicates that there were no outliers in our measures.

## RESULTS

### *Preliminary Analysis*

### *Data Reduction*

The procedure described in Study 1 was also used in Study 2 for data reduction.

#### *Aad*

Results showed that for Aad, 8 items had cross loadings on three factors and after omitting those items only the first factor was needed to explain the variation of this variable (eigenvalue = 11.39, 71.19% of variance explained). Therefore, for the following analyses the Aad variable was tested using only the results from the factor analysis.

***Table 8: Factor analysis of Aad scale***

| | **Factor 1*** |
|---|---|
| **Total eigenvalue** | 11.390 |
| **% Of variance** | 71.19 |
| **Cumulative % of variance** | 71.19 |
| **KMO = 0.966** | |

** Factor 1= Attitude toward the ad*

***Ab***

For Ab there were no items with cross loadings and most of the variance was explained by first two factors (eigenvalue for Factor One = 11.350, eigenvalue for factor Two = 1.271, 74.239% of total variance explained).

***Table 9: Factor analysis of Ab scale***

| | **Factor 1*** | **Factor 2**** |
|---|---|---|
| **Total eigenvalue** | 11.350 | 1.271 |
| **% Of variance** | 66.762 | 7.477 |
| **Cumulative % of variance** | 66.762 | 74.239 |
| **KMO = 0.957** | | |

* *Factor 1=Brand trust*

** *Factor 2= Relationship to brand*

***PI***

Regarding Purchase Intention (PI), results showed that after omitting 3 items, the remaining items loaded on three factors with no cross loading (eigenvalues = 5.571, 1.976, 1.121. 78.316% of total variance explained).

***Table 10: Factor analysis of PI scale***

| | **Factor 1*** | **Factor 2**** | **Factor 3***** |
|---|---|---|---|
| **Total eigenvalue** | 5.571 | 1.976 | 1.121 |
| **% Of variance** | 50.155 | 17.968 | 10.194 |
| **Cumulative % of variance** | 50.155 | 68.122 | 78.316 |
| **KMO = 0.885** | | | |

* *Factor 1= Purchase decision*

** *Factor 2= Healthiness of decision*

*** *Factor 3= Search behavior*

***Main analysis – Model and Hypothesis Testing***

The means and standard deviations for the variables used in the present study are shown in Table 11.

***Table 11: Descriptive Statistics for Participants and Measures***

| | **Total Sample** *(N = 300)* | | **Subway** *(N=140)* | | **Burger King** *(N=160)* | |
|---|---|---|---|---|---|---|
| | ***M*** | ***SD*** | ***M*** | ***SD*** | ***M*** | ***SD*** |
| **Attitude Toward Ad** | 3.375 | 0.928 | 3.485 | 0.852 | 3.280 | 0.983 |
| **Attitude Toward Brand** | 3.392 | 0.836 | 3.620 | 0.721 | 3.191 | 0.879 |
| Brand Trust | 3.609 | 0.799 | 3.895 | 0.676 | 3.359 | 0.816 |
| Relationship to Brand | 3.147 | 0.971 | 3.311 | 0.899 | 3.003 | 1.011 |
| **Purchase Intention** | | | | | | |
| Purchase Decision | 3.628 | 0.988 | 3.838 | 0.879 | 3.443 | 1.043 |
| Healthiness of Decision | 3.160 | 0.940 | 3.169 | 0.938 | 3.152 | 0.944 |
| Search Behavior | 2.536 | 0.963 | 2.514 | 0.928 | 2.556 | 0.995 |

One sidedness versus two sidedness of affirmative disclosure was analyzed using a 2-way analysis of variance (ANOVA) with sidedness disclosure (no disclosure vs. one-sided vs. two-sided) and fast food (Subway vs. Burger King). Significant results included the effect of the fast food choice on Aad, Ab with an effect on one factor of PI; Table 12 presents a summary of ANOVA results.

*Table 12: ANOVA results (F-Values)*

| | Main Model | P-value | Fast food | P-value | Disclosure | P-value |
|---|---|---|---|---|---|---|
| **Effects on Aad** | 1.810 | 0.111 | 3.970 | 0.047* | 1.393 | 0.250 |
| **Effects on Ab** | | | | | | |
| Brand Trust | 8.110 | 0.000** | 38.138 | 0.000** | 0.517 | 0.597 |
| Relationship to Brand | 1.864 | 0.100 | 7.646 | 0.006** | 0.289 | 0.749 |
| **Effects on PI** | | | | | | |
| Purchase Decision | 2.937 | 0.013* | 12.53 | 0.000** | 0.833 | 0.436 |
| Healthiness of Decision | 1.291 | 0.268 | 0.000 | 0.995 | 0.328 | 0.720 |
| Search Behavior | 0.643 | 0.667 | 0.133 | 0.715 | 0.812 | 0.445 |

The analysis showed that there was no significant difference between one-sided or two-sided message on Aad, Ab and PI. Therefore, H2a, H2b and H2c were rejected. Comparisons showed than there was a significant effect of fast food choice among participants on Aad (p= .047) and on Ab factors (p-values < .006); but among three factors of PI, the effect on first factor (Purchase Decision) was significant (p = .000). H3a, H3b and H3c are rejected due to the results since the interaction between fastfood and sidedness is not significant although the fast food choice choice is signifcant. Consumers exposed to the Subway two-sided ad did not respond in favorable way. On the contrary, respondants who saw the Burger King two-sided ad had more favorable Aad an Ab compared to the one-sided message.

The significant effect of disclosing positive and negative information in the ad is seen more dramatically when the figures and separate graphs for Subway and Burger King are studied. It is interesting to note that in case of healthier fast food (Subway), negative information actually has the reverse effect on consumers.

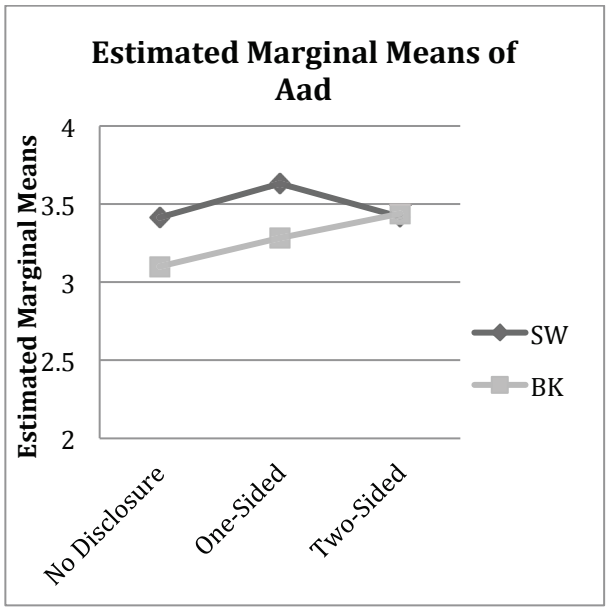



***Figure 4: Estimated marginal means for Aad, Study 2***

***Consumers showed more favorable Aad in response to two-sided message in the condition of unhealthier fast food (Burger King).***

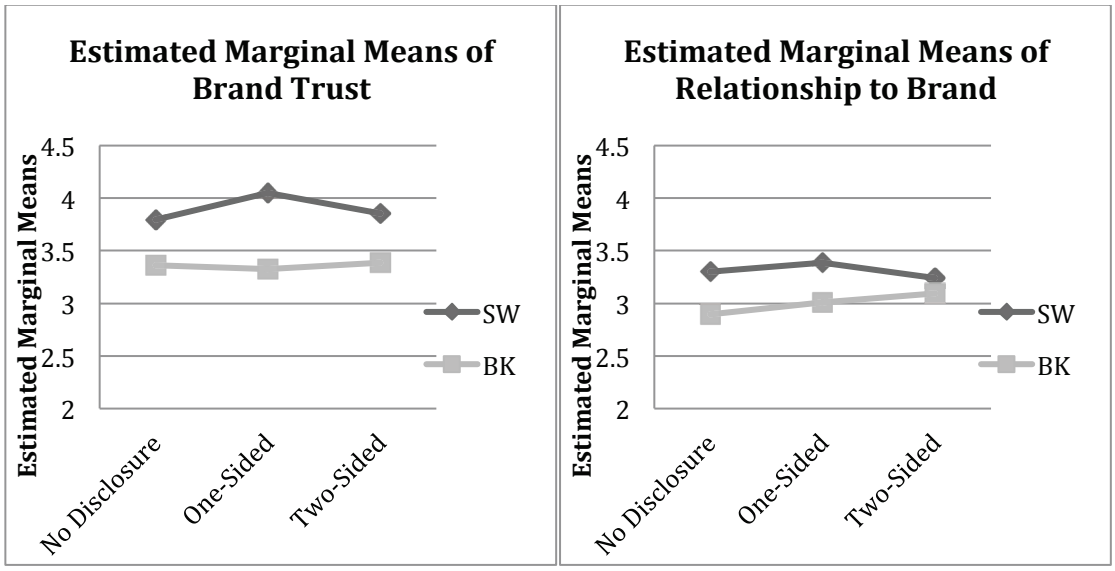



***Figure 5: Estimated marginal means for 2 Factors of Ab, Study 2***

***Consumers do not show a favorable Ab in response to two-sided message in the condition of healthier fast food (Subway). Interestingly, although for first factor of AB (Brand trust) three groups of consumers nearly respond the same, but two-sided message has more favorable effect on second factor (Relationship to brand) compared to one-sided message and no disclosure for Burger King.***

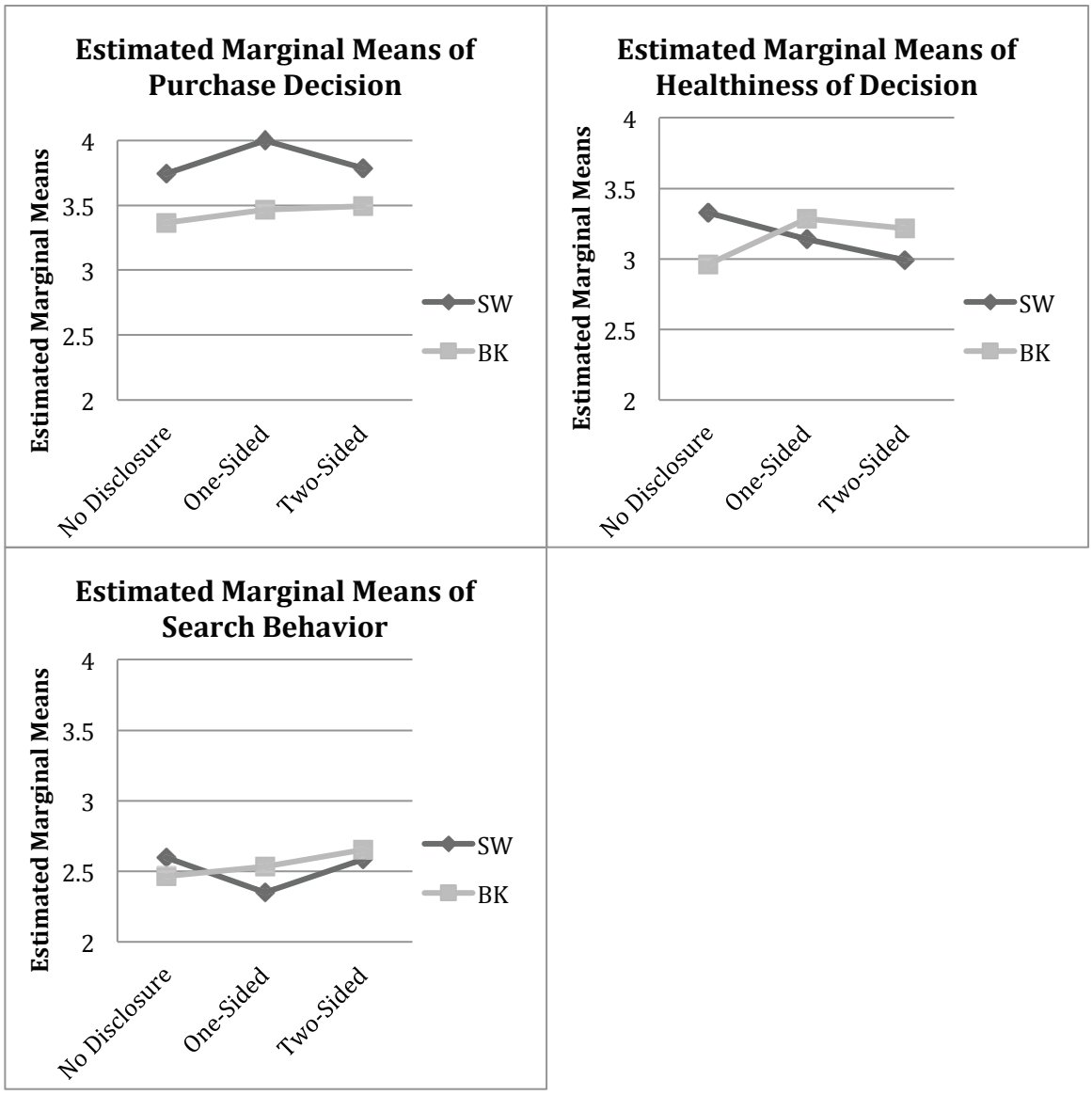



***Figure 6: Estimated marginal means for 3 Factors of PI, Study 1***

***In case of healthier fast food, participants responded more favorably to one-sided message for the first and second factor of PI (Purchase decision and Healthiness of decision). However, when the two-sided message is disclosed their PI is decreased. Interestingly, search behavior has increased in respond to two-sided message for both healthy and unhealthy fast food. For unhealthy fast food, the increasing trend in purchase decision is observed from no disclosure to one-sided disclosure, and from one-sided disclosure to two-sided disclosure.***

## STUDY 3: Healthy Lifestyle

Based on the partial significance shown on PI in Study 2, it was important to examine the possible effects of other variables on these constructs. Since there was no significant difference between one-sided and two-sided message, the difference between disclosure and no disclosure is evaluated in Study 3. In disclosure group there are some ads with one-sided message and some with two-sided message.

### Hypothesis

The focus in Study 3 is to determine the effect of different lifestyles and eating habits on consumers' attitude toward the ad and brand. Based on the differing goal desirability (Stewart and Martin 2004), the importance and effectiveness of disclosure may be greater for the consumers who perceive more benefits from eating healthy and place higher importance on healthy eating habits (Desrochers and Maddox 2013). As Burton et al. (2009) also concluded, there are significant differences when disclosed information confirms previous perception about food. Consumers who adopted healthy lifestyles pay more attention to the disclosures and nutrition labels; but since choosing healthy fast food is a part of their lifestyle, they are not as positively affected by the new disclosed information as those who follow moderate or unhealthy eating habits. Therefore:

***H4a.*** *The greater the importance of following a healthy lifestyle for participants, the more positive their attitude toward the ad.*

***H4b.*** *The greater the importance of following a healthy lifestyle for participants, the more positive their attitude toward the brand.*

***H4c.*** *The greater the importance of following a healthy lifestyle for participants, the more positive their likelihood of purchase.*

***H5a.*** *The effect of disclosure on attitude toward the ad is greater on consumers who lead on unhealthy lifestyle.*

***H5a.*** *The effect of disclosure on attitude toward the brand is greater on consumers who lead on unhealthy lifestyle.*

***H5a.*** *The effect of disclosure on purchase intention is greater on consumers who lead on unhealthy lifestyle.*

## Participants and Design

The third study was conducted with 100 participants. Data was collected online on iResearch and participants were randomly selected and US Census stratified. Sample characteristics are presented in Table 13.

A 2 (Disclosure: no disclosure vs. disclosure) × 2 (Healthy lifestyle: healthy vs. unhealthy) × 2 (Fast food: Subway vs. Burger King) was used to analyze H4 and H5.

***Table 13: Sample Characteristics***

**Sample Characteristics (N=100)**

| | | | | | |
|---|---|---|---|---|---|
| **Gender** | | *Female: 43%* | *Male: 57%* | | |
| **Age** | | *Min = 23* | *Max = 82* | *Mean = 50.51* | *SD = 15.78* |
| | 18-35 | *19%* | | | |
| | 36-55 | *40%* | | | |
| | 56-75 | *33%* | | | |
| | Over 76 | *8%* | | | |
| **Education** | | *Mean = 3.45* | *SD = 1.52* | | |
| | Some college | *27%* | | | |
| | High school | *25%* | | | |
| | 2 year college degree | *18%* | | | |
| **Income** | | *Mean = 5.14* | *SD = 2.91* | | |
| | Less than 20,000$ | *18%* | | | |
| | 20,000$-40,000$ | *20.5%* | | | |
| | 40,000$-60,000$ | *25%* | | | |
| | 60,000$-80,000$ | *20.5%* | | | |
| | 80,000$-100,000$ | *13%* | | | |
| | Over 100,000$ | *3%* | | | |

Thirty-one percent of the participants were neutral with regards to adopting a healthy lifestyle and excluded from the final analyses. After excluding them, 8% were in Low category (those who have answered very unlikely and unlikely) and 61% in High category (those who answered likely and very likely).

***Considerations: Healthy Lifestyle***

Two conflicting goals are noticeable when consumers make food consumption decisions: the hedonic goal of enjoying the taste of food and the utilitarian goal of following healthy lifestyle (Dhar and Simonson 1999; Fishbach, Friedman, and Kruglanski 2003). Allocating the priority to hedonic goals leads the consumer to choose the more tastier and sweeter option (also less healthy) over the healthier and less tasty one in the menu. Health primes can also leave the consumer with a guilty sense due to their unhealthy choices (Chandon and Wansink 2014).

Although the study examines differences between healthy vs. unhealthy fast food with a healthy life style may have a different approach than those that have moderate or low healthy life style. Body Mass Index (BMI) can be considered as one of the indicators of healthy life style, As Chou, Grossman, and Saffer (2004) have concluded, increase in fast food consumption contributes to increase in actual Body Mass Index (BMI). Also Wansink and Chandon (2006) indicated that for normal-weight people, low-fat labels only increase the consumption of healthy food; but for overweight people, it increases the consumption of all foods.

Based on outcome expectations, as it is in social-cognitive theory (Bandura 1986; 1997), the belief that certain decision will be helpful in accomplishing personal goals is part of motivation that an individual needs to take that (Desrochers and Maddox 2013). Although some consumers may have the desire to maintain in healthy weight and follow healthy dietary habit, however not all consumers are in agreement on the desirability of the goals (Stewart and Martin 2004). Those who show lower interest in maintaining in good weight or following certain eating habits may not pay attention to the health disclosure and not motivated by the announcement.

***Questionnaire Development***

A new segment of the questionnaire was added for Study 3. The scale for "adopting a healthy lifestyle" (HL) is a combination of statements that show how likely the consumer will follow a healthy lifestyle in eating or not. Items are self-reports of the importance of various dietary considerations.

There are several scales developed for measuring healthy eating habits from several aspects. Some of these scales come with a measure of "healthy" of "unhealthy" practices like eating breakfast (Steptoe and Wardle, 1999; Monneuse et al, 1997; Wardle et al, 2000a). However, they do not give a wide image of dietary habits. Kristal et al. (1990) developed a comprehensive scale for measuring adult fat-related healthy habits that was expanded to fiber-related habits by Shannon et al. (1997). Although this scale included several types of questions, its weak point was that the questions asked about specific situations. During 1994-96, the Diet and Health Knowledge Survey (US Department of Agriculture, 1996) was conducted and the items used in this questionnaire are drawn from that nationwide survey.

This variable measures how likely it is for a respondent to use certain nutrient with questions like "I plan to avoid foods that contain too much fat", "I plan on using sugar only in moderation", "I plan to avoid foods that contain too much salt or sodium" and "I plan to choose a diet with plenty of fruits & vegetables". This variable was measured using a 5-point Likert scale: *very unlikely, unlikely, neutral likely and very likely*. "Adopting Healthy Lifestyle" variable was an 11-item construct with a very good Cronbach alpha ($\alpha = 0.96$, $M = 40.74$, $SD = 10.46$).

***Manipulation Checks***

In the third study also respondents show that they have recognized the difference between ads with disclosure and without disclosure. A t-test yielded in $t = -2.002$, $p = .046$ (Question: I plan to avoid foods that contain too much fat).

## Procedure

The same procedures described in Study 1 and Study 2 were followed here. As in Study 1 and Study 2, normality tests for all the variables were acceptable.

## Results

***Preliminary analysis***

***Data reduction***

Factor analysis was undertaken for data reduction. The analysis revealed that some items cross-loaded on two or more factors.

***Aad***

For Aad, items loaded on three factors and after omitting 6 items that were cross loading there remains two factors (eigenvalue of Factor One = 11.16, eigenvalue of Factor Two = 1.372; 69.67% of total variance explained).

***Table 14: Factor analysis of Aad scale***

| | **Factor 1*** | **Factor 2** |
|---|---|---|
| **Total eigenvalue** | 11.169 | 1.372 |
| **% Of variance** | 62.050 | 7.623 |
| **Cumulative % of variance** | 62.050 | 69.674 |
| **KMO = 0.941** | | |

** Factor 1= Attitude toward the ad*

Out of 18 items, only 2 items loaded on second factor and those two items did not qualitatively differ from first factor's items in their content. Therefore, the analysis was conducted with only the first factor.

***Ab***

For Ab there were 5 items with cross loadings and those were deleted. The final items loaded on three factors (eigenvalue of Factor One = 7.497; eigenvalue of Factor Two = 1.103; eigenvalue of Factor Three = 1.048; 80.403% of total variance explained).

***Table 15: Factor analysis of Ab scale***

| | **Factor 1*** | **Factor 2**** | **Factor 3** |
|---|---|---|---|
| **Total eigenvalue** | 7.497 | 1.103 | 1.048 |
| **% Of variance** | 62.472 | 9.194 | 8.736 |
| **Cumulative % of variance** | 62.472 | 71.666 | 80.403 |
| **KMO = 0.903** | | | |

** Factor 1= Relationship to brand*

*** Factor 2= Competitive healthiness*

As with Aad, there was only one item that loaded on third factor and it was not qualitatively different from the items in the first and second factors; thus the study was analyzed with only two factors.

***PI***

After omitting four items from Purchase Intention items, the variation of the items was explained by three factors (eigenvalue of Factor One = 4.653; eigenvalue of Factor Two = 1.771; eigenvalue of Factor Three = 1.006; 82.585% of total variance explained).

***Table 16: Factor analysis of PI scale***

| | **Factor 1*** | **Factor 2**** | **Factor 3***** |
|---|---|---|---|
| **Total eigenvalue** | 4.653 | 1.771 | 1.006 |
| **% Of variance** | 51.703 | 19.681 | 11.180 |
| **Cumulative % of variance** | 51.703 | 71.384 | 82.565 |
| **KMO = 0.828** | | | |

** Factor 1= Purchase decision*

*** Factor 2= Healthiness of decision*

**** Factor 3= Search behavior*

***Healthy lifestyle***

Healthy lifestyle items loaded on one factor and the factor was explaining 73.873% of total variance.

***Table 17:Factor analysis of HL scale***

| | **Factor 1** |
|---|---|
| **Total eigenvalue** | 8.126 |
| **% Of variance** | 73.875 |
| **Cumulative % of variance** | 73.875 |
| **KMO = 0.919** | |

***Main Analysis – Model and Hypothesis Testing***

The means and standard deviations for the variables used in the present study are shown in Table 18.

*Table 18: Descriptive statistics for variables and measures*

| | Total Sample (N = 69) | | Subway (N=34) | | Burger King (N=35) | |
|---|---|---|---|---|---|---|
| | ***M*** | ***SD*** | ***M*** | ***SD*** | ***M*** | ***SD*** |
| **Attitude Toward Ad** | 3.331 | 1.047 | 3.424 | 1.176 | 3.241 | 0.913 |
| **Attitude Toward Brand** | | | | | | |
| Relationship to Brand | 2.993 | 1.078 | 3.096 | 1.152 | 2.893 | 1.008 |
| Competitive Healthiness | 3.630 | 1.012 | 3.845 | 1.078 | 3.421 | 0.911 |
| **Purchase Intention** | | | | | | |
| Purchase Decision | 3.550 | 1.217 | 3.588 | 1.313 | 3.514 | 1.135 |
| Healthiness of Decision | 3.299 | 1.077 | 3.176 | 1.116 | 3.419 | 1.039 |
| Search Behavior | 2.357 | 1.048 | 2.264 | 0.983 | 2.447 | 1.114 |

The $2 \times 2 \times 2$ two-way ANOVA analysis was conducted with disclosure, fast food and healthy lifestyle as the three variables. The analysis yielded no significant effect of disclosure on Aad, Ab or PI (Table 19); choice of fast food had no significant effect.

*Table 19: First ANOVA results (F-Values)*

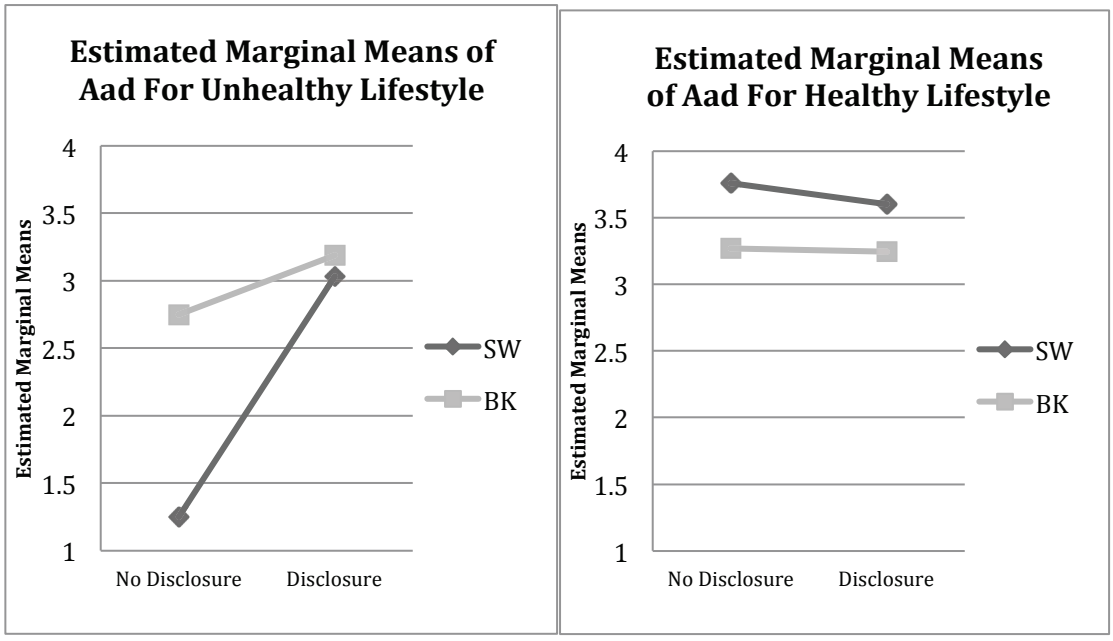
| | Main Model | P-value | Fast food | P-value | Disclosure | P-value | Healthy Lifestyle | P-value |
|---|---|---|---|---|---|---|---|---|
| **Effect on Aad** | 1.718 | 0.122 | 0.209 | 0.649 | 1.316 | 0.256 | 4.254 | 0.043* |
| **Effect on Ab** | | | | | | | | |
| Relationship to Brand | 1.408 | 0.218 | 0.417 | 0.521 | 1.746 | 0.191 | 6.492 | 0.013* |
| Competitive Healthiness | 6.013 | 0.000** | 1.715 | 0.195 | 9.721 | 0.003** | 22.957 | 0.000** |
| **Effect on PI** | | | | | | | | |
| Purchase Decision | 1.888 | 0.087 | 2.451 | 0.123 | 0.286 | 0.595 | 12.158 | 0.001** |
| Healthiness of Decision | 3.795 | 0.002** | 0.401 | 0.529 | 7.773 | 0.007** | 6.459 | 0.014* |
| Search Behavior | 1.098 | 0.376 | 1.52 | 0.698 | 0.168 | 0.683 | 6.111 | 0.016* |

There was no significant interaction between healthy lifestyle and fast food or disclosure. However, Figures 7-9 show that consumers with healthy lifestyle had a greater Aad, Ab and PI (H4a, H4b and H4c). This group recorded a higher score on Aad, Ab and PI for both the disclosure and no disclosure condition. The effect of affirmative

disclosure was significant for one of the Ab factors (Competitive healthiness F= 9.721, p= .003) and one factor of PI (Healthiness of decision F= 7.773, p= .007). The effect of healthiness of lifestyle is significant on Aad, Ab and PI (all p-values< 0.04).

Those who follow a healthy lifestyle have a higher score on Aad and Ab; however those who have unhealthy lifestyle show greater difference between the two conditions of disclosure and no disclosure. In terms of Purchase Intentions, healthy lifestyle group does not express great difference between disclosure and no disclosure. Interestingly, in unhealthy lifestyle group, affirmative disclosure has different effect on purchase decision (first factor of PI) for healthy and unhealthy fast food. Although disclosures have favorable effect for healthier fast food (subway), but for unhealthier fast food it decreases the purchase decision. Even more interesting is that on the contrary disclosures have negative effect on healthiness of decision (second factor of PI) for healthy fast food fast food while they have great favorable effect on unhealthier fast food (Burger King). In other words, participants who follow a healthy lifestyle have higher scores in attitude toward the ad, brand and purchase intentions; those who do not follow a healthy lifestyle expressed greater change in their Aad, Ab when exposed to health disclosure compared to no disclosure.

***Figure 7: Estimated marginal means for Aad, Study 3, First ANOVA***



***For those with unhealthy lifestyles, disclosure leads to a more favorable attitude toward unhealthier option, although the means are not significantly different. When there is no disclosure, Aad toward the healthier fast food is lower than with the unhealthier option.***
***For those who follow a healthy lifestyle, Aad is more favorable toward the healthier fast food. As shown in the figure, the difference is not significant.***

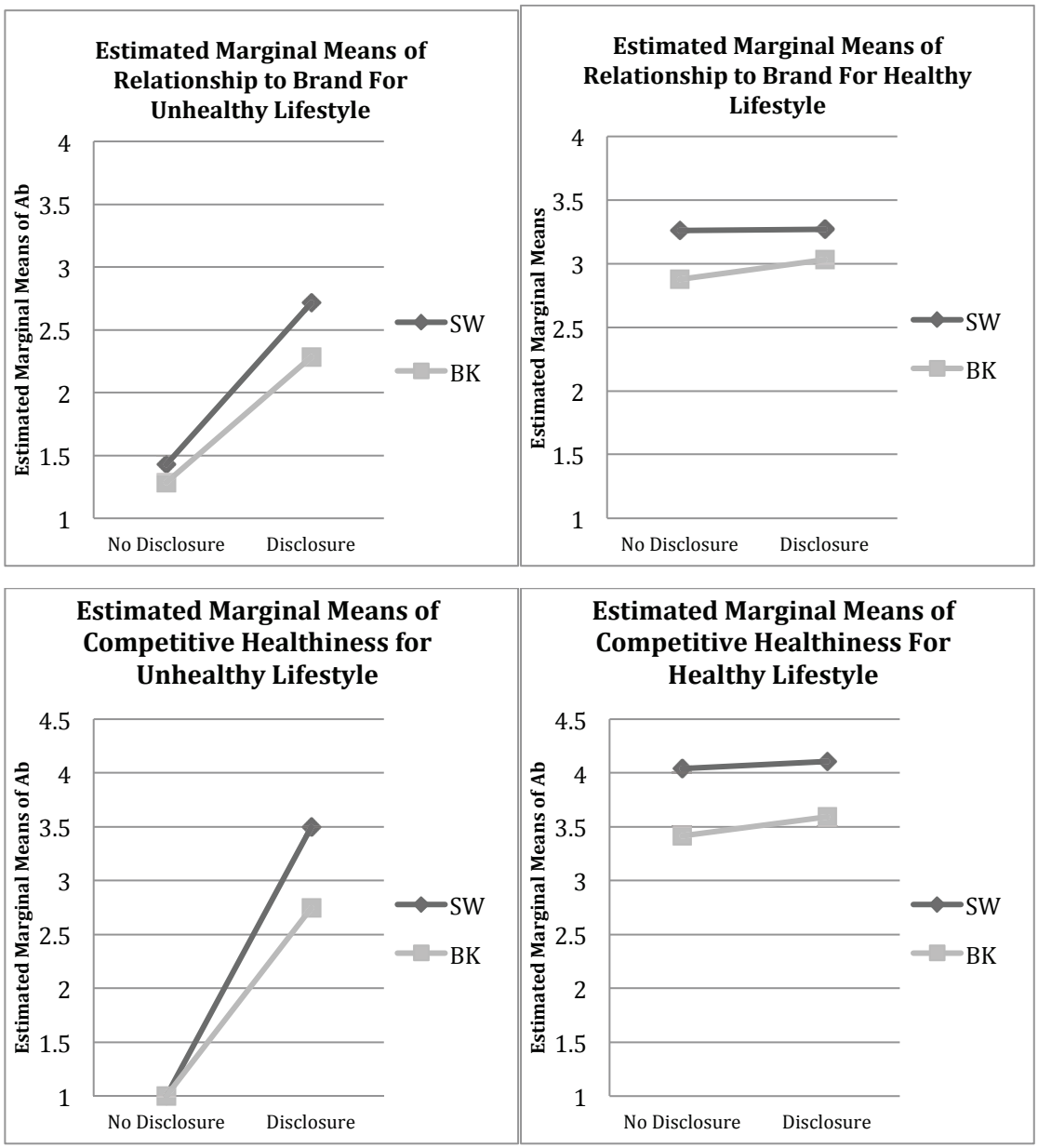



***Figure 8: Estimated marginal means for 2 Factors of Ab, Study 3, First ANOVA***

***Those who have unhealthy lifestyle expressed greater difference between the two conditions of disclosure and no disclosure for both healthy and unhealthy fast food. For both fast foods, as the diagrams show, having disclosure does not make a change in Ab for consumers with healthy lifestyle when compared to no disclosure.***

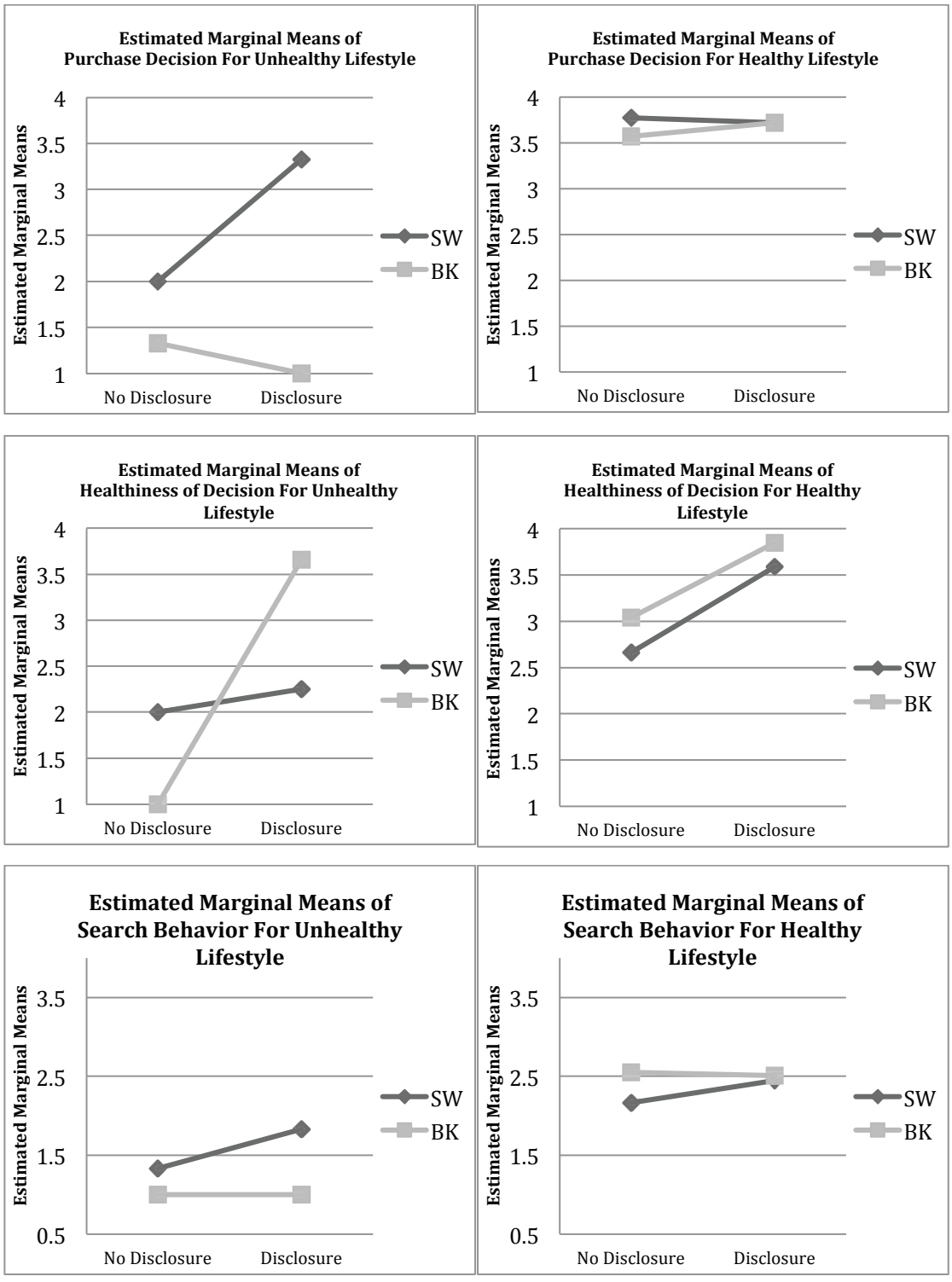



***Figure 9: Estimated marginal means for PI, Study 3, First ANOVA***

***Disclosures have same effect on PI for those who follow healthy lifestyle for both healthy and unhealthy fast food. For those with healthy lifestyle, disclosures do not make change in their purchase decision and search behavior. But for healthiness of decision the effect of disclosure is significant (p= .007).***
***In unhealthy lifestyle group, disclosures have contrary effect on purchase decision and healthiness of decision between healthy and unhealthy fast food. Although disclosures have favorable effect on purchase decision for***

***healthier fast food (subway), but for unhealthier fast food it decreases the purchase decision. On the contrary affirmative disclosures have negative effect on healthiness of decision for healthy fast food while they have favorable effect on unhealthier fast food (Burger King).***

Additional analysis was conducted for further confirmation of the first ANOVA (Table 20). Since in the first ANOVA results there was no significant effect of fast food, another ANOVA was conducted with only two other independent variables, disclosure and healthiness of lifestyle.

***Table 20: Second ANOVA results (F-Values)***

| | Main Model | P-value | Disclosure | P-value | Healthy Lifestyle | P-value |
|---|---|---|---|---|---|---|
| **Effect on Aad** | 2.781 | 0.048* | 2.930 | 0.092 | 6.754 | 0.012* |
| **Effect on Ab** | | | | | | |
| Relationship to Brand | 3.004 | 0.037* | 3.137 | 0.081 | 7.077 | 0.000** |
| Competitive Healthiness | 11.158 | 0.000** | 16.201 | 0.000** | 22.791 | 0.000** |
| **Effect on PI** | | | | | | |
| Purchase Decision | 3.244 | 0.028* | 1.700 | 0.197 | 9.017 | 0.004** |
| Healthiness of Decision | 7.546 | 0.000** | 4.920 | 0.030* | 10.954 | 0.002** |
| Search Behavior | 2.255 | 0.090 | 0.370 | 0.545 | 6.588 | 0.013* |

The results of the second analysis show a significant effect of healthy lifestyle on Aad, Ab and PI. The main model is significant for Aad, Ab and two factors of PI (all p-values< .04). As it can be noticed in the figures, unhealthy lifestyle participants have shown a greater change in Aad and Ab when they are exposed to health disclosures (H5a and H5b). Those with a healthy lifestyle are not affected more favorably by the disclosures but those with an unhealthy lifestyle express a great change in their competitive healthiness when exposed to disclosure compared to no disclosure. However, those who follow a healthy lifestyle also have a more favorable Aad, Ab and PI when exposed to disclosure (H4a, H4b and H4c). Competitive healthiness and healthiness of decision are significantly affected by disclosure and healthiness of lifestyle. Unhealthy lifestyle participants show a slightly greater change on the PI.

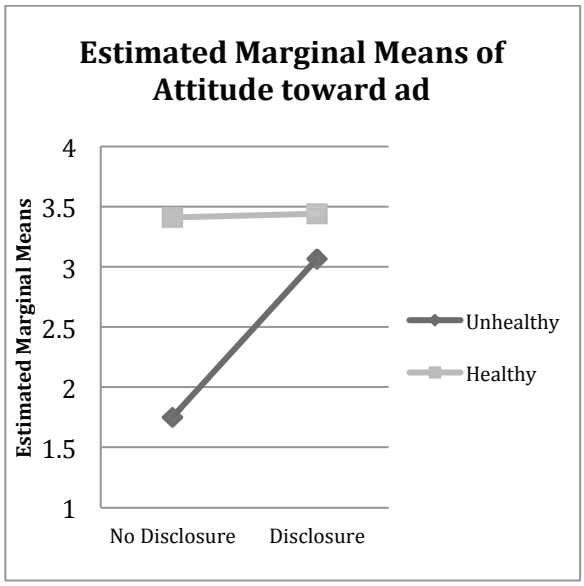



***Figure 10: Estimated marginal means for Aad, Study 3, Second ANOVA***

***Regardless of fast food's level of healthiness, participants with a healthy lifestyle show that disclosure does not make difference in their Aad. For those who do not follow a healthy lifestyle, disclosure has a greater effect on their Aad when compared to no disclosure.***

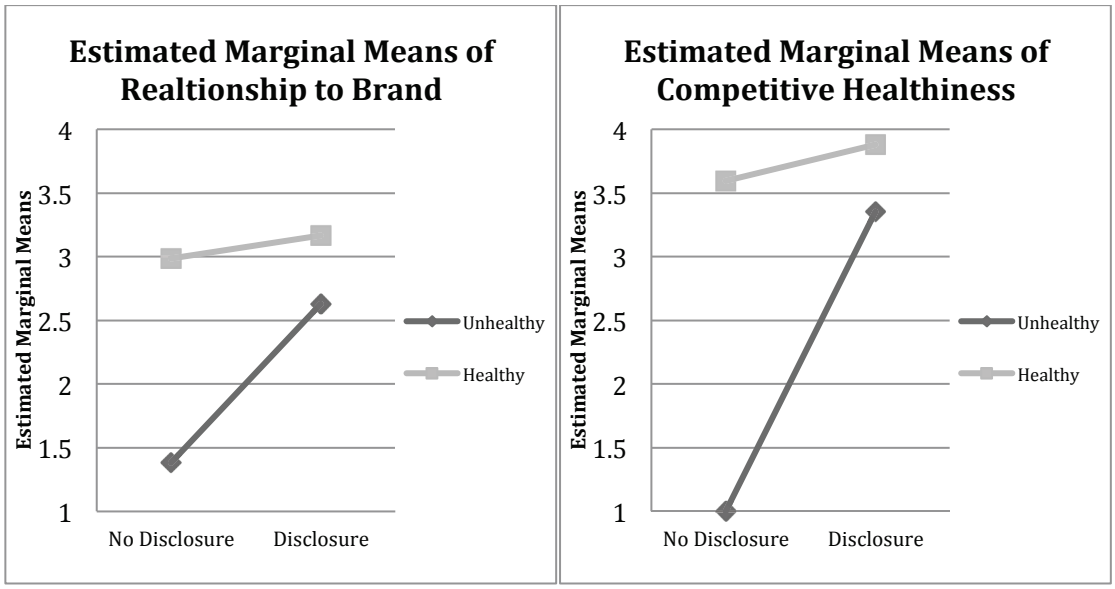



***Figure 11: Estimated marginal means for 2 Factors of Ab, Study 3, Second ANOVA***

***As with Aad, Ab is more favorably affected when participants have an unhealthy lifestyle. Unhealthy lifestyle participants show a greater change in Ab (especially in competitive healthiness) when they are exposed to affirmative disclosure.***

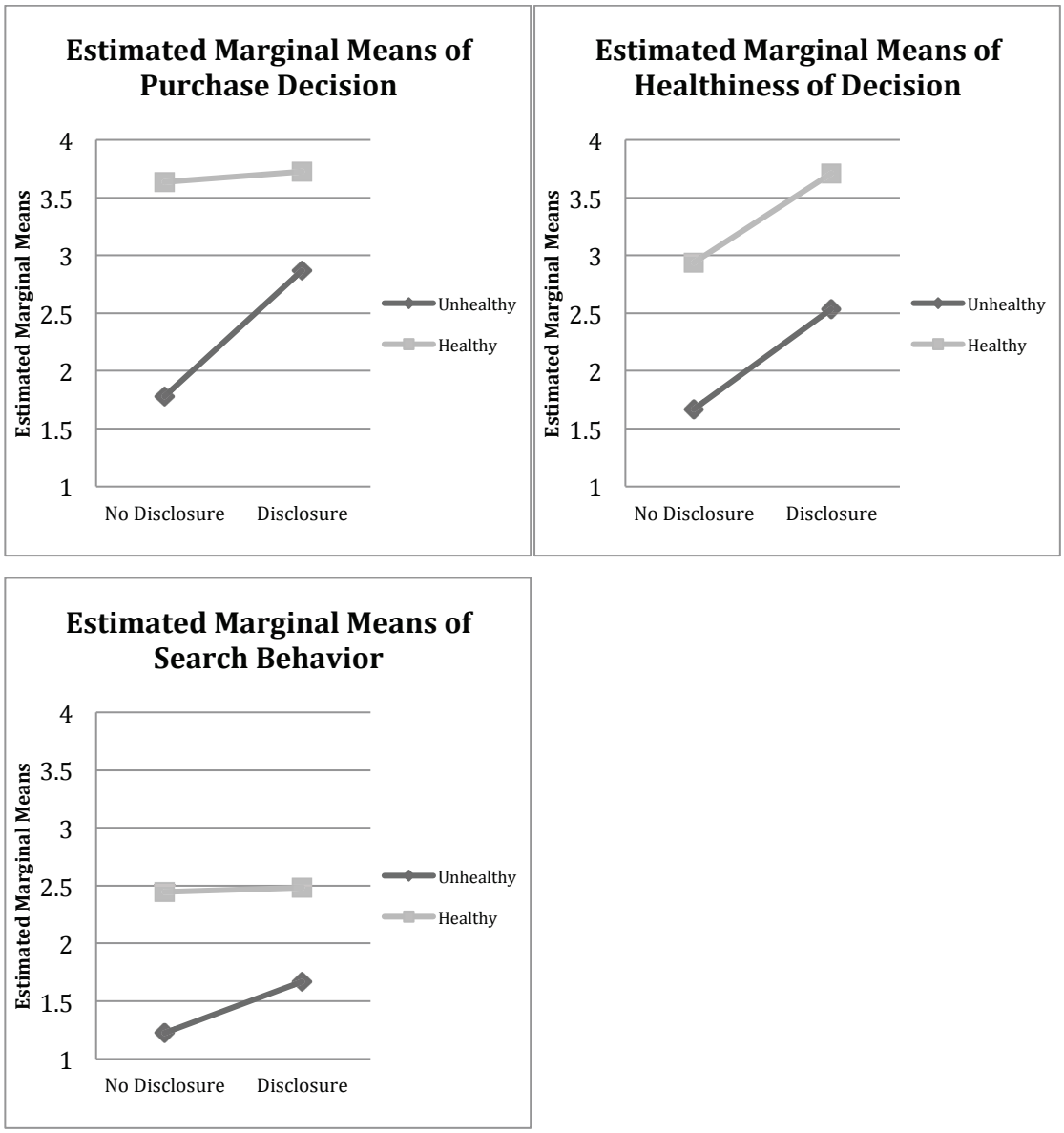



***Figure 12: Estimated marginal means for 3 Factors of PI, Study 3, Second ANOVA***

***Unhealthy lifestyle participants show a slightly greater change in PI. However, regardless of changes from no disclosure to the disclosure condition, participants with healthy lifestyles have more positive PI.***

## POST-ANALYSIS: EFFECT OF BRANDING VARIABLE ON OTHER VARIABLES

Although not all initial hypotheses were supported, in order to test whether brand attitude has effect on results, participants were divided in two groups of low attitudes and high attitudes due to their brand attitude to see if Ab affects Aad and PI.

### Study 1

#### *Ab- Factor 1 (Relationship to Brand)*

The means and standard deviations for the variables used in the post-analysis of Study1 (Ab-Factor1) are shown in following table. 121 participants out of 300 were neutral so they were taken out of the follow up analysis.

***Table 21: Descriptive Statistics for Participants and Measures***

| | **Total Sample** *(N for Ab factor1 = 171) (N for Ab factor2 = 193)* | | **Subway** *(N for Ab factor1 = 86) (N for Ab factor2 = 114)* | | **Burger King** *(N for Ab factor1 = 85) (N for Ab factor2 = 73)* | |
|---|---|---|---|---|---|---|
| | ***M*** | ***SD*** | ***M*** | ***SD*** | ***M*** | ***SD*** |
| **Ab Factor 1 on Aad** | 3.331 | 1.117 | 3.535 | 0.995 | 3.125 | 1.200 |
| **Ab Factor 2 on Aad** | 3.525 | 0.949 | 3.619 | 0.808 | 3.388 | 1.113 |
| **Ab Factor 1 on PI** | | | | | | |
| Search Behavior | 2.530 | 1.069 | 2.654 | 1.068 | 2.402 | 1.055 |
| Purchase Decision | 3.747 | 1.116 | 3.918 | 1.055 | 3.573 | 1.155 |
| Healthiness of Decision | 3.265 | 1.055 | 3.329 | 1.005 | 3.200 | 1.105 |
| **Ab Factor 1 on PI** | | | | | | |
| Search Behavior | 2.630 | 0.946 | 2.684 | 0.931 | 2.550 | 0.968 |
| Purchase Decision | 3.989 | 0.886 | 4.098 | 0.777 | 3.832 | 1.007 |
| Healthiness of Decision | 3.276 | 0.929 | 3.324 | 0.866 | 3.206 | 1.015 |

A $2 \times 2 \times 2$ experiment (fast food, disclosure and Ab) was conducted with the Study1 data to examine the effects of these variables on Aad and PI. Following table provides the F-statistics for the ANOVA calculations. There was no significant effect of

fast food and disclosure on Aad and PI (all p-values > .19). The effect of Ab-Factor1 (Relationship to Brand) on Aad and PI was confirmed (all p-values < .000).

***Table 22: Effect of Ab Factor1 (F-values)***

| | Main Model | P-value | Fast food | P-value | Disclosure | P-value | Ab-Factor1 | P-value |
|---|---|---|---|---|---|---|---|---|
| **Effects on Aad** | 38.82 | 0.000** | 0.748 | 0.388 | 1.675 | 0.197 | 235.07 | 0.000** |
| **Effect on PI** | | | | | | | | |
| Search Behavior | 15.38 | 0.000** | 0.056 | 0.814 | 0.082 | 0.775 | 96.691 | 0.000** |
| Purchase Decision | 32.69 | 0.000** | 0.009 | 0.926 | 0.409 | 0.523 | 210.869 | 0.000** |
| Healthiness of Decision | 4.099 | 0.000** | 0.219 | 0.640 | 0.161 | 0.689 | 2.580 | 0.000** |

Same as the results of Study1, post-analysis of Study1 shows that there is no difference between the effect of ad with disclosure and ad without disclosure on consumers' Aad and PI.

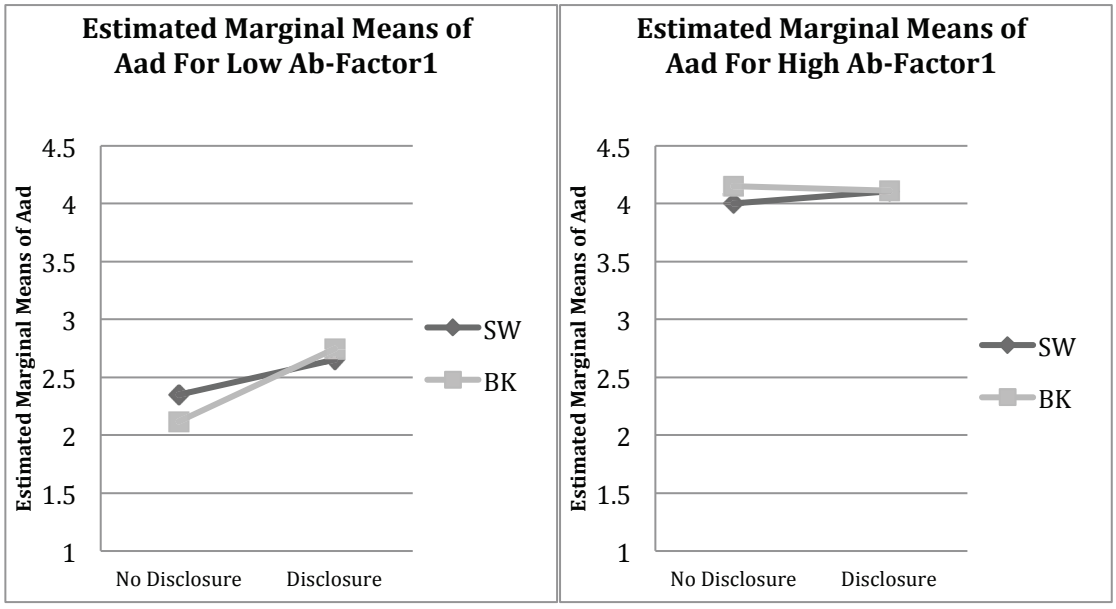
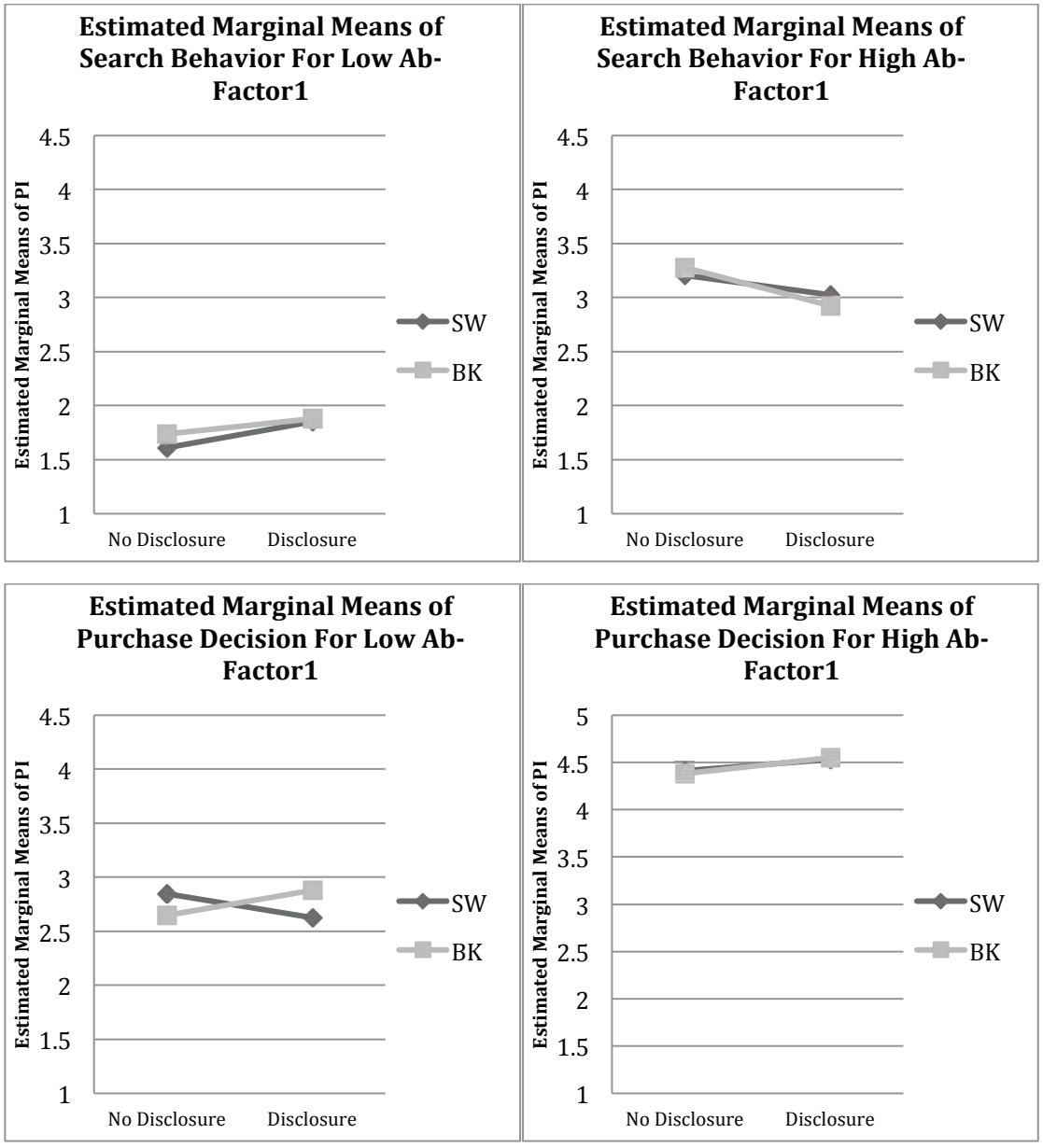



***Figure 13: Estimated marginal means for Aad, Post analysis of Study1 (Ab-Factor1)***

***Participants with low Relationship to the brand express some changes due to viewing ad with affirmative disclosure, but for those with high Ab there is no difference between ads with affirmative disclosure and no affirmative disclosure. There is a significant difference between the effect of high and low Ab-Factor1 (Relationship to Brand) on Aad.***



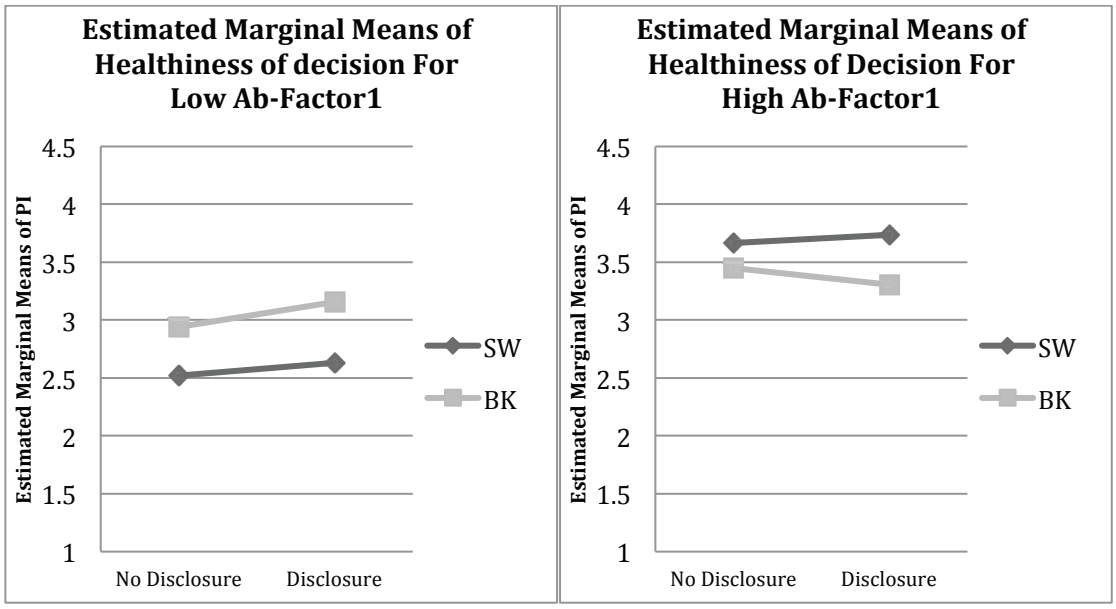



***Figure 14: Estimated marginal means for three factors of PI, Post analysis of Study1 (Ab-Factor1)***

***Consumers showed more positive PI in the condition of high Relationship to brand. The difference of disclosure and no disclosure is not significant for PI factors.***

### *Ab- Factor 2 (Healthiness of Brand)*

The means and standard deviations for the variables used in the post-analysis of Study1 (Ab-Factor2) are shown in following table. 107 participants out of 300 were neutral so they were taken out of the follow up analysis.

Following table provides the F-statistics for the ANOVA calculations. There was no significant effect of fast food on Aad and PI (all p-values > .18). Disclosure is marginally significant on Search Behavior (p= .054). The effect of Ab-Factor2 (Healthiness of Brand) was significant on Aad and Purchase Decision (p-values < .000).

***Table 23: Effect of Ab-Factor2 (F-values)***

| | **Main Model** | **P-value** | **Fast food** | **P-value** | **Disclosure** | **P-value** | **Ab-Factor1** | **P-value** |
|---|---|---|---|---|---|---|---|---|
| **Effects on Aad** | 5.937 | 0.000** | 0.750 | 0.388 | 0.498 | 0.481 | 17.922 | 0.000** |
| **Effect on PI** | | | | | | | | |
| Search Behavior | 1.990 | 0.069 | 0.003 | 0.957 | 3.753 | 0.054* | 1.668 | 0.198 |
| Purchase Decision | 5.110 | 0.000** | 0.604 | 0.438 | 1.810 | 0.180 | 7.2887 | 0.008** |
| Healthiness of Decision | 0.552 | 0.768 | 0.103 | 0.748 | 2.407 | 0.122 | 0.003 | 0.959 |

Those with higher concerns about Healthiness of Brand express more favorable Purchase Decision. The effect of Healthiness of Brand on other factors of PI is not significant.

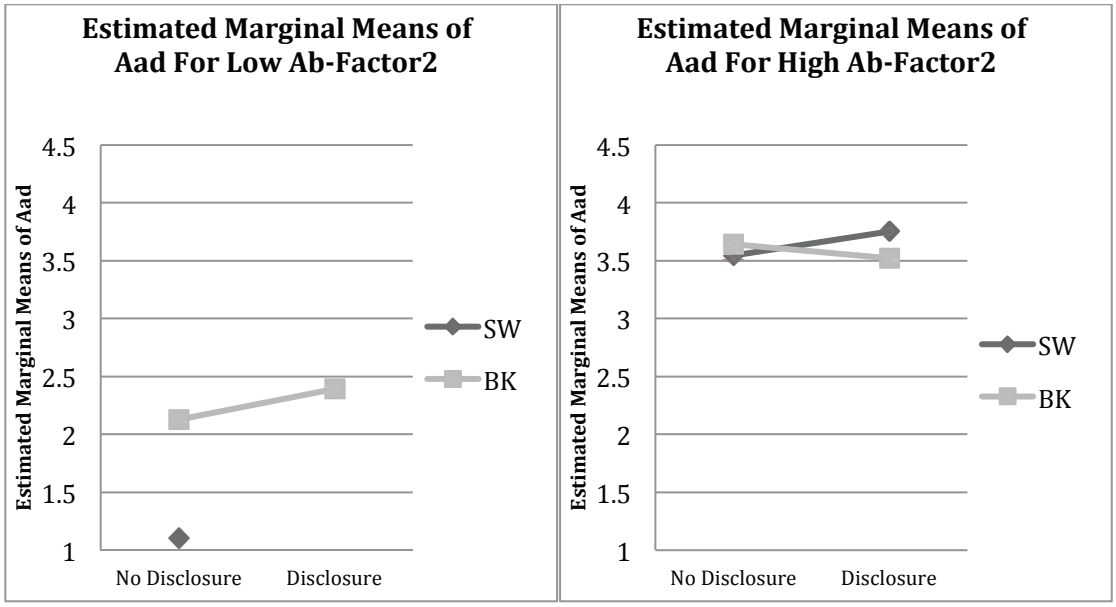
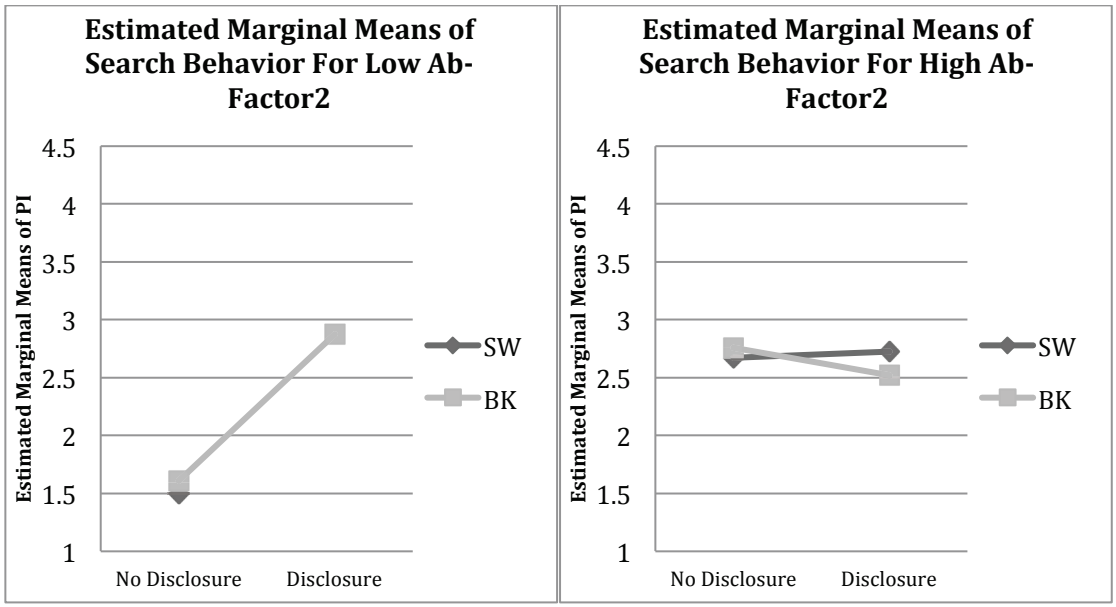



***Figure 15: Estimated marginal means for Aad, Post analysis of Study1 (Ab-Factor2)***

***There is a significant difference between the effect of high and low Ab-Factor2 (Healthiness of Brand) on Aad.***



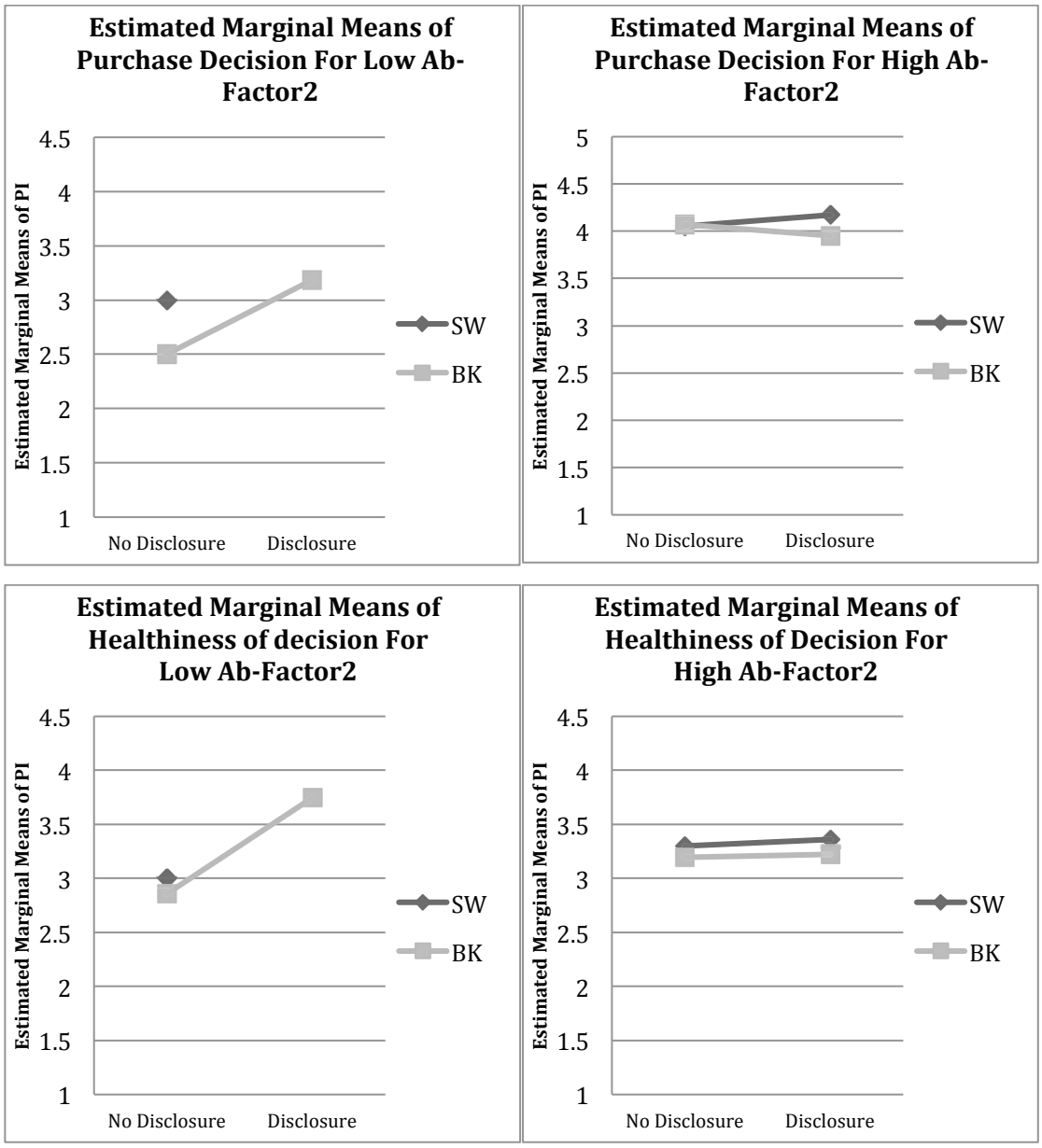



***Figure 16: Estimated marginal means for three factors of PI, Post analysis of Study1 (Ab-Factor2)***

***Participants showed more favorable search behavior in response to presence of affirmative disclosure. More positive Purchase Decision in the condition of higher Healthiness of Brand is observed.***

## Study 2

### *Ab- Factor 1 (Brand Trust)*

The means and standard deviations for the variables used in the post-analysis of Study2 (Ab-Factor1) are shown in following table. 112 participants out of 300 were neutral so they were taken out of the follow up analysis.

***Table 24: Descriptive Statistics for Participants and Measures***

| | **Total Sample** *(N for Ab factor1 = 188) (N for Ab factor2 = 166)* | | **Subway** *(N for Ab factor1 = 106) (N for Ab factor2 = 79)* | | **Burger King** *(N for Ab factor1 = 82) (N for Ab factor2 = 87)* | |
|---|---|---|---|---|---|---|
| | ***M*** | ***SD*** | ***M*** | ***SD*** | ***M*** | ***SD*** |
| **Ab Factor 1 on Aad** | 3.604 | 0.908 | 3.681 | 0.828 | 3.504 | 1.136 |
| **Ab Factor 2 on Aad** | 3.405 | 1.141 | 3.576 | 1.046 | 3.250 | 1.206 |
| **Ab Factor 1 on PI** | | | | | | |
| Purchase Decision | 3.0930 | 0.984 | 4.100 | 0.735 | 3.712 | 1.205 |
| Healthiness of Decision | 3.312 | 0.983 | 3.320 | 0.930 | 3.300 | 1.053 |
| Search Behavior | 2.629 | 1.069 | 2.575 | 0.964 | 2.699 | 1.195 |
| **Ab Factor 2 on PI** | | | | | | |
| Purchase Decision | 3.603 | 1.217 | 3.858 | 1.068 | 3.372 | 1.301 |
| Healthiness of Decision | 3.202 | 1.120 | 3.261 | 1.097 | 3.149 | 1.144 |
| Search Behavior | 2.530 | 1.136 | 2510 | 1.063 | 2.547 | 1.205 |

The analysis confirmed the results of main analysis and showed that there was no significant difference between one-sided or two-sided message on Aad. Among three factors of PI, the effect of sidedness of message on second factor (Healthiness of Decision) was significant ($p = .012$). The difference between high and low Ab-Factor1 (Brand Trust) was significant (all p-values >.000).

*Table 25: Effect of Ab-Factor1 (F-values)*

| | Main Model | P-value | Fast food | P-value | Sidedness | P-value | Ab-Factor1 | P-value |
|---|---|---|---|---|---|---|---|---|
| **Effects on Aad** | 12.585 | 0.000** | 0.615 | 0.434 | 2.273 | 0.106 | 49.235 | 0.000** |
| **Effect on PI** | | | | | | | | |
| Purchase Decision | 15.048 | 0.000** | 0.143 | 0.706 | 1.394 | 0.251 | 61.062 | 0.000** |
| Healthiness of Decision | 2.746 | 0.004** | 6.394 | 0.012** | 0.416 | 0.660 | 16.704 | 0.000** |
| Search Behavior | 3.593 | 0.000** | 1.548 | 0.215 | 1.187 | 0.308 | 13.551 | 0.000** |

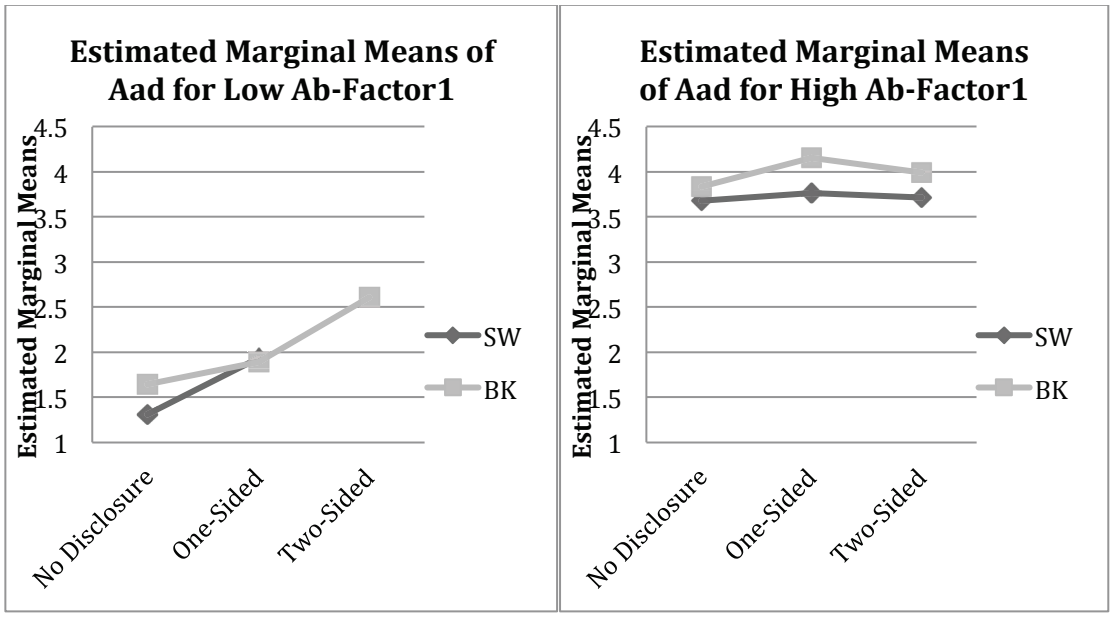



*Figure 17: Estimated marginal means of Aad, Post analysis of Study2 (Ab-Factor1)*

***Consumers showed more favorable Aad in response to two-sided message in the condition of low Brand Trust. In condition of high Brand Trust, three groups of consumers nearly respond the same.***

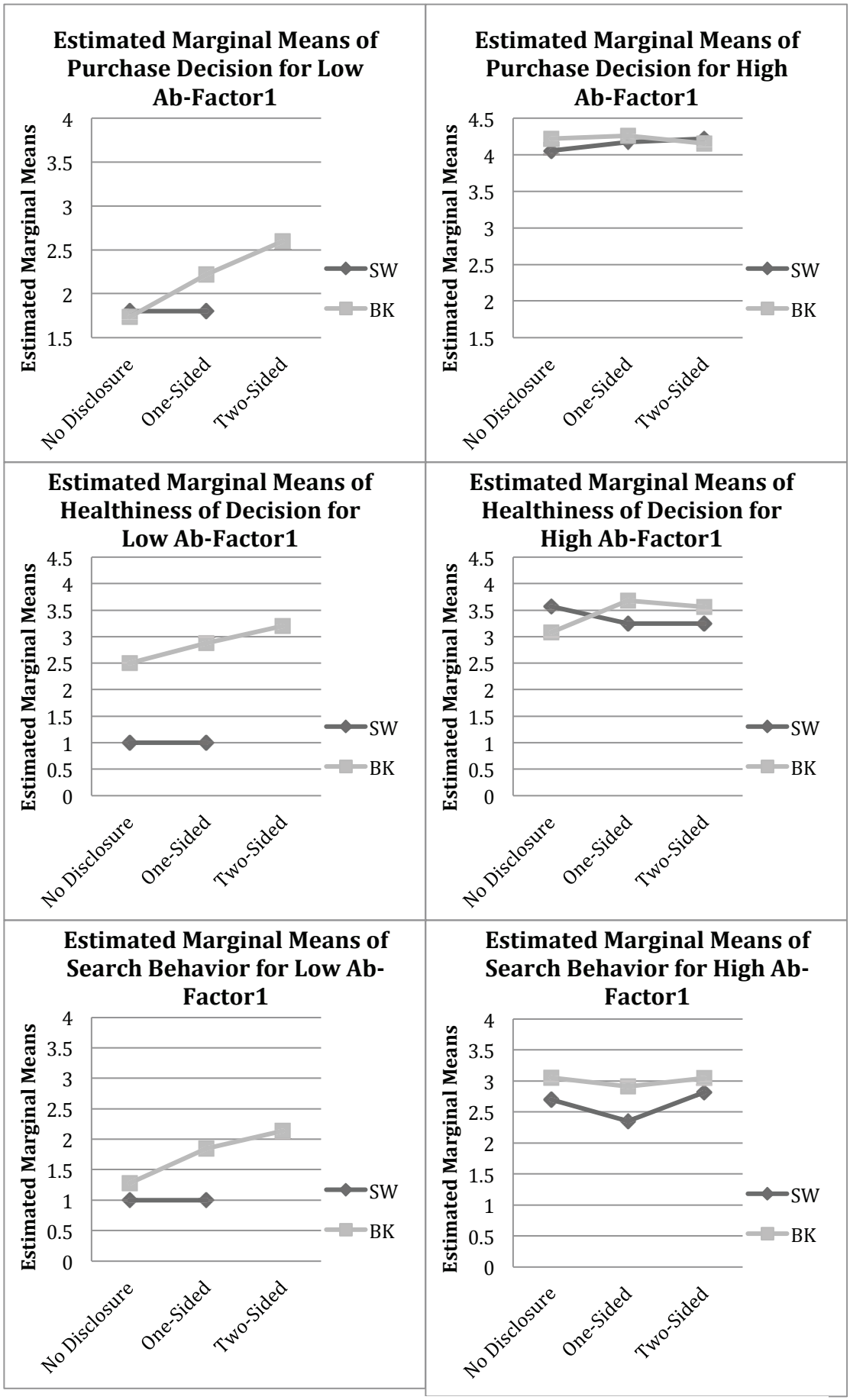



*Figure 18: Estimated marginal means for three factors of PI, Post analysis of Study2 (Ab-Factor1)*

***There is no different effect on consumer with high Brand Trust in viewing one-sided or two-sided message in the ad but for those with low Brand Trust, there is an increasing trend in PI toward unhealthier option from no disclosure to one-sided disclosure, and from one-sided disclosure to two-sided disclosure.***

### *Ab- Factor 2 (Relationship to Brand)*

The means and standard deviations for the variables used in the post-analysis of Study2 (Ab-Factor2) are shown in following table. 134 participants out of 300 were neutral so they were taken out of the follow up analysis.

There is a significant effect of fast food choice on one factor of PI (p= .034). Relationship to Brand has significant effect on Aad and PI (all p-values > .000).

***Table 25: Effect of Ab-Factor2 (F-values)***

| | **Main Model** | **P-value** | **Fast food** | **P-value** | **Disclosure** | **P-value** | **Ab-Factor1** | **P-value** |
|---|---|---|---|---|---|---|---|---|
| **Effects on Aad** | 25.436 | 0.000** | 0.435 | 0.510 | 0.425 | 0.654 | 247.769 | 0.000** |
| **Effect on PI** | | | | | | | | |
| Purchase Decision | 20.436 | 0.000** | 0.479 | 0.490 | 0.280 | 0.756 | 193.749 | 0.000** |
| Healthiness of Decision | 5.571 | 0.000** | 1.436 | 0.233 | 0.609 | 0.545 | 48.105 | 0.000** |
| Search Behavior | 7.929 | 0.000** | 4.555 | 0.034* | 1.427 | 0.243 | 76.313 | 0.000** |

Those with high Relationship to Brand have expressed more favorable Aad and PI.

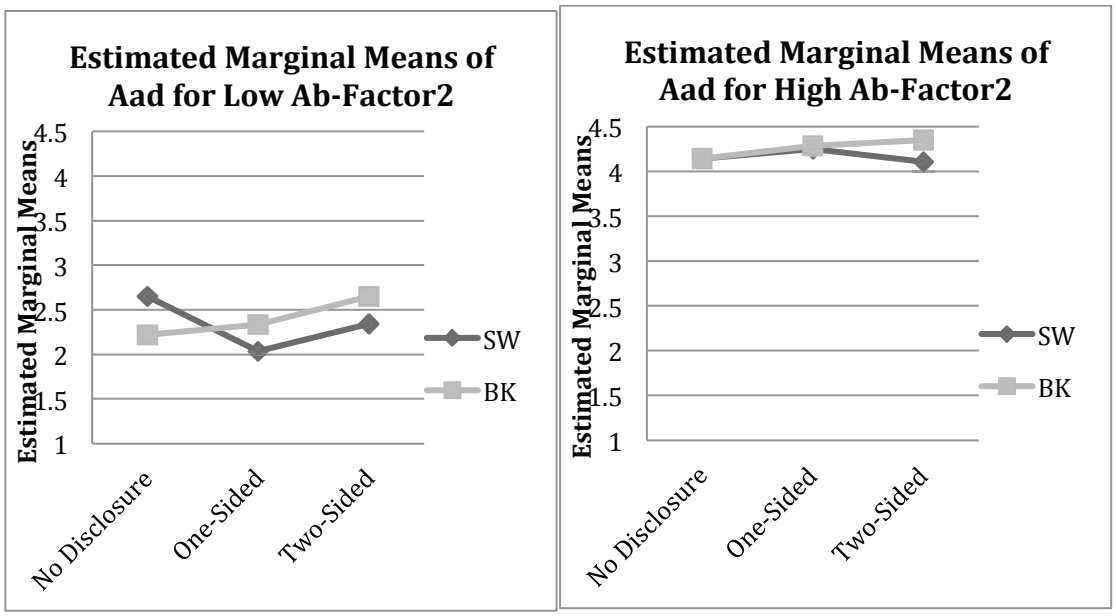
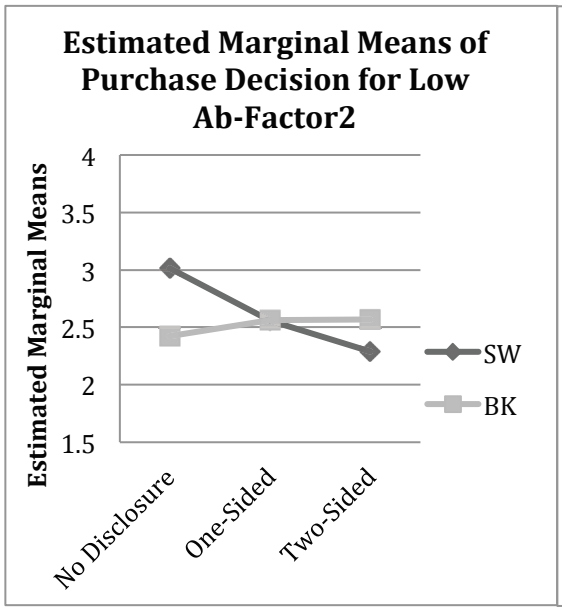
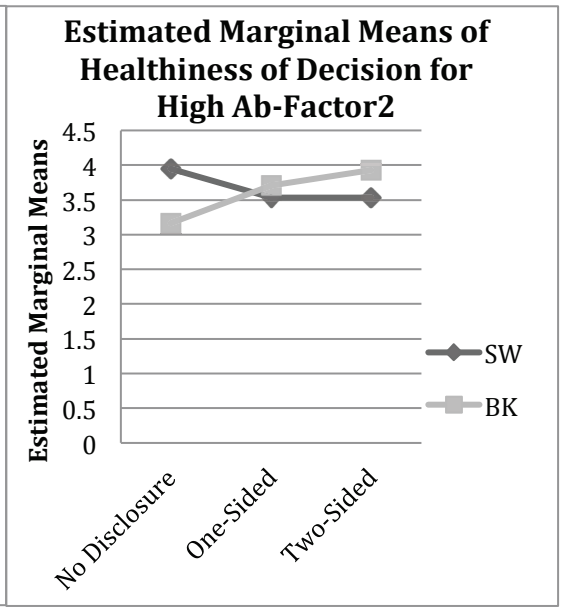
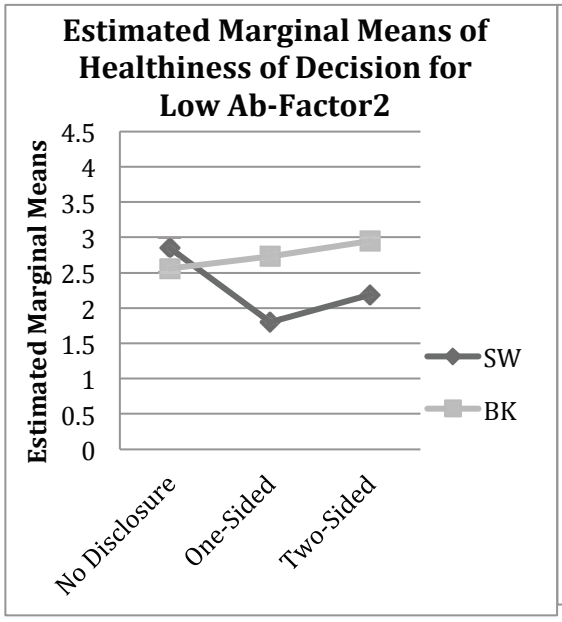


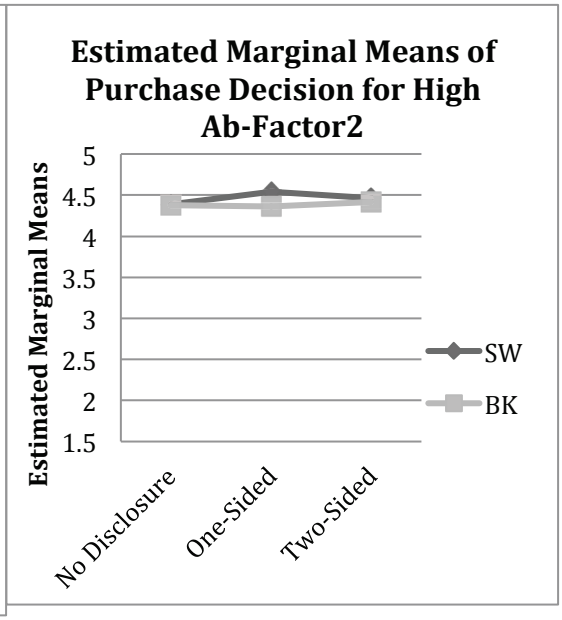

***Figure 19: Estimated marginal means of Aad, Post analysis of Study2 (Ab-Factor2)***

***Participants with high Relationship to Brand show more favorable Aad. There is no significant difference between healthy and unhealthy fast food.***


Estimated Marginal Means of Purchase Decision for Low Ab-Factor2
Estimated Marginal Means
4
3.5
3
2.5
2
1.5
No Disclosure
One-Sided
Two-Sided
SW
BK


Estimated Marginal Means of Healthiness of Decision for High Ab-Factor2
Estimated Marginal Means
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
No Disclosure
One-Sided
Two-Sided
SW
BK


Estimated Marginal Means of Healthiness of Decision for Low Ab-Factor2
Estimated Marginal Means
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
No Disclosure
One-Sided
Two-Sided
SW
BK


Estimated Marginal Means of Purchase Decision for High Ab-Factor2
Estimated Marginal Means
5
4.5
4
3.5
3
2.5
2
1.5
No Disclosure
One-Sided
Two-Sided
SW
BK

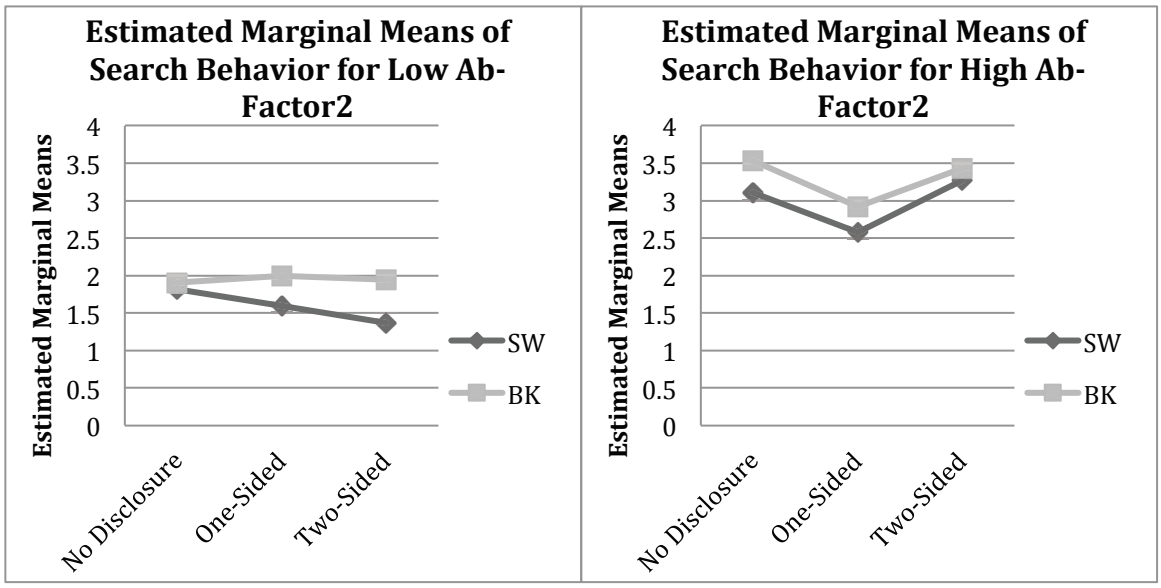



***Figure 20: Estimated marginal means for three factors of PI, Post analysis of Study2 (Ab-Factor2)***

***Participants with high Relationship to Brand responded more favorably to all three factors of PI. The effect of affirmative disclosure was not significant on the PI factors. Although participants who were randomly assigned to unhealthier fast food (Burger King) did not express different PI due to their Ab level, but those who were assigned to healthier fast food (Subway) have different behavior due to their Ab level.***

## Study 3

### *Ab- Factor 1 (Relationship to Brand)*

The means and standard deviations for the variables used in the post-analysis of Study3 (Ab-Factor1) are shown in following table. 61 participants out of 100 were neutral so they were taken out of the follow up analysis.

***Table 26: Descriptive Statistics for Participants and Measures***

| | **Total Sample** | | **Subway** | | **Burger King** | |
|---|---|---|---|---|---|---|
| | *(N for Ab factor1 = 41)* *(N for Ab factor2 = 50)* | | *(N for Ab factor1 = 21)* *(N for Ab factor2 = 29)* | | *(N for Ab factor1 = 20)* *(N for Ab factor2 = 21)* | |
| | ***M*** | ***SD*** | ***M*** | ***SD*** | ***M*** | ***SD*** |
| **Ab Factor 1 on Aad** | 3.286 | 1.253 | 3.348 | 1.411 | 3.221 | 1.095 |
| **Ab Factor 2 on Aad** | 3.555 | 1.014 | 3.590 | 1.106 | 3.506 | 0.896 |
| **Ab Factor 1 on PI** | | | | | | |
| Purchase Decision | 3.479 | 1.494 | 3.539 | 1.589 | 3.416 | 1.426 |
| Healthiness of Decision | 3.577 | 1.717 | 3.365 | 1.206 | 3.800 | 1.120 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Search Behavior | 2.382 | 1.237 | 2.381 | 1.111 | 2.383 | 1.386 |
| **Ab Factor 1 on PI** | | | | | | |
| Purchase Decision | 3.853 | 1.110 | 3.885 | 1.099 | 3.809 | 1.152 |
| Healthiness of Decision | 3.406 | 1.193 | 3.195 | 1.176 | 3.698 | 1.182 |
| Search Behavior | 2.466 | 1.087 | 2.390 | 0.976 | 2.571 | 1.243 |

The effect of fast food choice and disclosure was significant on Healthiness of Decision ($F_{\text{fast food}}$= 6.007, p= .002; $F_{\text{disclosure}}$= 8.99, p= .005). The effect of Relationship to the Brand on Aad and PI is significant (all p-values > .000).

***Table 27: Effect of Ab-Factor1 (F-values)***

| | **Main Model** | **P-value** | **Fast food** | **P-value** | **Disclosure** | **P-value** | **Ab-Factor1** | **P-value** |
|---|---|---|---|---|---|---|---|---|
| **Effects on Aad** | 9.782 | 0.000** | 1.091 | 0.304 | 0.510 | 0.480 | 54.048 | 0.000** |
| **Effect on PI** | | | | | | | | |
| Purchase Decision | 7.315 | 0.000** | 0.506 | 0.482 | 0.305 | 0.584 | 35.799 | 0.000** |
| Healthiness of Decision | 6.022 | 0.000** | 6.007 | 0.020* | 8.997 | 0.005** | 16.162 | 0.000** |
| Search Behavior | 3.879 | 0.003** | 1.043 | 0.315 | 0.016 | 0.900 | 20.282 | 0.000** |

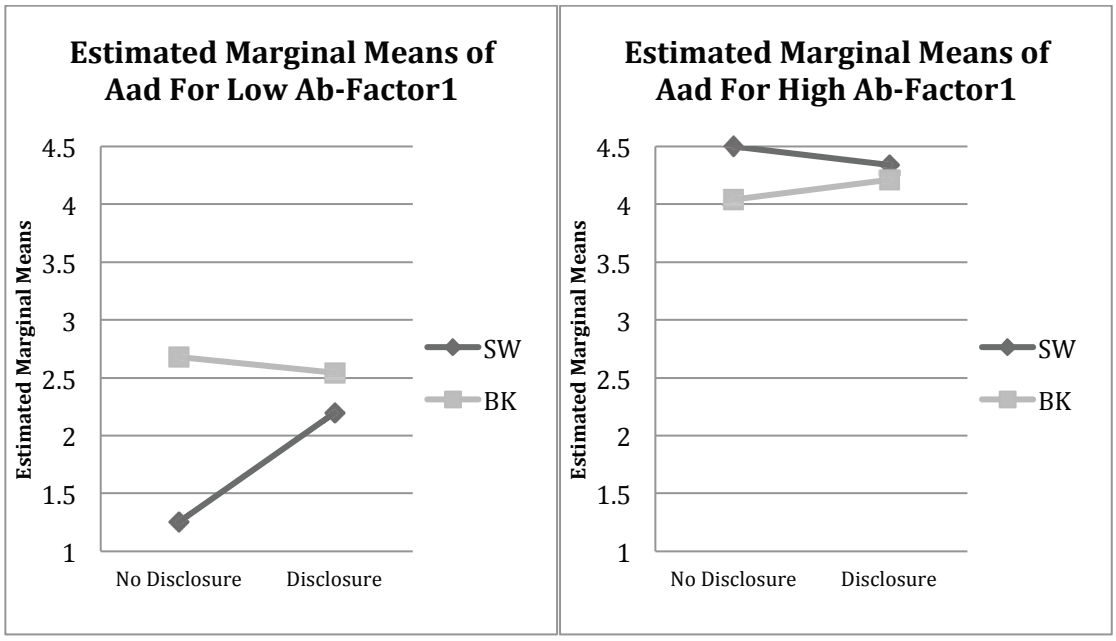
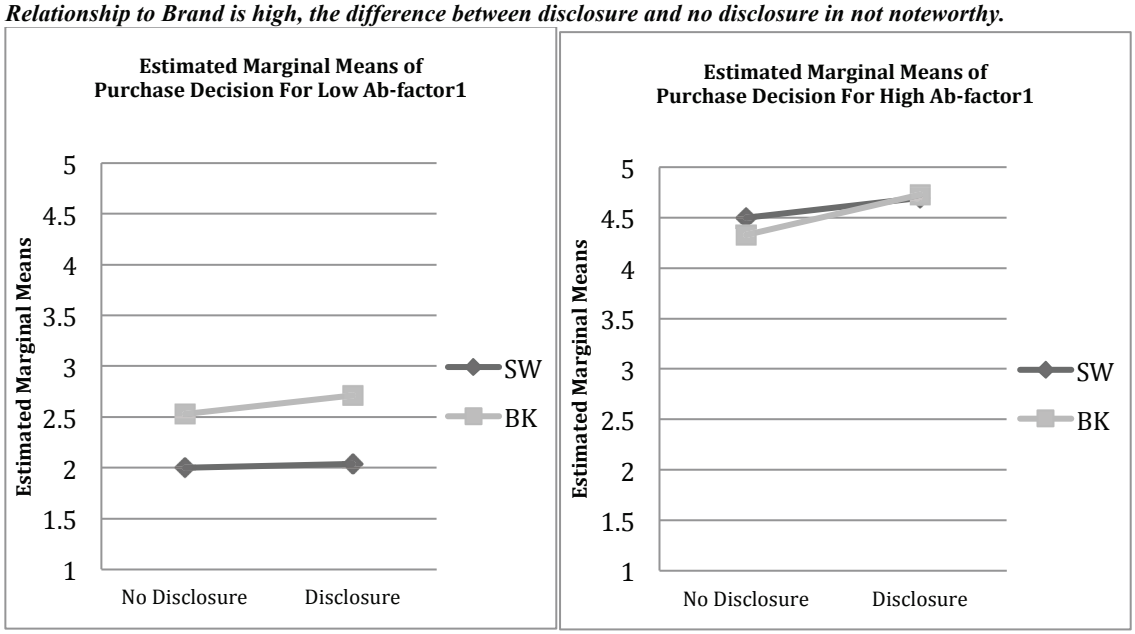



***Figure 21: Estimated marginal means of Aad, Post analysis of Study3 (Ab-Factor1)***

***Participants with high Relationship to Brand show more favorable Aad. Aad toward the healthier fast food is lower when there is no disclosure compared to presence of disclosure in the condition of low Relationship to Brand. When Relationship to Brand is high, the difference between disclosure and no disclosure in not noteworthy.***



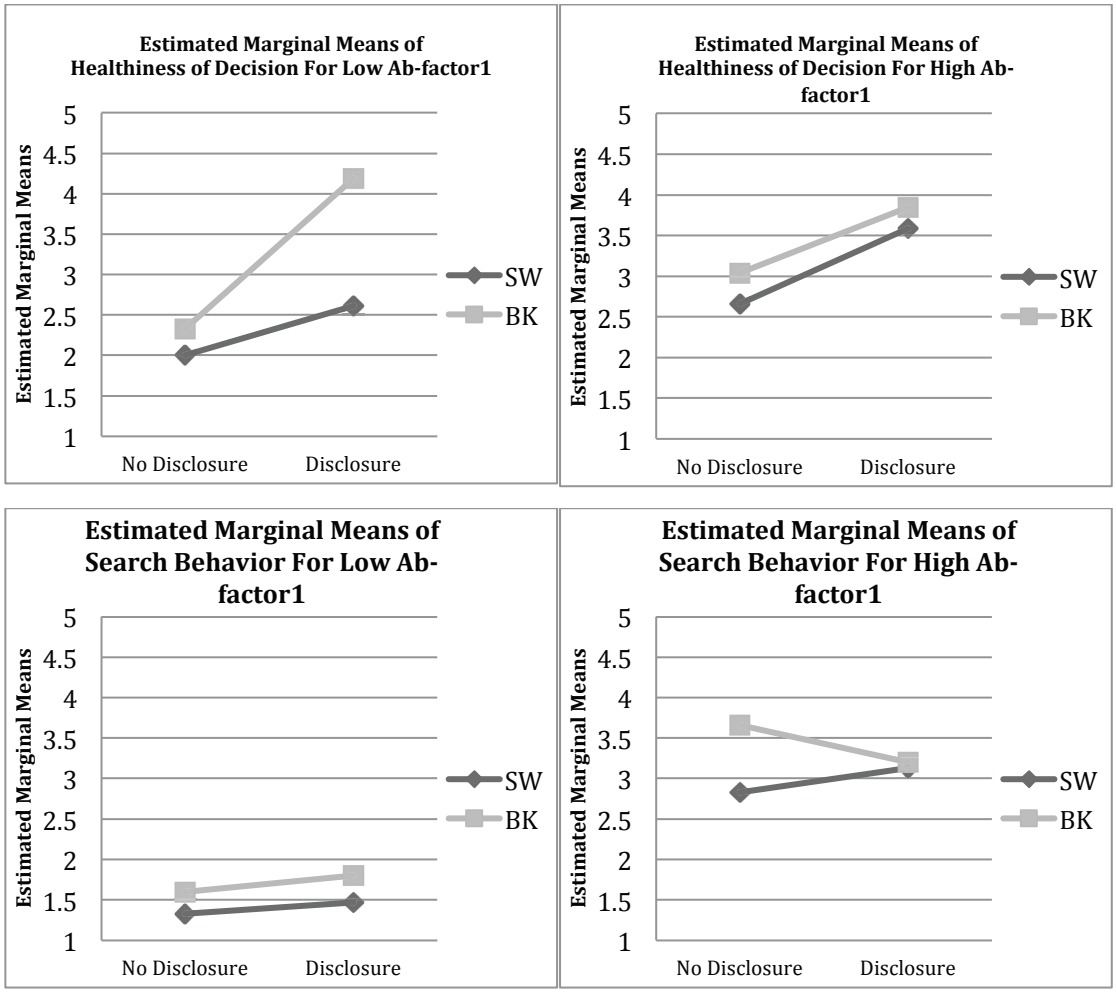



***Figure 22: Estimated marginal means for three factors of PI, Post analysis of Study3 (Ab-Factor1)***

***The effect of fast food choice and disclosure is significant on Healthiness of Decision. Participants show more favorable Healthiness of Decision in both low and high Relationship to Brand condition when the affirmative disclosure in presented. For all three factors of PI, high Relationship to Brand has positive effect.***

### *Ab- Factor 2 (Competitive Healthiness)*

Effect of fast food choice was only significant on Aad (F= 3.809, p= 0.058). The effect of Competitive Healthiness on Aad and PI was significant (all p-values > .000). Those with higher Competitive Healthiness toward Brand recorded higher Aad and PI.

*Table 28: Effect of Ab-Factor2 (F-values)*

| | Main Model | P-value | Fast food | P-value | Disclosure | P-value | Ab-Factor1 | P-value |
|---|---|---|---|---|---|---|---|---|
| **Effects on Aad** | 7.430 | 0.000** | 3.809 | 0.058* | 0.487 | 0.489 | 37.856 | 0.000** |
| **Effect on PI** | | | | | | | | |
| Purchase Decision | 6.042 | 0.000** | 0.719 | 0.401 | 0.232 | 0.633 | 36.685 | 0.000** |
| Healthiness of Decision | 3.321 | 0.007** | 3.422 | 0.071 | 3.895 | 0.055* | 7.306 | 0.010* |
| Search Behavior | 1.169 | 0.341 | 0.987 | 0.326 | 0.384 | 0.539 | 5.114 | 0.029* |

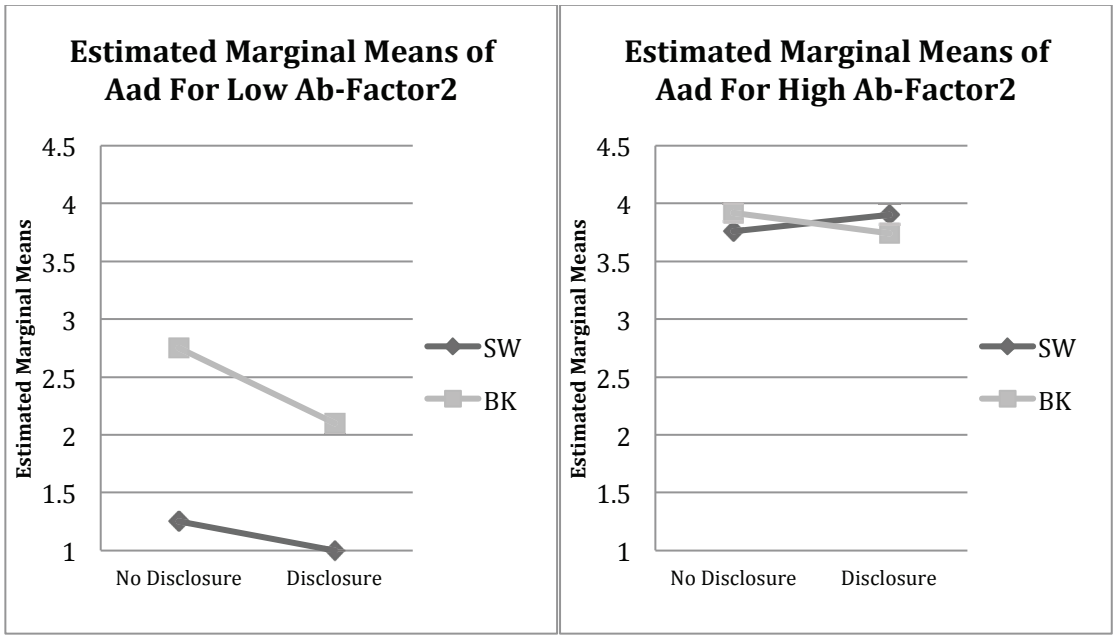



***Figure 23: Estimated marginal means of Aad, Post analysis of Study3 (Ab-Factor2)***

***Participants with high Competitive Healthiness show more favorable Aad. Although fast food choice does not make difference for participants with high Competitive Healthiness, but for those with low Competitive Healthiness there is a significant difference between two fast food choices.***

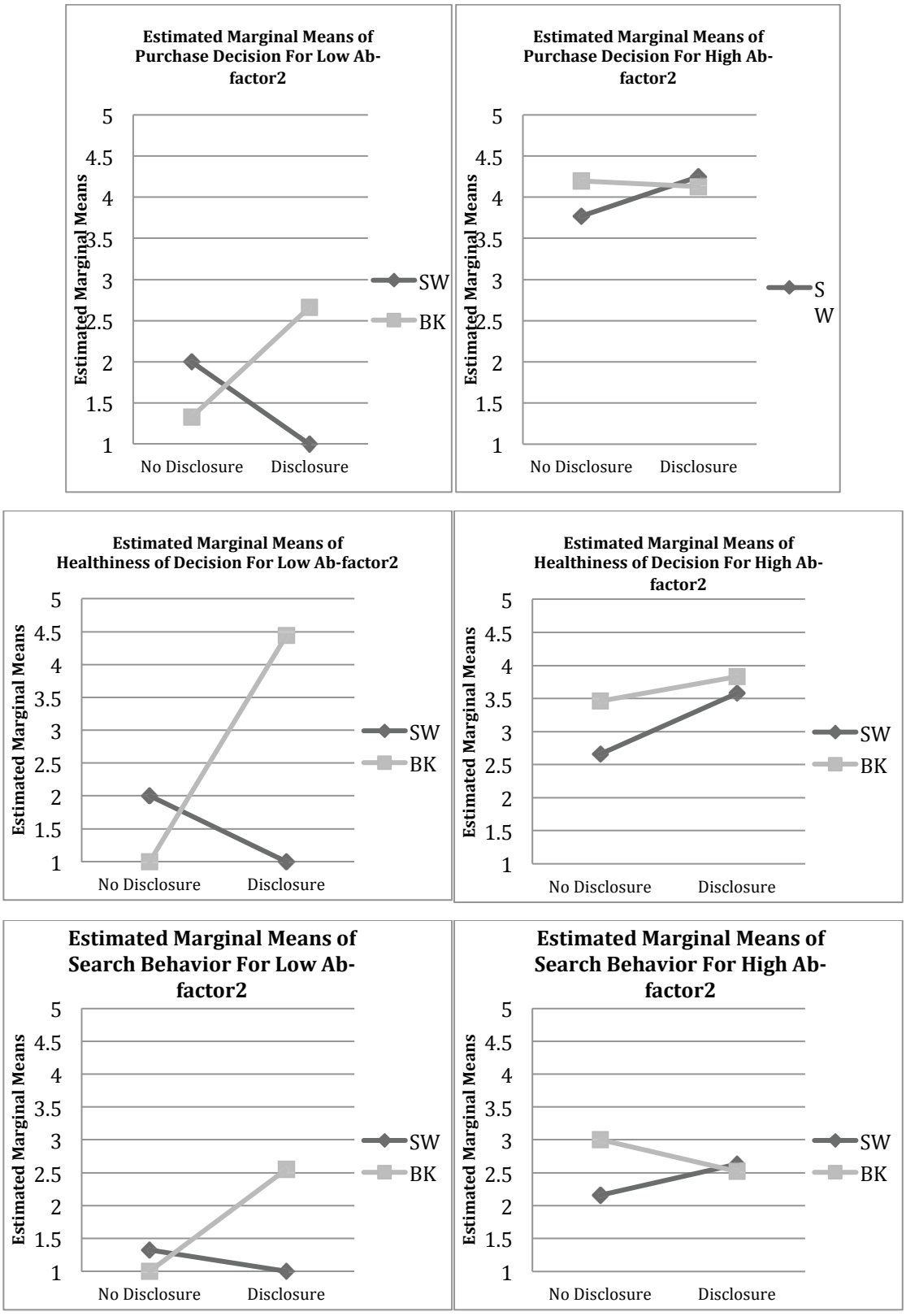



*Figure 24: Estimated marginal means for three factors of PI, Post analysis of Study3 (Ab-Factor2)*

***Those who have low Competitive healthiness expressed greater difference between the two conditions of disclosure and no disclosure for both healthy and unhealthy fast food. For both fast foods, as the diagrams show, having disclosure does not make a change in PI factors for consumers with high Competitive Healthiness when compared to no disclosure. There is a significant effect of disclosure on Healthiness of Decision (p= .055).***

# DISCUSSION

The present study investigated the effects of affirmative disclosure in advertisements on consumer attitudes and behaviors between a healthy and an unhealthy fast food. In addition, a consumer eating habits are considered for their potential effects on the attitudes and behaviors towards the fast foods and advertisements. The following is a discussion of the study results.

In Study 1, although participants showed slightly favorable changes in their Aad and Ab in response to affirmative disclosure compared to no disclosure, these changes were not significant. These results support Crowley and Hoyer (1994) findings that presenting negative information of the product is risky and the outcome is not guaranteed for companies and advertisers. While affirmative disclosure may increase source credibility, it also decreases consumer assessments of a product and this may explain the non-significant result of Study 1. The effect of fast food choice is significant on Aad, Ab and purchase decision. Regardless of the presence of affirmative disclosure, participants showed more favorable Aad, Ab and purchase decision toward the healthier fast food.

When comparing one-sided with two-sided message in Study 2, the change in attitudes was not noteworthy. Although Eisend (2006) emphasized that the proper amount of disclosure in right place may lead to a favorable Aad and Ab, the present study did not show significant differences between one-sided and two-sided message. With regard to the effect of fast food choice, in the condition of the unhealthier fast food, consumers showed more favorable Aad, Ab and search behavior in response to the two-sided message compared to one-sided. In case of the relationship to the brand, a two-sided message showed a stronger effect on respondents to the unhealthy fast food ad than the one-sided message. For the healthy fast food, a one-sided message has a stronger effect on Ab than a two-sided message. The results also confirmed that although a two-sided message has a negative effect on purchase decisions and the healthiness of decision (first two factors of PI), it has a favorable effect on search behavior. This may be due to the

fact that negative information causes consumers to seek out more information to see whether the presented claims are trustworthy. These findings parallel the results of Eisend (2006), who concluded that although presenting product negative claims increases source credibility, such honesty also negatively affects consumer's final perceptions and decision-making. The importance of negative messages may have a contrary effect on attitudes and PI (Eisend 2006). If a message is not important for a consumer, the two-sided message may not necessarily be more effective than a one-sided message. According to consumers' pre-perception of Subway as a healthy fast food, it may be posited that health disclosures are not as important for these consumers as for the consumers of unhealthier fast food (Burger King). Eisend (2006) also stated that placing positive attributes of product in the beginning of the ad leads to a bias in consumer's perception from further negative information. This explanation may apply to this study, since the negative claims were placed at the end of the ads and consumers may have prejudged the product due to previous information they were exposed to.

Regardless of fast food choice and disclosure, consumers with a healthy lifestyle showed greater Aad, Ab and PI in Study 3. There was also a significant effect of disclosure on competitive healthiness (Ab) and healthiness of decision (PI). Affirmative disclosure had a strong effect on participants with unhealthy lifestyles for both fast foods. Although Stewart and Martin (2004) stated that those with lower concerns about maintaining in good weight or following healthy habits may not pay more attention to health disclosures and may not be motivated, the present study suggests that those with unhealthy lifestyles are more motivated toward the brand with disclosure than those with healthy lifestyles. One interesting finding of the Study 3 relates to PI factors. Although disclosure may not have different effects on PI for consumers with healthy lifestyles, disclosure showed some interesting effects on those with unhealthy lifestyles. For the healthier fast food, affirmative disclosure may cause a favorable change for purchase decisions, while for the unhealthier fast food, disclosure slightly decreased the purchase decisions. Disclosure has different effects on the healthiness of consumers' decisions. Disclosure may have a stronger and more favorable effect on healthiness of decision for Burger King; while for Subway, the change is not noteworthy. This may be due to the previously mentioned argument that Subway has already earned its trust and credit

among consumers and disclosure does not make a big change in consumers' decision and evaluation about Subway.

Those participants that viewed Burger King ads showed less favorable attitudes toward the ad, brand, and purchase intentions in all three studies. However, results show that disclosure in general is more effective for the healthier fast food (Subway) since there was a greater difference between the conditions of disclosure versus non-disclosure for Subway respondents. Breaking down the results of those who were exposed to disclosures and comparing the two types of disclosures suggests that one-sided messages may be more effective for healthy fast food companies like Subway. Burger King's respondents showed an increase in attitudes when exposed to a two-sided message, while Subway consumers appeared to be discouraged when hearing negative information. However, although consumers with healthy lifestyles hold different Aad and Ab toward two fast foods, their purchase intentions were not significantly different. This confirms Burton, Howlett, and Tangari (2009) findings that those consumers who have adopted healthy lifestyles have already made up their minds about what foods are healthy or unhealthy. General information may have a greater effect on them than it does on those who follow moderate or unhealthy eating habits.

In general, providing disclosure for unhealthy lifestyle consumers will make them more aware and informed, and may improve their attitudes and intentions toward both healthy and unhealthy brands. For healthy lifestyle consumers, disclosures do not appear to contribute to improving attitudes based on the present study.

## THEORETICAL, MANAGERIAL AND SOCIAL IMPLICATIONS

This research investigated the possibility of changing consumers' attitudes and intentions by presenting them with affirmative disclosure in advertisements for fast foods. Generally, these messages have greater effect on healthier fast food companies. One-sided messages are more effective for healthier options when compared to two-sided messages. For unhealthier fast food companies, two-sided messages show slightly more benefits for the advertiser. The impact of disclosure is different among consumers due to their eating habits. One focus of such studies is to help marketers and advertisers in making more persuasive ads and improve the application of two-sided messages in their

ads and also, to help health professionals, public policy makers, and responsible managers to reduce overeating by providing healthier meals.

### *Theoretical Implications*

Recent research on two-sided advertising has covered several issues, such as the effect of negative information on source credibility and consumer's perceptions. A major contribution of present research findings is to tie these one-sided and two-sided disclosure effects to the healthiness level of fast food. This study expanded the previous findings on consumers' perception of fast food and their evaluation when viewing affirmative disclosure.

There was still a debate over applying unidimensional or multidimensional scales for measuring attitude toward the brand and ad in previous research (Batra and Ahtola 1991; Spears and Singh 2004; Olney et al. 1991). Batra and Ahtola (1991) argued that unidimensional measures do not capture all variance in Aad and introduced three new dimensions related to attitudes. In addition, Spears and Singh (2004) noticed that previously used 4-item scale of Ab (by Batra and Ray 1986) was insufficient to define Ab. Through a factor analysis this research reveals that applying multidimensional measures for examining Aad, Ab and PI may, in fact, be the correct approach in capturing these variables. This finding is significant since it is a step forward for a more valid and reliable way to measure these variables in future research.

*Presenting negative information in ad is a double-edged sword*

Prior research (Burton and Creyer, 2004; Burton et al., 2006; Kozup, Creyer, and Burton, 2003), suggests that providing information has been shown to affect attitudes and purchase intentions. Higher scores of Aad and Ab when exposed to affirmative disclosure support the general findings of previous studies, but the presence of disclosure was not significant. As Crowley and Hoyer (1994) argued, presenting negative information has a two-sided effect: while it increases consumer trust, it may also decrease the evaluation of the product.

The results for two-sided messages shed a light on the controversy over the effectiveness of this type of affirmative disclosure. The findings may relate to the varied results of previous research (Crowley and Hoyer 1994; Eisend 2006; Howlett et al 2009).

For example, Eisend (2006) argued that persuasiveness of a two-sided message might not always be more than a one-sided message. As the present study suggests, there are several factors to look for when examining the effectiveness of a two-sided message over a one-sided message; in particular, when it is related to consumer healthiness. This view contradicts Eisend (2006) who argued that a proper amount of negative information may have a favorable effect on Aad an Ab. In the present study, the effect of a two-sided message did not significantly differ from the one-sided message.

*Those with unhealthy lifestyle are more motivated toward the brand by health disclosures*

The present study's results contradict Stewart and Martin (2004) findings, who stated those who do not care about their eating habits or do not follow certain healthy habits may not pay attention to health disclosures and may not be motivated by health disclosures. Participants with unhealthy lifestyles appeared to be more motivated toward the brand by disclosures than those with healthy lifestyles.

However, although those with unhealthy lifestyles expressed greater changes in their Aad and Ab from showing no disclosure to disclosure, but in general those with healthy lifestyles have higher Aad and Ab. This confirms Burton, Howlett, and Tangari (2009) findings that those consumer who have adopted healthy lifestyles have previously made up their minds about healthy or unhealthy foods and general information may have a greater effect on them than it does on those who follow moderate or unhealthy eating habits.

### *Managerial Implications*

Mandatory changes in menus and advertisements have been in effect for sometime in several major North American cities (2011 in California and New York). Consequently, the findings of this study may help improve the decision-making process of managers and advertisers within the fast food industry as they adapt to new rules and changes.

However, firms face a big decision about whether to expose consumers to negative information about their foods in their advertising. Providing information about positive ingredients of the food is clearly a strong point for fast food, but providing negative points alongside with positive ones can be challenging. It is noteworthy to

observe that disclosures in this study are important ones (health issues) and law regulates these disclosures. Marketers should be proactive and socially responsible while protecting their business interests.

There have been contradictory results on the use of two-sided messages in advertisements. For marketers, based on consumer perception of the fast foods in this study, providing a two-sided message may have different effects for different companies and this should be taken into consideration when designing ad campaigns.

### *Social Implications*

There are several implications for policy makers, health campaigns and food and media industry members who are planning, proposing and implementing programs to address the universal problem of obesity. Obesity is one of the most serious public health problems of the 21st century.

People look at ads with several perspectives and different objectives. Not all people from every social class and age category watch television to see the ads. This study should be conducted again with respect to age categories. The middle age demographic does not watch television as frequently and they search for information on Internet (Drichoutis et al. 2006). Among all age groups, young children and the elderly are most frequent television viewers (Chou, Rashad, Grossman 2008). Child obesity is one of the biggest health issues of North America today and is affected by television advertising in two ways: the first is that television decreases energy expenditure through reduction of physical activities; and the second is encouraging fast food consumption through excessive advertising of a particular product (Chou et al. 2008).

Because children do most television viewing, developing ads to be more effective in changing their attitudes to healthier options is a necessity. For ads to be effective with children, attitudes of parents play a crucial role. This is an area where parents who educate themselves about healthy eating habits may play a more influential role in shaping their children's attitudes. The fact is that parents may more easily and immediately affect the choices made by their children than does an advertiser or the government (Chou et al. 2008). Educating parents can be a cheaper and more effective way to overcome obesity in children.

Based on the results of this study, individuals with health concerns do not need a two second disclosure at the end of an ad and they search for information on the web and have already found sufficient information that they need. Further, in the first place they would not choose fast food as a healthy meal. To address the health issues of a society, the first step should be educating consumers beyond the voices of the fast food companies so when they confront an ad with affirmative disclosure they will be well aware how to choose healthier options.

Although the present study does not address the effect of age on fast food choice, it may be possible that changing parents' attitudes toward healthier food options is a potentially viable solution in addressing the obesity epidemic in children. Also, the determination of the amount of time available to watch television or conduct internet searches on healthy eating may help health professionals in finding the most appropriate to reach parents.

Industry and health experts recommend educating consumers on the meaning of labels and healthy levels of daily nutrients. As Tiesl et al. (2001) emphasized, giving information to consumers without educating them on how use this information may not lead to expected behavioral changes. Based on the findings of this study, disclosure, and specifically two-sided messages, may be a good reminder of healthy eating, but they do not necessarily lead to changes in food choices.

Several lawsuits have been filed due to false information that fast foods companies have given to consumers. The question, therefore, still remains: how can policy makers protect marketers' rights in providing information about the products they sell while also protecting consumers from exaggerated or false claims made by some marketers? This study emphasizes that the benefits of a well-tested, unbiased, reasonable disclosure policy is more effective that the cost of lawsuits and damages for these companies due to the ambiguity or ineffectiveness of affirmative disclosures.

## LIMITATIONS, DIRECTION FOR FUTURE STUDIES

When considering the results of this study, there are a number of limitations that are noteworthy. As mentioned previously negative information that are placed at the end of the ad leads to biased results (Eisend 2006); however, there may be more effective methods such as amount of negative messaging presented in an ad. Being familiar with brand may lead to not paying attention to the rest of the ad and consequently not reading the two or one-sided message embedded at the end (Eisend 2006). Also Rotfeld (2008a) stated that some changes on attitudes are hard to explore since some consumers intentionally choose to ignore the provided information and this can be observed in future research.

To understand the effects of two-sided advertisements, it is important to consider the factors that measure the impact of ad's negativity. The impact of a product's shortcoming depends on the buyers' reason for buying that product (Florack, Ineichen, and Bieri 2009). If they are buying it for taste, a high amount of sugar may not be a shortcoming in their opinion. This phenomenon can be investigated in future studies as another potential variable in disclosure research.

There are other studies that show the effect of age, income and working status on nutritional labeling and information provisions; specifically some studies have suggested that education and gender (being female) have positive effects on using or seeking out information. This may be the case for negative information, and an area for future study. People who have free time may spend more time thinking and even researching the information in the ads, and this may lead to more favorable results in attitudes and future purchase decision. For instance, previous research suggested that females are generally more likely intend to use nutritional labels and information. This is because females find this information important and useful for their health (Hieke and Taylor 2012). It confirms the results of Johnson et al (2002); they found out that girls and boys exhibit different behavior when it comes to dietary habits. There are also differences in their actions and their approaches to size change. Girls appear to be more health conscious and therefore, follow healthier habits (Anderson et al. 1994; Johnson et al. 2002). This behavior needs further study from several dimensions: whether females are more affected

by affirmative disclosures, or whether the impact of negativity is more intense for females.

Finally, the disclosure presented in ads provides consumers with a website for further information. Future research can be undertaken to investigate consumers' intentions in searching for more information to see whether the messages encourage them to look for more information on healthy habits.

## CONCLUSION

The findings of this study support previous research on the effects of affirmative disclosure, specifically two-sided messages; but they also show that these results are different for healthy and unhealthy fast food.

Consumer eating habits play a crucial role in their attitudes toward nutrition information and health disclosures in ads. Consumers with healthier dietary habits have more favorable attitudes toward ad and brand when confronting affirmative disclosure.

These findings provide a more comprehensive understanding of the consumers' approaches toward two-sided messages. Disclosing the right information in the right place may have favorable expected results for both consumers and marketers.

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# APPENDICES

## APPENDIX A: QUESTIONNAIRE

### Attitude toward the ad scale

| | **Please indicate your level of agreement or disagreement with the following statements about the ad.** | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| 1. | This ad would catch my attention on TV or online. | | | | | |
| 2. | I like this ad. | | | | | |
| 3. | I would watch this ad on TV or online. | | | | | |
| 4. | I would leave the room if this ad were on. | | | | | |
| 5. | This ad engages me. | | | | | |
| 6. | This ad is attractive. | | | | | |
| 7. | This ad contains information that I can use. | | | | | |
| 8. | This ad is interesting. | | | | | |
| 9. | This ad makes me curious to look for more information. | | | | | |
| 10. | This ad makes me think more about ~Brand~. | | | | | |
| 11. | This ad speaks to me directly. | | | | | |
| 12. | This ad is enjoyable. | | | | | |
| 13. | I learned something in this ad. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 14. | This ad is boring. | | | | | |
| 15. | I believe this ad. | | | | | |
| 16. | I learned a lot in this ad. | | | | | |
| 17. | I think some of the information in this ad is untrue. | | | | | |
| 18. | I would tell a friend or family member to look for this ad. | | | | | |
| 19. | I would pass this ad along to a friend | | | | | |
| 20. | I would use the information in this ad. | | | | | |
| 21. | This ad will help me to select a better place to eat next time I eat out. | | | | | |
| 22. | This ad makes me feel like going to the gym or working out | | | | | |
| 23. | This ad makes me remember ~Brand~. | | | | | |
| 24. | This ad makes me more interested in ~Brand~. | | | | | |

**Attitude toward the brand scale**

| | **Now, please rate your level of agreement or disagreement with the following statements about ~Brand~.** | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| 1. | I believe ~Brand~ is socially responsible. | | | | | |
| 2. | I believe that ~Brand~ serves mostly unhealthy food. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3. | I believe that ~Brand~ is better than other fast food restaurants. | | | | | |
| 4. | ~Brand~ seems relevant to my life. | | | | | |
| 5. | I think ~Brand~ uses healthy ingredients in its foods. | | | | | |
| 6. | I feel a personal connection with ~Brand~. | | | | | |
| 7. | I believe that ~Brand~ offers healthy food alternatives. | | | | | |
| 8. | I feel positive toward ~Brand~. | | | | | |
| 9. | I believe that ~Brand~ is honest. | | | | | |
| 10. | I trust ~Brand~. | | | | | |
| 11. | I believe that ~Brand~ is part of my life. | | | | | |
| 12. | I believe that ~Brand~ knows what I'm looking for. | | | | | |
| 13. | ~Brand~ relates to me. | | | | | |
| 14. | I believe that ~Brand~ listens to my needs. | | | | | |
| 15. | I believe that ~Brand~ cares about me. | | | | | |
| 16. | I believe that ~Brand~ is likely to stay in business. | | | | | |
| 17. | I believe that ~Brand~ understands me. | | | | | |

**Purchase Intentions scale**

| | How likely are you to do following after seeing this ad? | Very Unlikely | Unlikely | Neither Unlikely nor Likely | Likely | Very Likely |
|---|---|---|---|---|---|---|
| 1. | Want to buy or eat something from ~Brand~. | | | | | |
| 2. | Consider eating food from ~Brand~. | | | | | |
| 3. | Purchase from ~Brand~. | | | | | |
| 4. | Improve your diet. | | | | | |
| 5. | Exercise more. | | | | | |
| 6. | Super size my order next time I go to ~Brand~. | | | | | |
| 7. | Look at the nutrition values at fast food restaurants. | | | | | |
| 8. | Eat at home more. | | | | | |
| 9. | Recommend ~Brand~ to a friend or family member. | | | | | |
| 10. | Avoid ~Brand~. | | | | | |
| 11. | Visit ~Brand~ website. | | | | | |
| 12. | Share information from this ad with my family and/or friends. | | | | | |
| 13. | Comment on a blog about this ad through social media. | | | | | |
| 14. | Search for more information about something I saw in this ad. | | | | | |

## Healthy lifestyle scale

| | **Looking forward, there may be some behaviors that you will continue, or even adopt. How likely is it you engage in the following behaviors?** | Very Unlikely | Unlikely | Neither Unlikely nor Likely | Likely | Very Likely |
|---|---|---|---|---|---|---|
| 1. | I plan to avoid foods that contain too much fat. | | | | | |
| 2. | I plan to use information about calories when deciding to buy a food product. | | | | | |
| 3. | I plan to use information about calories that come from fat when deciding to buy a food product. | | | | | |
| 4. | I plan to use information about total fat when deciding to buy a food product. | | | | | |
| 5. | I plan to use information about salt when deciding to buy a food product. | | | | | |
| 6. | I plan to use information about sugar when deciding to buy a food product. | | | | | |
| 7. | I plan on using sugar only in moderation. | | | | | |
| 8. | I plan to avoid foods that contain too much salt or sodium. | | | | | |
| 9. | I plan on using salt or sodium only in moderation. | | | | | |
| 10. | I plan to choose a diet with plenty of fruits & vegetables. | | | | | |
| 11. | I plan to avoid foods that contain too | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | much sugar. | | | | | |

## APPENDIX B: STUDY 1

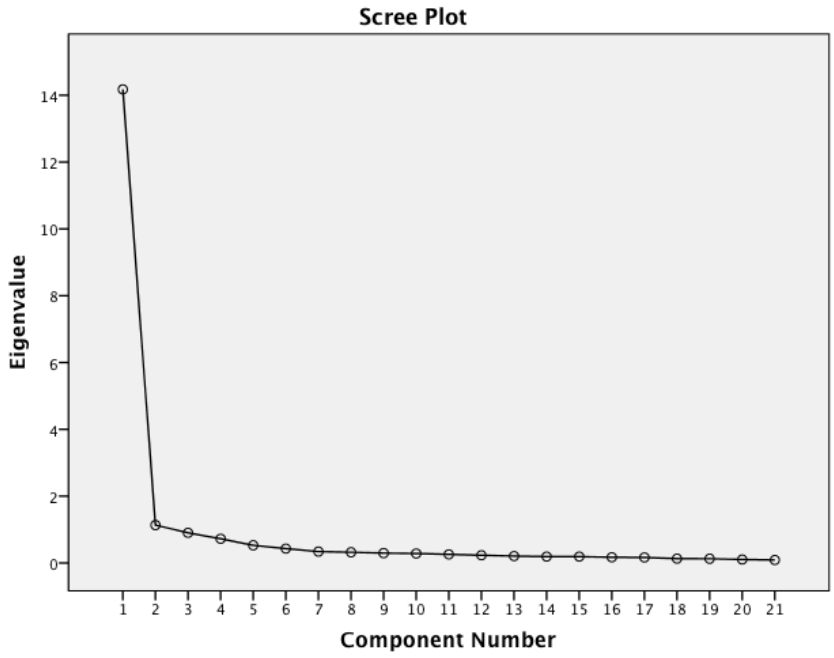
### *B-1: Number of respondents in each group*

| | | Disclosure | | |
|---|---|---|---|---|
| | | No Disclosure | Disclosure | Total |
| **Restaurant** | Burger King | 73 | 85 | 158(52.66%) |
| | Subway | 77 | 65 | 142(47.33%) |
| | Total | 150(50%) | 150(50%) | 300 |

### *B-2: Normality checks*

Looking at each subscale, they show acceptable normality; the measure of attitude toward the ad (Skewness = -0.407, Kurtosis = -0.168), the measure of attitude toward the brand (Skewness = -0.060, Kurtosis = -0.184), the measure of purchase intentions (Skewness = -0.163, Kurtosis = 0.006). It has been shown that with large sets of scores, measures of skewness and kurtosis are more reliable; in this study, they are close to zero and close to normal distribution.

***B-3: Factor analysis of attitude toward the ad***




**Pattern Matrix[a]**

| | Component | |
|---|---|---|
| | 1 | 2 |
| Aad12 Ad is enjoyable | .914 | |
| Aad2 I Like ad | .905 | |
| Aad8 Ad is interesting | .905 | |
| Aad5 Engages me | .905 | |

| | | |
|---|---|---|
| Aad6 Attracts me | .895 | |
| Aad9 Made me curious | .870 | |
| Aad24 Makes me more interested in (Brand) | .868 | |
| Aad3 I would watch ad | .864 | |
| Aad11 Ad speaks to me | .857 | |
| Aad10 Think more about (Brand) | .848 | |
| Aad1 Ad catches my attention | .829 | |
| Aad20 Use the info | .825 | |
| Aad7 Contains useful info | .817 | |
| Aad18 I would tell others | .805 | |
| Aad19 I would pass this ad to friend | .803 | |
| Aad21 Help me select better place to eat | .794 | |
| Aad13 I learned something from ad | .785 | |
| Aad16 I learned a lot | .775 | |
| Aad23 Makes me remember the (Brand) | .762 | |
| R_Aad17 Some info are untrue | | .941 |

**Communalities**

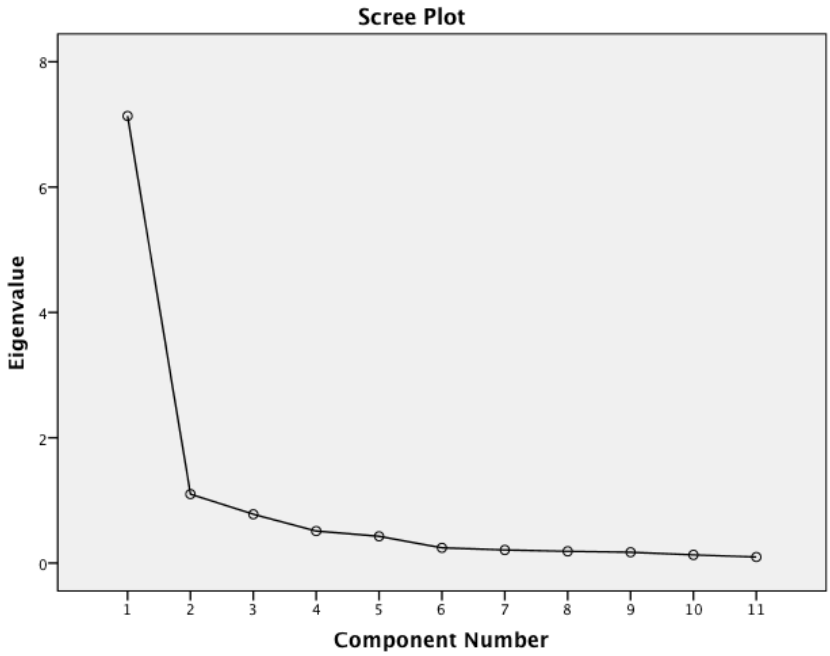
| | Initial | Extraction |
|---|---|---|
| Aad1 Ad catches my attention | 1.000 | .685 |
| Aad2 I Like ad | 1.000 | .796 |
| Aad3 I would watch ad | 1.000 | .720 |
| Aad5 Engages me | 1.000 | .795 |
| Aad6 Attracts me | 1.000 | .769 |
| Aad7 Contains useful info | 1.000 | .717 |
| Aad8 Ad is interesting | 1.000 | .812 |
| Aad9 Made me curious | 1.000 | .735 |
| Aad10 Think more about (Brand) | 1.000 | .737 |
| Aad11 Ad speaks to me | 1.000 | .733 |
| Aad12 Ad is enjoyable | 1.000 | .820 |
| Aad13 I learned something from ad | 1.000 | .653 |
| Aad16 I learned a lot | 1.000 | .617 |
| R_Aad17 Some info are untrue | 1.000 | .897 |
| Aad18 I would tell others | 1.000 | .628 |
| Aad19 I would pass this ad to friend | 1.000 | .636 |
| Aad20 Use the info | 1.000 | .767 |

| | | |
|---|---|---|
| Aad21 Help me select better place to eat | 1.000 | .676 |
| Aad23 Makes me remember the (Brand) | 1.000 | .689 |
| Aad24 Makes me more interested in (Brand) | 1.000 | .784 |

### *B-4: Factor analysis of attitude toward the brand*

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings[a] |
|---|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total |
| 1 | 7.135 | 64.868 | 64.868 | 7.135 | 64.868 | 64.868 | 7.028 |
| 2 | 1.101 | 10.007 | 74.875 | 1.101 | 10.007 | 74.875 | 3.095 |
| 3 | .780 | 7.093 | 81.968 | | | | |
| 4 | .511 | 4.646 | 86.613 | | | | |
| 5 | .428 | 3.891 | 90.505 | | | | |
| 6 | .244 | 2.221 | 92.725 | | | | |
| 7 | .209 | 1.903 | 94.629 | | | | |
| 8 | .188 | 1.713 | 96.342 | | | | |
| 9 | .174 | 1.581 | 97.923 | | | | |
| 10 | .131 | 1.193 | 99.116 | | | | |
| 11 | .097 | .884 | 100.000 | | | | |




**Pattern Matrix[a]**

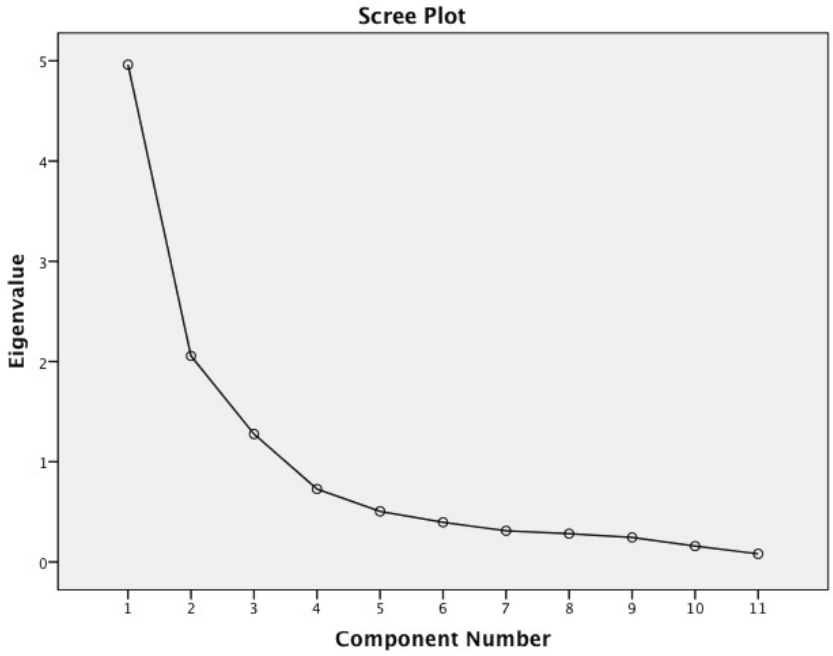
| | Component | |
|---|---|---|
| | 1 | 2 |
| Ab6 Feel personal connection with (Brand) | .921 | |
| Ab11 (Brand) part of my life | .915 | |
| Ab17 (Brand) understands me | .904 | |
| Ab13 (Brand) relates to me | .892 | |
| Ab12 (Brand) knows what I look for | .891 | |
| Ab15 (Brand) cares about me | .889 | |
| Ab14 (Brand) listens to me needs | .882 | |
| Ab4 (Brand) seems relevant to my life | .852 | |
| R_Ab2 (Brand) serves unhealthy food | | .909 |
| Ab5 (Brand) uses healthy ingredients | | .639 |
| Ab16 (Brand) likely stay in business | | .527 |

**Communalities**

| | Initial | Extraction |
|---|---|---|
| R_Ab2 (Brand) serves unhealthy food | 1.000 | .716 |
| Ab4 (Brand) seems relevant to my life | 1.000 | .799 |
| Ab5 (Brand) uses healthy ingredients | 1.000 | .667 |
| Ab6 Feel personal connection with (Brand) | 1.000 | .812 |
| Ab11 (Brand) part of my life | 1.000 | .767 |
| Ab12 (Brand) knows what I loook for | 1.000 | .805 |
| Ab13 (Brand) relates to me | 1.000 | .816 |
| Ab14 (Brand) listens to me needs | 1.000 | .811 |
| Ab15 (Brand) cares about me | 1.000 | .811 |
| Ab16 (Brand) likely stay in business | 1.000 | .389 |
| Ab17 (Brand) understands me | 1.000 | .842 |

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings[a] |
|---|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total |
| 1 | 4.962 | 45.108 | 45.108 | 4.962 | 45.108 | 45.108 | 3.612 |
| 2 | 2.055 | 18.684 | 63.792 | 2.055 | 18.684 | 63.792 | 3.477 |
| 3 | 1.276 | 11.603 | 75.396 | 1.276 | 11.603 | 75.396 | 3.222 |
| 4 | .728 | 6.617 | 82.013 | | | | |
| 5 | .505 | 4.593 | 86.606 | | | | |
| 6 | .396 | 3.597 | 90.203 | | | | |
| 7 | .311 | 2.827 | 93.030 | | | | |
| 8 | .282 | 2.565 | 95.595 | | | | |
| 9 | .245 | 2.225 | 97.819 | | | | |
| 10 | .158 | 1.440 | 99.259 | | | | |
| 11 | .081 | .741 | 100.000 | | | | |

***B-5: Factor analysis of purchase intentions***




**Pattern Matrix**[a]

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| PI13 Comment about ad | .834 | | |
| PI14 Search for something I saw on ad | .806 | | |
| PI6 Super size my order next time | .773 | | |
| PI11 Visit (Brand) website | .665 | | |
| R_PI10 Avoid (Brand) | | -.872 | |
| PI3 Purchase From (Brand) | | -.853 | |
| PI2 Consider Eating from (Brand) | | -.840 | |
| PI1 Want to buy or eat from (Brand) | | -.786 | |
| PI4 Improve my diet | | | .898 |
| PI5 Exercise more | | | .895 |
| PI7 Look at nutrition values at fastfoods | | | .790 |

**Communalities**

| | Initial | Extraction |
|---|---|---|
| PI1 Want to buy or eat from (Brand) | 1.000 | .847 |
| PI2 Consider Eating from (Brand) | 1.000 | .873 |

| | | |
|---|---|---|
| PI3 Purchase From (Brand) | 1.000 | .907 |
| PI4 Improve my diet | 1.000 | .795 |
| PI5 Exercise more | 1.000 | .780 |
| PI6 Super size my order next time | 1.000 | .519 |
| PI7 Look at nutrition values at fast foods | 1.000 | .655 |
| R_PI10 Avoid (Brand) | 1.000 | .717 |
| PI11 Visit (Brand) website | 1.000 | .687 |
| PI13 Comment about ad | 1.000 | .744 |
| PI14 Search for something I saw on ad | 1.000 | .771 |

## *B-6: ANOVA results / disclosure versus no disclosure*

### *Attitude Toward the Ad:*

**Descriptive Statistics**

Dependent Variable: Aad_Farcot1 Attitude toward the ad

| Disclosure | SW_BK | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No Disclosure | 1 SW | 3.37 | .910 | 77 |
| | 2 BK | 3.16 | 1.049 | 73 |
| | Total | 3.27 | .983 | 150 |
| 1 Disclosure | 1 SW | 3.59 | .781 | 65 |
| | 2 BK | 3.19 | .962 | 85 |
| | Total | 3.36 | .907 | 150 |
| Total | 1 SW | 3.47 | .857 | 142 |
| | 2 BK | 3.18 | 1.000 | 158 |
| | Total | 3.31 | .945 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: Aad_Farcot1 Attitude toward the ad

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 8.162[a] | 3 | 2.721 | 3.110 | .027 |
| Intercept | 3287.520 | 1 | 3287.520 | 3758.289 | .000 |
| Disclosure | 1.195 | 1 | 1.195 | 1.366 | .243 |
| SW_BK | 6.828 | 1 | 6.828 | 7.806 | .006 |
| Disclosure * SW_BK | .656 | 1 | .656 | .750 | .387 |
| Error | 258.923 | 296 | .875 | | |
| Total | 3561.934 | 300 | | | |
| Corrected Total | 267.085 | 299 | | | |

a. R Squared = .031 (Adjusted R Squared = .021)

***Attitude Toward the Brand- Factor One:***

**Descriptive Statistics**

Dependent Variable: Ab_Factor1 Relationship to Brand

| Disclosure | SW_BK | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No Disclosure | 1 SW | 3.20 | 1.014 | 77 |
| | 2 BK | 2.98 | .942 | 73 |
| | Total | 3.09 | .982 | 150 |
| 1 Disclosure | 1 SW | 3.42 | .895 | 65 |
| | 2 BK | 3.01 | .895 | 85 |
| | Total | 3.19 | .915 | 150 |
| Total | 1 SW | 3.30 | .964 | 142 |
| | 2 BK | 3.00 | .914 | 158 |
| | Total | 3.14 | .949 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: Ab_Factor1 Relationship to Brand

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 8.523[a] | 3 | 2.841 | 3.227 | .023 |
| Intercept | 2952.318 | 1 | 2952.318 | 3353.149 | .000 |
| Disclosure | 1.117 | 1 | 1.117 | 1.268 | .261 |
| SW_BK | 7.225 | 1 | 7.225 | 8.206 | .004 |
| Disclosure * SW_BK | .694 | 1 | .694 | .788 | .375 |
| Error | 260.617 | 296 | .880 | | |
| Total | 3226.234 | 300 | | | |
| Corrected Total | 269.139 | 299 | | | |

a. R Squared = .032 (Adjusted R Squared = .022)

***Attitude Toward the Brand- Factor Two:***

**Descriptive Statistics**

Dependent Variable: Ab_Factor2 Healthiness of Brand

| Disclosure | SW_BK | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No Disclosure | 1 SW | 4.03 | .608 | 77 |
| | 2 BK | 3.45 | .690 | 73 |
| | Total | 3.75 | .711 | 150 |
| 1 Disclosure | 1 SW | 4.07 | .667 | 65 |
| | 2 BK | 3.52 | .625 | 85 |
| | Total | 3.76 | .697 | 150 |
| Total | 1 SW | 4.05 | .634 | 142 |
| | 2 BK | 3.49 | .654 | 158 |
| | Total | 3.75 | .703 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: Ab_Factor2 Healthiness of Brand

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 24.024[a] | 3 | 8.008 | 19.167 | .000 |
| Intercept | 4216.543 | 1 | 4216.543 | 10092.255 | .000 |
| Disclosure | .194 | 1 | .194 | .464 | .496 |
| SW_BK | 23.978 | 1 | 23.978 | 57.392 | .000 |
| Disclosure * SW_BK | .027 | 1 | .027 | .065 | .800 |
| Error | 123.669 | 296 | .418 | | |
| Total | 4371.444 | 300 | | | |
| Corrected Total | 147.693 | 299 | | | |

a. R Squared = .163 (Adjusted R Squared = .154)

***Purchase Intention- Factor One:***

**Descriptive Statistics**

Dependent Variable: PI_Factor1 Search Behavior

| Disclosure | SW_BK | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No Disclosure | 1 SW | 2.6299 | .95250 | 77 |
| | 2 BK | 2.4829 | .90937 | 73 |
| | Total | 2.5583 | .93156 | 150 |
| 1 Disclosure | 1 SW | 2.6500 | .92365 | 65 |
| | 2 BK | 2.4853 | .87147 | 85 |
| | Total | 2.5567 | .89515 | 150 |
| Total | 1 SW | 2.6391 | .93614 | 142 |
| | 2 BK | 2.4842 | .88633 | 158 |
| | Total | 2.5575 | .91201 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor1 Search Behavior

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 1.809[a] | 3 | .603 | .723 | .539 |
| Intercept | 1950.820 | 1 | 1950.820 | 2338.900 | .000 |
| SW_BK | 1.805 | 1 | 1.805 | 2.164 | .142 |
| Disclosure | .009 | 1 | .009 | .011 | .915 |
| SW_BK * Disclosure | .006 | 1 | .006 | .007 | .933 |
| Error | 246.887 | 296 | .834 | | |
| Total | 2210.938 | 300 | | | |
| Corrected Total | 248.696 | 299 | | | |

a. R Squared = .007 (Adjusted R Squared = -.003)

***Purchase Intention- Factor Two:***

**Descriptive Statistics**

Dependent Variable: PI_Factor2 Purchase Decision

| Disclosure | SW_BK | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No Disclosure | 1 SW | 3.8214 | .89943 | 77 |
| | 2 BK | 3.5137 | .93252 | 73 |
| | Total | 3.6717 | .92556 | 150 |
| 1 Disclosure | 1 SW | 3.9000 | .94249 | 65 |
| | 2 BK | 3.6265 | .95480 | 85 |
| | Total | 3.7450 | .95603 | 150 |
| Total | 1 SW | 3.8574 | .91694 | 142 |
| | 2 BK | 3.5744 | .94326 | 158 |
| | Total | 3.7083 | .94006 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor2 Purchase Decision

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 6.708[a] | 3 | 2.236 | 2.570 | .054 |
| Intercept | 4102.670 | 1 | 4102.670 | 4715.687 | .000 |
| SW_BK | 6.276 | 1 | 6.276 | 7.214 | .008 |
| Disclosure | .680 | 1 | .680 | .782 | .377 |
| SW_BK * Disclosure | .022 | 1 | .022 | .025 | .875 |
| Error | 257.521 | 296 | .870 | | |
| Total | 4389.750 | 300 | | | |
| Corrected Total | 264.229 | 299 | | | |

a. R Squared = .025 (Adjusted R Squared = .016)

***Purchase Intention- Factor Three:***

**Descriptive Statistics**

Dependent Variable: PI_Factor3 Healthiness of Decision

| Disclosure | SW_BK | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No Disclosure | 1 SW | 3.2165 | .89959 | 77 |
| | 2 BK | 3.0502 | .92741 | 73 |
| | Total | 3.1356 | .91397 | 150 |
| 1 Disclosure | 1 SW | 3.2974 | .86627 | 65 |
| | 2 BK | 3.2000 | .94169 | 85 |
| | Total | 3.2422 | .90808 | 150 |
| Total | 1 SW | 3.2535 | .88230 | 142 |
| | 2 BK | 3.1308 | .93515 | 158 |
| | Total | 3.1889 | .91107 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor3 Healthiness of Decision

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 2.238[a] | 3 | .746 | .898 | .443 |
| Intercept | 3026.335 | 1 | 3026.335 | 3642.231 | .000 |
| SW_BK | 1.291 | 1 | 1.291 | 1.554 | .214 |
| Disclosure | .989 | 1 | .989 | 1.190 | .276 |
| SW_BK * Disclosure | .088 | 1 | .088 | .106 | .745 |
| Error | 245.947 | 296 | .831 | | |
| Total | 3298.889 | 300 | | | |
| Corrected Total | 248.185 | 299 | | | |

a. R Squared = .009 (Adjusted R Squared = -.001)

## APPENDIX C: STUDY 2

### *C-1: Number of respondents in each group*

| | | Disclosure | | | |
|---|---|---|---|---|---|
| | | No Disclosure | One-sided disclosure | Two-sided disclosure | Total |
| **Restaurant** | Burger King | 53 | 48 | 59 | 160(53%) |
| | Subway | 54 | 45 | 41 | 140(47%) |
| | Total | 107(36%) | 93(31%) | 100(33%) | 300 |

### *C-2: Normality Checks*

Looking at each subscale, they show acceptable normality; the measure of attitude toward the ad (skewness = -0.299, kurtosis = -0.093), the measure of attitude toward the brand (skewness = -0.194, kurtosis = 0.073), the measure of purchase intentions (skewness = -0.373, kurtosis = 0.293).

*C-3: Factor analysis of attitude toward the ad*

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 11.390 | 71.190 | 71.190 | 11.390 | 71.190 | 71.190 |
| 2 | .706 | 4.413 | 75.603 | | | |
| 3 | .630 | 3.936 | 79.539 | | | |
| 4 | .474 | 2.963 | 82.502 | | | |
| 5 | .409 | 2.559 | 85.062 | | | |
| 6 | .345 | 2.159 | 87.221 | | | |
| 7 | .324 | 2.025 | 89.245 | | | |
| 8 | .281 | 1.757 | 91.002 | | | |
| 9 | .233 | 1.459 | 92.462 | | | |
| 10 | .218 | 1.360 | 93.822 | | | |
| 11 | .209 | 1.305 | 95.127 | | | |
| 12 | .180 | 1.127 | 96.254 | | | |
| 13 | .174 | 1.088 | 97.342 | | | |
| 14 | .163 | 1.022 | 98.364 | | | |
| 15 | .133 | .832 | 99.195 | | | |
| 16 | .129 | .805 | 100.000 | | | |

**Component Matrix[a]**

| | Component |
|---|---|
| | 1 |
| Aad8 Ad is interesting | .898 |
| Aad24 Makes me more interested in (Brand) | .894 |
| Aad10 Think more about (Brand) | .870 |
| Aad20 Use the info | .869 |
| Aad11 Ad speaks to me | .860 |
| Aad5 Engages me | .858 |
| Aad1 Ad catches my attention | .856 |
| Aad3 I would watch ad | .856 |
| Aad21 Help me select better place to eat | .850 |
| Aad6 Attracts me | .830 |
| Aad7 Contains useful info | .823 |
| Aad9 Made me curious | .820 |
| Aad23 Makes me remember the (Brand) | .819 |
| Aad19 I would pass this ad to friend | .812 |
| Aad13 I learned something from ad | .794 |
| Aad16 I learned a lot | .782 |

**Communalities**

| | Initial | Extraction |
|---|---|---|
| Aad1 Ad catches my attention | 1.000 | .732 |
| Aad3 I would watch ad | 1.000 | .732 |
| Aad5 Engages me | 1.000 | .736 |
| Aad6 Attracts me | 1.000 | .690 |
| Aad7 Contains useful info | 1.000 | .677 |
| Aad8 Ad is interesting | 1.000 | .806 |
| Aad9 Made me curious | 1.000 | .673 |
| Aad10 Think more about (Brand) | 1.000 | .757 |
| Aad11 Ad speaks to me | 1.000 | .740 |
| Aad13 I learned something from ad | 1.000 | .631 |
| Aad16 I learned a lot | 1.000 | .611 |

| | | |
|---|---|---|
| Aad19 I would pass this ad to friend | 1.000 | .659 |
| Aad20 Use the info | 1.000 | .755 |
| Aad21 Help me select better place to eat | 1.000 | .723 |
| Aad23 Makes me remember the (Brand) | 1.000 | .670 |
| Aad24 Makes me more interested in (Brand) | 1.000 | .799 |

### *C-4: Factor analysis of attitude toward the brand*

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings[a] |
|---|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total |
| 1 | 11.350 | 66.762 | 66.762 | 11.350 | 66.762 | 66.762 | 9.963 |
| 2 | 1.271 | 7.477 | 74.239 | 1.271 | 7.477 | 74.239 | 10.252 |
| 3 | .807 | 4.749 | 78.989 | | | | |
| 4 | .618 | 3.633 | 82.622 | | | | |
| 5 | .534 | 3.143 | 85.765 | | | | |
| 6 | .353 | 2.076 | 87.841 | | | | |
| 7 | .348 | 2.044 | 89.885 | | | | |
| 8 | .319 | 1.877 | 91.762 | | | | |
| 9 | .246 | 1.445 | 93.207 | | | | |
| 10 | .229 | 1.348 | 94.555 | | | | |
| 11 | .209 | 1.231 | 95.786 | | | | |
| 12 | .156 | .919 | 96.704 | | | | |
| 13 | .153 | .898 | 97.602 | | | | |
| 14 | .122 | .718 | 98.320 | | | | |
| 15 | .114 | .672 | 98.991 | | | | |
| 16 | .096 | .564 | 99.556 | | | | |
| 17 | .076 | .444 | 100.000 | | | | |

**Pattern Matrix**[a]

| | Component | |
|---|---|---|
| | 1 | 2 |
| Ab7 (Brand) offers healthy alternatives | .935 | |
| Ab9 (Brand) is honest | .872 | |
| Ab16 (Brand) likely stay in business | .859 | |
| Ab5 (Brand) uses healthy ingredients | .821 | |
| Ab10 Trust (Brand) | .795 | |
| Ab1 (Brand) socially responsible | .723 | |
| Ab8 Feel positive toward (Brand) | .714 | |
| Ab3 (Brand) is better than other fast foods | .665 | |
| R_Ab2 (Brand) serves unhealthy food | .502 | |
| Ab11 (Brand) part of my life | | -.990 |
| Ab6 Feel personal connection with (Brand) | | -.933 |
| Ab13 (Brand) relates to me | | -.925 |
| Ab12 (Brand) knows what I look for | | -.866 |
| Ab14 (Brand) listens to me needs | | -.825 |
| Ab17 (Brand) understands me | | -.817 |
| Ab15 (Brand) cares about me | | -.794 |
| Ab4 (Brand) seems relevant to my life | | -.764 |

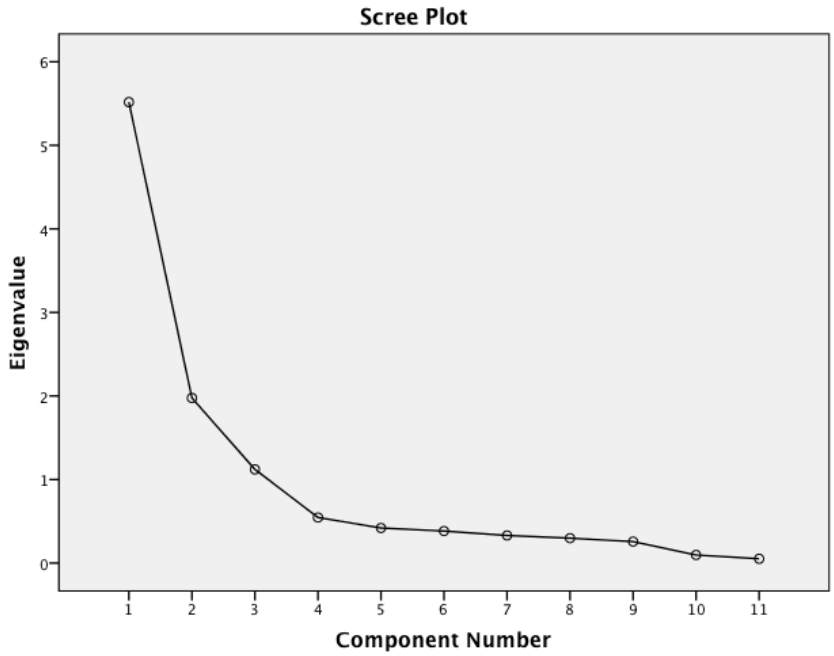
**Communalities**

| | Initial | Extraction |
|---|---|---|
| Ab1 (Brand) socially responsible | 1.000 | .642 |
| R_Ab2 (Brand) serves unhealthy food | 1.000 | .297 |
| Ab3 (Brand) is better than other fast foods | 1.000 | .588 |
| Ab4 (Brand) seems relevant to my life | 1.000 | .759 |
| Ab5 (Brand) uses healthy ingredients | 1.000 | .749 |
| Ab6 Feel personal connection with (Brand) | 1.000 | .794 |
| Ab7 (Brand) offers healthy alternatives | 1.000 | .764 |
| Ab8 Feel positive toward (Brand) | 1.000 | .832 |
| Ab9 (Brand) is honest | 1.000 | .819 |
| Ab10 Trust (Brand) | 1.000 | .825 |
| Ab11 (Brand) part of my life | 1.000 | .806 |
| Ab12 (Brand) knows what I look for | 1.000 | .788 |
| Ab13 (Brand) relates to me | 1.000 | .879 |
| Ab14 (Brand) listens to me needs | 1.000 | .856 |
| Ab15 (Brand) cares about me | 1.000 | .805 |
| Ab16 (Brand) likely stay in business | 1.000 | .564 |
| Ab17 (Brand) understands me | 1.000 | .853 |

### *C-5: Factor analysis of purchase intention*

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5.517 | 50.155 | 50.155 | 5.517 | 50.155 | 50.155 |
| 2 | 1.976 | 17.968 | 68.122 | 1.976 | 17.968 | 68.122 |
| 3 | 1.121 | 10.194 | 78.316 | 1.121 | 10.194 | 78.316 |
| 4 | .546 | 4.961 | 83.278 | | | |
| 5 | .420 | 3.822 | 87.100 | | | |
| 6 | .384 | 3.489 | 90.589 | | | |
| 7 | .331 | 3.007 | 93.596 | | | |
| 8 | .299 | 2.714 | 96.310 | | | |
| 9 | .257 | 2.339 | 98.648 | | | |
| 10 | .097 | .880 | 99.528 | | | |
| 11 | .052 | .472 | 100.000 | | | |



**Pattern Matrix[a]**

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| R_PI10 Avoid (Brand) | .876 | | |
| PI3 Purchase From (Brand) | .866 | | |
| PI1 Want to buy or eat from (Brand) | .851 | | |
| PI2 Consider Eating from (Brand) | .851 | | |
| PI9 Recommend (Brand) to others | .584 | | |
| PI5 Exercise more | | .900 | |
| PI4 Improve my diet | | .857 | |
| PI7 Look at nutrition values at fast foods | | .808 | |
| PI6 Super size my order next time | | | .931 |
| PI13 Comment about ad | | | .779 |
| PI14 Search for something I saw on ad | | | .549 |

**Communalities**

| | Initial | Extraction |
|---|---|---|
| PI1 Want to buy or eat from (Brand) | 1.000 | .888 |
| PI2 Consider Eating from (Brand) | 1.000 | .908 |
| PI3 Purchase From (Brand) | 1.000 | .908 |
| PI4 Improve my diet | 1.000 | .768 |
| PI5 Exercise more | 1.000 | .793 |
| PI6 Super size my order next time | 1.000 | .763 |
| PI7 Look at nutrition values at fast foods | 1.000 | .718 |
| PI9 Recommend (Brand) to others | 1.000 | .732 |
| R_PI10 Avoid (Brand) | 1.000 | .707 |
| PI13 Comment about ad | 1.000 | .764 |
| PI14 Search for something I saw on ad | 1.000 | .667 |

### *C-6: ANOVA results / one-sided versus two-sided*

***Attitude Toward the Ad:***

**Descriptive Statistics**

Dependent Variable: Aad_Factor1 Attitude Toward the ad

| Fast Food | Sidedness | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 1 SW | 0 No disclosure | 3.4144 | .80930 | 54 |
| | 1 one-sided | 3.6306 | .81825 | 45 |
| | 2 two-sided | 3.4192 | .94002 | 41 |
| | Total | 3.4853 | .85208 | 140 |
| 2 BK | 0 No disclosure | 3.1014 | 1.04196 | 53 |
| | 1 one-sided | 3.2839 | 1.03093 | 48 |
| | 2 two-sided | 3.4375 | .87323 | 59 |
| | Total | 3.2801 | .98348 | 160 |
| Total | 0 No disclosure | 3.2593 | .94063 | 107 |
| | 1 one-sided | 3.4516 | .94526 | 93 |
| | 2 two-sided | 3.4300 | .89657 | 100 |

| | | | |
|---|---|---|---|
| Total | 3.3758 | .92864 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: Aad_Factor1 Attitude Toward the ad

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 7.699[a] | 5 | 1.540 | 1.810 | .111 |
| Intercept | 3379.479 | 1 | 3379.479 | 3971.841 | .000 |
| FastFood | 3.378 | 1 | 3.378 | 3.970 | .047 |
| Sidedness | 2.371 | 2 | 1.185 | 1.393 | .250 |
| FastFood * Sidedness | 1.976 | 2 | .988 | 1.161 | .315 |
| Error | 250.153 | 294 | .851 | | |
| Total | 3676.727 | 300 | | | |
| Corrected Total | 257.851 | 299 | | | |

a. R Squared = .030 (Adjusted R Squared = .013)

***Attitude Toward the Brand- Factor One:***

**Descriptive Statistics**

Dependent Variable: Ab_Factor1 Brand Trust

| FastFood | Sidedness | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 1 SW | 0 No disclosure | 3.7963 | .67491 | 54 |
| | 1 one-sided | 4.0494 | .64378 | 45 |
| | 2 two-sided | 3.8564 | .69931 | 41 |
| | Total | 3.8952 | .67642 | 140 |
| 2 BK | 0 No disclosure | 3.3627 | .79174 | 53 |
| | 1 one-sided | 3.3264 | .94848 | 48 |
| | 2 two-sided | 3.3842 | .73249 | 59 |
| | Total | 3.3597 | .81683 | 160 |
| Total | 0 No disclosure | 3.5815 | .76336 | 107 |
| | 1 one-sided | 3.6762 | .88869 | 93 |

| | | | |
|---|---|---|---|
| 2 two-sided | 3.5778 | .75260 | 100 |
| Total | 3.6096 | .79945 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: Ab_Factor1 Brand Trust

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 23.162[a] | 5 | 4.632 | 8.110 | .000 |
| Intercept | 3893.565 | 1 | 3893.565 | 6816.314 | .000 |
| FastFood | 21.785 | 1 | 21.785 | 38.138 | .000 |
| Sidedness | .590 | 2 | .295 | .517 | .597 |
| FastFood * Sidedness | 1.191 | 2 | .595 | 1.043 | .354 |
| Error | 167.937 | 294 | .571 | | |
| Total | 4099.926 | 300 | | | |
| Corrected Total | 191.098 | 299 | | | |

a. R Squared = .121 (Adjusted R Squared = .106)

***Attitude Toward the Brand- Factor Two:***

**Descriptive Statistics**

Dependent Variable: Ab_Factor2 Relationship to Brand

| FastFood | Sidedness | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 1 SW | 0 No disclosure | 3.3009 | .92894 | 54 |
| | 1 one-sided | 3.3889 | .77158 | 45 |
| | 2 two-sided | 3.2409 | 1.00171 | 41 |
| | Total | 3.3116 | .89983 | 140 |
| 2 BK | 0 No disclosure | 2.8962 | .97651 | 53 |
| | 1 one-sided | 3.0104 | 1.06810 | 48 |
| | 2 two-sided | 3.0932 | 1.00231 | 59 |
| | Total | 3.0031 | 1.01114 | 160 |
| Total | 0 No disclosure | 3.1005 | .96983 | 107 |
| | 1 one-sided | 3.1935 | .95064 | 93 |
| | 2 two-sided | 3.1537 | .99966 | 100 |

| | | | |
|---|---|---|---|
| Total | 3.1471 | .97152 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: Ab_Factor2 Relationship to Brand

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 8.673[a] | 5 | 1.735 | 1.864 | .100 |
| Intercept | 2942.691 | 1 | 2942.691 | 3162.791 | .000 |
| FastFood | 7.114 | 1 | 7.114 | 7.646 | .006 |
| Sidedness | .538 | 2 | .269 | .289 | .749 |
| FastFood * Sidedness | .986 | 2 | .493 | .530 | .589 |
| Error | 273.540 | 294 | .930 | | |
| Total | 3253.453 | 300 | | | |
| Corrected Total | 282.213 | 299 | | | |

a. R Squared = .031 (Adjusted R Squared = .014)

***Purchase Intentions- Factor One:***

**Descriptive Statistics**

Dependent Variable: PI_Factor1 Purchase Decision

| FastFood | Sidedness | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 1 SW | 0 No disclosure | 3.7444 | .79472 | 54 |
| | 1 one-sided | 4.0000 | .81128 | 45 |
| | 2 two-sided | 3.7854 | 1.03961 | 41 |
| | Total | 3.8386 | .87914 | 140 |
| 2 BK | 0 No disclosure | 3.3660 | 1.03384 | 53 |
| | 1 one-sided | 3.4667 | 1.05535 | 48 |
| | 2 two-sided | 3.4949 | 1.05723 | 59 |
| | Total | 3.4437 | 1.04386 | 160 |
| Total | 0 No disclosure | 3.5570 | .93608 | 107 |
| | 1 one-sided | 3.7247 | .97754 | 93 |

| | | | | |
|---|---|---|---|---|
| | 2 two-sided | 3.6140 | 1.05457 | 100 |
| | Total | 3.6280 | .98877 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor1 Purchase Decision

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 13.906[a] | 5 | 2.781 | 2.937 | .013 |
| Intercept | 3922.990 | 1 | 3922.990 | 4142.537 | .000 |
| FastFood | 11.868 | 1 | 11.868 | 12.532 | .000 |
| Sidedness | 1.577 | 2 | .789 | .833 | .436 |
| FastFood * Sidedness | .715 | 2 | .358 | .378 | .686 |
| Error | 278.419 | 294 | .947 | | |
| Total | 4241.040 | 300 | | | |
| Corrected Total | 292.325 | 299 | | | |

a. R Squared = .048 (Adjusted R Squared = .031)

***Purchase Intentions- Factor Two:***

**Descriptive Statistics**

Dependent Variable: PI_Factor2 Healthiness of Decision

| FastFood | Sidedness | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 1 SW | 0 No disclosure | 3.3272 | .87713 | 54 |
| | 1 one-sided | 3.1407 | .83934 | 45 |
| | 2 two-sided | 2.9919 | 1.09415 | 41 |
| | Total | 3.1690 | .93813 | 140 |
| 2 BK | 0 No disclosure | 2.9623 | .95107 | 53 |
| | 1 one-sided | 3.2847 | .87786 | 48 |
| | 2 two-sided | 3.2147 | .98019 | 59 |
| | Total | 3.1521 | .94492 | 160 |
| Total | 0 No disclosure | 3.1464 | .92844 | 107 |
| | 1 one-sided | 3.2151 | .85782 | 93 |

| | | | |
|---|---|---|---|
| 2 two-sided | 3.1233 | 1.02894 | 100 |
| Total | 3.1600 | .94022 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor2 Healthiness of Decision

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 5.680[a] | 5 | 1.136 | 1.291 | .268 |
| Intercept | 2939.867 | 1 | 2939.867 | 3341.791 | .000 |
| FastFood | 2.978E-005 | 1 | 2.978E-005 | .000 | .995 |
| Sidedness | .578 | 2 | .289 | .328 | .720 |
| FastFood * Sidedness | 5.230 | 2 | 2.615 | 2.972 | .053 |
| Error | 258.640 | 294 | .880 | | |
| Total | 3260.000 | 300 | | | |
| Corrected Total | 264.320 | 299 | | | |

a. R Squared = .021 (Adjusted R Squared = .005)

***Purchase Intentions- Factor Three:***

**Descriptive Statistics**

Dependent Variable: PI_Factor3 Search Behavior

| FastFood | Sidedness | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 1 SW | 0 No disclosue | 2.5988 | .93696 | 54 |
| | 1 one-sided | 2.3481 | .78803 | 45 |
| | 2 two-sided | 2.5854 | 1.05087 | 41 |
| | Total | 2.5143 | .92860 | 140 |
| 2 BK | 0 No disclosue | 2.4654 | 1.01976 | 53 |
| | 1 one-sided | 2.5347 | .93964 | 48 |
| | 2 two-sided | 2.6554 | 1.02641 | 59 |
| | Total | 2.5562 | .99595 | 160 |
| Total | 0 No disclosue | 2.5327 | .97652 | 107 |

| | | | |
|---|---|---|---|
| 1 one-sided | 2.4444 | .86997 | 93 |
| 2 two-sided | 2.6267 | 1.03180 | 100 |
| Total | 2.5367 | .96374 | 300 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor3 Search Behavior

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 3.005[a] | 5 | .601 | .643 | .667 |
| Intercept | 1894.120 | 1 | 1894.120 | 2027.180 | .000 |
| FastFood | .125 | 1 | .125 | .133 | .715 |
| Sidedness | 1.517 | 2 | .759 | .812 | .445 |
| FastFood * Sidedness | 1.321 | 2 | .661 | .707 | .494 |
| Error | 274.702 | 294 | .934 | | |
| Total | 2208.111 | 300 | | | |
| Corrected Total | 277.708 | 299 | | | |

a. R Squared = .011 (Adjusted R Squared = -.006)

# APPENDIX D: STUDY 3

## *D-1: Number of respondents in each group*

| | | Disclosure | | |
|---|---|---|---|---|
| | | No Disclosure | Disclosure | Total |
| **Restaurant** | Burger King | 20 | 32 | 52 (52%) |
| | Subway | 11 | 37 | 48 (48%) |
| | Total | 31 (31%) | 69 (69%) | 100 |

## *D-2: Normality checks*

Aad skewness = -0.397, kurtosis = -0.159

Ab skewness = -0.148, kurtosis = 0.146

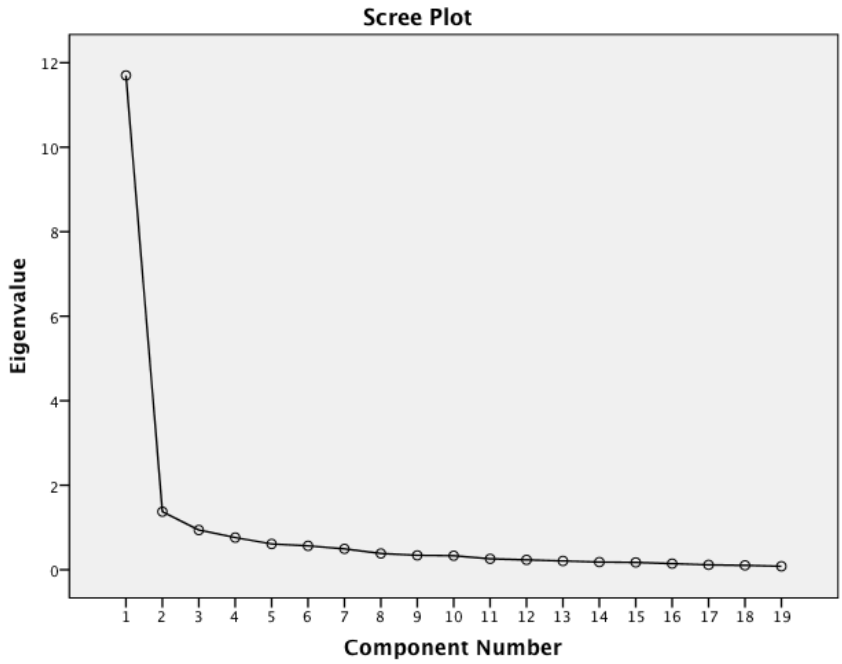
PI skewness = 0.171, kurtosis = 0.298

Adopting healthy lifestyle skewness = -0.678, kurtosis = 0.250

### *D-3: Factor analysis of attitude toward the ad*

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Rotation Sums of Squared Loadings[a] |
|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total |
| 1 | 11.169 | 62.050 | 62.050 | 11.169 |
| 2 | 1.372 | 7.623 | 69.674 | 1.381 |
| 3 | .891 | 4.952 | 74.626 | |
| 4 | .760 | 4.222 | 78.848 | |
| 5 | .607 | 3.374 | 82.222 | |
| 6 | .514 | 2.857 | 85.079 | |
| 7 | .386 | 2.147 | 87.226 | |
| 8 | .365 | 2.028 | 89.254 | |
| 9 | .341 | 1.895 | 91.148 | |
| 10 | .278 | 1.545 | 92.693 | |
| 11 | .257 | 1.428 | 94.120 | |
| 12 | .222 | 1.231 | 95.352 | |
| 13 | .192 | 1.067 | 96.419 | |
| 14 | .180 | 1.001 | 97.420 | |
| 15 | .161 | .895 | 98.316 | |
| 16 | .118 | .653 | 98.969 | |
| 17 | .103 | .570 | 99.539 | |
| 18 | .083 | .461 | 100.000 | |




**Pattern Matrix[a]**

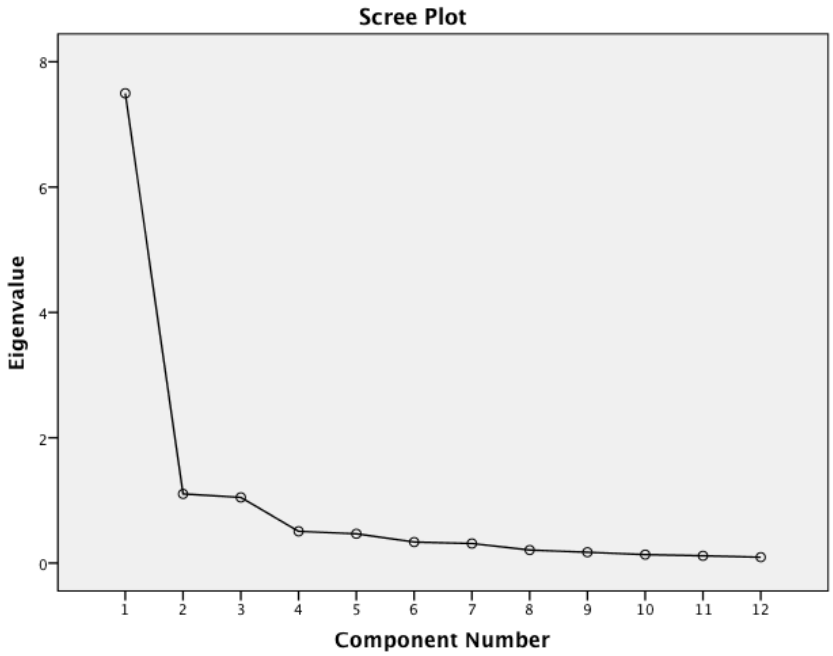
| | Component | |
|---|---|---|
| | 1 | 2 |
| Aad1 Ad catches my attention | .841 | |
| Aad2 I Like ad | .871 | |
| Aad3 I would watch ad | .778 | |
| Aad5 Engages me | .800 | |
| Aad6 Attracts me | .864 | |
| Aad7 Contains useful info | .837 | |
| Aad8 Ad is interesting | .885 | |
| Aad10 Think more about (Brand) | .854 | |
| Aad11 Ad speaks to me | .860 | |
| Aad12 Ad is enjoyable | .852 | |
| Aad13 I learned something from ad | .757 | |
| Aad15 I believe this ad | .736 | |
| R_Aad17 Some info are untrue | | .818 |
| Aad20 Use the info | .885 | |
| Aad21 Help me select better place to eat | .785 | |
| Aad22 Makes me feel like going to gym or working out | | -.783 |
| Aad23 Makes me remember the (Brand) | .832 | |

| | | |
|---|---|---|
| Aad24 Makes me more interested in (Brand) | .866 | |

### *D-4: Factor analysis of attitude toward the brand*

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Rotation Sums of Squared Loadings[a] |
|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total |
| 1 | 7.497 | 62.472 | 62.472 | 6.980 |
| 2 | 1.103 | 9.194 | 71.666 | 5.739 |
| 3 | 1.048 | 8.736 | 80.403 | 1.265 |
| 4 | .507 | 4.225 | 84.628 | |
| 5 | .468 | 3.897 | 88.525 | |
| 6 | .336 | 2.803 | 91.329 | |
| 7 | .312 | 2.603 | 93.932 | |
| 8 | .209 | 1.741 | 95.673 | |
| 9 | .173 | 1.444 | 97.117 | |
| 10 | .136 | 1.130 | 98.246 | |
| 11 | .117 | .971 | 99.218 | |
| 12 | .094 | .782 | 100.000 | |



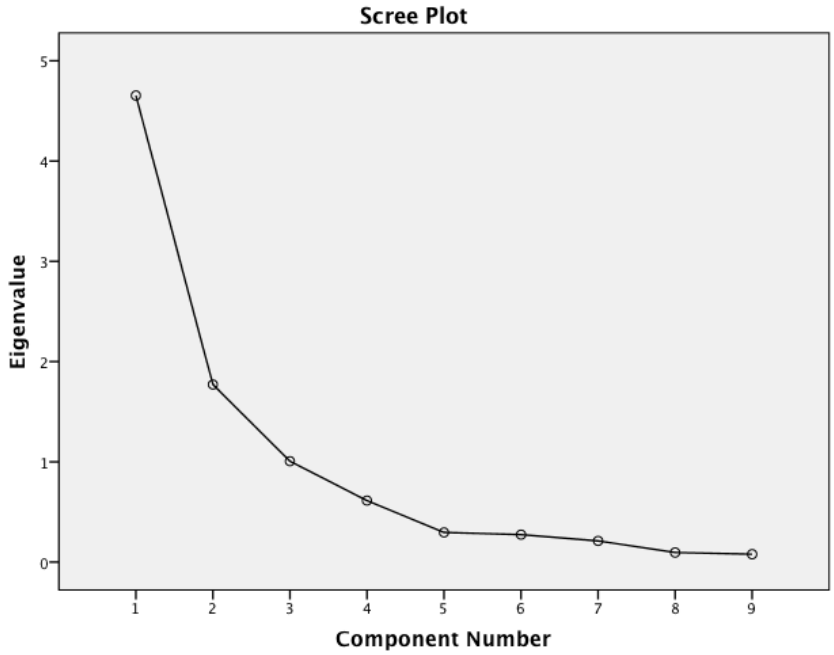

**Pattern Matrix[a]**

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| R_Ab2 (Brand) serves unhealthy food | | | .969 |
| Ab3 (Brand) is better than other fast foods | | .847 | |
| Ab5 (Brand) uses healthy ingredients | | .813 | |
| Ab6 Feel personal connection with (Brand) | .864 | | |
| Ab7 (Brand) offers healthy alternatives | | .886 | |
| Ab11 (Brand) part of my life | 1.055 | | |
| Ab12 (Brand) knows what I look for | .766 | | |
| Ab13 (Brand) relates to me | .822 | | |
| Ab14 (Brand) listens to me needs | .824 | | |
| Ab15 (Brand) cares about me | .818 | | |
| Ab16 (Brand) likely stay in business | | .802 | |
| Ab17 (Brand) understands me | .817 | | |

## *D-5: Factor analysis of purchase intention*

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Rotation Sums of Squared Loadings[a] |
|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total |
| 1 | 4.653 | 51.703 | 51.703 | 3.662 |
| 2 | 1.771 | 19.681 | 71.384 | 3.187 |
| 3 | 1.006 | 11.180 | 82.565 | 3.053 |
| 4 | .613 | 6.816 | 89.380 | |
| 5 | .296 | 3.287 | 92.667 | |
| 6 | .274 | 3.042 | 95.709 | |
| 7 | .212 | 2.353 | 98.062 | |
| 8 | .096 | 1.065 | 99.127 | |
| 9 | .079 | .873 | 100.000 | |




**Pattern Matrix[a]**

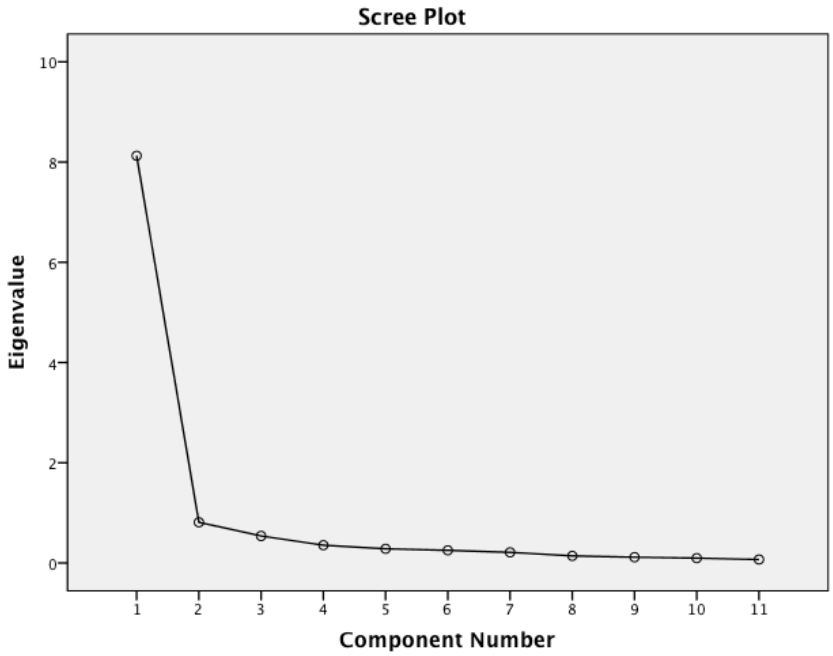
| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| PI1 Want to buy or eat from (Brand) | .959 | | |
| PI2 Consider Eating from (Brand) | .967 | | |

| | | | |
|---|---|---|---|
| PI3 Purchase From (Brand) | .956 | | |
| PI4 Improve my diet | | .795 | |
| PI5 Exercise more | | .959 | |
| PI6 Super size my order next time | | | .843 |
| PI7 Look at nutrition values at fast foods | | .865 | |
| PI12 Share info from ad with others | | | .870 |
| PI13 Comment about ad | | | .576 |

### *D-6: Factor analysis of healthy lifestyle*

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 8.126 | 73.875 | 73.875 | 8.126 | 73.875 | 73.875 |
| 2 | .811 | 7.373 | 81.249 | | | |
| 3 | .539 | 4.903 | 86.152 | | | |
| 4 | .354 | 3.222 | 89.374 | | | |
| 5 | .283 | 2.569 | 91.943 | | | |
| 6 | .253 | 2.296 | 94.238 | | | |
| 7 | .213 | 1.933 | 96.171 | | | |
| 8 | .141 | 1.279 | 97.450 | | | |
| 9 | .116 | 1.053 | 98.503 | | | |
| 10 | .096 | .875 | 99.378 | | | |
| 11 | .068 | .622 | 100.000 | | | |




**Component Matrix[a]**

| | Component |
|---|---|
| | 1 |
| Adopt1 avoid foods that contain too much fat | .854 |
| Adopt2 use information about calories when deciding to buy a food product | .862 |
| Adop3 use information about calories that come from fat when deciding to buy a food product | .849 |
| Adopt4 use information about total fat when deciding to buy a food product | .922 |
| Adopt5 use information about salt when deciding to buy a food product | .888 |
| Adopt6 use information about sugar when deciding to buy a food product | .913 |
| Adopt7 using sugar only in moderation | .806 |
| Adopt8 avoid foods that contain too much salt or sodium | .862 |
| Adopt9 using salt or sodium only in moderation | .802 |
| Adopt10 I plan to choose a diet with plenty of fruits & vegetables | .813 |

| | |
|---|---|
| Adopt11 {I plan to avoid foods that contain too much sugar | .874 |

### *D-7: First ANOVA results / interaction between disclosures and healthy lifestyle (with fast food consideration)*

***Attitude Toward the Ad:***

**Descriptive Statistics**

Dependent Variable: Aad_Factor1 Attitude Toward the ad

| Disclosure | Fastfood | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| 0 No disclosure | 1 SW | 1 Low | 1.2500 | .17678 | 2 |
| | | 2 High | 3.7604 | .74939 | 6 |
| | | Total | 3.1328 | 1.32517 | 8 |
| | 2 BK | 1 Low | 2.7500 | . | 1 |
| | | 2 High | 3.2708 | .91206 | 15 |
| | | Total | 3.2383 | .89070 | 16 |
| | Total | 1 Low | 1.7500 | .87500 | 3 |
| | | 2 High | 3.4107 | .87980 | 21 |
| | | Total | 3.2031 | 1.02686 | 24 |
| 1 Disclosure | 1 SW | 1 Low | 3.0313 | 1.40080 | 4 |
| | | 2 High | 3.6023 | 1.10119 | 22 |
| | | Total | 3.5144 | 1.13940 | 26 |
| | 2 BK | 1 Low | 3.1875 | . | 1 |
| | | 2 High | 3.2465 | .98483 | 18 |
| | | Total | 3.2434 | .95718 | 19 |
| | Total | 1 Low | 3.0625 | 1.21514 | 5 |
| | | 2 High | 3.4422 | 1.05254 | 40 |
| | | Total | 3.4000 | 1.06337 | 45 |
| Total | 1 SW | 1 Low | 2.4375 | 1.42467 | 6 |
| | | 2 High | 3.6362 | 1.02544 | 28 |
| | | Total | 3.4246 | 1.17601 | 34 |
| | 2 BK | 1 Low | 2.9688 | .30936 | 2 |
| | | 2 High | 3.2576 | .93773 | 33 |

| | | | | |
|---|---|---|---|---|
| | Total | 3.2411 | .91381 | 35 |
| | 1 Low | 2.5703 | 1.23447 | 8 |
| Total | 2 High | 3.4314 | .98911 | 61 |
| | Total | 3.3315 | 1.04749 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: Aad_Factor1 Attitude Toward the ad

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 12.287[a] | 7 | 1.755 | 1.718 | .122 |
| Intercept | 188.290 | 1 | 188.290 | 184.287 | .000 |
| Fastfood | .213 | 1 | .213 | .209 | .649 |
| Disclosure | 1.344 | 1 | 1.344 | 1.316 | .256 |
| HealthyLifeStyle | 4.346 | 1 | 4.346 | 4.254 | .043 |
| Fastfood * Disclosure | .475 | 1 | .475 | .465 | .498 |
| Fastfood * HealthyLifeStyle | 2.029 | 1 | 2.029 | 1.986 | .164 |
| Disclosure * HealthyLifeStyle | 1.869 | 1 | 1.869 | 1.830 | .181 |
| Fastfood * Disclosure * HealthyLifeStyle | .708 | 1 | .708 | .693 | .408 |
| Error | 62.325 | 61 | 1.022 | | |
| Total | 840.445 | 69 | | | |
| Corrected Total | 74.612 | 68 | | | |

a. R Squared = .165 (Adjusted R Squared = .069)

***Attitude Toward the Brand- Factor One:***

**Descriptive Statistics**

Dependent Variable: Ab_Factor1 Relationship to Brand

| Disclosure | Fastfood | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| 0 No disclosure | 1 SW | 1 Low | 1.4286 | .60609 | 2 |
| | | 2 High | 3.2619 | .83991 | 6 |
| | | Total | 2.8036 | 1.12987 | 8 |
| | 2 BK | 1 Low | 1.2857 | . | 1 |
| | | 2 High | 2.8762 | .74986 | 15 |
| | | Total | 2.7768 | .82638 | 16 |
| | Total | 1 Low | 1.3810 | .43644 | 3 |
| | | 2 High | 2.9864 | .77579 | 21 |
| | | Total | 2.7857 | .91328 | 24 |
| 1 Disclosure | 1 SW | 1 Low | 2.7143 | 1.16642 | 4 |
| | | 2 High | 3.2727 | 1.17217 | 22 |
| | | Total | 3.1868 | 1.16603 | 26 |
| | 2 BK | 1 Low | 2.2857 | . | 1 |
| | | 2 High | 3.0317 | 1.17349 | 18 |
| | | Total | 2.9925 | 1.15320 | 19 |
| | Total | 1 Low | 2.6286 | 1.02817 | 5 |
| | | 2 High | 3.1643 | 1.16398 | 40 |
| | | Total | 3.1048 | 1.15151 | 45 |
| Total | 1 SW | 1 Low | 2.2857 | 1.15352 | 6 |
| | | 2 High | 3.2704 | 1.09513 | 28 |
| | | Total | 3.0966 | 1.15241 | 34 |
| | 2 BK | 1 Low | 1.7857 | .70711 | 2 |
| | | 2 High | 2.9610 | .99185 | 33 |
| | | Total | 2.8939 | 1.00857 | 35 |
| | Total | 1 Low | 2.1607 | 1.03703 | 8 |
| | | 2 High | 3.1030 | 1.04332 | 61 |
| | | Total | 2.9938 | 1.07867 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: Ab_Factor1 Relationship to Brand

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 11.008[a] | 7 | 1.573 | 1.408 | .218 |
| Intercept | 131.729 | 1 | 131.729 | 117.974 | .000 |
| Fastfood | .465 | 1 | .465 | .417 | .521 |
| Disclosure | 1.949 | 1 | 1.949 | 1.746 | .191 |
| HealthyLifeStyle | 7.248 | 1 | 7.248 | 6.492 | .013 |
| Fastfood * Disclosure | .006 | 1 | .006 | .006 | .940 |
| Fastfood * HealthyLifeStyle | .001 | 1 | .001 | .001 | .976 |
| Disclosure * HealthyLifeStyle | 1.456 | 1 | 1.456 | 1.304 | .258 |
| Fastfood * Disclosure * HealthyLifeStyle | .060 | 1 | .060 | .054 | .817 |
| Error | 68.112 | 61 | 1.117 | | |
| Total | 697.551 | 69 | | | |
| Corrected Total | 79.120 | 68 | | | |

a. R Squared = .139 (Adjusted R Squared = .040)

***Attitude Toward the Brand- Factor Two:***

**Descriptive Statistics**

Dependent Variable: Ab_Factor2 Competitive Healthiness

| Disclosure | Fastfood | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| | | 1 Low | 1.0000 | .00000 | 2 |
| | 1 SW | 2 High | 4.0417 | .48520 | 6 |
| | | Total | 3.2812 | 1.46652 | 8 |
| | | 1 Low | 1.0000 | . | 1 |
| 0 No disclosure | 2 BK | 2 High | 3.4167 | .44987 | 15 |
| | | Total | 3.2656 | .74425 | 16 |
| | | 1 Low | 1.0000 | .00000 | 3 |
| | Total | 2 High | 3.5952 | .53313 | 21 |
| | | Total | 3.2708 | 1.00789 | 24 |
| | | 1 Low | 3.5000 | 1.69558 | 4 |
| | 1 SW | 2 High | 4.1136 | .69320 | 22 |
| | | Total | 4.0192 | .89421 | 26 |
| | | 1 Low | 2.7500 | . | 1 |
| 1 Disclosure | 2 BK | 2 High | 3.5972 | 1.04367 | 18 |
| | | Total | 3.5526 | 1.03272 | 19 |
| | | 1 Low | 3.3500 | 1.50624 | 5 |
| | Total | 2 High | 3.8813 | .89512 | 40 |
| | | Total | 3.8222 | .97209 | 45 |
| | | 1 Low | 2.6667 | 1.84165 | 6 |
| | 1 SW | 2 High | 4.0982 | .64671 | 28 |
| | | Total | 3.8456 | 1.07839 | 34 |
| | | 1 Low | 1.8750 | 1.23744 | 2 |
| Total | 2 BK | 2 High | 3.5152 | .82192 | 33 |
| | | Total | 3.4214 | .91107 | 35 |
| | | 1 Low | 2.4688 | 1.66603 | 8 |
| | Total | 2 High | 3.7828 | .79644 | 61 |
| | | Total | 3.6304 | 1.01243 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: Ab_Factor2 Factor2

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 28.457[a] | 7 | 4.065 | 6.013 | .000 |
| Intercept | 177.820 | 1 | 177.820 | 262.999 | .000 |
| Fastfood | 1.160 | 1 | 1.160 | 1.715 | .195 |
| Disclosure | 6.573 | 1 | 6.573 | 9.721 | .003 |
| HealthyLifeStyle | 15.522 | 1 | 15.522 | 22.957 | .000 |
| Fastfood * Disclosure | .133 | 1 | .133 | .197 | .658 |
| Fastfood * HealthyLifeStyle | .050 | 1 | .050 | .073 | .787 |
| Disclosure * HealthyLifeStyle | 5.181 | 1 | 5.181 | 7.663 | .007 |
| Fastfood * Disclosure * HealthyLifeStyle | .239 | 1 | .239 | .353 | .554 |
| Error | 41.244 | 61 | .676 | | |
| Total | 979.125 | 69 | | | |
| Corrected Total | 69.701 | 68 | | | |

a. R Squared = .408 (Adjusted R Squared = .340)

***Purchase Intentions- Factor One:***

**Descriptive Statistics**

Dependent Variable: PI_Factor1 Purchase Decision

| Disclosure | Fastfood | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| | | 1 Low | 2.0000 | 1.41421 | 2 |
| | 1 SW | 2 High | 3.7778 | .98131 | 6 |
| | | Total | 3.3333 | 1.28483 | 8 |
| | | 1 Low | 1.3333 | . | 1 |
| 0 No disclosure | 2 BK | 2 High | 3.5778 | .92124 | 15 |
| | | Total | 3.4375 | 1.05211 | 16 |
| | | 1 Low | 1.7778 | 1.07152 | 3 |
| | Total | 2 High | 3.6349 | .91836 | 21 |
| | | Total | 3.4028 | 1.10763 | 24 |
| | | 1 Low | 3.3333 | 1.69967 | 4 |
| | 1 SW | 2 High | 3.7273 | 1.29972 | 22 |
| | | Total | 3.6667 | 1.33666 | 26 |
| | | 1 Low | 1.0000 | . | 1 |
| 1 Disclosure | 2 BK | 2 High | 3.7222 | 1.08616 | 18 |
| | | Total | 3.5789 | 1.22647 | 19 |
| | | 1 Low | 2.8667 | 1.80432 | 5 |
| | Total | 2 High | 3.7250 | 1.19326 | 40 |
| | | Total | 3.6296 | 1.27767 | 45 |
| | | 1 Low | 2.8889 | 1.61475 | 6 |
| | 1 SW | 2 High | 3.7381 | 1.22174 | 28 |
| | | Total | 3.5882 | 1.31313 | 34 |
| | | 1 Low | 1.1667 | .23570 | 2 |
| Total | 2 BK | 2 High | 3.6566 | 1.00168 | 33 |
| | | Total | 3.5143 | 1.13570 | 35 |
| | | 1 Low | 2.4583 | 1.58302 | 8 |
| | Total | 2 High | 3.6940 | 1.09932 | 61 |
| | | Total | 3.5507 | 1.21782 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor1 Purchase Decision

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 17.957[a] | 7 | 2.565 | 1.888 | .087 |
| Intercept | 163.723 | 1 | 163.723 | 120.482 | .000 |
| Fastfood | 3.330 | 1 | 3.330 | 2.451 | .123 |
| Disclosure | .388 | 1 | .388 | .286 | .595 |
| HealthyLifeStyle | 16.521 | 1 | 16.521 | 12.158 | .001 |
| Fastfood * Disclosure | .702 | 1 | .702 | .517 | .475 |
| Fastfood * HealthyLifeStyle | 2.533 | 1 | 2.533 | 1.864 | .177 |
| Disclosure * HealthyLifeStyle | .266 | 1 | .266 | .196 | .660 |
| Fastfood * Disclosure * HealthyLifeStyle | 1.124 | 1 | 1.124 | .827 | .367 |
| Error | 82.893 | 61 | 1.359 | | |
| Total | 970.778 | 69 | | | |
| Corrected Total | 100.850 | 68 | | | |

a. R Squared = .178 (Adjusted R Squared = .084)

***Purchase Intentions- Factor Two:***

**Descriptive Statistics**

**Dependent Variable: PI_Factor2 Healthiness of Decision**

| Disclosure | Fastfood | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| | | 1 Low | 2.0000 | 1.41421 | 2 |
| | 1 SW | 2 High | 2.6667 | .78881 | 6 |
| | | Total | 2.5000 | .90851 | 8 |
| | | 1 Low | 1.0000 | . | 1 |
| 0 No disclosure | 2 BK | 2 High | 3.0444 | .87166 | 15 |
| | | Total | 2.9167 | .98507 | 16 |
| | | 1 Low | 1.6667 | 1.15470 | 3 |
| | Total | 2 High | 2.9365 | .84734 | 21 |
| | | Total | 2.7778 | .96141 | 24 |
| | | 1 Low | 2.2500 | .95743 | 4 |
| | 1 SW | 2 High | 3.5909 | 1.01800 | 22 |
| | | Total | 3.3846 | 1.10631 | 26 |
| | | 1 Low | 3.6667 | . | 1 |
| 1 Disclosure | 2 BK | 2 High | 3.8519 | .93040 | 18 |
| | | Total | 3.8421 | .90519 | 19 |
| | | 1 Low | 2.5333 | 1.04350 | 5 |
| | Total | 2 High | 3.7083 | .97603 | 40 |
| | | Total | 3.5778 | 1.04059 | 45 |
| | | 1 Low | 2.1667 | .98319 | 6 |
| | 1 SW | 2 High | 3.3929 | 1.03460 | 28 |
| | | Total | 3.1765 | 1.11686 | 34 |
| | | 1 Low | 2.3333 | 1.88562 | 2 |
| Total | 2 BK | 2 High | 3.4848 | .97927 | 33 |
| | | Total | 3.4190 | 1.03955 | 35 |
| | | 1 Low | 2.2083 | 1.09744 | 8 |
| | Total | 2 High | 3.4426 | .99763 | 61 |
| | | Total | 3.2995 | 1.07731 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor2 Healthiness of Decision

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 23.944[a] | 7 | 3.421 | 3.795 | .002 |
| Intercept | 157.929 | 1 | 157.929 | 175.232 | .000 |
| Fastfood | .361 | 1 | .361 | .401 | .529 |
| Disclosure | 7.005 | 1 | 7.005 | 7.773 | .007 |
| HealthyLifeStyle | 5.821 | 1 | 5.821 | 6.459 | .014 |
| Fastfood * Disclosure | 1.715 | 1 | 1.715 | 1.903 | .173 |
| Fastfood * HealthyLifeStyle | .016 | 1 | .016 | .018 | .894 |
| Disclosure * HealthyLifeStyle | .455 | 1 | .455 | .505 | .480 |
| Fastfood * Disclosure * HealthyLifeStyle | 2.081 | 1 | 2.081 | 2.309 | .134 |
| Error | 54.977 | 61 | .901 | | |
| Total | 830.111 | 69 | | | |
| Corrected Total | 78.921 | 68 | | | |

a. R Squared = .303 (Adjusted R Squared = .223)

***Purchase Intentions- Factor Three:***

**Descriptive Statistics**

**Dependent Variable: PI_Factor3 Search Behavior**

| Disclosure | Fastfood | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| | | 1 Low | 1.3333 | .47140 | 2 |
| | 1 SW | 2 High | 2.1667 | .75277 | 6 |
| | | Total | 1.9583 | .76506 | 8 |
| | | 1 Low | 1.0000 | . | 1 |
| 0 No disclosure | 2 BK | 2 High | 2.5556 | .86984 | 15 |
| | | Total | 2.4583 | .92596 | 16 |
| | | 1 Low | 1.2222 | .38490 | 3 |
| | Total | 2 High | 2.4444 | .83887 | 21 |
| | | Total | 2.2917 | .89179 | 24 |
| | | 1 Low | 1.8333 | .88192 | 4 |
| | 1 SW | 2 High | 2.4545 | 1.05181 | 22 |
| | | Total | 2.3590 | 1.03676 | 26 |
| | | 1 Low | 1.0000 | . | 1 |
| 1 Disclosure | 2 BK | 2 High | 2.5185 | 1.26399 | 18 |
| | | Total | 2.4386 | 1.27682 | 19 |
| | | 1 Low | 1.6667 | .84984 | 5 |
| | Total | 2 High | 2.4833 | 1.13717 | 40 |
| | | Total | 2.3926 | 1.13103 | 45 |
| | | 1 Low | 1.6667 | .76012 | 6 |
| | 1 SW | 2 High | 2.3929 | .98988 | 28 |
| | | Total | 2.2647 | .98398 | 34 |
| | | 1 Low | 1.0000 | .00000 | 2 |
| Total | 2 BK | 2 High | 2.5354 | 1.08634 | 33 |
| | | Total | 2.4476 | 1.11421 | 35 |
| | | 1 Low | 1.5000 | .71270 | 8 |
| | Total | 2 High | 2.4699 | 1.03705 | 61 |
| | | Total | 2.3575 | 1.04837 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor3 Search Behavior

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 8.363[a] | 7 | 1.195 | 1.098 | .376 |
| Intercept | 71.613 | 1 | 71.613 | 65.814 | .000 |
| Fastfood | .165 | 1 | .165 | .152 | .698 |
| Disclosure | .183 | 1 | .183 | .168 | .683 |
| HealthyLifeStyle | 6.649 | 1 | 6.649 | 6.111 | .016 |
| Fastfood * Disclosure | .221 | 1 | .221 | .203 | .654 |
| Fastfood * HealthyLifeStyle | .850 | 1 | .850 | .782 | .380 |
| Disclosure * HealthyLifeStyle | .020 | 1 | .020 | .018 | .892 |
| Fastfood * Disclosure * HealthyLifeStyle | .010 | 1 | .010 | .009 | .924 |
| Error | 66.374 | 61 | 1.088 | | |
| Total | 458.222 | 69 | | | |
| Corrected Total | 74.738 | 68 | | | |

a. R Squared = .112 (Adjusted R Squared = .010)

## *D-8: Second ANOVA results / interaction between disclosures and healthy lifestyle (without fast food consideration)*

***Attitude Toward the Ad:***

**Descriptive Statistics**

Dependent Variable: Aad_Factor1 Attitude Toward the ad

| Disclosure | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No disclosure | 1 Low | 1.7500 | .87500 | 3 |
| | 2 High | 3.4107 | .87980 | 21 |
| | Total | 3.2031 | 1.02686 | 24 |
| 1 Disclosure | 1 Low | 3.0625 | 1.21514 | 5 |
| | 2 High | 3.4422 | 1.05254 | 40 |
| | Total | 3.4000 | 1.06337 | 45 |
| Total | 1 Low | 2.5703 | 1.23447 | 8 |
| | 2 High | 3.4314 | .98911 | 61 |
| | Total | 3.3315 | 1.04749 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: Aad_Factor1 Attitude Toward the ad

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 8.487[a] | 3 | 2.829 | 2.781 | .048 |
| Intercept | 224.575 | 1 | 224.575 | 220.755 | .000 |
| Disclosure | 2.981 | 1 | 2.981 | 2.930 | .092 |
| HealthyLifeStyle | 6.871 | 1 | 6.871 | 6.754 | .012 |
| Disclosure * HealthyLifeStyle | 2.708 | 1 | 2.708 | 2.662 | .108 |
| Error | 66.125 | 65 | 1.017 | | |
| Total | 840.445 | 69 | | | |
| Corrected Total | 74.612 | 68 | | | |

a. R Squared = .114 (Adjusted R Squared = .073)

***Attitude Toward the Brand- Factor One:***

**Descriptive Statistics**

Dependent Variable: Ab_Factor1 Relationship to Brand

| Disclosure | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No disclosure | 1 Low | 1.3810 | .43644 | 3 |
| | 2 High | 2.9864 | .77579 | 21 |
| | Total | 2.7857 | .91328 | 24 |
| 1 Disclosure | 1 Low | 2.6286 | 1.02817 | 5 |
| | 2 High | 3.1643 | 1.16398 | 40 |
| | Total | 3.1048 | 1.15151 | 45 |
| Total | 1 Low | 2.1607 | 1.03703 | 8 |
| | 2 High | 3.1030 | 1.04332 | 61 |
| | Total | 2.9938 | 1.07867 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: Ab_Factor1 Relationship to Brand

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 9.635[a] | 3 | 3.212 | 3.004 | .037 |
| Intercept | 170.360 | 1 | 170.360 | 159.363 | .000 |
| Disclosure | 3.354 | 1 | 3.354 | 3.137 | .081 |
| HealthyLifeStyle | 7.566 | 1 | 7.566 | 7.077 | .010 |
| Disclosure * HealthyLifeStyle | 1.888 | 1 | 1.888 | 1.767 | .188 |
| Error | 69.485 | 65 | 1.069 | | |
| Total | 697.551 | 69 | | | |
| Corrected Total | 79.120 | 68 | | | |

a. R Squared = .122 (Adjusted R Squared = .081)

***Attitude Toward the Brand- Factor Two:***

**Descriptive Statistics**

Dependent Variable: Ab_Factor2 Competitive Healthiness

| Disclosure | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No disclosure | 1 Low | 1.0000 | .00000 | 3 |
| | 2 High | 3.5952 | .53313 | 21 |
| | Total | 3.2708 | 1.00789 | 24 |
| 1 Disclosure | 1 Low | 3.3500 | 1.50624 | 5 |
| | 2 High | 3.8813 | .89512 | 40 |
| | Total | 3.8222 | .97209 | 45 |
| Total | 1 Low | 2.4688 | 1.66603 | 8 |
| | 2 High | 3.7828 | .79644 | 61 |
| | Total | 3.6304 | 1.01243 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: Ab_Factor2 Competitive Healthiness

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 23.693[a] | 3 | 7.898 | 11.158 | .000 |
| Intercept | 230.820 | 1 | 230.820 | 326.102 | .000 |
| Disclosure | 11.467 | 1 | 11.467 | 16.201 | .000 |
| HealthyLifeStyle | 16.132 | 1 | 16.132 | 22.791 | .000 |
| Disclosure * HealthyLifeStyle | 7.030 | 1 | 7.030 | 9.932 | .002 |
| Error | 46.008 | 65 | .708 | | |
| Total | 979.125 | 69 | | | |
| Corrected Total | 69.701 | 68 | | | |

a. R Squared = .340 (Adjusted R Squared = .309)

***Purchase Intentions- Factor One:***

**Descriptive Statistics**

Dependent Variable: PI_Factor1 Purchase Decision

| Disclosure | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No disclosure | 1 Low | 1.7778 | 1.07152 | 3 |
| | 2 High | 3.6349 | .91836 | 21 |
| | Total | 3.4028 | 1.10763 | 24 |
| 1 Disclosure | 1 Low | 2.8667 | 1.80432 | 5 |
| | 2 High | 3.7250 | 1.19326 | 40 |
| | Total | 3.6296 | 1.27767 | 45 |
| Total | 1 Low | 2.4583 | 1.58302 | 8 |
| | 2 High | 3.6940 | 1.09932 | 61 |
| | Total | 3.5507 | 1.21782 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor1 Purchase Decision

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 13.133[a] | 3 | 4.378 | 3.244 | .028 |
| Intercept | 237.815 | 1 | 237.815 | 176.226 | .000 |
| Disclosure | 2.294 | 1 | 2.294 | 1.700 | .197 |
| HealthyLifeStyle | 12.169 | 1 | 12.169 | 9.017 | .004 |
| Disclosure * HealthyLifeStyle | 1.646 | 1 | 1.646 | 1.220 | .273 |
| Error | 87.717 | 65 | 1.349 | | |
| Total | 970.778 | 69 | | | |
| Corrected Total | 100.850 | 68 | | | |

a. R Squared = .130 (Adjusted R Squared = .090)

***Purchase Intentions- Factor Two:***

**Descriptive Statistics**

Dependent Variable: PI_Factor2 Healthiness of Decision

| Disclosure | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No disclosure | 1 Low | 1.6667 | 1.15470 | 3 |
| | 2 High | 2.9365 | .84734 | 21 |
| | Total | 2.7778 | .96141 | 24 |
| 1 Disclosure | 1 Low | 2.5333 | 1.04350 | 5 |
| | 2 High | 3.7083 | .97603 | 40 |
| | Total | 3.5778 | 1.04059 | 45 |
| Total | 1 Low | 2.2083 | 1.09744 | 8 |
| | 2 High | 3.4426 | .99763 | 61 |
| | Total | 3.2995 | 1.07731 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor2 Healthiness of Decision

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 20.386[a] | 3 | 6.795 | 7.546 | .000 |
| Intercept | 194.092 | 1 | 194.092 | 215.530 | .000 |
| Disclosure | 4.430 | 1 | 4.430 | 4.920 | .030 |
| HealthyLifeStyle | 9.864 | 1 | 9.864 | 10.954 | .002 |
| Disclosure * HealthyLifeStyle | .015 | 1 | .015 | .016 | .898 |
| Error | 58.535 | 65 | .901 | | |
| Total | 830.111 | 69 | | | |
| Corrected Total | 78.921 | 68 | | | |

a. R Squared = .258 (Adjusted R Squared = .224)

***Purchase Intentions- Factor Three:***

**Descriptive Statistics**

Dependent Variable: PI_Factor3 Search Behavior

| Disclosure | HealthyLifeStyle | Mean | Std. Deviation | N |
|---|---|---|---|---|
| 0 No disclosure | 1 Low | 1.2222 | .38490 | 3 |
| | 2 High | 2.4444 | .83887 | 21 |
| | Total | 2.2917 | .89179 | 24 |
| 1 Disclosure | 1 Low | 1.6667 | .84984 | 5 |
| | 2 High | 2.4833 | 1.13717 | 40 |
| | Total | 2.3926 | 1.13103 | 45 |
| Total | 1 Low | 1.5000 | .71270 | 8 |
| | 2 High | 2.4699 | 1.03705 | 61 |
| | Total | 2.3575 | 1.04837 | 69 |

**Tests of Between-Subjects Effects**

Dependent Variable: PI_Factor3 Search Behavior

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 7.045[a] | 3 | 2.348 | 2.255 | .090 |
| Intercept | 100.833 | 1 | 100.833 | 96.823 | .000 |
| Disclosure | .386 | 1 | .386 | .370 | .545 |
| HealthyLifeStyle | 6.860 | 1 | 6.860 | 6.588 | .013 |
| Disclosure * HealthyLifeStyle | .271 | 1 | .271 | .261 | .611 |
| Error | 67.693 | 65 | 1.041 | | |
| Total | 458.222 | 69 | | | |
| Corrected Total | 74.738 | 68 | | | |

a. R Squared = .094 (Adjusted R Squared = .052)