MEASURING CONSUMER ADVERTISING DECEPTION: CONCEPTUAL DEVELOPMENT OF AN INTERDISCIPLINARY MODEL

by

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(Under the Direction of Thomas A. Baker III)

ABSTRACT

The aim of this study was to further both the theoretical conceptualization and the empirical validation of a consumer advertising deception research model. Conceptually, it builds a consumer advertising deception model based on the Federal Trade Commission's elements for determining deception: representation, likelihood to mislead, cognitive materiality, affective materiality, and behavioral materiality. Empirically, the model confirms that partial least squares path modeling can be used to estimate the parameters of the effects in this newly defined nomological network. Using both print and social media advertisements, participants were recruited via Amazon's Mechanical Turk survey platform. Participants were randomized into either a print or Facebook group for the purposes of this study. The results show that representation has a positive and statistically significant effect on likelihood to mislead, cognitive materiality, affective materiality, and behavioral materiality. It also confirms that likelihood to mislead partially mediates the relationship between representation and cognitive materiality, representation and affective materiality, and representation and behavioral materiality. The results also revealed that regulators need to continue to be vigilant regarding deceptive

advertisements. If consumers are exposed to deceptive advertisements where the likelihood to mislead is great, the study indicates that the advertisement can affect not only their purchase intentions regarding the brand but also their brand knowledge and attitude toward the brand. Research has corroborated that each of these factors can affect actual purchase behavior (Bagozzi & Warshaw, 1992; Ehrenberg & Goodhardt, 1989; Chandon, Morwitz, & Reinartz, 2005). The study concludes by discussing theoretical, practical, and regulatory implications, limitations, and the direction of future research.

INDEX WORDS: Advertising Effectiveness, Consumer Deception, Regulation

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DEDICATION

To my husband Jason for your unwavering support and encouragement throughout this journey. I also dedicate this work to my parents and my grandmother who instilled in me at an early age the importance of education. Lastly, I dedicate this work to my sister who inspires me to always lead by example.

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CHAPTER 1

INTRODUCTION

Although advertisements can provide consumers with a plethora of information about product options, the underlying purpose of an advertisement is to persuade consumers to purchase a specific product (O'Meara, 1981). Unfortunately, commercially persuasive efforts can result in advertisements that may be less than truthful about product functions or attributes, ultimately misleading consumers. To safeguard consumers from false advertising, the Federal Trade Commission (FTC) was established in 1914 under the Federal Trade Commission Act (FTCA) (Act of Sept. 26, 1914, Ch. 111 §5, 38 Stat. 719). The principal sections of the FTCA are §5, §12, and §15. Section 5 prohibits persons, companies, or organizations from engaging in unfair or deceptive acts in interstate commerce; section 12 prohibits false advertisements that are likely to influence consumer purchase behaviors; and section 15 defines false advertising and the materiality of the deceptive act.

Even with the FTC's lengthy history of monitoring and educating advertisers on deception, advertisers continue to put forward arguably deceptive campaigns. Most recently, the FTC ruled that a Nissan North America, Inc. (Nissan) advertisement was deceptive because the television commercial showed a Nissan Frontier truck pushing a dune buggy up a steep hill, something the truck actually could not do. In the settlement, Nissan was ordered to discontinue any claims that would misrepresent the qualities or features of the truck through depiction of a test, experiment, or demonstration (*In the*

Matter of Nissan North America, Inc., File No. 122-3010 (May 9, 2014)). In 2014, Vibram, the manufacturer of the FiveFingers running shoe, reached a class action settlement in the amount of $3.75 million regarding false claims that its shoes could reduce foot injuries and strengthen foot muscles (Brown, 2014). The energy drink Red Bull was also accused of false advertising in a class action lawsuit which alleged that the product claims of increased performance and reaction speed were unsubstantiated, and the product slogan "Red Bull gives you wings" misleads consumers about the product's superiority (Rothman, 2014). The company agreed to a $13 million settlement to avoid litigation.

If you were to ask any of these companies or poll other advertising regulators, researchers, and practitioners about their perceptions of deceptive advertising, there would be inconsistencies in their responses as to what would be deemed deceptive (Richards, 1990). For example, the American Marketing Association (AMA) outlines "deceptive advertising as advertising intended to mislead consumers by falsely making claims, by failure to make full disclosure, or by combination of both" (Nagar, 2009, p. 106). The FTC, however, does not look at the intent of advertisers in determining deception (*FTC v. Sterling Drug, Inc.*, 317 F.2d. 669 (1963)). These contradictions are the basis for confusion among practitioners, researchers, and regulators, and although the parties have similar aims, the discrepancy prevents them from successfully achieving those aims.

Some have argued that the regulatory, practical, and research-related inconsistencies are prevalent because even though the FTC typifies deception as a behavioral concept, it has unsuccessfully determined an appropriate methodology that

could be used to measure the presence of deception (Richards, 1990). Subsequently, a common practical and regulatory tool for measurement would decrease confusion and regulatory violations among advertising practitioners.

Purpose of the Study

The purpose of this study is to develop and test a conceptual framework that is rooted in the FTC's definition of deception but that can also withstand the scrutiny of academic rigor. While there are extensive bodies of literature on the FTC's regulation of deceptive advertising and on typifying advertisements that may be deemed misleading by the FTC (Hastak & Mazis, 2011; Russo, Metcalf, & Stephens, 1981; Stern, 1992; Xiao & Benbasat, 2014), the goal is to develop a conceptual model that bridges the gap between the regulators and practitioners. This model can be used by the FTC to analyze advertisements that may be suspected as being deceptive using consumer behavior theories. It can also be used by practitioners to determine the influence of potentially deceptive advertisements on consumers, thus providing a model that will have scientific validity and reliability as well as legal validity.

Overview

This paper begins with an exploration of how marketing/advertising literature conceptualizes and examines consumer deception. This is followed by an explanation of how the FTC conceptualizes and examines consumer deception in advertising. Next, gaps in the deception literature will be addressed. Fourth, a detailed proposal of an interdisciplinary measurement model for consumer advertising deception will be presented. Afterwards, the model will be tested. Three studies will be conducted. The first will be a pilot study based on a student sample to examine the measurement

instrument and the structural model. The next two studies will seek to examine the fit of the model to a more generalizable population. To evaluate the robustness of the model, Study 1 will test a print advertisement, and study 2 will test a social media advertisement. Lastly, the results of each study will be reported and discussed along with implications for researchers, practitioners, and regulators, limitations, and suggestions for future studies.

CHAPTER 2

LITERATURE REVIEW

Deception as a Consumer Behavioral Concept

Assessing whether an advertisement is deceptive has been challenging in the marketing/advertising literature. Gardner (1975) has stated that deception occurs when an advertisement provides the consumer with a false impression or belief that differs from what could be anticipated of the consumer with reasonable knowledge. While, Olson and Dover (1978) recognized that deception exists when consumers "acquire demonstrably false beliefs as a function of exposure to an advertisement" (p. 30), and Miller (1983) defined deception as "deliberate falsification or omission of information by a communicator with the intent of stimulating in another, or others, the belief that the communicator himself or herself does not believe" (p. 92–93). Notwithstanding the multitude of definitions that exist, the academic literature can be classified into two approaches for defining deception in the field of advertising/marketing: (1) an empirical perspective and (2) a conceptual perspective.

From the empirical perspective, three studies provided a foundation for measuring deception (Dyer & Kuehl, 1974; Hunt, 1973; Kassarjian, Carlson, & Rosin, 1975). In October 1970, the FTC alleged that Standard Oil Company of California (Chevron) had used deceptive advertising to promote its new additive, F-310. In its complaint, the FTC sought relief which included corrective advertising disclosure in all Chevron gasoline advertising for a period of one year. Corrective advertising involved requiring the

company to purchase advertisements clarifying deceptive claims made in previous advertisements. This was a new remedy instituted by the FTC to dissipate the lingering effects of deceptive advertisements in a consumer's mind (Dyer & Kuehl, 1974). In defense of the complaint, Chevron provided to media outlets information regarding four independent research laboratory reports on the effectiveness of Chevron gas with F-310 to diminish pollution. Concerned about the adequacy of such a penalty, Hunt (1973) conducted a study to determine the effectiveness of corrective advertising disclosures and the inoculation of consumers against persuasion. According to Hunt (1973), if a consumer holds a certain belief and there is an attack on that belief, efforts can be made to lessen the effects of the attack through a denunciation of the attacking message. Hunt's study found evidence that corrective advertising resulted in a less than favorable attitude toward a brand, and inoculation impeded the effects of the attacks against the brand. The author recommended, however, that inoculation should be no more explicit than the nature of the attack promulgated by the message.

Concerned as well about the FTC's corrective advertising remedy, Dyer and Kuehl (1974) performed a study to examine the impact of message source and strength of a corrective advertisement on brand attitude through print and radio. Their results revealed that consumer purchase intention decreased when the FTC was identified as the source of the corrective advertisement, although purchase intention did not decrease when the company was the source. The findings also showed that corrective advertising can undo the damage caused by a deceptive advertisement, supporting Hunt (1973). Moreover, Kassarjian, Carlson, and Rosin (1975) found that attitudes toward retailers selling deceptively advertised products were not affected by corrective advertisements.

Each of the aforementioned authors applied experimental research designs as the methodological framework for exploring deception. These studies were based on casual research designs which emphasized deception as being a direct result of the advertisement, and attitude toward the brand was treated as a dependent variable. In 1974, Wilkie and Gardner introduced "consumer belief" rather than attitude toward the brand as a dependent variable to measure the effects of deception. Based on Rosenberg and Fishbein's multi-attribute attitude model, the authors posited that studying consumer beliefs, both in strength and in mode of evaluation, were essential to determining whether a consumer is misled or deceived by a message (Gardner, 1975; Wilkie & Gardner, 1974). Subsequent studies by Mazis and Adkinson (1976) and Kuehl (1977) provided additional evidence that consumer beliefs should be used to evaluate the impact of deceptive advertisements.

Stirred by the FTC's corrective advertising remedy in ITT Continental Baking Co., Ocean Spray Cranberry Juice Cocktail, and Amstar Corp., Mazis and Adkinson (1976) found that corrective advertisements influenced consumer beliefs about the brand. Also, corrective advertisements influenced other related consumer beliefs that were not the focus of the communicated message. Kuehl (1977) observed that consumer beliefs about a brand were appropriate response measures for evaluating the effect of corrective advertisements. In addition, corrective advertisements significantly decreased consumer beliefs related to product attributes.

Lastly, outside the specific context of corrective advertising, several researchers have also evaluated deception as an independent variable. Haefner and Permut (1974) evaluated deception in television commercials to ascertain whether deception was a

multi-dimensional variable through factorial analysis. Eight groupings were subjectively determined as a result of their study: evaluation (based on entertainment value); evaluation (dislike); evaluation (disinterest); monotony; information; deception; indeterminate; and brand loyalty. The three evaluation dimensions, deception, and brand loyalty were consistent with prior studies. Deception, however, was unrelated to the other factors. Recently, Darke and Ritchie (2007) determined that deception results in distrust in consumers and that distrust decreases the credibility of future advertising, and Hsieh, Hsu, and Fang (2010) showed that deceptive claims which include humor can increase advertising effectiveness.

From the conceptual perspective, a separate body of marketing/advertising scholarship is grounded in classifying types of deceptive practices (Cohen, 1972; Ford, Kuehl & Reksten, 1975). These authors suggest that in order to define deception researchers must understand that there are various forms of deception. For instance, after reviewing several FTC cases and court interpretations, Cohen (1972) stated that an advertisement is deemed deceptive when it misstates the facts; includes claims that are partially true and partially false; contains insufficient information; contains claims that are true, but the evidence to substantiate the claim is false; or the claim creates a false impression.

Gardner (1975) later identified three classifications of deception: the unconscionable lie, a claim-fact discrepancy, and a claim-belief interaction. The unconscionable lie is defined as a claim that is completely false, and even if the claim is appropriately qualified, it would still be untrue. A claim-fact discrepancy requires a qualification (or fact) that must be included with the claim for it to be accurately

comprehended by the consumer. Lastly, a claim-belief interaction occurs when the advertisement interacts with the consumer's attitudes and beliefs and creates in the consumer's mind a deceptive belief about the product or service being advertised. Although presented as three distinct typologies, Gardner (1975) explained that there may be some overlap in the classifications depending on the nature of the advertisement.

Ford, Kuehl, and Reksten (1975) contributed the most to the foundational aspects of deception research by presenting a comprehensive typology of the categories of deceptive advertising. The researchers provided a list of typologies based on prior research and included two additional forms of advertising deception. The following typologies were enumerated: misstated facts, overstated benefits, blatant lies, omission of relevant data, creates a false impression, intentionally false, false authority, false certification, obscure footnote, euphemistic nomenclature (misleading brand names), editorial typography, brand emulation, apparent authority, and technically impressive. The last two were contributed by Ford, Kuehl, and Reksten to expand on the literature. The researchers claimed that deception can also occur in advertisements which use an authority figure to substantiate product claims and in advertisements which contain a plethora of technical information, causing consumers who are unfamiliar with the product to become inundated with information (Ford, Kuehl, & Reksten, 1975).

Typologies consistently have been a common theme for defining deception in advertising/marketing literature. Russo, Metcalf, and Stephens (1981) labeled advertisements according to fraud (deliberate intent by the advertiser to create a false belief about a product), falsity (claim-fact discrepancy), and misleadingness (consumer belief-fact discrepancy). Stern (1992) used literary theory to categorize deceptive

advertisements based on metonymy (adds multiple meanings), irony (hides double meanings), and absurdity (ambiguous meanings). Carlson, Grove, and Kangun (1993) recommended three classifications of deceptive claims: vague/ambiguous (the audience is incapable of understanding the exact meaning of the advertising claim); omission (critical information for evaluating the message is excluded); and false/outright lie (the claim is untrue). These classifications were also adopted in the study of humor and deceptive claims by Hsieh, Hsu, and Fang (2010) and in studies by Román (2010), Xiao and Benbasat (2011), and Riquelme and Román (2014) regarding deception and the Internet. Most recently, Hastak and Mazis (2011) generated a typology of truthful but misleading advertisement labeling claims based legal cases and psychological theory. These included omission of material facts, misleadingness due to semantic confusion, intra-attribute misleadingness, inter-attribute misleadingness, and source-based misleadingness.

Nevertheless, whether empirical or conceptual, advertising/marketing researchers have constantly formulated definitions for deception which focus on how the consumer interacts with the advertisement. Although these definitions are valid endeavors to determine when deception ensues, many of the studies fall short of aligning with regulatory definitions of deception. The next section discusses how the Federal Trade Commission (FTC) and the National Advertising Division (NAD) conceptualize and examine deception in advertising.

Deception as a Legal Concept

Two years after its formation in 1914, the FTC presided over its first misleading advertising cases. The complaints alleged that textile manufacturers, Circle Cilk Co. and Abbott & Co., misrepresented through advertising the types of materials used in their

fabrics (*Federal Trade Comm'n v. Circle Cilk Co.*, 1 F.T.C. 13 (1916); *Federal Trade Comm'n v. Abbott & Co*., 1 F.T.C. 16 (1916)). The FTC's authority to regulate advertising was upheld by the 7th Circuit Court of Appeals in *Sears, Roebuck & Co. v. FTC*, 238 F. 307 (7th Cir. 1919). The court emphasized:

> The commissioners, representing the government as parens patriae, are to exercise their common sense, as informed by their knowledge of the general idea of unfair trade at common law, and stop all those trade practices that have a capacity or tendency to injure competitors directly or through deception of purchasers, quite irrespective of whether the specific practices in question have yet been determined in common law cases. (*Sears, Roebuck & Co. v. FTC*, 238 F. 307, 311 (7th Cir. 1919)).

Even though the FTC received support from the 7th Circuit, the judges in *FTC v. Raladam* (1931) delineated the extent of the FTC's powers and confined the Commission to antitrust, anti-monopolization, and related unfair trade practices, eliminating from its powers the protection of consumers (*FTC v. Raladam, Co.*, 283 U.S. 643 (1931)). As a result of this decision, the regulation of deceptive advertising from a consumer standpoint ceased. To address this limitation, Congress passed the Wheeler-Lea Amendment to the 1914 Act (1938). This amendment extended Section 5 to state, "Unfair methods of competition in commerce, and unfair or deceptive acts of practices in commerce, are hereby declared unlawful" (Act of March 21, 1938, Pub. L. No. 447, § 3, 52 Sta. 111 (amending 15 U.S.C. § 45 (1934)). The Wheeler-Lea Amendment provided the FTC with the latitude to address issues of consumer deception without legislative restrictions, or so

it was assumed. In *Aronberg v. FTC* (1942), the courts echoed the sentiments of the Wheeler-Lea Amendment and the purpose of the FTC:

> The law is not made for experts but to protect the public-that vast multitude which includes the ignorant, the unthinking and credulous, who, in making purchases do not stop to analyze but too often governed by appearances and general impressions. (*Aronberg v. FTC*, 132 F.2d. 165, 167 (7th Cir. 1942)).

Although the FTC continued to make strides in how it addressed misleading advertisements, the courts ruled in *FTC v. Bunte Bros*. (1941) that the FTC only possessed jurisdiction over intrastate activities (*FTC v. Bunte Bros.*, 312 U.S. 349 (1941)). As a result, in 1975 the jurisdiction of the FTC was expanded under the Magnuson-Moss Warranty Federal Trade Commission Improvement Act, which provided the FTC with jurisdiction over matters in and affecting commerce, and not solely intrastate commerce. Aside from amending "in commerce" to "in or affecting commerce" in 1975, Section 5 continues to be the FTC's driving force in advertising regulation.

In accordance with the powers provided under section 5, in 1983, the FTC issued a policy statement regarding deceptive advertisements. The FTC will likely determine deception "if there is a representation, omission or practice that is likely to mislead the consumer acting reasonably in the circumstances, to the consumer's detriment" (FTC, 1983, pt. I). This policy statement serves as the foundation for all FTC rulings related to deceptive advertising. Under section 5, the FTC must prove three elements: "(1) there was a representation, (2) the representation was likely to mislead customers acting reasonably under the circumstances, and (3) the representation was material" (*FTC v.*

Tashman, 318 F.3d 1273, 1277 (11th Cir. 2003) (citing *FTC v. World Travel Vacation Brokers*, 861 F.2d 1020, 1029 (7th Cir. 1988)). It is important to note that under this provision, the FTC need only show that consumers are likely to be deceived, and not show that consumers have actually been deceived (Sprague & Wells, 2010).

Some have expressed concerns regarding the FTC's criteria for evaluation, such as the likelihood to deceive standard (Armstrong, Gurol, & Russ, 1980; Ford & Calfee, 1986). Those who have found fault with the standard have argued that deception by definition suggests that violations should be determined based on consumer perceptions; whereas the likelihood to deceive standard shifts the focus to the advertisement's content (Preston, 1980). Other concerns have related to the FTC's reasonable consumer standard. Those in opposition of the reasonable consumer standard have described it as vague and contrary to case law, ultimately reducing the FTC's power to protect consumers who are most in need of protection (Scherb, 1985). Still others emphasized that the element of materiality may be misconstrued as consumer injury or harm, which would lead to inaccurate evaluation of deception cases (Ford & Calfee, 1986).

Today, the FTC continues to have a strong presence in regulating advertising deception. The FTC received over 2 million complaints in 2013 (FTC, 2014b), and the task of investigating and addressing these complaints can be overwhelming. Most of the complaints are resolved using a basic cease and desist letter; while others require a formal hearing. Many are handled by the NAD, an advertising industry self-regulatory agency. The process is a low-cost alternative to litigation, and NAD decisions may be appealed to the National Advertising Review Board (NARB) (Council of Better Business Bureaus, Inc., 2014). If the NAD ruling is ignored, the case can be referred to the FTC for

adjudication before its own administrative law judges or for injunctions through federal district courts (Advertising Self-Regulation Council, 2014). From early 2012 to June 2014, the FTC adjudicated 108 Federal and Administrative cases related to misleading advertising and marketing (FTC, 2014a), and cases and complaints continue to increase. In the midst of workshops and revised guidelines for practitioners, deceptive advertising remains a concern for the FTC, and the divide in measures that serve both regulators and researchers has not decreased. The following section discusses gaps in the literature regarding measuring consumer advertising deception.

Gaps in Measuring Consumer Deception in Advertising

Marketing/advertising researchers consistently focus on consumer belief of false claims as an important component of deception. Conversely, the legal standard emphasizes that the advertisement need only have the possibility to result in false beliefs by consumers; specifically, proof of actual deception is not required in the determination of a violation of the policy (*FTC v. World Travel Vacation Brokers*, 861 F.2d 1020 (7th Cir. 1988)).

To a consumer behaviorist, showing actual deception may seem more appropriate for the FTC. However, such a modification would elevate the FTC's burden of proof for deception, and increasing the burden of proof would be contrary to the FTC's mission (Richards, 1990). As expressed in *Regina Corp. v. FTC* (1963), "the purpose of the [Commission] is to protect the public, not to punish the wrongdoer…. And it is in the public interest to stop any deception at its incipiency" (*Regina Corp. v. FTC*, 322 F.2d. 765 (3rd Cir. 1963)). Additionally, by requiring a lower burden of proof, the intent of the advertiser's communications or misstatements is irrelevant. This opinion was also

recently communicated by the NAD in the *Age of Learning, Inc.* (2014) decision. The NAD stated "an advertiser is responsible for all reasonable interpretations of its claims, not simply the messages it intended to convey" (*Age of Learning, Inc.*, 2014, para. 1).

Several authors have developed conceptual frameworks for examining deception within the policy guidelines of the FTC (Chaouachi & Rached, 2012; Masip, Garrido, & Herrero, 2004). Each of these studies discusses manners in which marketing research can assist public policy. Particularly, their methodologies evaluated deception in consideration of legal doctrines. Nevertheless, Chaouachi and Rached (2012) measured a consumer's perceived deception after reviewing misleading advertisements, and not actual deception. Masip et al. (2004) focused on the word "deliberate" regarding advertiser's intentions and deceptive advertising. This is in stark contrast with the FTC's definition of deception.

For research studies which have classified types of deceptive advertisements, these studies are useful in aiding the FTC in identifying advertisements with misleading content. In contrast, these studies do not consider whether consumers are actually misled by the content. These studies are also unclear regarding how many types of misleading advertisements there should be. This has resulted in lists of types of deception where some items appear to be redundant and too specific, while others appear to be broad, yet simplistic.

Previous research has also focused on how consumer characteristics or traits can influence (or decrease the effects of) deceptive advertisements. LaTour and LaTour (2009) observed that the positive mood of consumers made them more likely to recognize false advertising. Hsieh, Hsu, and Fang (2010) discovered that different types of

humorous advertisements impact the relationship between deceptive claims and advertising effect. Xie and Boush (2011) ascertained that situational and dispositional constraints prevent consumers from identifying advertisements with deceptive claims.

Other researchers have examined the effects of deception on consumers. Newell, Goldsmith, and Banzhaf (1998) encountered that perception of deception decreased consumer attitudes toward an advertisement. Darke and Ritchie (2007) found that deceptive advertising results in distrust by consumers, and Darke, Ashworth, and Main (2010) revealed that distrust from product failure remained with the consumer despite the consumer's ability to evaluate a second product by the brand.

Although the aforementioned studies made important contributions to the field, none of them measured deception with consideration of any legal concepts or definitions. Only behavioral perspectives were utilized. Still, studies related to advertising deception need to foster an environment where researchers and lawyers can coexist (Hyman, 1990). Thus, in order to develop a conceptual model that combines both marketing and advertising practice and the law, emphasis should be placed on the consumer and the consumer's perception of the advertisement (Diamond, 1991; Jacoby, Handlin, & Simonson, 1994). Rotfeld and Taylor (2009), on the other hand, suggested that to develop a true interdisciplinary model academics must first comprehend the regulatory requirements and then apply consumer behavior perspectives that can supplement those requirements.

To develop a conceptual model to measure deception, researchers should begin with examining how the FTC determines deception. According to the FTC Policy on Deception, the FTC must prove three elements: "(1) there was a representation, (2) the

representation was likely to mislead customers acting reasonably under the circumstances, and (3) the representation was material" (*FTC v. Tashman*, 318 F.3d 1273, 1277 (11th Cir. 2003) (citing *FTC v. World Travel Vacation Brokers*, 861 F.2d 1020, 1029 (7th Cir. 1988)). As follows, the proposed constructs of measurement for consumer advertising deception are representation, materiality, and likelihood to mislead. The relationships among the constructs are shown in Figure 1. The next section conceptualizes the FTC's elements of deception based on consumer behavioral theories.

Proposed Constructs for Measuring Consumer Advertising Deception

Representation.

Under section 5 of the FTCA, a representation is defined as an express or implied claim or promise that may be oral or written. The representation provided by an advertiser is the advertisement itself. Therefore, in order to determine deception, the evaluation of a representation should begin with whether or not the message is an advertisement. Identifying whether a communication is an advertisement is a procedure that is assumed in many studies. In fact, it is simpler to label a communication as an advertisement than to explain how or why it is an advertisement. Consequently, the best method to identify an advertisement is by examining how advertising is defined.

One of the earliest definitions of advertising was suggested by Daniel Starch (1923) who stated that "advertising was selling in print" (p. 5); this definition has evolved over time, with the most common elements including: a non-personal message, paid for, by an identifiable sponsor, to persuade or influence consumers (Nan & Faber, 2004). Most recently, Richards and Curran (2002) polled a focus group of industry professionals to suggest a more inclusive definition: "advertising is a paid, mediated form of

communication from an identifiable source, designed to persuade the receiver to take some action, now or in the future" (p. 74). However, given the evolving mediums for exposing consumers to advertisements, today this definition would be too constrictive. Additionally, the concept of action is also limiting. Advertisements can not only persuade a receiver to buy a product they can alter the recipient's brand knowledge and attitudes toward the brand (Priya, Kanti Baisya, & Sharma, 2010). Therefore, it is proposed that Richards and Curran's definition be amended to define advertising as any communication from an identifiable source, designed to persuade the receiver to adopt a belief, attitude, or intention leading to some action, now or in the future. A version of this definition was also suggested by several of the industry professionals surveyed by Richards and Curran. The amended definition allows flexibility with digital platforms and instances where no monetary exchange occurs for placement of the advertisement. It also encompasses the FTC's definition which characterizes an advertisement as any act which will "call public attention to [a product]… so as to arouse a desire to buy" (*Public Citizen v. FTC*, 869 F.2d 1541, 1554 (1989)).

By incorporating the amended definition into the advertisement evaluation process, focus is placed on the content of the message and the meanings that consumers infer from the message or claim. This is also in agreement with how the FTC evaluates advertisements. Specifically, for express claims, the meaning of the advertisement is determined by the representation, and for implied claims, the FTC examines the total advertisement along with the nature of the claim as well as the placement of phrases or claims within the document (*FTC Policy Statement on Deception*, October 14, 1983, appended to Cliffdale Associates, Inc., 103 F.T.C. 110 (1984)). Holbrook (1978) defined

advertising claims as either factual or evaluative. Factual claims include "verifiable descriptions of tangible product features," and evaluative claims are "subjective impressions of intangible aspects of the product" (Holbrook, 1978, p. 547). The study revealed that the factualness or evaluativeness of a product claim had a significant effect on the consumer's most important beliefs and attitudes regarding the product. More importantly, it is a consumer's beliefs and attitudes about a brand after being exposed to a misleading advertisement that will aid the FTC in determining if the violation is material.

Materiality.

When assessing materiality, researchers should examine measures that determine whether the advertisement affected the consumer's conduct or a decision related to the product or service (*FTC Policy Statement on Deception*, October 14, 1983, appended to Cliffdale Associates, Inc., 103 F.T.C. 110 (1984)). This means that the deceptive advertisement not only influences the consumer's purchase decisions; it also causes the consumer to act in a manner which otherwise would not have occurred (O'Meara, 1981). For example, if the advertisement convinces the consumer to shop at a location that he/she would not have, then the deception is material (Richards, 1990). Material information may also include inaccurate instructions for product use (*Volkswagon of America*, 99 F.T.C. 446 (1982)). This ruling follows the *Restatement of Torts, Second*, definition of a material misrepresentation as one in which the reasonable person would deem as essential in choosing how to act (*FTC Policy Statement on Deception*, October 14, 1983, appended to Cliffdale Associates, Inc., 103 F.T.C. 110 (1984)).

In *FTC v. Colgate-Palmolive Co.*, the courts also examined the question of what is a materially misleading or deceptive representation. The court determined that

revealing an inconsistency between the advertisement's claims and the product's attributes is not enough to establish the materiality of a deceptive advertisement (*FTC v. Colgate-Palmolive Co.*, 380 U.S. 374 (1965)). A relationship must exist between the advertising claim and the consumer's actions as a result of the claim. Therefore, following Fishbein and Azjen's (1975) Theory of Reasoned Action which posits a causal link between a consumer's beliefs, attitudes, intentions, and behavior, researchers should adopt measures that will measure materiality according to the types of actions that may occur after exposure to an advertisement. The actions and/or consequences include: consumer brand knowledge (cognitive), attitude toward the brand (affective), and purchase intention (behavioral).

Brand knowledge has been established as a characteristic that impacts all stages of the consumer decision process (Bettman & Park, 1980). Peter and Olson (2001) defined consumer brand knowledge as a cognitive representation of a brand. For an advertisement to be material based on cognition, it must influence a consumer's thoughts and beliefs about a brand (Back & Parks, 2003). These thoughts or beliefs may be based on previous knowledge or on current experience-based data such as exposure to an advertisement (Oliver, 1999). Brand knowledge consists of brand awareness and brand image (Esch, Langner, Schmitt, & Geus, 2006). Brand awareness is the strength of the brand node in the consumer's memory (Keller, 1993). While, brand image are the brand association(s) found in the consumer's memory (Keller, 2003). Both can not only affect the consumer's response to a brand but also a consumer's current and future behaviors regarding the brand (Ehrenberg & Goodhardt, 1989; Russ & Kilpatrick, 1982).

Next, materiality may be due to affect, which are feelings or attitudes about a brand (Back & Parks, 2003). Mitchell and Olson (1981) defined attitude as an "individual's internal evaluation of an object" (p. 318), and when the attitude is associated with a brand, it provides a "relative enduring, unidimensional summary evaluation of the brand" (Spears & Singh, 2004, p. 55). As a result, attitudes are helpful in predicting a consumer's behavior regarding a product or service (Petty & Cacioppo, 1986; Zarantonello & Schmitt, 2010). Specifically, attitudes have a direct effect on a consumer's behavior (Bagozzi & Warshaw, 1992).

Lastly, the materiality may be behavioral. Behavioral intentions are a consumer's disposition to act (Back & Parks, 2003). Eagly and Chaiken (1993) defined intentions as a person's deliberate plan to accomplish a behavior. Here, the intention is to purchase the brand or product. Although several factors can influence actual purchase behavior such as time and financial situation, research has shown that if a consumer has positive attitudes toward a product, their purchase intention will strengthen actual purchase behavior of available and desired brands (Chandon, Morwitz, & Reinartz, 2005). Furthermore, Spangenberg, Sprott, Grohmann, and Smith (2003) found that requesting consumers to forecast their behavior intentions increases the likelihood that they will undertake that behavior. Thus, it is posited that:

H1: A deceptive representation will positively influence cognitive materiality.

H2: A deceptive representation will positively influence affective materiality.

H3: A deceptive representation will positively influence behavioral materiality.

Likelihood to Mislead.

While materiality is integral to the FTC's analysis of deceptive advertisements, the FTC construes the potential or likelihood to deceive element very generally. In *Gelb v. Federal Trade Commission*, the FTC determined a hair color advertisement to be deceptive based on consumer testimony that some women might understand the word 'permanent' in the advertisement to mean that after a color treatment hair would grow in with the artificial color (*Gelb v. Federal Trade Commission*, 144 F.2d 580 (2nd Cir. 1944)). Based on this ruling, what a consumer believes an advertisement to convey is crucial to the FTC's determination of deceptive advertising.

Beltramini and Evans (1985) explained that an advertisement may be unbelievable (the consumer fails to accept the information as true) or believable (the consumer accepts the information as true). The believability has a direct impact on the advertisement's effect (Maloney, 2000). If a consumer does not believe what an advertisement states, then the consumer will not be persuaded to take any action regarding the product or service. Research has indicated there are several instances where consumers are more likely to believe advertisement claims. Kamins and Assael (1987) examined the effects of two-sided versus one-sided appeals (advertisements that included both positive and negative claims versus advertisements that only included positive claims) and found that two-sided advertisements are perceived as more believable than one-sided advertisements. These results were supported in studies by Crowley and Hoyer (1994) and more recently by Eisend (2006). Additional studies have determined that objective claims are more credible than subjective claims (Yalch & Elmore-Yalch, 1984),

moderate claims are more credible than extreme claims (Beltramini & Evans, 1985), and familiar claims are more credible than unfamiliar claims (Beltramini, 1988).

The FTC also takes puffery into account when assessing whether an advertisement is likely to mislead or deceive a consumer. Puffery is defined as "exaggerations reasonably to be expected of a seller as to the degree of quality of his product, the truth or falsity of which cannot be precisely determined" (*Better Living, Inc.* et al., 54 F.T.C. 648, 653 (1957), aff'd, 259 F.2d 271 (3rd Cir. 1958)); it is considered immune to the regulations regarding deception. Embellishments such as "the best" and "the finest" are general statements that are not actionable as misleading claims or misrepresentations of fact (*Better Living, Inc.* et al., 54 F.T.C. 648, 653 (1957), aff'd, 259 F.2d 271 (3rd Cir. 1958)). As a result, the FTC has acknowledged that not all advertisements are likely to deceive consumers who are acting reasonably (*Warner-Lambert*, 86 F.T.C. 1398, 1415 n. 4 (1975), *aff'd*, 562 F.2d 749 (D.C. Cir. 1977)); hence, subjective claims made by advertisers may not require FTC action.

The FTC defines the reasonable consumer as one who "makes decisions based on net impression(s)" and "does not interpret ads in a way that would be shared by an insignificant or unrepresentative few" (R. Cleland, FTC Commissioner, personal communication, March 1, 2013). Although the FTC acknowledges that an advertisement is subject to multiple interpretations, "an advertiser cannot be charged with liability with respect to every conceivable misconception, however outlandish, to which his representations might be subject among the foolish or feeble-minded" (*Heinz W. Kirchner*, 63 F.T.C. 1282, 1290 (1963)). Thus, the FTC will consider the specific audience targeted by the advertisement and how they are likely to respond. If the

reasonable consumer believes the claims put forth in a deceptive advertisement (i.e. high likelihood to mislead) and the advertisement's influence is material, then the FTC would consider the deceptive advertisement a violation of the FTCA. Therefore, it is posited that:

H4: A deceptive representation will positively influence cognitive materiality through the indirect effects of likelihood to mislead.

H5: A deceptive representation will positively influence affective materiality through the indirect effects of likelihood to mislead.

H6: A deceptive representation will positively influence behavioral materiality through the indirect effects of likelihood to mislead.

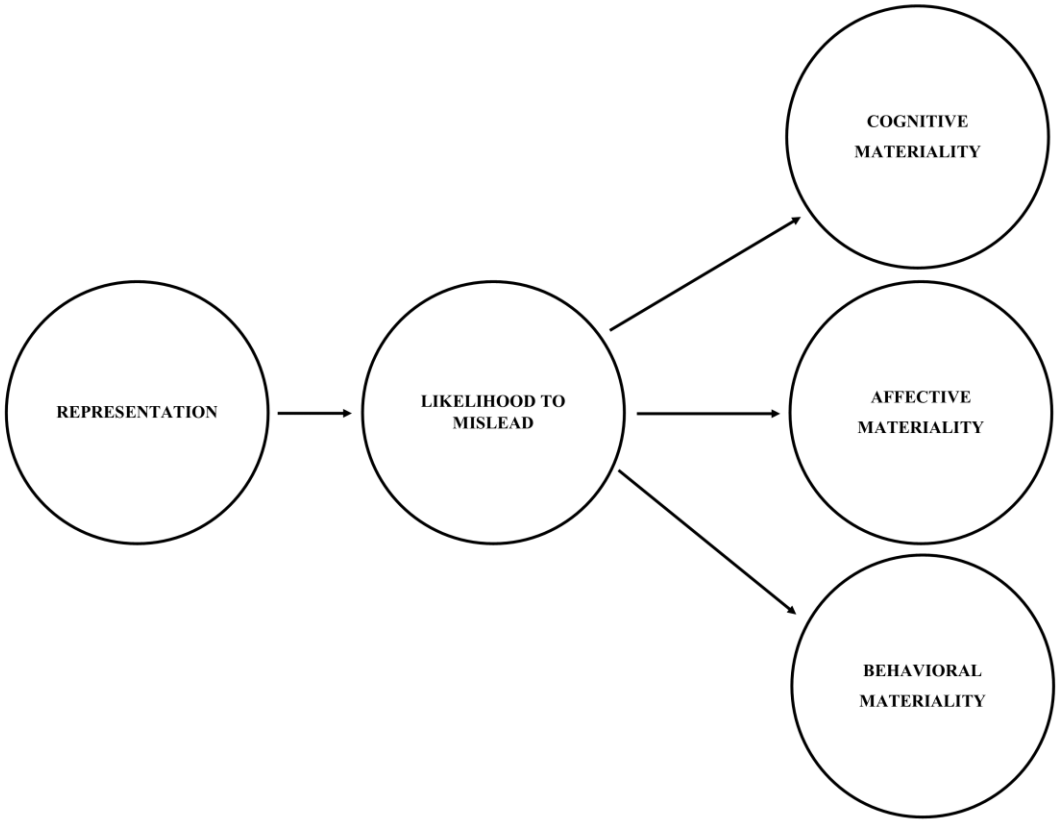

Figure 1. Consumer Advertising Deception Conceptual Model

CHAPTER 3

METHODOLOGY

Brand Selection

In April 2014, the NAD investigated point-of-purchase, product labeling, and print advertising claims made by BodyArmor Nutrition LLC (BodyArmor) for its BodyArmor SuperDrink. BodyArmor SuperDrink is a sports beverage similar to Powerade and Gatorade. The proceeding was initiated by Stokely-Van Camp, Inc., the maker of competing Gatorade sports drinks, for numerous statements and claims which included "BodyArmor SuperDrink contains 2½ times the electrolytes [of the] leading sports drink" and "Gatorade is your grandfather's sports drink" (*BodyArmor Nutrition LLC*, 2014a, p. 1). BodyArmor's claims of "superior nutrition" and "superior hydration" were also misleading and unsubstantiated. After both sides presented their arguments and evidence, the NAD determined that BodyArmor was to discontinue using any statements that mentioned Gatorade and to discontinue or modify any unsupported comparative advertising. BodyArmor disagreed in part with the NAD's decision but believed the ruling to be moot based on its newly created label and advertising campaign in partnership with Los Angeles Laker Kobe Bryant.

However, in October 2014 Stokely-Van Camp, Inc. filed another complaint with the NAD for a compliance proceeding against BodyArmor (*BodyArmor Nutrition LLC*, 2014b). The company revealed that contrary to BodyArmor's guarantees to the NAD that it would discontinue the claims mentioned in the April case, the advertiser had failed to

comply with the NAD's decision and recommendations. BodyArmor disagreed with the NAD and Stokely-Van Camp, Inc.'s accusations that it was not in compliance. The company stated that its new slogan "Upgrade your Sports Drink" was profoundly different from its previous claim of "Superior Nutrition + Hydration", and the athlete endorser testimonials used for the new advertising campaign were the true opinions of the athletes, i.e. BodyArmor was better than other sports drinks the athletes had tried. The NAD differed and recommended that BodyArmor again modify or discontinue their advertising campaign. BodyArmor disagreed with the NAD and declined to participate any further in the proceedings. The NAD, in turn, has referred the matter to the FTC for potential enforcement. Given that the purpose of the conceptual model is to aid the FTC in determining whether a case should be investigated, the BodyArmor referral is an appropriate subject for this study.

Advertisement Selection

Although television remains a dominant medium for advertisements to consumers, brands continue to invest in print and online magazine advertisements. In 2013, print and online magazine advertising spending in the United States was $15.09 billion and $3.77 billion, respectively (Statista.com, 2014). A content analysis of the FTC and NAD cases and proceedings was conducted between January 2012 and June 2014. Out of the 108 cases the FTC analyzed, 17% of the cases involved misleading print advertisements and 44% involved the Internet, websites, digital advertisements, social media, mobile advertisements, and email. Of the 252 NAD cases reviewed, 34% of the cases involved print advertisements and 37% involved the Internet, websites, digital advertisements, social media, mobile advertisements, and email.

Since print and Internet involved more than 50% of the FTC's cases and more than 70% of the NAD's cases, it would be optimal to select advertisements for each of these mediums for the current study. BodyArmor's current advertising strategy investigated by the NAD included the use of printed promotional items and social media to promote the sports drink. Therefore, participants in Study 1 were asked to evaluate the brand based on a deceptive BodyArmor print advertisement, and participants in Study 2 were asked to evaluate the brand based on a deceptive BodyArmor Facebook advertisement.

Instrument

The questionnaire was designed to measure the five constructs: representation, likelihood to mislead, cognitive materiality, affective materiality, and behavioral materiality. Twenty-seven items were adapted from existing scales in advertising and consumer behavior literature. The measures for representation were based on Gürhan-Canli and Batra (2004) (Cronbach's α =.92). Four items were developed and measured using a 7-point semantic differential scale. The likelihood to mislead measure was adapted from the Beltramini (1982) advertising believability scale (10 items, 7-point semantic differential scale with bi-polar endpoints) (Cronbach's α =.93). The endpoints included: unbelievable/believable, untrustworthy/trustworthy, not convincing/convincing, not credible/credible, unreasonable/reasonable, dishonest/honest, questionable/unquestionable, inconclusive/conclusive, not authentic/authentic, and unlikely/likely.

Four items adapted from Lichtenstein, Netemeyer, and Burton (1990) using a 7-point semantic differential scale were utilized to measure cognitive materiality

(Cronbach's α =.96). Nine items were adapted from Spears and Singh (2004) using a 7-point semantic differential scale to measure affective materiality (5 items) and behavioral materiality (4 items) (Cronbach's α =.97).

Procedures

Upon consenting to take the survey, each participant was asked socio-demographic information which included gender, age, ethnicity, education, and income. Gender was measured using nominal variables: male and female. Age was measured using six nominal age variables, and race/ethnicity was measured using seven nominal variables. Education was measured using nine nominal variables, and income was measured using nine nominal variables.

Participants were then asked about their sports beverage consumption habits to determine whether they were a reasonable consumer of the product. The FTC states that for a representation to be deceptive it must be likely to mislead reasonable consumers under the circumstances (*FTC Policy Statement on Deception*, October 14, 1983, appended to Cliffdale Associates, Inc., 103 F.T.C. 110 (1984)). Specifically, the FTC examines the effects of the advertisement on a reasonable member of the group. Here, the target market was those who drink sports beverages. This was measured by asking survey participants whether they drink sports beverages (0 = *no*; 1 = *yes*). To ensure that consumers had the same understanding of the product for this study, sports beverages were defined to include brands similar to Gatorade and PowerAde. If the participant said no, he or she was eliminated from the study. If the participant responded with a yes, he or she was asked questions regarding how long they have been drinking sports beverages (1 = *less than 6 months*, 2 = *6 to 12 months*, 3 = *1 to 3 years*, 4 = *3 to 5 years*, 5 = *Over 5*

years) and how often they drink sports beverages (1 = *less than once a month*, 2 = *once a month*, 3 = *two to three times a month*, 4 = *once a week*, 5 = *two to three times a week*, 6 = *daily*).

In addition to their consumption habits, participants were asked about their familiarity with BodyArmor sports drink. Brand familiarity was examined using three items (7-point semantic differential scale with bi-polar endpoints) adapted from Kent and Allen (1994). Although the choice of brand (BodyArmor) was determined based on the NAD investigations, it was assumed that different levels of familiarity toward BodyArmor may exist within the participants. The Cronbach's alpha of the Kent and Allen's (1994) brand familiarity scale was 0.97, indicating strong internal consistency and reliability for the scale.

As an additional level of understanding concerning the brand, participants were then presented with an association set regarding BodyArmor:

1) BODYARMOR SuperDrink™ was created in June 2011 by Lance Collins, who established FUZE Beverages and NOS energy drinks.

2) The sports drink consists of electrolytes, vitamins, and coconut water.

3) It also contains no caffeine, is gluten free, nut free and is made with no artificial ingredients.

4) The drink is available in six flavors: Fruit Punch, Orange Mango, Strawberry Banana, Tropical Punch, Grape, and Mixed Berry.

Next, the participants answered questions related to cognitive materiality, affective materiality, and behavioral materiality. The participants were then exposed to the advertisement, which was only identified in the study as "content", and were asked questions regarding their ability to identify the communication as an advertisement (representation). Next, participants were presented questions regarding likelihood to

mislead/deceive. Lastly, participants were asked to re-evaluate the brand to measure the influence of the advertisement's cognitive materiality, affective materiality, and behavioral materiality.

CHAPTER 4

PILOT STUDY

Sample and Data Collection

Prior to Study 1 and Study 2, a pilot study was conducted to confirm the internal consistency and construct validity of the survey instrument. Participants were recruited using undergraduate and graduate student classes from a southeastern university's sport management program over a five week period. Students were provided a link to participate in the study. A snowball sampling design was also utilized, encouraging participants to forward the survey to their friends and acquaintances. A total of 236 responses were collected; 34 surveys were eliminated due to the initial sport beverage consumption question, resulting in 202 usable surveys.

Data Analyses

Using SPSS 20.0, the descriptive statistics of the data, including mean and standard deviation of the variables, were examined. Bivariate correlations were also computed to examine the interrelationship between the advertising deception variables. Next, the randomness of the missing data was assessed using Little's MCAR test (Little & Rubin, 2002) and Vriens and Melton's (2002) methods for dealing with missing observations: delete incomplete cases, replace the missing score through mean substitution, multiple imputation, or a maximum likelihood transformation. Subsequently, data were screened for normality, linearity, and outliers. Data was assessed for normality by examining the histograms for each variable. Field (2009) emphasized that the

frequency distributions of histograms are helpful to identify potential problems with data. To formally test normality, the skewness and kurtosis of the items were examined using Field's (2009) method of converting the values to *z*-scores. Applying Kline's (2011) criteria, an absolute value on the skew index > 3.0 and on the kurtosis index of > 5 is described as indicating extreme skewness or kurtosis. Box plots were also evaluated to determine any outliers within the data. Lastly, to test for linearity, scatterplots were inspected as well as the plots of standardized residuals against standardized estimates of the dependent variables were reviewed. Linearity of the data is assumed if the plots present a random pattern of the residuals that are evenly dispersed around zero (Kline, 2011). If all three assumptions are met, Anderson and Gerbing's (1988) two-step structural equation modeling (SEM) method to test models should be utilized. The first step is to test the measurement model through confirmatory factor analysis; in the second step, the structural model and the hypotheses are tested through path analysis.

Results

The data were examined through descriptive statistics (mean, standard deviation, and bivariate correlations) of the consumer advertising deception variables, the socio-demographic variables, and the sport beverage consumption variables. Participants were predominately male (53.3%), White/Caucasian (83%), and between age 18 to 34 (84.1%). For participant's sport beverage consumption, over 49% stated that they drank a sports beverage at least once a week, and overall, participants had been drinking sports drinks for at least a year or longer. The average familiarity score was 1.69 (on a 7-point scale), indicating that overall participants were unfamiliar with the BodyArmor sports beverage and making it a good brand for this study.

Descriptive statistics for the representation indicators produced a mean score of 4.93 on a 7-point scale, demonstrating that overall participants agreed that the BodyArmor print content reviewed was an advertisement. Descriptive statistics for the likelihood to mislead indicators produced a mean score 4.88 on a 7-point scale, demonstrating that overall, the BodyArmor deceptive advertisement was believable. Descriptive statistics for the cognitive materiality indicators produced a mean score 4.92 on a 7-point scale, demonstrating that overall, the BodyArmor deceptive advertisement influenced their knowledge of the brand. Descriptive statistics for the affective materiality indicators produced a mean score of 5.12 on a 7-point scale, demonstrating that overall, the BodyArmor deceptive advertisement influenced their attitude toward the brand. Descriptive statistics for the behavioral materiality indicators produced a mean score of 4.37 on a 7-point scale, demonstrating that overall, the BodyArmor deceptive advertisement influenced their purchase intention regarding the brand.

Missing values were identified, and the Little's MCAR test (Kline, 2011) was statistically significant ($\chi^2 = 83.363$, $df = 38$, $p < .05$), providing evidence that the data was not missing completely at random. Klein's (2014) suggested that if the amount of missing data in a single observation exceeds 15% the observation may be removed from the data file. Seven observations were removed from the data, resulting in 195 usable responses.

After reviewing histograms for the data to assess normality, the data appeared to not be normally distributed. Burridge and Hubbard (1979) suggested that non-normal distributions may be due to outliers or extreme values. Therefore to further examine the source of the normality of the data, the skewness and kurtosis *z*-scores were explored.

Data were determined to be negatively skewed, and the data were checked for outliers. Upon examination of box plots, several outliers were identified in the data (Mooi & Sarstedt, 2011). Therefore, the 5% trimmed mean was compared to the mean for each of the constructs to determine the influence of the scores (Field, 2009). Minimal differences were observed (less than .07) regarding the influence of the extreme scores. Osborne and Overbay (2004) explained that not all outliers are bad. Some outliers can be legitimate cases sampled from the correct population, and the solution is to remove, retain, or transform the observations. Orr, Sackett, and DuBois (1991) advised that data are more representative of the population if outliers are not removed. Therefore, the outliers were not removed from the data and were treated as legitimate responses from survey participants.

Beri (1993) recommended that there are certain situations, particularly in marketing and psychological research, where an assumption of a normal distribution is not valid, and non-parametric tests should be used to analyze the data. Due to the non-normal distribution of the data, data were analyzed using partial least squares structural equation modeling (PLS-SEM). PLS-SEM is optimal for small sample sizes and non-normally distributed data; PLS-SEM also makes no assumptions about data distributions (Hair, Hult, Ringle, & Sarstedt, 2014). This method of analysis also aids in making determinations and assumptions about the relationships between the constructs and the appropriateness of the specified theoretical framework (Hulland, 1999).

SmartPLS 3.0 was used to evaluate the data. According to Hulland (1999), there are three components that are relevant when analyzing data using PLS-SEM. First, the constructs and their indicators (the measurement model) should be examined for both

reliability and validity. Second, researchers should evaluate the relationships between the measures and the constructs. Lastly, the path coefficients should be reviewed along with estimating the appropriateness of the structural model.

Following the steps detailed by Hulland (1999), the constructs (representation, likelihood to mislead, cognitive materiality, affective materiality, and behavioral materiality) were assessed. During data collection, participants were randomly divided into two groups. One group was to be used to assess the measurement model (n = 99), and the second group was to determine the fit of the structural model (n = 96). Prior to evaluating the measurement model, a multi-group analysis was performed to examine whether the construct measures were invariant across the groups. Hair et al. (2014) recommended that a PLS-MGA analysis be used to determine measurement invariance. Henseler (2009) explained that this method provides a non-parametric test which builds on PLS-SEM bootstrapping to ascertain the difference in group-specific results. At the 5% probability of error level, a result is significant if the p-value for the difference in the group-specific path coefficients is smaller than 0.05 or larger than 0.95 (Henseler, 2009). The results revealed that 2 out of the 4 relationships differed significantly across the two groups. The difference in the group-specific path coefficients for likelihood to mislead and affective materiality (as well as for likelihood to mislead and behavioral materiality) were larger than 0.95, indicating significant differences among the groups regarding overall attitudes and purchase intention for the brand. As a result, the data were pooled to examine the proposed model (N = 195).

The adequacy of the measurement model was ascertained by examining the measures for internal consistency reliability, convergent validity, and discriminant

validity. Internal consistency reliability gauges whether the measure for an observed variable will be the same under consistent conditions (Hair, et al., 2014). To evaluate internal consistency reliability, the composite reliabilities were inspected. A composite reliability was applied instead of Cronbach's α based on Raykov's (1997) research that Cronbach's α can over- and underestimate scale reliability. The composite reliability for representation was 0.89, likelihood to mislead was 0.96, cognitive materiality was 0.95, affective materiality was 0.97, and behavioral materiality was 0.98. According to Nunnally (1967), values exceeding 0.70 are considered acceptable, and all of the values met this threshold, indicating that the measurement items exhibited internal consistency reliability.

Next, convergent validity was tested by analyzing the outer loadings of the indicators to their respective constructs. Convergent validity is "the extent to which a measure correlates positively with alternative measures of the same construct" (Hair, et. al., 2014, p. 102). These results ranged from 0.695 to 0.961. The guidelines recommended by Nunnally (1967) are also applied in determining convergent validity. All of the loadings, except one, exceeded the 0.70 cutoff criteria. Although one of the loadings was at 0.695, it was still considered significant. Hair et al. (2014) explained that even loadings less than 0.70 are still considered significant, but more of the variance in the measure is attributed to error. Therefore, convergent validity was confirmed.

To ascertain discriminant validity of the measure scales, Hair, et al., (2014) suggested examining the cross loadings of the indicators. "The indicator's outer loading on the associated construct should be greater than all of its cross loadings on the other constructs" (Hair, et al., 2014, p. 105). If the cross loadings are higher than the indicator's

outer loadings, there is evidence of a discriminant validity problem. These results established discriminant validity.

Lastly, the model was assessed for collinearity among the indicators. Hair, Ringle, and Sardstedt (2011) advised that a variance inflation factor (VIF) value of greater than five indicates a potential collinearity problem. Consideration should be given to removing the indicators that are >5 if the remaining indicators are able to capture the construct's content (Hair et al., 2014). Four indicators (AMa3, AMa4, BMa3, and BMa4) displayed VIFs greater than 5. After reviewing the survey instrument, it was determined that the items were redundant and if removed the remaining items would still capture the construct's content. The model was then reassessed for internal consistency reliability, convergent validity and discriminant validity.

The composite reliability for representation was 0.86, likelihood to mislead was 0.95, cognitive materiality was 0.94, affective materiality was 0.95, and behavioral materiality was 0.97, confirming internal consistency reliability (see Table 1). The outer loadings of the indicators to their respective constructs ranged from 0.700 to 0.963, confirming convergent validity (see Table 2). Also, the indicator's outer loadings on the associated construct were greater than all of its cross loadings on the other constructs (Hair, et al., 2014) (see Table 3). There were also no issues regarding collinearity. Therefore, the formative components of the structural model were evaluated to test the significance of the indicators.

To test whether the path coefficients differed significantly from zero, *t*-values were calculated using a bootstrapping procedure. Bootstrapping is when a large number of subsamples are randomly selected from the original sample for analysis and then

replaced. Each time an observation is selected, it is then returned to the original sample (Hair, et. al., 2014). A total of 5000 samples were selected for the bootstrapping procedure.

To analyze the mediating effect of likelihood to mislead between representation and cognitive, affective, and behavioral materiality, the Baron and Kenny (1986) four conditions for mediation were followed and a bootstrapping of the sampling distribution were conducted. Hair et al. (2014) stated that "bootstrapping makes no assumptions about the shape of the variable' distribution" and "the approach exhibits higher levels of statistical power than the Sobel test" (p. 223). Bootstrapping generates *t*-values of the path coefficients. Critical values for a two-tailed *t*-test are 1.96 ($\alpha = 0.05$) (Hair, et. al., 2014). The *t*-values of the path coefficients are provided in Table 4. Applying the cut-off point, all path *t*-statistics met the requirement.

Following Baron and Kenny (1986), first, the direct effect of the independent variable to the outcome variable should be significant absent inclusion of the mediator in the model. The paths from representation to cognitive materiality ($\beta = 0.550$, $p < 0.05$), representation to affective materiality ($\beta = 0.575$, $p < 0.05$), and representation to behavioral materiality ($\beta = 0.447$, $p < 0.05$) were significant, providing support for H1, H2, and H3, that a deceptive representation will positively influence cognitive, affective, and behavioral materiality. Next, the independent variable must have a significant effect on the mediator variable. The path from representation to likelihood to mislead ($\beta = 0.590$, $p < 0.05$) was significant. Next, the hypothesized mediator is related to the outcome variables. These results indicated the relationships from, likelihood to mislead to cognitive materiality ($\beta = 0.802$, $p < 0.05$), likelihood to mislead to affective materiality

($\beta = 0.739$, $p < 0.05$), and likelihood to mislead to behavioral materiality ($\beta = 0.601$, $p < 0.05$). All paths were positive and significant, and the structural model explained 34.8% of the variance in likelihood to mislead, 64.3% of the variance in cognitive materiality, 54.7% of the variance in affective materiality, and 36.1% of the variance in behavioral materiality. Lastly, the indirect effect (when including the mediator) must also be significant. After running the bootstrapping procedure and including likelihood to mislead, paths from representation to cognitive materiality ($\beta = 0.473$, $p < 0.05$), representation to affective materiality ($\beta = 0.437$, $p < 0.05$), and representation to behavioral materiality ($\beta = 0.355$, $p < 0.05$) were determined to be significant (see Table 5.4).

Since the positive direct effect of each path decreased after inclusion of likelihood to mislead (Preacher & Hayes, 2004), it was evident that the mediator was absorbing a portion of the direct effect of representation on cognitive materiality, affective materiality, and behavioral materiality. To determine how much the mediator absorbs, the variance accounted for (VAF) is calculated (indirect effect divided by the total effect). The VAF identifies the size of the indirect effect in relation to the total effect (Hair et al., 2014). If the VAF is above 80%, there is full mediation. If the VAF is larger than 20% but less than 80%, the relationship is described as a partial mediation (Hair et al., 2014). Consequently, 46.2% of representation's effect on cognitive materiality is explained via the likelihood to mislead mediator (supporting H4); 43.2% of representation's effect on affective materiality is explained via likelihood to mislead (supporting H5). Lastly, 44.3% of representation's effect on behavioral materiality is explained via likelihood to mislead (supporting H6), and characterizing the relationship as partial mediation.

Table 1

Internal Consistency Reliability and Convergent Validity for Pilot Study

	Composite Reliability	Cronbach's α	AVE	R^2
Representation	0.861	0.785	0.608	
Likelihood to Mislead	0.950	0.942	0.658	0.348
Cognitive Materiality	0.937	0.909	0.787	0.643
Affective Materiality	0.945	0.912	0.851	0.547
Behavioral Materiality	0.966	0.930	0.934	0.361

Note. AVE = Average variance extracted.

Table 2

Outer Loadings and Indicator Reliability for Pilot Study

	Affective Materiality	Behavioral Materiality	Cognitive Materiality	Likelihood to Mislead	Representation
AMa1	0.931				
AMa2	0.932				
AMa5	0.905				
BMa1		0.963			
BMa2		0.970			
CMa1			0.854		
CMa2			0.928		
CMa3			0.924		
CMa4			0.840		
LM1				0.858	
LM2				0.828	
LM3				0.777	
LM4				0.829	
LM5				0.810	
LM6				0.826	
LM7				0.797	
LM8				0.787	
LM9				0.804	
LM10				0.790	
REP1					0.700
REP2					0.862
REP3					0.790
REP4					0.760

Notes. LM = Likelihood to Mislead; AMa = Affective Materiality; BMa = Behavioral Materiality; CMa = Cognitive Materiality; REP = Representation

Table 3

Discriminant Validity: Cross Loadings for Indicators in Pilot Study

	Affective Materiality	Behavioral Materiality	Cognitive Materiality	Likelihood to Mislead	Representation
AMa1	0.931	0.649	0.713	0.672	0.579
AMa2	0.932	0.639	0.754	0.686	0.489
AMa5	0.905	0.639	0.728	0.687	0.512
BMa1	0.664	0.963	0.556	0.550	0.408
BMa2	0.682	0.970	0.596	0.608	0.448
CMa1	0.748	0.523	0.854	0.663	0.487
CMa2	0.693	0.569	0.928	0.764	0.493
CMa3	0.723	0.546	0.924	0.746	0.488
CMa4	0.657	0.476	0.840	0.666	0.490
LM1	0.691	0.460	0.706	0.858	0.569
LM2	0.619	0.513	0.715	0.828	0.505
LM3	0.677	0.523	0.672	0.777	0.572
LM4	0.565	0.435	0.659	0.829	0.444
LM5	0.550	0.412	0.610	0.810	0.443
LM6	0.531	0.434	0.668	0.826	0.415
LM7	0.539	0.508	0.607	0.797	0.420
LM8	0.503	0.537	0.590	0.787	0.416
LM9	0.588	0.477	0.630	0.804	0.490
LM10	0.687	0.558	0.623	0.790	0.476
REP1	0.366	0.238	0.328	0.331	0.700
REP2	0.549	0.461	0.479	0.520	0.862
REP3	0.441	0.374	0.442	0.466	0.790
REP4	0.405	0.280	0.447	0.493	0.760

Notes. LM = Likelihood to Mislead; AMa = Affective Materiality; BMa = Behavioral Materiality; CMa = Cognitive Materiality; REP = Representation

Table 4

Path Coefficients for Pilot Study

	Path Coefficients	Standard Error	*t*-values	*p*-value	95% CI
LM → AM	0.739	0.041	18.448	0.000	[0.658, 0.816]
LM → BM	0.601	0.050	11.984	0.000	[0.501, 0.696]
LM → CM	0.802	0.033	24.562	0.000	[0.735, 0.864]
REP→ LM	0.590	0.054	10.918	0.000	[0.482, 0.692]
Indirect Effect					
REP→LM→AM	0.437	0.052	8.433	0.000	[0.340 0.539]
REP→LM→BM	0.431	0.045	7.808	0.000	[0.266, 0.446]
REP→LM→CM	0.473	0.054	8.804	0.000	[0.370, 0.581]
Direct Effect					
REP→ AM	0.575	0.059	9.774	0.000	[0.454, 0.683]
REP→ BM	0.447	0.063	7.444	0.000	[0.327, 0.562]
REP →CM	0.550	0.056	9.880	0.000	[0.436,0.655]

Notes. LM = Likelihood to Mislead; AM = Affective Materiality; BM = Behavioral Materiality; CM = Cognitive Materiality; REP = Representation;
CI = Confidence Interval
* $p < .05$. ** $p < .01$.

CHAPTER 5

STUDY 1: PRINT

Sample and Data Collection

To determine application of the model to a more general population, data was collected using Amazon's Mechanical Turk (MTurk). Amazon offers this service through two types of accounts. The first is a worker account which allows an individual to choose from an array of Human Intelligence Tasks (HITs) offering monetary rewards as compensation for completion of a task (MTurk.com, 2015). Originally, MTurk was established for commercial use, but HITs for academic research are becoming popular (Holden, Dennie, and Hicks, 2013). The second type of account is known as a requester account; researchers can use this account to access MTurk's worker population. Payment for the HIT, as well as the number of workers needed for the research study, is determined by the requester. Once established, Amazon charges a 10% commission to pay the workers individually (MTurk.com, 2015). To assess the reliability of using MTurk for research survey purposes, Buhrmester, Kwang, and Gosling (2011) compared MTurk samples to other Internet samples. The study revealed a more diverse sample (over 50 countries) than typical student samples. Participants were recruited faster, and even though workers are compensated for their participation, the data quality was acceptable and reliable (Buhrmester, Kwang, & Gosling, 2011). Hence, appropriate for use in this study.

Survey participants were paid fifty cents to complete the survey. To ensure full completion of the survey, participants were provided a code at the end of the survey. This code was then entered into the MTurk system. If the participant did not enter the correct code, payment was not received. All participants entered the appropriate code for payment, and the average time of completion for the survey by participants was seven minutes.

Through MTurk, a total of 1,348 responses were collected; 176 surveys were eliminated due participants not being sports beverage consumers, resulting in 1,172 survey responses. Upon consenting to take the survey, participants were randomized into two groups: print and Facebook. For the print study, a total of 583 responses were collected.

Data Analyses

Using SPSS 20.0, the descriptive statistics of the data, including mean and standard deviation of the variables, were examined. Bivariate correlations were also computed to examine the interrelationship between the advertising deception variables. Next, the randomness of the missing data was assessed using Little's MCAR test (Little & Rubin, 2002) and Vriens and Melton's (2002) methods for dealing with missing observations: delete incomplete cases, replace the missing score through mean substitution, multiple imputation, or a maximum likelihood transformation. Subsequently, data were screened for normality, linearity, and outliers. Data was assessed for normality by examining the histograms for each variable, and to formally test normality, the skewness and kurtosis of the items were examined using Field's (2009) method of converting the values to *z*-scores. Applying Field's (2009) criteria, "an absolute value

greater than 1.96 is significant at $p < .05$" (p. 139) indicating that skewness and kurtosis of the data exists. Thereafter, box plots were evaluated to determine if there were any outliers within the data. Lastly, to test for linearity, scatterplots were inspected as well as the plots of standardized residuals against standardized estimates of the dependent variables. To increase validity and reliability of the study, participants were randomized into two groups for the structural equation modeling analysis.

Results

The data were examined through descriptive statistics (mean, standard deviation, and bivariate correlations) of the consumer advertising deception variables, the socio-demographic variables, and the sport beverage consumption variables. Participants were predominately male (62.5%), White/Caucasian (63%), and between age 18 to 34 (69.6%). For participant's sport beverage consumption, over 41% stated that they drank a sports beverage at least once a week, and overall, participants had been drinking sports drinks for at least a year or longer. The average familiarity score was 2.35 (on a 7-point scale), indicating that overall participants were unfamiliar with the BodyArmor sports beverage and making it a good brand for this study.

Descriptive statistics for the representation indicators produced a mean score of 5.24 on a 7-point scale, demonstrating that overall participants agreed that the BodyArmor print content reviewed was an advertisement. Descriptive statistics for the likelihood to mislead indicators produced a mean score of 5.28 on a 7-point scale, demonstrating that overall, the Body Armor deceptive advertisement was believable. Descriptive statistics for the cognitive materiality indicators produced a mean score of 5.38 on a 7-point scale, demonstrating that overall, the BodyArmor deceptive

advertisement influenced their knowledge of the brand. Descriptive statistics for the affective materiality indicators produced a mean score of 5.61 on a 7-point scale, demonstrating that overall, the Body Armor deceptive advertisement influenced their attitude toward the brand. Descriptive statistics for the behavioral materiality produced a mean score of 5.03 on a 7-point scale, demonstrating that overall, the BodyArmor deceptive advertisement influenced their purchase intention regarding the brand.

Missing values were identified and the Little's MCAR test (Kline, 2011) was statistically significant ($\chi^2 = 100.995$, $df = 62$, $p = .001$), providing evidence that the data was not missing completely at random. Following Vriens and Melton's (2002) methods for dealing with missing observations, seventeen observations were removed from the data. The result was 566 usable responses.

After reviewing histograms for the data to assess normality, the data appeared to not be normally distributed. Data skewness and kurtosis *z*-scores were explored, and data was determined to be negatively skewed as well as presented several instances of kurtosis. Hence, non-normality was confirmed. Box plots revealed several outliers within the data (Mooi & Sarstedt, 2011). Consequently, the 5% trimmed mean was compared to the mean for each of the constructs to determine the influence of the scores (Field, 2009). Minimal mean differences were observed (less than .11) regarding the influence of the extreme scores. Therefore, the outliers were not removed from the data and were treated as legitimate responses from survey participants (Orr, Sackett, & Dubois, 1991).

Due to the non-normal distribution of the data, data were analyzed using partial least squares structural equation modeling (PLS-SEM). Prior to evaluating the measurement model, a multi-group analysis was performed to examine whether the

construct measures were invariant across the measurement model (n = 285) and structural model groups (n = 281). Based on PLS-MGA, the results revealed that 3 out of the 4 relationships differed significantly across the two groups. The difference in the group-specific path coefficients for likelihood to mislead and cognitive materiality, likelihood to mislead and affective materiality, and likelihood to mislead and behavioral materiality were larger than 0.95, indicating significant differences among the groups regarding how the misleading advertisements were evaluated regarding brand knowledge, attitude toward the brand, and purchase intention. As with the Pilot Study, the data were pooled to examine the proposed model (N = 566).

To evaluate internal consistency reliability, the composite reliabilities were inspected. As shown in Table 5, the composite reliability for representation was 0.88, likelihood to mislead was 0.95, cognitive materiality was 0.95, affective materiality was 0.97, and behavioral materiality was 0.97. Using Nunnally's (1967) recommended guidelines of 0.70 or more, all of the values met the threshold for internal consistency reliability.

Next, the outer loadings of the indicators to their respective constructs were tested for convergent validity. The results, shown in Table 6, ranged from 0.695 to 0.969. Nunnally (1967)'s guidelines recommended by Nunnally (1967) were also applied in determining convergent validity. Since the 0.695 was close to 0.70, it was considered within the guidelines, convergent validity was confirmed.

The cross loadings were inspected to ascertain discriminant validity of the measure scales. The indicator's outer loadings exceeded its cross loadings (Hair, et. al.,

2014), and discriminant validity was confirmed (see Table 7). Lastly, the model was tested for collinearity among the indicators. No indicators had a VIF of greater than 5.

After confirming that the measurement model was appropriate, the structural model was evaluated. The Baron and Kenny (1986) four conditions for mediation were followed, and a bootstrapping of the sampling distribution was also conducted. The *t*-values of the path coefficients are provided in Table 8. Applying the cut-off point, all path *t*-statistics met the statistically significant requirement.

First, the direct effect of Representation to the outcome variables absent inclusion of the mediator in the model was assessed. The paths from representation to cognitive materiality ($\beta = 0.581$, $p < 0.05$), representation to affective materiality ($\beta = 0.604$, $p < 0.05$), and representation to behavioral materiality ($\beta = 0.557$, $p < 0.05$) were significant, providing support for H1, H2, and H3, that a deceptive representation will positively influence cognitive, affective, and behavioral materiality. Next, the representation must have a significant effect on likelihood to mislead. The path was significant ($\beta = 0.633$, $p < 0.05$). Next, likelihood to mislead is related to the outcome variables. These results indicated the relationships from, likelihood to mislead to cognitive materiality ($\beta = 0.843$, $p < 0.05$), likelihood to mislead to affective materiality ($\beta = 0.787$, $p < 0.05$), and likelihood to mislead to behavioral materiality ($\beta = 0.676$, $p < 0.05$). All paths were positive and significant, and the structural model explained 40% of the variance in likelihood to mislead, 71% of the variance in cognitive materiality, 61.9% of the variance in affective materiality, and 45.7% of the variance in behavioral materiality. Lastly, the indirect effect (when including likelihood to mislead) must also be significant. After running the bootstrapping procedure, paths from representation to cognitive materiality (β

= 0.533, $p < 0.05$), representation to affective materiality ($\beta = 0.498$, $p < 0.05$), and representation to behavioral materiality ($\beta = 0.427$, $p < 0.05$) were determined to be significant (see Table 8).

Since the positive direct effect of each path decreased after inclusion of likelihood to mislead (Preacher & Hayes, 2004), it was evident that the mediator was absorbing a portion of the direct effect of representation on cognitive, affective, and behavioral materiality. The variance accounted for (VAF) was calculated (indirect effect divided by the total effect). The VAF was larger than 20% but less than 80%, suggesting partial mediation (Hair et al., 2014). Consequently, 47.8% of representation's effect on cognitive materiality is explained via the likelihood to mislead mediator (supporting H4); 45.2% of representation's effect on affective materiality is explained via likelihood to mislead (supporting H5). Lastly, 43.4% of representation's effect on behavioral materiality is explained via likelihood to mislead (supporting H6), and characterizing the relationship as partial mediation.

Table 5

Internal Consistency Reliability and Convergent Validity for Main Study: Print

	Composite Reliability	Cronbach's α	AVE	R^2
Representation	0.887	0.830	0.663	
Likelihood to Mislead	0.958	0.951	0.695	0.400
Cognitive Materiality	0.949	0.928	0.824	0.710
Affective Materiality	0.958	0.934	0.884	0.619
Behavioral Materiality	0.968	0.934	0.938	0.457

Note. AVE = Average variance extracted.

Table 6

Outer Loadings and Indicator Reliability for Main Study: Print

	Affective Materiality	Behavioral Materiality	Cognitive Materiality	Likelihood to Mislead	Representation
AMa1	0.937				
AMa2	0.942				
AMa5	0.941				
BMa1		0.968			
BMa2		0.969			
CMa1			0.910		
CMa2			0.923		
CMa3			0.930		
CMa4			0.865		
LM1				0.849	
LM2				0.887	
LM3				0.851	
LM4				0.880	
LM5				0.796	
LM6				0.847	
LM7				0.695	
LM8				0.795	
LM9				0.861	
LM10				0.858	
REP1					0.805
REP2					0.850
REP3					0.839
REP4					0.759

Notes. LM = Likelihood to Mislead; AMa = Affective Materiality; BMa = Behavioral Materiality; CMa = Cognitive Materiality; REP = Representation

Table 7

Discriminant Validity: Cross Loadings for Indicators in Main Study: Print

	Affective Materiality	Behavioral Materiality	Cognitive Materiality	Likelihood to Mislead	Representation
AMa1	0.937	0.749	0.804	0.731	0.567
AMa2	0.942	0.683	0.798	0.757	0.588
AMa5	0.941	0.718	0.801	0.731	0.548
BMa1	0.745	0.968	0.709	0.652	0.535
BMa2	0.731	0.969	0.704	0.657	0.541
CMa1	0.835	0.689	0.910	0.760	0.571
CMa2	0.770	0.654	0.923	0.792	0.525
CMa3	0.759	0.667	0.930	0.795	0.535
CMa4	0.729	0.638	0.865	0.709	0.471
LM1	0.678	0.565	0.731	0.849	0.557
LM2	0.716	0.612	0.767	0.887	0.567
LM3	0.743	0.647	0.735	0.851	0.614
LM4	0.650	0.558	0.726	0.880	0.509
LM5	0.648	0.495	0.639	0.796	0.504
LM6	0.624	0.548	0.691	0.847	0.530
LM7	0.513	0.448	0.579	0.695	0.399
LM8	0.598	0.562	0.655	0.795	0.496
LM9	0.663	0.565	0.744	0.861	0.525
LM10	0.696	0.603	0.732	0.858	0.542
REP1	0.440	0.385	0.404	0.446	0.805
REP2	0.515	0.559	0.513	0.559	0.850
REP3	0.539	0.465	0.513	0.556	0.839
REP4	0.462	0.380	0.442	0.486	0.759

Notes. LM = Likelihood to Mislead; AMa = Affective Materiality; BMa = Behavioral Materiality; CMa = Cognitive Materiality; REP = Representation

Table 8

Path Coefficients for Main Study: Print

	Path Coefficients	Standard Error	*t*-values	*p*-value	95% CI
LM → AM	0.787	0.028	27.833	0.000	[0.727, 0.836]
LM → BM	0.676	0.028	24.405	0.000	[0.618, 0.727]
LM → CM	0.807	0.018	47.287	0.000	[0.806, 0.876]
REP→ LM	0.663	0.035	17.915	0.000	[0.434, 0.563]
Indirect Effect					
REP→LM→AM	0.498	0.033	15.226	0.000	[0.434, 0.563]
REP→LM→BM	0.427	0.030	14.481	0.000	[0.370, 0.486]
REP→LM→CM	0.533	0.031	17.235	0.000	[0.471, 0.594]
Direct Effect					
REP→ AM	0.604	0.039	15.431	0.000	[0.527, 0.679]
REP→ BM	0.557	0.033	17.051	0.000	[0.492, 0.620]
REP →CM	0.581	0.036	16.293	0.000	[0.511, 0.650]

Notes. LM = Likelihood to Mislead; AM = Affective Materiality; BM = Behavioral Materiality; CM = Cognitive Materiality; REP = Representation;
CI = Confidence Interval
* $p < .05$. ** $p < .01$

CHAPTER 6

STUDY 2: FACEBOOK

Sample and Data Collection

As with Study 1, data was collected using Amazon's Mechanical Turk (MTurk). Through MTurk, a total of 1,348 responses were collected; 176 surveys were eliminated due participants not being sports beverage consumers, resulting in 1,172 survey responses. Upon consenting to take the survey, participants were randomized into two groups: print and Facebook. For Facebook study, a total of 589 responses were collected.

Data Analyses

The data were examined through descriptive statistics (mean, standard deviation, and bivariate correlations) of the consumer advertising deception variables, the socio-demographic variables, and the sport beverage consumption variables. Participants were predominately male (59.3%), White/Caucasian (64.6%), and between age 18 to 34 (66.8%). For participant's sport beverage consumption, over 38.8% stated that they drank a sports beverage at least once a week, and overall, participants had been drinking sports drinks for at least a year or longer. The average familiarity score was 2.43 (on a 7-point scale), indicating that overall participants were unfamiliar with the BodyArmor sports beverage and making it a good brand for this study.

Descriptive statistics for the representation indicators produced a mean score of 4.70 on a 7-point, demonstrating that overall participants agreed that the BodyArmor print content reviewed was an advertisement. Descriptive statistics for the likelihood to

mislead indicators produced a mean score of 5.09 on a 7-point scale, demonstrating that overall, the BodyArmor deceptive advertisement was believable. Descriptive statistics for the cognitive materiality indicators produced a mean score of 5.28 a 7-point scale, demonstrating that overall, the Body Armor deceptive advertisement influenced their knowledge of the brand. Descriptive statistics for the affective materiality indicators produced a mean score of 5.46 on a 7-point scale, demonstrating that overall, the BodyArmor deceptive advertisement influenced their attitude toward the brand. Descriptive statistics for the behavioral materiality indicators produced a mean score of 4.91 on a 7-point scale, demonstrating that overall, the BodyArmor deceptive advertisement influenced their purchase intention regarding the brand.

Missing values were identified and the Little's MCAR test (Kline, 2011) was statistically significant ($\chi^2 = 80.078$, $df = 57$, $p = .024$), providing evidence that the data was not missing completely at random. Following Vriens and Melton's (2002) methods for dealing with missing observations, nineteen observations were removed from the data. The result was 570 usable responses.

After reviewing histograms for the data to assess normality, the data appeared to not be normally distributed. Data skewness and kurtosis *z*-scores were reviewed, and data was determined to be negatively skewed with several instances of kurtosis. Hence, non-normality was confirmed. Box plots revealed several outliers within the data (Mooi & Sarstedt, 2011). Consequently, the 5% trimmed mean was compared to the mean for each of the constructs to determine the influence of the scores (Field, 2009). Minimal mean differences were observed (less than .10) regarding the influence of the extreme scores.

For that reason, the outliers were not removed from the data and were treated as legitimate responses from survey participants (Orr, Sackett, & Dubois, 1991).

For this study as well, participants were also randomized into two groups for the structural equation modeling analysis: 282 participants for the measurement model and 288 participants for the structural model. A PLS-MGA analysis was also used to establish measurement invariance among the two groups. The results revealed no significant differences across the two groups. Thus, the additional data sample was used for the structural equation modeling analysis.

Results

To evaluate internal consistency reliability, the composite reliabilities were inspected. As shown in Table 9, the composite reliability for representation was 0.89, likelihood to mislead was 0.96, cognitive materiality was 0.95, affective materiality was 0.96, and behavioral materiality was 0.97. All of the values met the Nunnally (1967) threshold of 0.70, indicating that the measurement items exhibited internal consistency reliability. Convergent validity was tested by analyzing the outer loadings of the indicators to their respective constructs. These results, shown in Table 10, ranged from 0.71 to 0.97. Given that each item exceeded the 0.70 threshold, convergent validity was confirmed. Next, the cross loadings were inspected to ascertain discriminant validity of the measure scales. The indicator's outer loadings exceeded its cross loadings (Hair, et. al., 2014), and discriminant validity was also confirmed (see Table 11). Lastly, the model was tested for collinearity among the indicators. No indicators had a VIF of greater than 5.

Since internal consistency reliability, convergent validity, and discriminant validity were confirmed, the structural model was analyzed. A review of the paths of the structural model revealed *t*-statistic values which surpassed the *t*-critical value of 1.96. The Baron and Kenny (1986) four conditions for mediation were followed, and a bootstrapping of the sampling distribution was also conducted. The *t*-values of the path coefficients are provided in Table 12. Applying the cut-off point, all path *t*-statistics met the statistically significant requirement.

First, the direct effect of representation to the outcome variables absent inclusion of the mediator in the model was assessed. The paths from representation to cognitive materiality ($\beta = 0.564$, $p < 0.05$), representation to affective materiality ($\beta = 0.565$, $p < 0.05$), and representation to behavioral materiality ($\beta = 0.565$, $p < 0.05$) were significant, providing support for H1, H2, and H3, that a deceptive representation will positively influence cognitive, affective, and behavioral materiality. Next, the representation must have a significant effect on likelihood to mislead. The path was significant ($\beta = 0.657$, $p < 0.05$). Next, likelihood to mislead is related to the outcome variables. These results indicated the relationships from, likelihood to mislead to cognitive materiality ($\beta = 0.853$, $p < 0.05$), likelihood to mislead to affective materiality ($\beta = 0.836$, $p < 0.05$), and likelihood to mislead to behavioral materiality ($\beta = 0.757$, $p < 0.05$). All paths were positive and significant, and the structural model explained 43.2% of the variance in likelihood to mislead, 72.8% of the variance in cognitive materiality, 69.8% of the variance in affective materiality, and 57.4% of the variance in behavioral materiality. Lastly, the indirect effect (when including likelihood to mislead) must also be significant. After running the bootstrapping procedure, paths from representation to cognitive

materiality ($\beta = 0.561$, $p < 0.05$), representation to affective materiality ($\beta = 0.559$, $p < 0.05$), and representation to behavioral materiality ($\beta = 0.498$, $p < 0.05$) were determined to be significant (see Table 12).

Since the positive direct effect of each path decreased after inclusion of likelihood to mislead (Preacher & Hayes, 2004), it was evident that the mediator was absorbing a portion of the direct effect of representation on cognitive, affective, and behavioral materiality. The variance accounted for (VAF) was calculated (indirect effect divided by the total effect). The VAF was larger than 20% but less than 80%, suggesting partial mediation (Hair et al., 2014). Consequently, 49.7% of representation's effect on cognitive materiality is explained via the likelihood to mislead mediator (supporting H4); 46.9% of representation's effect on affective materiality is explained via likelihood to mislead (supporting H5). Lastly, 49.9% of representation's effect on behavioral materiality is explained via likelihood to mislead (supporting H6), and characterizing the relationship as partial mediation.

Table 9

Internal Consistency Reliability and Convergent Validity for Main Study: Facebook

	Composite Reliability	Cronbach's α	AVE	R^2
Representation	0.886	0.828	0.662	
Likelihood to Mislead	0.961	0.955	0.713	0.432
Cognitive Materiality	0.950	0.930	0.828	0.728
Affective Materiality	0.960	0.938	0.889	0.698
Behavioral Materiality	0.970	0.938	0.942	0.574

Note. AVE = Average variance extracted; FB = Facebook

Table 10

Outer Loadings and Indicator Reliability for Main Study: Facebook

	Affective Materiality	Behavioral Materiality	Cognitive Materiality	Likelihood to Mislead	Representation
AMa1	0.934				
AMa2	0.950				
AMa5	0.944				
BMa1		0.969			
BMa2		0.971			
CMa1			0.910		
CMa2			0.927		
CMa3			0.929		
CMa4			0.872		
LM1				0.853	
LM2				0.890	
LM3				0.867	
LM4				0.871	
LM5				0.826	
LM6				0.850	
LM7				0.718	
LM8				0.820	
LM9				0.841	
LM10				0.897	
REP1					0.798
REP2					0.874
REP3					0.862
REP4					0.710

Notes. LM = Likelihood to Mislead; AMa = Affective Materiality; BMa = Behavioral Materiality; CMa = Cognitive Materiality; REP = Representation

Table 11

Discriminant Validity: Cross Loadings for Indicators in Main Study: Facebook

	Affective Materiality	Behavioral Materiality	Cognitive Materiality	Likelihood to Mislead	Representation
AMa1	0.934	0.767	0.803	0.779	0.524
AMa2	0.950	0.743	0.831	0.793	0.535
AMa5	0.944	0.766	0.832	0.791	0.536
BMa1	0.767	0.969	0.741	0.722	0.539
BMa2	0.794	0.971	0.758	0.748	0.552
CMa1	0.824	0.721	0.910	0.770	0.526
CMa2	0.779	0.708	0.927	0.809	0.513
CMa3	0.807	0.706	0.929	0.806	0.511
CMa4	0.764	0.677	0.872	0.717	0.500
LM1	0.736	0.661	0.738	0.853	0.576
LM2	0.747	0.665	0.787	0.890	0.597
LM3	0.756	0.692	0.735	0.867	0.629
LM4	0.703	0.635	0.722	0.871	0.547
LM5	0.719	0.635	0.705	0.826	0.519
LM6	0.703	0.604	0.729	0.850	0.528
LM7	0.553	0.534	0.603	0.718	0.459
LM8	0.633	0.606	0.674	0.820	0.565
LM9	0.700	0.637	0.724	0.841	0.523
LM10	0.778	0.710	0.777	0.897	0.591
REP1	0.386	0.377	0.388	0.456	0.798
REP2	0.538	0.593	0.529	0.611	0.874
REP3	0.482	0.469	0.493	0.591	0.862
REP4	0.409	0.356	0.401	0.453	0.710

Notes. LM = Likelihood to Mislead; AMa = Affective Materiality; BMa = Behavioral Materiality; CMa = Cognitive Materiality; REP = Representation

Table 12

Path Coefficients for Main Study: Facebook

	Path Coefficients	Standard Error	*t*-values	*p*-value	95% CI
LM→ AM	0.836	0.016	50.802	0.000	[0.802, 0.866]
LM→ BM	0.757	0.021	36.746	0.000	[0.715, 0.796]
LM→ CM	0.853	0.015	55.087	0.000	[0.822, 0.883]
REP→ LM	0.657	0.031	21.285	0.000	[0.596, 0.717]
Indirect Effect					
REP→LM→AM	0.559	0.029	18.664	0.000	[0.491, 0.607]
REP→LM→BM	0.498	0.030	16.570	0.000	[0.439, 0.557]
REP→LM→CM	0.561	0.030	18.668	0.000	[0.502, 0.620]
Direct Effect					
REP→ AM	0.565	0.033	16.913	0.000	[0.498, 0.630]
REP→ BM	0.565	0.032	17.475	0.000	[0.502, 0.629]
REP→ CM	0.564	0.034	16.741	0.000	[0.497, 0.628]

Notes. LM = Likelihood to Mislead; AM = Affective Materiality; BM = Behavioral Materiality; CM = Cognitive Materiality; REP = Representation;
CI = Confidence Interval
* $p < .05$. ** $p < .01$.

CHAPTER 7

DISCUSSION

As researchers searched for ways to define and measure consumer advertising deception, it was clear that there were conflicting definitions among behavioral researchers, regulators, and marketing practitioners. Behaviorists focused on the intent of advertisers to deceive and consumer's perception of deception; whereas, the FTC and other policymakers identified that intent was not required to prove advertising deception and focused on the likelihood of the advertisement to mislead consumers and to influence purchase behavior. Marketers, on the other hand, didn't see their practices as deceptive; these campaigns were merely creative attempts to advertise their products or services.

Previous research suggested that behavioral concepts should be applied by the FTC to evaluate deceptive advertisements (Richards, 1990); Hyman (1990) suggested that behavioral researchers who were interested in studying deception also needed to be familiar with the law. Taking into account the diverse interests of behaviorists, regulators, and practitioners regarding consumer advertising deception, the current study was designed to develop and test an interdisciplinary model that measured the effects of an advertisement perceived to be deceptive by the NAD or FTC.

Following Hulland's (1999) approach for analyzing data using PLS-SEM, this study tested the measurement model, the relationships between the measures and the constructs, and the path coefficients for the appropriateness of the structural model. The results indicated that all the models comprised good psychometric properties and

provided a reasonably good fit overall. The results also suggested that the interdisciplinary consumer advertising deception model was a good approach to assess materiality of the effects of a deceptive advertisement. Additionally, since consumers were not told that the content they reviewed was an advertisement, the conceptual model provides insight into the consumer's evaluation of an advertisement. Specifically, this is extremely important when investigating advertisements that have been deemed deceptive by the NAD or FTC as well as advertisements that may not have been deemed deceptive due to the lack of subjective or objective claims.

The statistical results also indicated that the consumer advertising deception model can aid researchers and regulators in examining the effects of deceptive advertisements on consumers. Even though multiple samples were used to test the hypotheses, the results of the SEM path analyses were the same for all three studies, revealing that the NAD's concerns about the BodyArmor deceptive advertisements were warranted. After reviewing the deceptive BodyArmor advertisements, overall consumers showed favorable beliefs, attitudes, and intentions toward BodyArmor. Unfortunately, since many of the sport beverage consumers were unfamiliar with the brand, the opinions were based upon false information, supporting the NAD's concerns regarding the deceptive nature of BodyArmor's advertising and marketing practices and providing evidence that the FTC should investigate this matter further.

The path results for representation to cognitive materiality, affective materiality, and behavioral materiality were positive and significant. This is important for researchers, marketers, and regulators because representation explains how a consumer's ability to identify an advertisement is integral to a deceptive advertisement's influence on

the consumer. It also provides support for previous studies that determined that brand beliefs, attitudes, and purchase intentions are influenced by the consumer's evaluation and identification of the advertisement itself (Cox & Locand, 1980; MacKenzie & Lutz, 1989; Miniard, Bhatla, & Rose, 1990). A consumer's ability to identify an advertisement provides a foundation for the consumer to develop informed opinions regarding a brand. These opinions which are grounded in their beliefs, attitudes, and intentions toward a brand can lead to actual purchase behavior, and marketers and advertisers who influence consumers through deceptive practices should be held accountable.

The results of the pilot study, study 1, and study 2 also showed that cognitive materiality (brand knowledge) was influenced by the deceptive advertisement. This supported findings that "any potential encounter with a brand has the opportunity to change the mental representation of the brand" (Keller, 2003, p. 597). For that reason, exposing a consumer to a deceptive advertisement can falsely generate new brand knowledge or shape existing brand knowledge. As shown in previous research, brand knowledge is the basis for purchase behavior (Ehrenberg & Goodhardt, 1989; Russ & Kilpatrick, 1982), and if this behavior is based on false information, there is definitely cause for concern by regulators.

Additionally, the results of the three studies revealed that affective materiality was affected by the deceptive advertisement. Prior research revealed that attitude toward the brand was evaluative in nature, and based on the claims in the advertisement, the consumer would attribute some degree of quality toward the brand (Eagly & Chaiken, 1993). This degree of quality can also sway a consumer to purchase a product that he/she may not have considered prior to exposure to the deceptive advertisement.

Lastly, representation did positively influence cognitive, affective, and behavioral materiality through the partial mediation effects of likelihood to mislead. Moreover, likelihood to mislead explained a fair amount of variance in cognitive materiality (64.2%) and affective materiality (55%), and it explained 37.5% of the variance in behavioral materiality, meaning that a deceptive advertisement's believability has a fairly significant impact on influencing consumer perceptions and attitudes toward a brand and whether consumers intended to purchase the product or service. The claims in the all three studies were not overt, but participants still believed the content overall. This supports Harris, Pounds, and Mermis (1993) who examined the effects of asserted and implied advertising claims on consumer believability of the claim and purchase intention/behavior. They found that directly asserted claims were no more accurate or persuasive than many of their weaker implied deceptive counterparts. However, regardless of whether the claim was direct or implied, consumer's still believed the advertisement's claims, and more research should focus on consumer believability of advertising claims and materiality.

CHAPTER 8

IMPLICATIONS

With the obvious distinctions in mind, the varying viewpoints for defining deception have led some researchers to conclude that the definitions should remain separate due to the differing objectives of advertisers and lawyers (Preston, 1983). Rotfeld explained that "the legal view of deception in advertising is concerned with rules of evidence and procedures, past case findings and guidelines in the logical consistency of definitions, evidence presented, and past decisions" (p. 170). Consumer behaviorists, on the other hand, are concerned with how consumers respond to advertisements and how they utilize the information provided in advertisements (Gardner, 1975). Due to variations in their respective interests, Rotfeld (1983) argued that consumer behavior research can only function as evidence within a legal framework.

Hyman (1990), however, stated that such an argument is based upon a false assumption that juxtaposed objectives cannot profit from a shared definition. In fact, the optimal definition and measurement tool should (and can) encompass both objectives, allowing both fields to remain distinct while furthering an opportunity to interact without confusion. Hyman (1990) also suggested that if the current definitions and methodologies are deficient then attempts should be made by both researchers and lawyers to devise definitions and methodologies that are "more generalizable" (p. 261).

Regardless of the definition, an interdisciplinary approach to measurement would not only guide researchers, it would also aid FTC investigations regarding deceptive

advertisements. By developing a model that starts with the FTC's elements for determining the deception, the measurement takes into account the regulatory components of analysis. This would allow researchers to examine consumer deception grounded in FTC regulations and consumer behavior theories. The constructs of representation, likelihood to mislead, cognitive materiality, affective materiality, and behavioral materiality, although grounded in consumer behavior theory, characterize deception according to the FTC's requirements. This model provides less confusion, as well as clarification, for both legal and empirical examinations of consumer advertising deception.

Previous research regarding public policy stressed the importance of consumer behaviorists considering the law in research studies. It also suggested that researchers "generate new research approaches to answer important questions" and the concerns confronted by the FTC (Rotfeld, 2010, p. 95). This study was designed with this approach in mind, and it provided theoretical, practical, and regulatory implications.

From a theoretical perspective, this study extended consumer behavior research by taking the law into consideration to study consumer advertising deception. At inception, this conceptual model focused on the FTC's elements for determining deception and the case law that ensued and then applies consumer behavior theories for measurement. Research focusing on a consumer's decision-making processes related to buying behavior can be complex. This study, however, identified measures that considered the goals and objectives of both disciplines: law and advertising/marketing. The conceptual model emphasized that purchase behavior is not the only factor influenced by a deceptive advertisement. A consumer's beliefs, attitudes, and intentions

are influenced, and these consequences are important to overall consumer purchase behavior. Therefore, researchers are encouraged to revisit the application of the FTC's definition of deception in consumer behavior research on deceptive advertising, with a focus on the materiality of the advertisement.

From a practical perspective, advertisements can consistently influence consumer perceptions of a brand or product. Marketers and advertisers are able to provide consumers with information that is pertinent to their decision making process for a product or brand. Print continues to be a dominant medium, but social media is also an extremely effective medium for advertising. This study supported previous research that found social media to be a successful method for exposing consumers to advertising and marketing campaigns (Mangold & Faulds, 2009). It also emphasized the importance of marketers using social media at all stages of the consumer decision process: to inform, to influence attitudes, and to induce action (Beerli & Santana, 1999).

From a regulatory perspective, the FTC first used survey evidence, originally created for academic purposes, in the Profile Bread (1973) case, and the first survey authorized by the FTC to aid in litigation was in *Sun Oil* (see *FTC v. Sun Oil Co.*, 371 US 505, 520 (1963); Preston, 1983). Many of these prior applications began with analyses of the legal issues from a consumer behaviorist perspective. This study supports the continued use of marketing research to investigate and litigate regulatory cases and proceedings. With that in mind, it is important to note that when analyzing deception the FTC is primarily concerned with representation (i.e. the advertisement). However, today marketers and advertisers have become more savvy and creative in their efforts to influence consumers regarding a brand or product, and the representation is not always

clear. Subsequently, the believability or likelihood to mislead of a deceptive claim is an area that requires more attention. Many consumers are trained at an early age to identify advertisements and to be suspicious of advertisements that appear too good to be true (Rozendaal, Buijzen, & Valkenburg, 2009). Yet, as advertisements become more covert in nature, consumers may not be able to identify an advertisement based on the context of the advertisement. This model also offers the FTC an avenue to determine whether consumers are deceived by advertisements that may be covert or that appear in non-traditional formats.

CHAPTER 9

LIMITATIONS AND FUTURE STUDIES

Several limitations were identified in this study. First, in order to test whether a consumer was able to identify an advertisement without being told it was an advertisement, the print advertisement was shown to consumers without any mention of context. Therefore, consumers evaluated the advertisement "as is", and not as it would appear as if it were included in a magazine or newspaper. This may also explain why the differences in the print groups were significantly different. Further research is needed regarding potential differences in print context.

Additionally, no attention- check measures were incorporated into the study. For example, the time spent viewing the print and social media advertisements was not considered. Specifically, how much time the consumer spent reviewing the advertisement may have influenced whether the consumer was deceived by the advertisement. Although the average time to take the survey was seven minutes, no measures were included to determine where participants spent the most time on the survey. Also, there was no question within the study to determine if consumers had actually read the deceptive claims. Since the focus of the study was the influence of the deceptive claim, a question related to whether the consumer read the claim would have strengthened the validity of the results.

The concept of the reasonable consumer should also be investigated further. Although the consumers were all sport beverage consumers and the brand familiarity was

low in this study, the question regarding whether this was a good indicator warrants some additional consideration. Research has shown that product knowledge and product use will also decrease the likelihood of a consumer being deceived (Matzler, Stieger, & Füller, 2011). A follow-up study to conceptualize the factors related to a reasonable consumer should be conducted.

Consideration should also be given to the type of product and the brand that was used for this study. A sports beverage drink may be considered a product with low involvement which requires less cognitive effort to evaluate the advertisement and the brand. Research has shown that consumers in low product involvement situations process information differently than those in high product involvement situations (Nkwocha, Bao, Brotspies, & Johnson, 2005). Future studies should examine the application of the model to various levels of consumer product involvement.

Lastly, the standard of protection awarded by the FTC extends to the "least sophisticated consumer" as well as the reasonable or average consumer (Morgan, Schuler, & Stoltman, 1995, p. 272), and future research regarding vulnerable classes of consumers such as children and the elderly may be worth exploring.

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APPENDIX A

CONSUMER ADVERTISING DECEPTION SURVEY ITEM DESCRIPTIONS

Scale	Indicator	Instructions and Items*
		Regarding the sports beverage brand BODYARMOR, I am:
Familiarity	FAM1	1. Unfamiliar / Familiar
	FAM2	2. Inexperienced / Experienced
	FAM3	3. Not Knowledgeable / Knowledgeable
		Please indicate the degree to which the content was useful in your evaluation of the sports beverage brand BODYARMOR.
Representation*	REP1	1. Very useful / Not very useful
		Please indicate the degree to which the content persuaded you to take some action, now or in the future, regarding the sports beverage brand BODYARMOR.
	REP2	2. Very persuasive / Not very persuasive
		Please indicate the degree to which the content provided was indicative of how good or bad the sports beverage brand BODYARMOR is.
	REP3	3. Very indicative / Not very indicative
		Please indicate the degree to which the source of the content about the sports beverage brand BODYARMOR was identifiable.
	REP4	4. Very identifiable / Not very identifiable

Notes. All items are based on a 7-point Likert scale (1 to 7).
* Items were reverse coded (7 to 1).
** Items deleted for Main Study: Print and Main Study: Facebook.

Scale	Indicator	Instructions and Items*
		For each pair of words, identify where on the continuum, between the two adjectives, that best represents your beliefs about the sports beverage brand BODYARMOR after reviewing the content:
Likelihood to Mislead	LM1	1. Unbelievable / Believable
	LM2	2. Untrustworthy / Trustworthy
	LM3	3. Not convincing / Convincing
	LM4	4. Not credible / Credible
	LM5	5. Unreasonable / Reasonable
	LM6	6. Dishonest / Honest
	LM7	7. Questionable / Unquestionable
	LM8	8. Inconclusive / Conclusive
	LM9	9. Not authentic / Authentic
	LM10	10. Unlikely / Likely
		For each pair of words, identify where on the continuum, between the two adjectives, your beliefs lie about the sports beverage brand BODYARMOR after reviewing the content. I think the sports beverage brand BODYARMOR is:
Cognitive Materiality	CMa1	1. Low quality / High quality
	CMa2	2. Not at all trustworthy / Very trustworthy
	CMa3	3. Not at all dependable / Very dependable
	CMa4	4. Not at all concerned about consumers / Very concerned about consumers

Notes. All items are based on a 7-point Likert scale (1 to 7).
* Items were reverse coded (7 to 1).
** Items deleted for Main Study: Print and Main Study: Facebook.

Scale	Indicator	Instructions and Items*
		For each pair of words, identify where on the continuum, between the two adjectives, that best represents your overall feelings about the sports beverage brand BODYARMOR after reviewing the content.
Affective Materiality	AMa1	1. Unappealing / Appealing
	AMa2	2. Bad / Good
	AMa3**	3. Unpleasant / Pleasant
	AMa4**	4. Unfavorable / Favorable
	AMa5	5. Unlikable / Likable
		For each pair of words, identify where on the continuum, between the two adjectives, that best represents your purchase intentions for the sports beverage brand BODYARMOR after reviewing the content.
Behavioral Materiality	BMa1	1. Definitely do not intend to buy / Definitely intend to buy
	BMa2	2. Very low purchase interest / Very high purchase interest
	BMa3**	3. Will probably not buy it / Will probably buy it
	BMa4**	4. Definitely will not buy it / Definitely will buy it

Notes. All items are based on a 7-point Likert scale (1 to 7).
* Items were reverse coded (7 to 1).
** Items deleted for Main Study: Print and Main Study: Facebook.