

EVIDENCE OF ONLINE BEHAVIORAL ADVERTISING AS BEING MISTARGETING:  
THE EVALUATIVE ROLE OF PERSUASION KNOWLEDGE ON ONLINE BEHAVIORAL  
AD ACCURACY

by

DONGJAE(JAY) LIM

(Under the Direction of Jeffery K. Springston)

ABSTRACT

The present study sought to conceptualize and examine the effects of “mistargeting” – that is, the phenomenon in which consumers are aware and understand how an online behavioral advertising (OBA) is delivered, yet they received an inaccurate ad based on misinterpreted characteristics. The study seeks to test whether consumers’ perception that an ad may be mistargeted leads to more severe cognitive and affective reactance toward the message than when the same personally irrelevant ad is shown without the expectation of targeting. The study builds on PKM as the theoretical basis of the coping process in such mistargeting OBAs, including the concept of attribution theory as the cognitive defense and psychological reactance as the affective side of response. Chapter 1 comprises the introduction section and gives a general overview of mistargeting online behavioral advertising in association with the studies investigated in the dissertation. Chapter 2 reviews the relevant research literature on online behavioral advertising, persuasion knowledge model, and two supplementary theories that covers consumers response. Chapter 3 focuses on the development of research model and hypotheses. Chapter 4 describes the details of the research method, including the research procedure,

experimental design and administration, and measurement of variables. Chapter 5 details the results of the experiment. In Chapter 6, summary and discussion of the research findings and their implications for both scholars and practitioners are presented.

**INDEX WORDS:** Online behavioral Advertising, Personalization, Persuasion Knowledge Model, Attribution Theory, Psychological Reactance Theory, Consumer Perception

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DONGJAE(JAY) LIM

B.S., Chung-Ang University, South Korea, 2012

M.S., The University of Georgia, 2016

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DONGJAE(JAY) LIM

Major Professor: Jeffery K. Springston

Committee: Nathaniel J. Evans  
Michael A. Cacciatore

Electronic Version Approved:

Ron Walcott  
Dean of the Graduate School  
The University of Georgia  
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## **DEDICATION**

Dear my loving wife, my mother and father, and brother,

Thanks for always standing by me.

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## **CHAPTER 1**

### **INTRODUCTION**

Imagine you are using a web application such as UberEats that pairs a restaurant with a partner driver who will deliver your order. After you have used such an app a couple of times, you may receive a recommendation for a similar restaurant near your location through a social media feed. Such everyday experiences are made possible by behavioral targeting. In today's noisy digital world, the key to success for advertising is delivering a message that is relevant to a target audience. To design and deliver a personalized promotion, the industry applies behavior tracking algorithms. Such algorithms use an individual's previous online activities (such as page visit history, content views, search engine keywords, clicks, and purchases) to generate a segment. This enables marketers to learn how their target audience interacts with their business and to build a profiling infrastructure to deliver relevant advertising messages to the right person at the right moment (Moore et al., 2015).

An advertising message that is matched to an individual through online behavior targeting is called online behavioral advertising (OBA). OBA is a method of personalized advertising that enables advertisers to deliver highly relevant ad messages to individuals based on each person's online activity (Varnali, 2021; Van Noort et al., 2013; Ham & Nelson, 2016). OBA is a unique process because it reflects marketers' inferences about individual consumers interests and needs based on their individual-level online behavior (Summers et al., 2016; Varnali, 2021). For example, OBA algorithms may categorize a consumer as a sports fan

because they have purchased an annual college football season ticket. Consequently, they will be exposed to ads for various sports products or services.

Targeting consumers by tracking their online behavior and personal profiles has become a common practice in online advertising. Both the advertising industry and academia agree that this practice not only reduces targeting budgets for marketers but also benefits consumers by sending promotional messages that are relevant to their interests and needs (Boerman et al., 2017). However, reliance on algorithms that tracks users' previous web surfing behaviors generates ethical concerns, as most users are not aware of how information is collected and processed in order to infer their preferences. This opacity of behavior tracking algorithms potentially infringes on individuals' privacy. It has resulted in calls for more transparency in some aspects of data collection such as the disclosure of how advertisers collect and process personal and behavioral data and how tailored advertisements are delivered to individual users (Dogruel, 2019; Kim et al., 2019). To mitigate the lack of transparency in behavior tracking, a number of mega platforms (e.g., Google, Facebook, Yahoo) employ further notifications about OBA (e.g., showing an icon or message that says, "Why am I seeing this ad?") and allow users to customize privacy control options (e.g., by adjusting behavior tracking preferences). The regulation standards (e.g., Federal Trade Commission (FTC) guidelines) also require that OBA be accompanied by a disclosure icon or statement that transparently communicates how ad personalization had been implemented through behavior tracking.

According to the persuasion knowledge model (PKM; Friestad & Wright, 1994), a disclosure of advertising leads consumers to engage in specific mental processing based on their awareness of the message as having a persuasive intent. When consumers are aware that a message is trying to persuade them, they estimate whether to resist or accept such a message and

deploy specific strategies, which the model calls coping behavior. Such coping can take a wide range of forms (Fransen et al., 2015), such as avoidance (Speck & Elliott, 1997), counterargument (Wright et al., 2005), control of physical responses (Lewinski et al., 2016), or even bolstering the message (Issac & Grayson, 2017). However, disclosure of OBA not only reveals its persuasion intent but also shows what action was taken to deliver personalized ad message to each individual consumer. In other words, disclosure of covert advertising changes the meaning of the message content into persuasion episode while disclosure of OBA changes the meaning and the motivation of the message. Thus, the coping process through awareness of OBA mechanisms goes beyond simple acceptance or resistance (as it is for other persuasion attempts); consumers would be able to weigh its worth for allowing advertisers to track personal behavior and sacrifice privacy control, calculate the benefits of personalization, and consider how advertisers identified their self-image.

The advertising industry and academia both agree that OBA benefits consumers only when they receive a promotional message that reflects their actual interests and needs (Boerman et al., 2017). However, such behavioral targeting often fails to deliver the right ad to the target audience at the right time. Studies (Aguirre et al., 2015; Boerman et al., 2017) found that consumers experience a “weird” negative feeling when they encounter a message that is too personal. Moreover, the feeling of “weirdness” was greatest when consumers perceived that the OBA in question was too obvious about tracking participants’ behavior and was lacking in usefulness due to poor timing or irrelevancy to their interests. About half (45%) of web users have experienced promotional information that seemed to be intentionally customizing itself while not being relevant to their interests (Weiss, 2019). Such findings suggest that despite the industry’s confidence in the power of algorithmic customization, OBA can result in consumers

being served advertisements based on characteristics that do not accurately reflect their interests. From the consumer's point of view, such "mistargeting" can occur more often than expected. As consumers acclimate to online advertising being matched to their behavior and identified interests, the question of how they respond to ads that misidentify their interests or group membership becomes increasingly relevant.

This study proposes the concept of mistargeted OBA, which refers to a situation in which consumers recognize that an ad is tracking their online behavior yet perceive the promotional message to be irrelevant or not accurately reflective of their interests, needs, or self-perceptions. For example, imagine a consumer who frequently purchases green products such as energy-saving light bulbs. Based on past behavior online (e.g., purchase history, search keywords, following brands in social media), an OBA customization may infer that they are a type of person who is interested in sustainable consumption and send them an advertisement for green cosmetics. A mistargeting could occur if that consumer is not interested in the product, does not need to purchase cosmetics at that time, or does not consider themselves to be a green consumer. In all cases, the defining characteristic of perceptions of mistargeting is that consumers understand that an ad has been delivered through online behavior tracking methods. Despite consumer' concerns about third parties using their private information, a number of studies have found that consumers are less offended by the use of their online behavioral data when it is used to deliver promotional messages that are more relevant to their interests (Kim & Huh, 2017; Norberg et al., 2007; Phelan et al., 2016). Thus, mistargeted OBA fails to outweigh consumers' concerns about tracking of individual behavior online. When a message is believed or expected to be personally tailored but the advertisement seems irrelevant or poorly matched to

the consumer, there are no benefits to them. They might not only be concerned about how their data is being used but also show severe cognitive and affective resistance to the advertisement.

To the best of the author's knowledge, this phenomenon has not been extensively examined through empirical findings. However, such perceptions of mistargeting exist, especially in social media platforms and streaming services (such as the consumer meme "random algorithms brought me here.") The COVID-19 pandemic has generated a huge burst of financial uncertainty, which researchers compare to the burst of uncertainty that was documented during the Great Depression of the early 1930s (Baker et al., 2020). During lockdowns (when almost everyone was at home during the day and unable to physically meet) social needs were fulfilled through interactions online. This has had an influence on the growth of the social media industry and digital advertising. In a recent study of how businesses have been affected by COVID-19, digital ad spend was shown to have increased from March to April 2020 with a 33% decrease in March compared to a 29% decrease in April (Interactive Advertising Bureau, 2020). The report shows 69% of the businesses examined were expected to decrease their ad spend in 2020, while 40% of the companies were expected to increase their digital marketing activities. Marketers with a decreased budget may benefit by moving from mass targeting to cheaper alternatives such as behavioral targeting. Thus, considering the business trend, a better understanding is required of how consumers' perception and delivered advertising interact when using behavior tracking methods.

This dissertation investigates whether consumers' perceptions that an ad may be mistargeted lead to a more severe cognitive and affective reaction toward the message than when the same personally irrelevant ad is shown without the expectation of personalized behavior targeting. It builds on the PKM as the theoretical basis of the coping process in the case of

mistargeted OBAs, including the concept of attribution theory as a cognitive defense and psychological reactance as the affective side of the response. This dissertation makes a theoretical contribution to the understanding of how consumers respond to perceived use and misuse of various types and amounts of personal data by advertisers. It examines the nature of tradeoffs between advertising relevance and the expectation of privacy of behavioral data and assesses how this affects the ultimate effectiveness of OBA.

### **Chapters and Organization**

The remainder of this dissertation is structured as follows. Chapter 2 reviews the relevant research literature. The research model and hypotheses are presented in Chapter 3. Chapter 4 describes the details of the research method, including the research procedure, experimental design and administration, and measurement of variables. Chapter 5 details the results of the experiment. Chapter 6 presents a summary and discussion of the research findings and their implications for both scholars and practitioners. Limitations and recommendations for future research in the area are also described in Chapter 6.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **Emergence of Online Behavioral Advertising**

The digitalization of society has made the collection of data easier and more ubiquitous, and this data is exploited with increasingly powerful tools (McDonald & Cranor, 2010).

Technological developments in the digital medium have radically transformed marketing practices; they may ultimately reach a point where marketers will be able to reach the right customer at the right time (Hariharan et al., 2015). Today, advertisers often utilize dynamic behavioral targeting to deliver individually customized ads, which is known as OBA. For instance, an advertising agency might use a behavior tracking algorithm to collect information about a consumer's visits to websites. If a consumer searches for several sports related news with supporting specific football team, the algorithm concludes that the consumer is a high fan of searched sports and team. Now, inference on such consumer through the network then deliver advertising for sports goods for the supporting team only to people who are presumed to be a huge supporter of the sports. Consequently, when visiting the same website, one person may see goods ad for her supporting team while another will see an ad from different product categories or an ad for another team.

There are many definitions of OBA and names used to refer to it, such as online profiling and behavioral targeting (Ketelaar et al., 2017). The Interactive Advertising Bureau (IAB; 2016) defines OBA as “the practice of collecting data from a particular computer or device regarding

Internet-viewing behavior over time and across non-affiliated websites for the purpose of inferring user preferences or interests to later deliver advertising to that computer or device based on those inferred preferences or interests.” This definition reflects the key characteristic of OBA; it relies on almost every online behavior of an individual user. OBA also belongs to the category of personalized or customized advertising; A concepts that refer to tailoring message to individuals (Boerman et al., 2017). Tailoring itself, however, is a broader concept; personalization or customization of advertising can be done on the basis of other personal data as well as behavior online. For instance, a coupon delivered to an individual with their receipt is also a type of customized promotional message, yet it is neither advertising nor based on behavior online (Chen & Stallaert, 2014; Lambrecht & Tucker, 2013).

This study focuses exclusively on the IAB’s definition of OBA as advertising that is individually tailored based on an individual’s online activities. The format of the delivered advertisement may be one of many, such as a pre-roll video ad, an online display banner, or search engine recommendations. Thus, the defining feature of OBA in this study is an ad that relies on algorithmic behavior tracking methods. Advertising that is personalized through personal data that are not collected through tracking behavior online (e.g., consumer demographics) is not considered to be OBA.

To organize the literature on the characteristics of OBA, this study uses the theoretical framework of Boerman et al. (2017), which identifies the factors that explain consumer responses to OBA and illustrates their interconnectedness. This framework is a modification of Rodgers and Thorson’s (2000) interactive advertising model, which explains how consumers perceive and process online ads. Their meta-analysis showed that empirical studies on OBA examined three main factors: advertiser-controlled factors, consumer-controlled factors, and

outcomes of OBA. On this basis, this dissertation divides the characteristics of OBA into the following categories: (a) advertiser-controlled characteristics, which belongs to the ad itself; (b) consumer-perceived characteristics, which show how ad-controlled factors are interconnected with consumers' perceptions (thus differentiating OBA from other types of emerging advertisement); and (c) outcome-related characteristics, which includes both cognitive and affective responses of the consumer and their subsequent influence on ad effectiveness.

### **Advertiser-Controlled Characteristics of OBA**

*Personalization.* The digital space is fueled by ad clusters (e.g., pop-up ads, banner ads, junk email), which interfere with user experience. Therefore, the trend for advertisers is to avoid irrelevant ad delivery in order to overcome consumers being irritated (Baek & Morimoto, 2012). The key objective of using OBA is to deliver promotional messages that are relevant to each individual's needs or interests (Van Doorn & Hoekstra, 2013). Studies show that the outcomes of OBA are determined by perceived relevancy and subsequent perception of usefulness, which has led by personalization. Through tracking personal behavior, OBA delivers useful and relevant advertising information to consumers without showing them random, obtrusive, or irrelevant advertisements (Goldfarb & Tucker, 2012; McDonald & Cranor, 2010; Ur et al. 2012).

OBA achieves its personalization goal through tracking individuals' online behavior. Advertisers collect almost every behavior of users, including their web browsing data, search histories, media consumption data, mobile application data, purchase data, click-through responses to ads, and even comments and posts on social networking sites (Boerman et al., 2017). Because advertisers typically use more than one type of data for creating OBA, the type and the amount of personal data that is applied for targeting varies. The level of personalization has been conceptualized as a mixture of collected information from an individual. This ranges

from demographics (e.g., age, gender, education, income) to actual purchase or search histories. According to Boerman et al. (2017), level of personalization refers to (a) the types of personal data that are used to target the ad (e.g., social account information or search history) and (b) the amount of information that is used (e.g., a single search term or a combination of browsing data and search keywords). Studies manipulate various levels of personalization by using different types or combining more than one types of information. For instance, Van Doorn and Hoekstra (2013) operationalized the degree of personalization by adding sensitive online behavior, such as personal identification or transaction information to browsing data. The authors found that a higher level of personalization increased feelings of intrusiveness, which subsequently impact negative purchase intentions.

*Covertness.* Many empirical studies of OBA have found that a higher level of personalization serves as a double-edged sword. The shade of personalization is due to the fact that the process of collecting behavioral data and disseminating ads often happen covertly (Ham & Nelson, 2016; Nill & Aalberts, 2014). The literature indicates that most consumers have a poor understanding of how data collecting algorithms operate in OBA and of how their personal online activities are tracked (Li & Nill, 2020; McDonald & Cranor, 2010). Some advertisers argue that OBA does not track any personally identifiable information such as names or social security numbers, so there is no chance to breach on personal privacy (Ham, 2017). However, the covertness of OBA is potentially harmful and unethical since many advertisers are reluctant to actively inform or ask permission to consumers that they track and compile individual online behavior data (Ham, 2017). The opportunity to participate how their privacy data is applied in online market has not yet been afforded to the consumers (Li & Nill, 2020). As a result, only a few consumers are aware of behavioral tracking and how tailored ad messages are delivered

(Varnali, 2021; van Noort et al., 2013). Furthermore, on a technical level, advertisers constantly use new tracking methods unbeknownst to the public (e.g., flash cookie respawning), making it extremely difficult to block OBA tracking even with the opt-out approach (Ham, 2017).

Therefore, even consumers who are aware of the fact that behavioral data is collected to deliver OBA are limited in the breadth and depth of knowledge in behavior tracking mechanism, which Turow et al. (2018) found most consumers have misplaced confidence in companies' privacy policies because they misunderstand the meaning of privacy data usage.

*Transparency efforts from advertisers.* Research and regulations continuously indicate the importance of transparency about OBA. Consumers want openness and to be informed about the collection, usage, and sharing of personal data (Gomez et al., 2009). In response, The U.S. Federal Trade Commission (FTC; 2012) calls for transparency regarding OBA, which aim to inform consumers to make their own decisions of allowing their privacy and personal data usage to third parties. Therefore, advertisers usually publish privacy statements on their websites to improve transparency efforts by obtaining consumer consent before using OBA. A privacy statement indicates why and how personal data are collected through the behavior tracking algorithm of the website. It also indicates the type of data that will be collected. Although the inclusion of privacy statements disclosing the usage of cookies has increased (Miyazaki, 2008), such statements are seldom read and thus fail to inform consumers (McDonald & Cranor, 2010). People simply just agree with almost all requests or ignore them, thus fail to inform or empower consumers (Marreiros et al., 2015).

A more powerful way to comply with transparency requirements involves the inclusion of explicit disclosure. The current standard of disclosure is applying icons, logos, and taglines. A standard icon that discloses the presence of data collection, usage, and distribution consists of the

letter *i* in a blue triangle (Digital Advertising Alliance, 2012). Several studies have compared the effectiveness of disclosure using this standard icon. There are concerns that disclosures are rarely noticed; the standard icon or “AdChoices” taglines may fail to notify consumers about OBA and online data tracking practices (Leon et al., 2012). In addition, Leon et al. (2012) found that none of the taglines were understood to be links to pages where consumers could make choices about OBA, nor did they increase knowledge about OBA. Other studies showed that consumers were unfamiliar with the icons, did not understand their purpose, and rarely noticed them (Ur et al., 2012; Van Noort et al., 2013). However, Van Noort et al. (2013) stated that the standard *i* icon effectively increase OBA awareness and understanding when accompanied by an explanatory label stating, “This ad is based on your surfing behavior”.

### **Consumer-Perceived Characteristics of OBA**

Studies of the characteristics of OBA from the consumer perception side highlight ambivalent attitudes toward OBA. Consumers tend to experience tension between the pros and cons of personalization technology in their lives and thus face an ongoing ambivalent state. The development of advanced data tracking and targeting technology has facilitated the collection and integration of multiple data, such as current location, weblogs, purchase history, and social networking profiles. This information is acquired by mobile devices that can extract a more accurate and specific consumer profile. Due to these characteristics, both the benefits and risks of behavioral targeting have become more apparent. Aguirre et al. (2015) outlined the personalization-privacy paradox, which refers to a situation in which greater personalization increases perceived relevance and customer adoption but also increases customers’ sense of vulnerability and leads to lower adoption rates. The irony is that even when consumers fear the privacy risk of OBA, some of them still enjoy getting the benefit of tailored ad messages.

*Relevancy and Usefulness.* Previous research has shown that the effectiveness of OBA relies on consumers' perceptions of relevancy and usefulness. The advertising researchers has long been examined the relationship between consumers' perception of self-relevancy and online advertising effectiveness (e.g., Li & Bukovac, 1999) due to its potential for delivering highly targeted ads that match the decision context of online users. Research shows that ads perceived as relevant attract more attention and consequently influence online advertising effectiveness (Li & Bukovac, 1999). Advertising sponsorship literature also uses perceived relevance as a key construct that delineates the extent to which consumers perceive advertising as relevant for a particular media context (Rodgers, 2003), such as deploying a nutrient advertisement in NY Times's health section. The associative learning principle provides explanation to this effect, which describes that that stronger advertising alignment establishes explanatory links that aid consumers determine the connection between advertiser and consumer (Zeng et al., 2009). Similarly, community users may consider whether an ad deployed on community sites is acceptable if it seems relevant to their main community themes (i.e., it forms part of their identity expression) and does not annoy them by including commercial messages in which they would not be interested. Together, how consumers perceive the relevancy of the ad in terms of self is an important determinant for online advertising effectiveness.

Perceived usefulness provides an overall representation of the worth of advertising to consumers (Ducoffe, 1995). A classic study of advertising by Bauer and Greyser (1968) suggests that consumers view advertising's ability to supply information as a primary reason for approving of it. Research in online advertising also shows that advertising can offer useful value to consumers in the form of more relevant information (Ducoffe, 1996). The usefulness of advertising is connected to consumers' purchase intention; an ad that is specific and targeted

(based on the user's geographical or demographical information) is perceived as especially useful. When an ad is adjusted to the consumer's goals and self-schema, its relevance and perceived usefulness to the consumer is increased. It also reinforces the consumer's intent to further explore advertising directed toward them (Bleier & Eisenbeiss, 2015).

Consumers perceive personalization as beneficial when it matches their needs and interests (Baek & Morimoto, 2012; McDonald & Cranor, 2010; Kim & Huh, 2017; Ur et al., 2017). Kim and Huh (2017) found that ad relevancy was a strong positive predictor of consumer responses to OBA, showing favorable outcomes in relation to ad attention, attitude toward the ad, and click rates. Baek and Morimoto (2012) found that the more consumers felt an ad was personalized for them (i.e., perceived personalization), the less they avoided the ad. The level of trust in a retailer can also increase the perceived usefulness of OBA because trust moderates consumer reactance and privacy concerns (Bleier & Eisenbeiss 2015).

*Privacy Concern.* Although some advocates of covert data collection contend that OBA does not disrupt the online browsing experience (Milne et al., 2008), consumers may still experience discomfort because it prompts them to realize that their private information has been infringed without their consent. The covertness of OBA is related to the issue of privacy violation; data collected for OBA includes personally sensitive information regarding health, finances, or family. It could fall into unscrupulous hands or be used for unexpected purposes. Highly personalized ads can increase consumer fears about losing control over personally sensitive information (Baek & Morimoto, 2012).

Research highlights the importance of transparency regarding OBA data collection mechanisms as a trust-building strategy (e.g., Aguirre et al., 2015). Studies reveal that consumers appreciate companies' transparency initiatives; openness about using personal data for OBA can

reduce consumers' perceptions of vulnerability (Aguirre et al., 2015), increase consumers' trust toward the website, and affect their purchase and recommendation intentions (Miyazaki, 2008). Aguirre et al. (2015) conducted three experiments and confirmed that a firm's strategy for collecting information from social media websites is a crucial determinant of how customers react to online personalized advertising. When a firm transparently communicate information collection process, consumers exhibit greater click-through intentions to the firm's personalized ads compared to when a firm collect their information covertly. A firm engage in covert information collection may stimulate consumers to feel vulnerable of their privacy. To offset this negative effect, a firm can adopt trust-building marketing strategies, such as using informational cues to signal trust or transfer trust from another website.

On the other hand, Jin et al. (2016) concluded that users are more open to targeted advertising only if they can inspect, control, and understand the process of ad selection. Eslami et al. (2018) also found mixed results of transparency as pointing out the exact past behavior data for online targeting (e.g., past visits) some participants perceived the message as "creepy". Similarly, Kim et al. (2019) found that advertising transparency may backfire when it uncovers marketing practices that Internet users perceive as violating the norms of information exchange (leading to reduced ad effectiveness). Dogruel (2019) showed that a medium level of OBA transparency (i.e., explaining OBA practices in a medium level of detail) led to more favorable advertising evaluations among users (compared to a high level of OBA transparency). Overall, consumer perception toward companies' transparency efforts remains mixed.

*Accuracy.* The ability to incorporate consumers' past behaviors enables advertisers to personalize messages more accurately, which also provides advantages to the consumer. The accuracy of matching the message to the individual consumer is a key characteristic of OBA.

OBA is person-specific, meaning that each person views different ads based on their past behavior. The effectiveness of OBA depends on this unique nature; when consumers acknowledge that the ad is based on behavior tracking, they may expect that the displayed ads will reflect marketers' inferences about the type of person they are and what kind of things they need (Summers et al., 2016). Summers et al. (2016) found that OBA can influence consumers' self-perceptions as it reflects individual consumer's past online behavior to serve the ad. A series of experiments demonstrated that behavioral ads that were low in accuracy (i.e., inconsistent with consumers' prior interest in trait-related products) yielded no effect, whereas moderate to high levels of accuracy produced favorable purchase intentions mediated by social labeling effects. The results further indicated that when OBA has reached a threshold of accuracy (i.e., a match of one or two past online behavior), consumers recognized even inaccurate ad messages as implied social labels that is relevant to the self. Such perceptions led to adjustments in self-perceptions that play a mediating role in subsequent trait-related behavior.

The accuracy of OBA in matching with an individual consumer's interest, past behavior, and self-perception is a significant factor for maximizing OBA effects and achieving a favorable attitude toward OBA. If consumers see an inaccurate ad their resistance toward it might be stronger than their resistance toward other online ads. For example, a marketer's behavioral targeting algorithm may identify a consumer who purchases environmentally friendly products online as a habitual green consumer. As a result, OBA may keep showing this consumer various green advertising. A frequent exposure to a wide range of environmental product may lead to a higher chance of actual purchase by this consumer (compared to a non-green consumer). However, this process requires marketers to make a sophisticated interpretation of each consumer. Even a consumer shown interest on green products, he may not purchase cosmetic

products regardless of its green attributes. Thus, the OBA may fail to generate positive outcomes if it sends a promotional message about a green cosmetic product to someone who does not use these products (despite their previous purchase of energy-saving light bulbs).

### **Perceived Mistargeting of Online Behavioral Advertising**

*Acceptance of OBA.* Although consumers have become more concerned about OBA practices, researchers also report evidence that some people are less likely to oppose OBA. For instance, younger people are less likely to oppose OBA than the older generation (Turow et al. 2009). A savvy consumer who perceives that giving their privacy-related information would compensate into a better helpful promotion may accept OBA and its behavioral tracking. Social exchange theory provides the theoretical basis for such an outcome, which proposes that people evaluate daily exchanges in terms of costs and benefits (Schumann et al., 2014). When the rewards are expected to outweigh the costs, then the probability of consumers altering their behavior increases (Baek & Morimoto, 2012). The concept of privacy calculus describes the process of evaluating the risks and benefits of OBA (Jai et al., 2013; Phelan et al., 2016), which outlines the prerequisites of OBA acceptance; consumers would accept OBA only when the benefits exceed the costs or risks. Consumers find that collecting and following their online behaviors are invasive, which deems to OBA costs. On the other hand, personal relevancy or usefulness is the expected benefit of OBA. When a consumer considers the delivered OBA is not useful or collecting their privacy is too uncomfortable, the costs of OBA do not outweigh the benefits of OBA, which results in less chance to accept OBA.

*Mistargeting.* Although studies indicate that consumers are often unsatisfied by the personal relevancy of targeted advertising, almost half of OBA (48%) is delivered to unintended audiences (Nielsen 2016). Seven out of 10 individuals reported automatically deleting or

blocking the mistargeted promotions (Janrain, 2018). According to a qualitative study by Wohn and Sarkar (2014), an unexpected finding emerged from the interviewees relating to a “weird” negative feeling that they sensed when the targeted ad was getting too personal. Their comments strongly resounded with the “uncanny valley” effect (Mori, 1970). Uncanny valley describes how humans feel about robots, explains that as a machine acquires greater similarity to humans, it first becomes appealing. However, when it reaches to some point that is perceived too close to the likeness of a human, people experience a strong sense of discomfort; when a machine matches “perfectly human” the positive emotions are revived (Wohn & Sarkar, 2014). The idea of the uncanny valley has been applied to other computer-generated entities such as animated characters in video games and movies (Seyama & Nagayama, 2007). A similar phenomenon can be seen in OBA; if the behaviorally targeted ad is too obvious about tracking the participant’s behavior (and is also lacking in usefulness due to ill-timing or perceived irrelevance), consumers show the least favorable responses. However, if the ad appears to be sending recommendations that perfectly align with the user’s interests, the targeting is no longer perceived as being “weird.” This implies that irrelevant personalization impacts on psychological resistance (both cognitive and affective).

To the best of the author’s knowledge, there are few studies discussing the above issues in relation to OBA. The perceived usefulness of OBA is linked to privacy concern and it also competes with invasiveness in the basic cost elements affecting acceptance of personalized advertising (Girona & Korgaonkar, 2018). A study found that 90% of people who were willing to give their behavioral data to a marketer agreed only if this meant an easier and cheaper shopping process. In other word, an OBA should suggest significant usefulness to a target audience in order to overcome psychological barriers that inhibit OBA acceptance. Thus, as the

previous section described the usefulness and personal relevancy of the OBA as the prerequisite of OBA acceptance, the previous necessity condition is the targeting accuracy of OBA. Although the accuracy is the key characteristic for consumers' perception of relevancy and usefulness of OBA, only a few studies (e.g., Summers et al., 2016) empirically tested whether the targeting accurately reflects one's past behavior influence on future OBA outcomes. This dissertation proposes that an OBA that is clearly understood to consumers as using a behavioral tracking mechanism for targeting, yet less accurate to their previous characteristics, would be perceived as a mistargeting. Based on the persuasion knowledge model (Friestad and Wright, 1994), the coping process toward such a mistargeted ad would significantly negatively affect the OBA outcome.

### **Applying the Persuasion Knowledge Model to OBA**

*Persuasion Knowledge.* The PKM provides an appropriate framework for interpreting and understanding how consumers cope with online behavioral advertising. The PKM (Friestad & Wright, 1994) is a conceptual framework to describe the process of a persuasion episode and to help researchers make predictions about how understanding of persuasion influences responses to persuasion attempts (Ham et al., 2015). The model has been widely employed to explain consumer coping strategies in relation to a wide range of persuasion tactics beyond the context of advertising. Examples include video news releases (e.g., Wood et al., 2008), keyword marketing (Yoo, 2009), rhetorical questions in ads (e.g., Williams et al., Block, 2004), product placement (Matthes & Naderer, 2016), interpersonal sales (Campbell & Kirmani, 2000), sponsorship (Boerman et al., 2012), and various types of covert marketing practices (e.g., Wei et al., 2008; Ham, 2017; Tutaj & van Reijmersdal 2012; Wojdyski & Evans, 2016).

Freistad and Wright (1994) describe three knowledge structures: (1) persuasion knowledge; (2) agent knowledge (beliefs about the traits, competencies, and goals of the persuasion agent); and (3) topic knowledge (beliefs about the topic of the message, such as a product, social causes, service, or candidate). Both the agent (the one responsible for designing the persuasion; e.g., the advertiser) and the target (the one who receives the persuasion; e.g., the consumer) apply these three types of knowledge to “interact to shape and determine the outcome of persuasion attempts” (Friestad & Wright, 1994, p.1). Persuasion knowledge is a multidimensional concept that consists of beliefs about the persuasion agents’ motives and tactics, beliefs about the persuasion’s effectiveness and appropriateness, and strategies to cope with the persuasion attempts (Friestad & Wright, 1994; Kirmani & Campbell, 2004). Persuasion knowledge enables both parties to “recognize, analyze, interpret, evaluate, and remember persuasion attempts and to select and execute coping tactics believed to be effective and appropriate” (Friestad and Wright, 1994, p.3). The model proposes that the persuasion targets use their persuasion knowledge to cope with persuasion attempts from the agent. The coping process accompanies inference of the motive of the message delivered by the agent, maintaining control over the persuasion attempt, and achieving personal goals relating to self-control and competency (rather a single-minded resistance). Although PKM is not restricted to advertising, several studies add insights to the conceptualization of persuasion knowledge in the field of advertising (e.g., Ham et al., 2015; Hudders et al., 2017).

*Components of Persuasion Knowledge.* Persuasion knowledge is a broad theoretical concept, which has been conceptualized, operationalized, and measured in various ways (Ham et al., 2015). It includes several underlying components and varies in its level of complexity (Rozendaal et al., 2011; Wright et al., 2005). Originally, Friestad and Wright (1994) argued that

an individual's persuasion knowledge is formed throughout their lifetime via interactions with various persuasion players. This lifelong accumulated persuasion knowledge is referred to as dispositional persuasion knowledge. On the other hand, individuals activate a higher level of persuasion knowledge in certain situation, which alters how the target copes with the given persuasion tactic. This is referred to as situational persuasion knowledge.

Generally, persuasion knowledge is agreed to have two different components: a conceptual dimension and an evaluative dimension (Rozendaal et al., 2011). Conceptual persuasion knowledge includes recognition, awareness, and understanding of advertising in general or specific formats (e.g., recognizing content sponsorship). Evaluative persuasion knowledge encompasses consumers' evaluation of ads as effective, fair, or manipulative. It also includes consumers' attitude (such as liking or disliking) and overall skepticism toward the persuasion agent and persuasion attempt. In addition, Hudders et al. (2017) added a moral component to the evaluative dimension of persuasion knowledge, namely the perceived appropriateness of advertising. Although studies have concentrated on conceptual persuasion knowledge as recognition of advertising and understanding of its selling intent, Rozendaal et al. (2011) emphasized that persuasion knowledge involves a more sophisticated understanding of the message (such as an understanding of how specific tactics are more efficient for achieving persuasion goals).

*Coping Process Through Persuasion Knowledge.* Persuasion knowledge consists of multidimensional beliefs that play sequential roles in the consumer process of coping with persuasion attempts (Ham et al., 2015). Persuasion knowledge results in attitudinal and behavioral outcomes via various internal processing variables, such as ad skepticism (Tutaj & Reijmersdal, 2012); perceived trustworthiness, believability, and deceptiveness (e.g., Hossain &

Saini, 2014); critical processing (e.g., Boerman et al., 2014); and psychological reactance (e.g., Koch & Zerback, 2013). However, Friestad and Wright (1994) argue that the first stage of persuasion knowledge constitutes a neutral recognition of a persuasion attempt. In other words, activation of persuasion knowledge does not mean a direct transition to a negative resistance toward persuasion.

Most studies employing the PKM have looked at how persuasion knowledge leads consumers to be skeptical toward an agent's persuasion attempts, which in turn results in resistance to persuasion tactics (e.g., Wei et al., 2008). Some studies (e.g., Kirmani & Campbell, 2004; Issac & Grayson, 2017; Schindler et al., 2005) have argued that there is a tendency to downplay the function of persuasion knowledge in helping consumers glean useful, goal-relevant information from persuasion attempts (Issac & Grayson, 2017). Kirmani and Campbell (2004) point out that extant PKM research has viewed consumers as fairly passive market players who always resist covert persuasion tactics when they recognize the existence of ulterior motives. In fact, persuasion targets can be defined as "resourceful participants who pursue their own goals and have the ability to select response tactics from their own repertoire" (Friestad & Wright, 1994, p.3). In other words, consumers are goal-pursuing individuals who do not simply accept or resist persuasion episodes. Rather, they actively interact with persuasion agents to achieve their goals (Ham, 2017). Consumers with greater knowledge of persuasion tactics are more likely to develop effective coping strategies that reflect a better understanding and appraisal of the effectiveness of the persuasion (Kirmani & Campbell, 2004; Mangleburg & Bristol, 1998; Wright et al., 2005).

*OBA and Persuasion Knowledge.* Online advertising often uses a covert format that deliberately circumvents consumers' persuasion knowledge by disguising themselves to appear

as something they are not (Wojdyski & Evans, 2020). Covert advertising mimics other media formats (such as video games, news articles, social media posts, or viral videos) to lead consumers view the message as belonging to one of the familiar media outlets rather than to the category of “advertisement.” The regulation standard imposes to include disclosure of whether such covert advertising is an ad rather than other originally published content (e.g., FTC, 2012).

Empirical studies examining how consumers respond to covert advertising in various digital media platforms have yielded some conclusive findings, considering levels of integration and a wide range of product categories (Wojdyski & Evans, 2020). The majority of consumers do not recognize covert advertising messages as advertising (either from their nature or their execution). Therefore, researchers and practitioners agree it is deceptive (Boerman et al., 2017). When consumers recognize that a covert advertising message is actually a paid advertisement and not a message that has reached them organically through the expected content selection methodology of the platform at hand (e.g., editorial decision-making on editorial platforms, peer posting on social media platforms, or algorithmic optimization on search engine platforms), they feel more negative toward the message itself, its contents, and those responsible for their seeing it (Wojdyski & Evans, 2016). Studies on covert advertising have overwhelmingly found that disclosure leads to greater conceptual persuasion knowledge or advertising recognition compared to covert ads without disclosures (Boerman et al., 2017; Campbell & Evans, 2018; Van Reijmersdal et al., 2015; Van Reijmersdal et al., 2016). Furthermore, contemporary research has indicated that the effect of disclosure presence on advertising recognition in digital covert advertising contexts is shaped by where it is placed (Wojdyski and Evans, 2016), when it appears (Boerman et al., 2014), its duration (Boerman et al., 2012), and the language used (Evans et al., 2017).

Studies on covert advertising highlights advertising recognition as a key determinant of how covert ads impact on consumers. The most negative outcomes for advertisers seem to occur when consumers both recognize that a message is an ad and think that the message is deceptive, unethical, or manipulative (Wojdyski et al., 2018). These negative consumer reactions often extend to the publisher or platform on which the advertisement appears (Campbell & Evans, 2018). This relationship of “ad disclosure – recognition – coping process” in covert advertising has both similarities and differences when applied to OBA. As stated in the previous section, OBA inherently possesses covertness in its behavior tracking mechanism; Compared to other covert advertising tactics (e.g., native advertising), OBA does not disguise its advertising presence regardless of its format (e.g., banner ad, pre-roll, search engine keywords). However, consumers seldom understand that a personalized ad has reached them through tracking their past behaviors online. Thus, the subsequent change of meaning process through ad disclosure occurs differently for OBA. While possessing significant persuasion knowledge helps consumers to recognize the presence of online advertisement, a disclosure of OBA adds them to further understand the mechanism of delivering relevant and useful promotion is due to advertiser’s hidden tracking of their online behavior.

According to Friestad and Wright (1994), a persuasion target is a resourceful participant who pursues their own goals and possesses the ability to choose response tactics. Consistent with this view, Kirmani and Campbell (2004) stated that consumers are goal-pursuing individuals who actively interact with persuasion agents. They are able to infer both manipulative and cooperative intentions behind an agent’s persuasion attempt through persuasion knowledge. When a marketer’s persuasion intent is inferred as cooperative, the target is likely to accept rather than resist the persuasion attempt because the attempt will help them achieve their goal

(even though the hidden persuasion intent is recognized). Applying this idea to OBA, Ham and Nelson (2016) argued that consumers can infer both manipulative and cooperative intent in response to OBA; thus, they are able to decide whether the persuasion effects are harmful or beneficial. The authors proposed how consumer's cope with OBA when they recognize its delivery mechanism by applying protection motivation theory (Rogers 1975) as an estimation and appraisal of the risks and benefits of OBA. They found that persuasion knowledge allowed consumers to interpret the motivation of an agent to persuade along with their intent to impose subsequent benefit and harm (Ham & Nelson, 2016). In contrast, the threat appraisal process enables consumers to calculate and compare perceived costs and benefits, which allows them to develop specific coping strategies toward the persuasion tactics. When consumers perceive higher risk compared to benefits, they engage in ad avoidance as a coping behavior.

On the basis of goal-pursuing coping strategy, this dissertation follows the notion that individuals would apply various forms of persuasion knowledge. Supporting the idea that OBA tactics are not clearly identified or understood by consumers (Ham, 2017), this dissertation proposes that the model should include critical concepts about consumer knowledge of how OBA works and how such knowledge is associated with consumer motivation to develop coping strategies. This study integrates the evaluative aspect of persuasion knowledge, which estimates whether a persuasion tactic is appropriate, effective, or ethical. In other words, the author proposes that persuasion knowledge of OBA activates beyond the concept of ad recognition (conceptual persuasion knowledge). When consumers perceive that OBA provides relevant information, they are likely to accept it regardless of its privacy invasions. On the other hand, when consumers evaluate such ads as inaccurately targeting them, they are more likely to infer that OBA is an ineffective or unfair usage of privacy data. Such perceptions may lead consumers

to develop a defensive coping strategy. The study further integrates two theories to propose that consumers use coping strategies acquired through persuasion knowledge when they encounter OBA that does not meet a threshold of accuracy in interpreting and targeting individual consumer.

### **Attribution Theory in Mistargeting OBA**

*Attribution Theory.* In order to better understand the consumer-perceived mistargeting of OBA presented above, it is necessary to examine the psychological mechanisms that underlie the processing of simultaneous OBA awareness and accurate targeting performance. Attribution theory provides a salient explanatory theoretical framework because it has been successfully used in the past research for situations which involve consumer skepticism and its ultimate effects. Attribution theory (Heider, 1944) has been introduced and advanced in psychology (Harvey & Weary, 1984; Weiner, 2000) to investigate the lay causal explanations that people give when confronted with an event or behavior. People make attributions about the cause and controllability of a particular outcome (e.g., an accident) that can influence emotional or behavioral responses (Weiner, 2000). They may attribute the cause of an outcome as either internal or external. Internal attributions are perceptions that an outcome is caused by factors that are under the individual's control. In contrast, external attributions occur when an outcome is perceived to be the result of factors outside the individual's control.

The central theme underlying attribution theory is that individuals inherently make a causal analysis when they need to understand social events (Kelly & Michela, 1980). Studies have focused on the concept of external attribution (also called situational attribution), which refers to the interpretation of the behavior of others as being caused by social environments. Attributions of responsibility have been linked to support for policies aimed at addressing a

range of issues (Weiner, 2005). People form different attitudes when they assign responsibility to internal or external factors. For instance, in a study of the effects of responsibility attribution on attitudes in a health context, Philip et al. (2014) showed that participants attributed more blame to HIV patients when the cause of the disease was unprotected sexual intercourse (internal attribution) compared to blood transfusion (external attribution). This resulted in lower empathy and reduced willingness to interact with patients.

In situations negatively affecting the self, people often assign responsibility to external factors. This results in a less favorable attitude toward these factors. People want to place responsibility for unfortunate events on someone or something other than internal factors because it helps them make sense of the situation. For example, an individual recovering from a minor injury sustained in a road accident may attribute the cause of the accident to their driving performance or the road conditions. When they attribute the cause to the poor road conditions, they may feel freed from any feeling of responsibility for the accident. In economic crisis situations, Boukes (2021) found that readers exposed to episodically framed news about the economic crisis assigned less responsibility to individuals for causing such crisis; instead, they blame the elite policymakers for the system failure. De Blasio and Veale (2009) found that evaluation of crisis severity in a product recall scenario was influenced by the perceived level of organizational responsibility. Leo and Huh (2020) showed that people attributed less responsibility toward a robot than a human for a service failure because people perceived robots to have less control over the task. They attributed more responsibility toward a service firm when a robot delivered a failed service than when a human delivered the same failed service.

*Attribution Theory in Advertising.* Attribution theory has been successfully employed in a wide range of consumer behavior studies (such as sales, promotion, advertising, and customer

relationship management, etc.). Consumers demonstrate similar attributional processes when encountering the behavior of a marketer (in the form of message or action) to those demonstrated when observing human behavior (Folkes, 1984). This theory appears to be particularly helpful in understanding a receiver's interpretation of a sender's motives for communicating such information. For instance, when an individual consumer is aware that an ad message is personalized through behavior tracking, they will interpret the motive of the message as either a mutually beneficial transaction or firm-centric profit tactic. Such a process of causal attribution is stated as the cognition a receiver generates to infer the cause of a communicator's generation of information. Skeptical attributions in relation to the message may impact attitudinal and behavioral outcomes such as a negative attitude toward the ad or the refusal of behavioral change.

Attribution theory is a key research tool used to analyze causal attributions made by consumers and prove its effectiveness in marketing communication. Studies suggest that the attribution process occurs in consumers' evaluations of the advertising, the actual performance of a product, or the communication goal of a company. This may include word-of-mouth (Laczinak et al., 2001), evaluating crisis communication strategies and assigning responsibility during an organizational crisis (Schwarz, 2012), explaining stakeholder attitudes (Coombs & Holladay 2005), examining the effects of different crisis response (Chang, et al., 2015), focusing on customer complaints, service failures and satisfactions (Maxham III & Netemeyer, 2002), assessing the interaction between advertising and selling, investigating the decision-making process in discipline arbitration, and the perception of the credibility of the advertisements. In the context of negative word-of-mouth, Laczinak et al. (2001) found that consumers make different judgments on causal attribution toward the source (i.e., the communicator of negative word-of-

mouth information) and the target. The casual attribution mediates the negative impact of word-of-mouth on brand evaluation. Brand evaluation may even increase if consumers attribute the negativity to the source.

Attribution theory also fits in with green corporate social responsibility messages such as green marketing campaigns. For example, if a firm's actual environmental performance is lower than what is implied by their marketing messages on green efforts, consumers may assign negative attributions to the motives of the company. They perceive this as greenwashing, which in turn leads to negative attitudinal outcomes (Nyilasy et al., 2014). Yu (2020) also found that the attribution of motive to green advertising acted as a mediator in the relationship between green advertising skepticism and attitudes toward green advertising. Consumers with higher green advertising skepticism were more likely to attribute the motive for a green ad as being related to for-profit marketing tactics rather than for-environment efforts (thus generating adverse attitudinal outcomes for the green ad). Consumer attribution is also influenced by the fit between company's core business model and the length of commitment (Nyilasy et al., 2014). The lower the perceived fit by consumers, the higher the egoistic attributions applied (Ellen et al., 2006). Furthermore, perceived deception by consumers was associated with lower organizational credibility, unfavorable attitudes toward the ad, and fewer purchase intentions toward the product (Newell et al., 1998).

*Attribution Process and OBA.* When a consumer is aware of a behavior targeting mechanism they expect certain benefits of OBA (such as receiving a useful promotion related to their past behavior or interest) as a part of privacy calculus. Thus, sending an OBA that is not relevant or useful to users leads to negative responses through skeptical attribution. Such attributions negatively affect brand attitudes and purchase intent (Walker et al., 2010).

If an OBA adheres to FTC guidelines, a disclosure is included to reveal the delivery mechanism that has led the ad to reach the consumer. Studies have found that OBA is perceived to be simultaneously valuable and invasive to privacy; users are surprised when they discover the amount of behavioral data applied to generate personalized advertising (Ur et al., 2012). Thus, even an online ad engaged in the same level of irrelevancy, if an online advertisement that espouses an online behavior tracking mechanism delivers an advertisement that is irrelevant to consumers interests or needs, consumer attitudes would decrease more so than if an OBA that does not disclose behavior tracking methods. Vanhamme and Grobben (2009) showed that consumers were usually unaware of behavioral targeting and that a medium level of transparency in explaining OBA led to a more favorable attitude among consumers than explanations with a high level of detail. An advertisement that discloses its use of personal data may generate a higher level of expectancy that it will deliver relevant and useful information (while simultaneously creating concerns about privacy issues). Irrelevant ad messages may trigger consumer skepticism regarding the firms' responsibility regarding this type of ad delivery (Vanhamme & Grobben, 2009). Whenever consumers show suspicious attributions to a message, it negatively impacts attitudes and behavioral intent (Groza et al., 2011). In conclusion, there is evidence that awareness of OBA activates a cognitive coping process in which consumers attribute responsibility for delivering the message to themselves. Such attribution mediates the impact of OBA on subsequent consumer attitudes and intentions (Forehand & Grier, 2003; Yoon et al., 2006).

A mistargeted OBA is a type of message failure for advertisers. When people encounter such failure they may try to rationalize the incident and find the underlying cause of the event (Folkes, 1984). In other words, consumers will try to understand the real reason for the message

failure and establish who is responsible for it. In summary, attribution theory suggests that individuals try to understand why an event, action, or behavior occurred. They also try to understand whether the motive behind that event, action, or behavior is intrinsic or extrinsic (situational). Individuals will go through the same mental process when encountering mistargeted OBA. They will assign responsibility of sending such irrelevant advertisement and blame by understanding the true nature of a mistargeted OBA. Such attribution to an external source behind the advertising may lead to destructive consequences. It may first appear as a negative attitude toward an ad. This may translate into a negative attitude to a brand, altered behavioral intentions, and avoidance of the message.

### **Psychological Reactance on Mistargeted OBA**

*Psychological Reactance.* Psychological reactance theory (Brehm, 1966) provides theoretical insights into the affective responses of viewers in relation to mistargeted OBAs. According to this theory, individuals are motivated to have autonomy to control their behaviors when they perceived a threat to their freedom. Freedom is addressed as a specific behavioral reality (e.g., buying a specific product, drinking coffee, taking medicine) rather than an abstract mental consideration. People often encounter various situations (either internal or external) that inhibit freedom. In such situations, individuals believe they should retain their autonomy to engage in free behaviors. The theory conceptualizes autonomy as the physical and mental ability to engage in an activity as a way of fulfilling the basic human need for self-governance; individuals feel autonomous if they make their own choices freely (Gardner & Leshner, 2016).

Psychological reactance is a negative motivational state that leads individuals to resist a situation that threatens their freedom (Dillard & Shen, 2005). Individuals who activate psychological reactance shows unpleasant emotional responses, such as discomfort, hostility,

anger, and aggression (Rains, 2013). In addition, reactance may lead people to engage in certain behaviors to reaffirm their freedom. When people are exposed to a message that prohibits a specific behavior, they tend to act in opposition to the message as a direct method of preserving their freedom. If people cannot behave in the opposite way, they may indirectly restore their belief by engaging in a similar behavior of restricted or observing others performing the opposite behavior. Furthermore, reactance has a cognitive impact; people may make negative evaluations about the source of a perceived threat, overestimate the attractiveness of a threatened freedom, or underrate alternative behaviors.

Studies in communication state that psychological reactance encompasses both cognitive and affective components and empirically measures these two sub-constructs (Rains, 2013). Negative cognition occurs when individuals contest the message. Such cognitive response through reactance results in counter-arguing and critical or skeptical thoughts about freedom-threatening messages (Dillard & Shen, 2005; Rains, 2013). The affective response through reactance accompanies hostility and aggression, which leads to anger (Kim et al., 2017; Quick & Kim, 2009). Conceptually, anger represents a negative emotional state ranging from irritation to rage, which individuals experience when confronted with reactance-inducing messages. It is often triggered when individuals are exposed to an obstacle that hinders their goal. Anger leads individuals to blame the external sources in response to impeded goals (Quick & Stephenson, 2007). Dillard and Shen (2005) operationalized reactance as a latent variable composed of negative cognitions and anger. Reactance is typically measured with an open-ended thought-listing technique or by asking individuals to make a judgment about messages on a cognitive appraisal scale including words such as *fair* and *reasonable* (Dillard et al., 1996; Gardner & Leshner, 2016). This dissertation uses a self-report index to measure the cognitive and affective

dimension of reactance, such as measuring the extent to which individuals feel anger-related negative affect such as irritation or annoyance (Dillard & Shen, 2005).

*Reactance and Message Processing.* Psychological reactance also impacts how an individual processes a message. Individuals exposed to freedom-threatening messages are likely to experience reactance because these messages violate their autonomy to make their own choices. When individuals feel a persuasion message is coercive, they change their attitude or behaviors by performing in the opposite direction of the message (in a manner known as the persuasive boomerang) as a way of reaffirming their autonomy (Bleier & Eisenbeiss, 2015; Kim et al., 2017; Quick & Stephenson, 2007).

Reactance generates a wide range of outcomes, including attention, thought, attitude, and behavior to restore threatened freedom (Brehm & Brehm, 2013). For example, as outcomes of reactance, scholars have examined attitude change and the persuasive boomerang (Kim et al., 2017), gain and loss framing, source appraisal, expertise, trustworthiness, domineering (LaVoie et al., 2017), and behavioral intention to comply (Gardner & Leshner, 2016). In the context of health communication, Gardner and Leshner (2016) found that the effectiveness of narrative and other referencing messages attenuated psychological reactance relating to messages encouraging a healthy diet and physical activity. A direct health information messages could provoke reactance and may lead to avoidance of the recommended behavior. LaVoie et al. (2017) examined psychological reactance in response to graphic cigarette warning labels and found that graphic warning labels were associated with a greater degree of freedom threat perception than warning labels without images. Such associations heightened psychological reactance, which led the perception that the source was domineering (consumer's perception that a message is a forceful assertion).

*Psychological Reactance and Advertising.* Reactance studies in communication and advertising provide scholars with theoretical insights to explain ad avoidance in a variety of interruptive advertising situations (Baek & Morimoto, 2012; Edwards et al., 2002; Youn & Kim, 2019). Reactance may explain consumers' avoidance in the context of forced or intrusive ad execution such as pop-up ads. Edwards et al. (2002) showed that when people were exposed to an ad that was located in the middle of web browsing behavior, they were more likely to perceive goal impediment. This resulted in ad avoidance. However, informativeness, entertainment, and congruence between primary content and ads may mitigate consumer reactance. Following a framework of examining reactance that mediated the antecedent outcome relationship, Baek and Morimoto (2012) showed that consumers responded negatively (as a result of reactance) to ad messages that included too much personal information because they felt threatened in their perceived ability to control this information. This finding also aligns with Ham (2017), who developed a unique model relating to avoidance in personalized advertising. The model states that consumers' concerns about privacy are related to a threat to their freedom. This leads to avoidance of OBA, which is mediated by psychological reactance. Applying psychological reactance to in-feed native advertising in Facebook, Youn and Kim (2019) investigated what kinds of antecedents generated reactance to personalized newsfeed ads and whether reactance influences on consumer's ad avoidance. The authors proposed three reactance-related antecedents: autonomy in ad avoidance, ad intrusiveness, and freedom of threat to use Facebook. The findings revealed that users' perceived autonomy decreased their perceptions of ad intrusiveness. Subsequently, ad intrusiveness and freedom of threat to use Facebook was positively associated with reactance (which led to ad avoidance).

*Psychological Reactance and OBA.* As discussed above, OBA can give rise to consumer reactance regarding an array of potential risks (Bleier & Eisenbeiss, 2015). OBA aims to present consumers with certain offerings related to their personal needs and preferences, but consumers may feel that it manipulates them or threatens their freedom of choice (Aguirre et al., 2015). Presenting only a few options may hinder consumers' evaluations of the remaining alternatives, which can further produce reactance (Newell & Marabelli, 2015). Moreover, collecting and tracking past online behavior also threatens an individual's freedom of behavior. Therefore, consumers have the motivation to restore their freedom; this encourages them to react adversely to the persuasion attempt (Brehm, 1966). Psychological reactance mediates the effect of personalization because it limits personal freedom to manage and control personal information and privacy (Puzakova et al., 2013). In this regard, the coping process through persuasion knowledge on mistargeted OBA could be seen as limiting behavioral freedom to control and protect personal online privacy, thus results in enhanced psychological reactance. A communication that limits an individual's freedom induces defiance rather than compliance. This motivates consumers to react adversely and increases ad avoidance. Thus, this dissertation aims to shed light on the importance of psychological reactance and negative attitudinal outcomes in relation to OBA. Reactance is particularly relevant to mistargeted OBAs because of their covert nature in collecting private data.

## **CHAPTER 3**

### **HYPOTHESES**

OBA is an effective communication tool when it displays ad messages that match the interests of individual consumers (Goldfarb & Tucker, 2012). However, consumers are often concerned that such practices may breach their privacy, especially given that there is no process for consumers to give permission for this covert tactic (Ham, 2017). Thus, consumers would further assess the benefits and risks of OBA (Jai et al., 2013; Phelan et al., 2016; Schumann et al., 2014). The study proposes when awareness of OBA mechanism and perceived accuracy of targeting interacts; perceived mistargeting OBA. When consumers are aware that an OBA is delivered through the tracking of behavioral data and the accuracy of targeting is perceived as low, resistance toward the message is likely to be more severe. When an OBA is perceived as not relevant, resistance may be formed at affective (“I don’t like it”), cognitive (“I don’t believe it”), and behavioral (“I won’t do it”) levels (Baek & Morrimoto, 2012).

The current study builds on the theoretical framework of PKM for interpreting and understanding how consumers deal with mistargeted OBA. Friestad and Wright (1994) suggested that consumers infer a hidden motive - to persuade them- in response to advertisers’ persuasion attempts. The ulterior motive of persuasion tactics is thereby revealed, which in turn leads consumers to actively resist such attempts. However, considering that consumers also infer cooperative intent in agents’ persuasion attempts, OBA may be perceived as beneficial when consumers are more intrigued about OBA’s provision of relevant information. Thus, when OBA

discloses its mechanism of behavior tracking, consumers may engage in a coping process involving estimating and appraising the risk and benefits of OBA.

When an OBA is deemed to be mistargeted, consumers form cognitive and affective resistance. Consumers would sense awkward feeling of misinterpretation about them. They may blame the responsibility of delivering such irrelevant advertising, even though the usage of their privacy data. Attribution theory states that people try to discover the causes of certain events to understand why they occur (Weiner, 1986). When people experience negative outcomes, they naturally look for the causes of the negative outcome and try to establish who or what was responsible for it (Choi & Mattila, 2008). Assigning responsibility of the persuasion attempt influence consumers' reactions to the persuasion agents (e.g., marketers, advertisers, or salespeople), such as in their word-of-mouth behaviors, complaints and returns, and their expression of anger toward firms and demands for compensation (Folkes, 1984; Richins, 1983). In the case of mistargeted OBA, consumers may assign the responsibility to advertisers' misuse of data algorithms, thus reinforcing negative evaluations toward the ad, which is similar to a form of response toward service failure.

In addition to the attribution process, psychological reactance occurs as the affective aspect of resistance toward a mistargeted OBA (Brehm, 1966; Knowles & Linn, 2004). A mistargeted OBA may be perceived by consumers as a threat to their freedom of choice. In psychological reactance to this threat, individuals might perceive intrusiveness (i.e., a cognitive outcome) or feel irritated (i.e., an affective outcome). Furthermore, ad intrusiveness and ad irritation are known to affect negatively advertising outcomes (Li et al., 2002). The current study examines the effect of persuasion knowledge on psychological reactance and subsequent advertising outcomes such as attitude toward the ad, ad avoidance, and attitude toward the brand.

## **Effects of OBA Disclosure on Persuasion Knowledge**

Several academic studies show that consumers have little understanding of how OBA is designed and delivered to individuals (Marreiros et al., 2015; McDonald & Cranor, 2010). Moreover, consumers have limited knowledge about the extent to which their online behavior is tracked (Ur et al., 2012). Such information asymmetry raises several ethical concerns. Therefore, privacy laws require companies to be transparent about their data processing practices.

Including disclosure of OBA targeting mechanisms could effectively increase OBA knowledge when accompanied by an explanatory label that states “This ad is based on your surfing behavior” (Van Noort, et al., 2013). Although studies found mixed consumer responses toward such transparency in data collecting process (e.g., Moore et al., 2015), evidence shows that it helps consumers to recognize the covert behavior tracking methods of OBA. This is positively related to persuasion knowledge. For instance, Ham (2017) found that disclosure of OBA led to a positive relationship with the activation of persuasion knowledge, which further influenced privacy concerns and message avoidance. Based on PKM, consumer coping processes relating to whether OBA benefits or harms them should activate only when they recognize a persuasion attempt. It is especially important in the context of OBA to recognize that such persuasion tactics use private behavior data. Thus, the study proposes the following hypotheses as the necessary conditions to analyze the further process of OBA:

**H1:** An online behavioral ad with a disclosure will lead to a more favorable (a) evaluative persuasion knowledge, (b) attitude toward the ad, and (c) attitude toward the brand than an online behavioral ad without a disclosure.

## **Effects of OBA Accuracy on Persuasion Knowledge**

In addition to the proposed relationships above, consumers often recognize when an ad is using covert behavior tracking from another source. The contemporary online environment increasingly takes place via web-connected devices loaded with software that allows tracking based on past clicking behavior and targeting of advertisements on the basis of tracking and repackaging of individual consumer data. Although consumers may not be expert enough to understand the targeting methods, the situational context and past browsing behaviors could aid them to have their own beliefs on why a certain advertisement is delivered to them. When an ad delivered to them seems to accurately match their needs and interests, they may recognize that the ad is tracking their behavior to some extent.

**H2:** An online behavioral ad with a high level of accuracy will lead to a more favorable (a) evaluative persuasion knowledge, (b) attitude toward the ad, and (c) attitude toward the brand than an online behavioral ad with a low level of accuracy.

## **The Interaction Between OBA Disclosure and OBA Accuracy**

The accuracy of OBA in matching with an individual consumer's interest, past behavior, and self-perception is a significant factor for maximizing OBA effects (e.g., creating favorable attitudes toward OBA). The current study predicts that awareness of OBA through disclosure will generate a positive relationship when it achieves sufficient OBA accuracy. It further predicts that consumers will expect the inference of the OBA message to accurately reflect their current needs and interests if they have been informed that an ad is based on their past behavior. When consumers feel that such targeting is not accurate they will show negative attitudes toward the

ads and the brand. Pavlou and Stewart (2000) stated that only relevant advertisement on consumers perception generates purchase or change of behavior. If consumers see that an ad does not accurately match their interests, their resistance to the ad might be stronger than toward other online ads.

When awareness of OBA interacts with accuracy, consumers may perceive the OBA as mistargeted. Importantly, consumers understanding of the usage of online behavior tracking method determines the occurrence of mistargeting perceptions. When behavioral tracking is not disclosed, consumers may consider the ad to be online advertising targeted to a broad range of people. An OBA that discloses its mechanism of delivery is required to meet a threshold of expectation (i.e., that a marketer had made a sophisticated interpretation of each individual consumer). Thus, the following hypotheses are proposed:

**H3a:** The enhancement in evaluative persuasion knowledge due to a low level of OBA accuracy will be greater when an OBA disclosure is present than when it is absent.

**H3b:** The increase in attribution of responsibility due to a low level of OBA accuracy will be greater when an OBA disclosure is present than when it is absent.

**H3c:** The increase in psychological reactance due to a low level of OBA accuracy will be greater when an OBA disclosure is present than when it is absent.

**H3d:** The less favorable attitude toward the ad ( $A_{ad}$ ) due to a low level of OBA accuracy will be greater when an ad OBA disclosure is present than when it is absent.

**H3e:** The less favorable attitude toward the brand ( $A_b$ ) due to a low level of OBA accuracy will be greater when an ad OBA disclosure is present than when it is absent.

## **The Mediating Role of Evaluative Persuasion Knowledge**

Past findings indicate that consumer recognition of persuasion tactics (i.e., conceptual persuasion knowledge) does not always lead to resistance toward persuasion attempts. Instead, it constitutes a significant antecedent to consumer assessment of the tactic. In terms of OBA, persuasion knowledge may lead consumers to a cognitive estimation of the costs and benefits of OBA (Ham, 2017). Previous studies have indicated that a consumer's calculation regarding the utility and benefits of a personalized message is the key driver of consumer attitude, behavioral intention, and actual behavior in relation to suggested promotions. Building upon those findings, the current study contends that the form of persuasion knowledge used in processing OBA is not simply a recognition of persuasion attempts but rather an active assessment of the effectiveness of such messages (measured on the concept of evaluative persuasion knowledge). Favorable advertising outcomes are the result of favorable evaluative persuasion knowledge rather than the direct impact of OBA disclosure and accuracy. The following hypotheses are proposed:

**H4:** Evaluative persuasion knowledge will mediate the interaction effect of OBA accuracy and OBA disclosure on attitude toward the ad.

**H5:** Evaluative persuasion knowledge will mediate the interaction effect of OBA accuracy and OBA disclosure on attitude toward the brand.

## **The Mediating Role of Responsibility Attribution**

The effect of OBA accuracy and disclosure on advertising outcomes may also be mediated by the individual's attribution of responsibility for delivering such messages. Research shows that attribution of responsibility is related to the emotions triggered by a crisis or failure (Coombs & Holladay, 2005) and produces affective responses toward the organization behind

the situation. The attribution of responsibility proposition postulates that when consumers show higher attribution of responsibility toward a crisis or service failure, negative attitudes toward the organization intensify and positive attitudes toward it lessen. On this basis, the current study conceptualizes mistargeted OBA as a service failure situation from an advertiser. The following hypotheses are proposed:

**H6:** Attribution of responsibility to the advertiser will mediate the interaction effect of OBA accuracy and OBA disclosure on attitude toward the ad.

**H7:** Attribution of responsibility to the advertiser will mediate the interaction effect of OBA accuracy and OBA disclosure on attitude toward the brand.

### **The Mediating Role of Psychological Reactance**

The effect of disclosure and accuracy on advertising outcomes will also be mediated by the individual's perceived reactance toward the OBAs. The perception of having control over online behavioral data may lead consumers to perceive a breach of their privacy. This threatens their behavioral freedom and may result in a greater sense of intrusiveness, annoyance, irritation or anger. Furthermore, enhanced reactance may influence subsequent negative outcomes of OBA. This means that a less favorable advertising outcome may be the result of enhanced psychological reactance rather than the direct impact of accuracy of targeting or disclosure of OBA mechanisms. The following hypotheses are proposed:

**H8:** Psychological reactance will mediate the interaction effect of OBA accuracy and OBA disclosure on attitude toward the ad.

**H9:** Psychological reactance will mediate the interaction effect of OBA accuracy and OBA disclosure on attitude toward the brand.

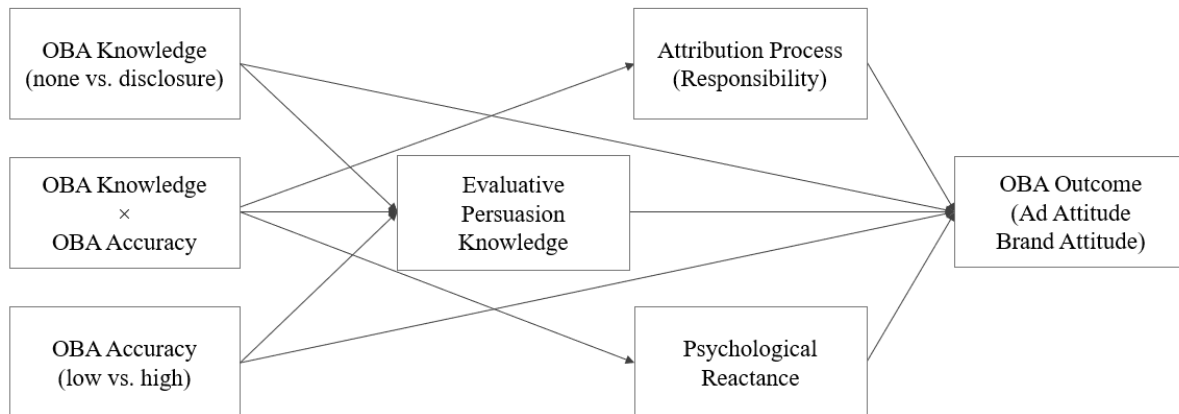


Figure 1. Proposed Research Model

## CHAPTER 4

### METHOD

#### Overview and Design

The main purpose of the current study was to examine the interaction effect of OBA awareness and targeting accuracy on persuasion knowledge and subsequent advertising outcomes for consumers. In particular, this study investigated the perceived mistargeting of OBA, where consumers aware the usage of behavior tracking (OBA mechanism) and the targeting accuracy is low. Further, this study suggests the mediating role of attribution process of the mistargeting and psychological reactance. To test the proposed hypotheses, this study employed a 2 (OBA knowledge: disclosure present/disclosure absent)  $\times$  2 (targeted ad accuracy: high/low) between-subjects experiment.

#### Participants, Procedure and Stimulus Material

Subjects were recruited from a Southeastern university and randomly assigned to one of four experimental conditions. A total of 128 undergraduate students participated in the study for course credit. We obtained participants' demographic information, including gender ( $n_{female} = 73.7\%$ ), age ( $M = 20.54$ ,  $SD = 1.15$ ), and ethnicity ( $n_{white} = 87.8\%$ ). None of the demographics varied significantly by condition ( $p > .05$ ).

At the start of the study session, all participants were directed to the focal study. This consisted of two parts. First, participants were asked to carry out an online search to plan a visit to Jacksonville, Florida, as part of creating travel itineraries for fall break. Participants used their

own laptop or a lab computer and browsed the Internet to find a flight, hotel, restaurant, and activities for the dates listed in the instructions. All participants were given 10 minutes to complete the task and were informed that they could browse the Internet if they finished early because the computer screen that would move them to the next task would not advance until the allotted 10 minutes had elapsed. When participants finished their search before the 10 minutes was up, the research assistant allowed them to freely browse the Internet (making sure they returned back to the experiment when 10 minutes had elapsed). This procedure was designed to create a fictitious “browsing history” that could plausibly be used to generate a behaviorally targeted advertisement in the next part of the study.

Participants have then proceeded to an advertisement evaluation study. After providing informed consent, participants were randomly assigned to one of the four treatment conditions. The study manipulated OBA knowledge through a disclosure. In the OBA knowledge condition, participants were exposed to a disclosure statement modified from Summers et al. (2016), which was described as “targeted specifically to you based on your online activity in today’s session, including the websites you looked at while planning your vacation trip and other websites you may have visited.” The participants for the control condition (disclosure absent) were not given any information about the targeting mechanism of the ad and simply viewed it. All participants were presented with a stimuli advertisement for a fictitious local restaurant that includes a discount for a visit.

Given the idea that OBA tailors ads to consumers’ interests and needs based on their online behavioral data (such as search history and social media activities), the study operationalized mistargeting as the incorrect delivery of ads based upon participants’ affiliation to the college football team they support (i.e., their home college football team). College football

affiliation was utilized because we speculated that participants (i.e., college students) were likely to be involved in football-related online activities either through internal motives (e.g., searching for game news or purchasing game tickets) or through external forces (e.g., commenting on friends' football posts on social media). Therefore, it was plausible that they would be presented with a football-related ad as a result of OBA. If the tailored ad featured the correct football team (i.e., the football team of the participants' university), this was considered correct targeting. If the ad featured any other football team (i.e., a geographically proximate university), it was deemed to be mistargeted. To control the confounding variable of any existing rivalry, the incorrect football team was not a rival team.

After participants viewed the stimulus materials, they then completed a self-reported questionnaire that measured the dependent variables. The study protocol for the current investigation was submitted for review and was fully approved by the institutional review board at the researchers' university prior to the start of the data collection.

**Table 1.** Main Experiment Sample Composition

Sample Demographics	
Number of Sample (N)	128
Mean Age	20.54
Gender (%)	
Male	26.3
Female	73.7
Ethnicity (%)	
Caucasian/White	87.8
African American	6.2
Asian American	3.0
Hispanic/Latino	2.3
Others	0.7

## Measurement

*Ad Mechanism Disclosure.* To ensure that participants viewed the disclosure statement, those that were assigned to the OBA disclosure condition indicated whether they had viewed the disclosure statement using a yes/no item (“Did you see any statement that explains how this ad was delivered to you?”)

*Evaluative Persuasion Knowledge.* The study adopted three items of evaluative persuasion knowledge using a seven-point semantic differential scale with three items ( $\alpha = .84$ ): ineffective/effective, inappropriate/appropriate, and unfair/fair (Nelson et al., 2009; Wei et al., 2008).

*Attribution of Responsibility.* The degree to which participants blamed the advertiser for the mistargeted OBA was measured based on a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree) with three items ( $\alpha = .93$ ). This was modified from Brown and Ki’s (2013) intentional crisis responsibility scale. The study modified the term “crisis” to fit the context of OBA.

*Psychological Reactance.* To measure cognitive and affective reactance to the ad, intrusiveness and irritation were measured using a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree) with six items ( $\alpha = .95$ ): distracting, disturbing, intrusive, irritating, angry, and annoyed (Li et al., 2002; Wells et al., 1971).

*Attitude toward the ad.* Ad attitude was measured using a seven-point semantic differential scale with three items ( $\alpha = .87$ ): bad/good, unfavorable/favorable, and dislikable/likable (MacKenzie & Lutz, 1989).

*Attitude toward the brand.* Brand attitude was measured using a seven-point semantic differential scale with three items ( $\alpha=.93$ ): bad/good, unfavorable/favorable, and negative/positive (MacKenzie & Lutz, 1989).

*Privacy Concern.* Participants individual differences on privacy concern was measured using six Likert-scale items ( $\alpha=.93$ ; Dolnicar & Jordaan, 2007) and was entered as covariates.

*Demographics.* To analyze the demographic characteristics of the participants, gender, age, ethnicity, and income level were assessed at the end of the questionnaire. Since the participants were all students, education was not assessed as part of the demographics.

**Table 2.** Measurement Scales

Construct	Measurement Items	Source
Evaluative Persuasion Knowledge	ineffective/effective inappropriate/appropriate unfair/fair	Nelson et al., 2009; Wei et al., 2008
Attribution of Responsibility	<ul style="list-style-type: none"> <li>• The advertiser should be blamed for sending this ad to me</li> <li>• Receiving this ad is the advertiser's fault</li> <li>• The advertiser should be held accountable for sending this ad to me</li> </ul>	Brown & Ki, 2013
Psychological Reactance	Distracting Disturbing Intrusive Irritating Angry Annoyed	Li et al., 2002; Wells et al., 1971
Attitude toward the Ad	bad/good unfavorable/favorable dislikable/likable	MacKenzie & Lutz, 1989
Attitude toward the Brand	bad/good unfavorable/favorable negative/positive	MacKenzie & Lutz, 1989
Perceived Privacy concern	<ul style="list-style-type: none"> <li>• I feel uncomfortable when my online behaviors are tracked without permission</li> <li>• I am concerned about misuse of my online behaviors</li> <li>• It bothers me to receive too much advertising material through tracking of my online behaviors</li> <li>• I fear that my online behavior information may not be safe while stored</li> <li>• I believe that my online behavioral data is often misused</li> <li>• I think companies share my online behavioral data without permission</li> </ul>	Dolnicar & Jordaan, 2007

## CHAPTER 5

### RESULTS

#### **Manipulation Check**

We asked all participants to estimate their support toward the college home football team and the local rival team. All the participants showed a high level of support for their home football team ( $M = 6.08$ ,  $SD = 1.08$ ) and a low level of support for the other sports team ( $M = 1.52$ ,  $SD = 0.76$ ). Asking participants to rate these dimensions ruled out the possibility that the sample supported the other team, thus matching the targeting fails to be intended. Six participants failed to pass a basic question checking their level of attention to the video ad and were thus excluded from the data analysis. None of the demographics varied significantly by condition ( $p > .05$ ). This indicated successful random assignment.

#### **Hypothesis Testing**

The main effect of OBA disclosure, OBA accuracy, and the interaction effect were analyzed through multivariate analysis of variance (MANOVA) using SPSS version 25. First, the main effect and interaction effect of two dependent variables on five dependent variables were analyzed (evaluative persuasion knowledge, psychological reactance, attitude toward the ad, and attitude toward the brand) where each concept is closely related to the others. Therefore, MANOVA was selected as the appropriate statistical analysis tool. MANOVA not only detects overall differences but also detects combined differences that would not otherwise be apparent. MANOVA can also control the experiment-wide error rate and reduce the probability of a type I

error because some degree of correlation exists among the dependent variables. For MANOVA procedures to be valid, three assumptions must be met. First, the observations must be independent. The current study maintains independence of observation by using an experimental setting. Furthermore, subjects were recruited randomly to minimize potential relationships among them. In addition, the equivalence of covariance matrices across the groups must be achieved. The roughly equal sample sizes among the groups secured this. Therefore, the MANOVA procedure was considered acceptable.

Before examining the main effects of the OBA disclosure on dependent variables, we conducted a multivariate test to collectively assess the effects. The results of the MANOVA (Wilks' Lambda = .91,  $F = 1.95$ ,  $p = .07$ ) indicated there was no significant main effect of the OBA disclosure; that is, all of the dependent variables (i.e., perceived control, ad intrusiveness, ad irritation, A<sub>ad</sub>, and A<sub>b</sub>). The results of the univariate tests (within MANOVA) also revealed that the effect of OBA disclosure created no significant difference for each dependent variable. Thus, H<sub>1</sub> was rejected.

On the other hand, the results of the MANOVA (Wilks' Lambda = .42,  $F = 21.36$ ,  $p < .001$ ) revealed a significant effect in relation to OBA accuracy. Given the significance of the multivariate test, the results of the univariate tests (within MANOVA) were reviewed to examine the effect of the OBA accuracy on five dependent variables. The results indicated that OBA accuracy had a significant effect on evaluative persuasion knowledge ( $F(1, 126) = 33.14$ ,  $p < .001$ ), motive attribution ( $F(1, 126) = 108.82$ ,  $p < .001$ ), psychological reactance ( $F(1, 126) = 62.71$ ,  $p < .001$ ), attitude toward the ad ( $F(1, 126) = 65.68$ ,  $p < .001$ ), and attitude toward the brand ( $F(1, 126) = 18.02$ ,  $p < .001$ ). In particular, participants in the OBA accuracy condition perceived favorable evaluative persuasion knowledge ( $M_{epk} = 4.25$ ,  $SD = 1.87$ ), grater

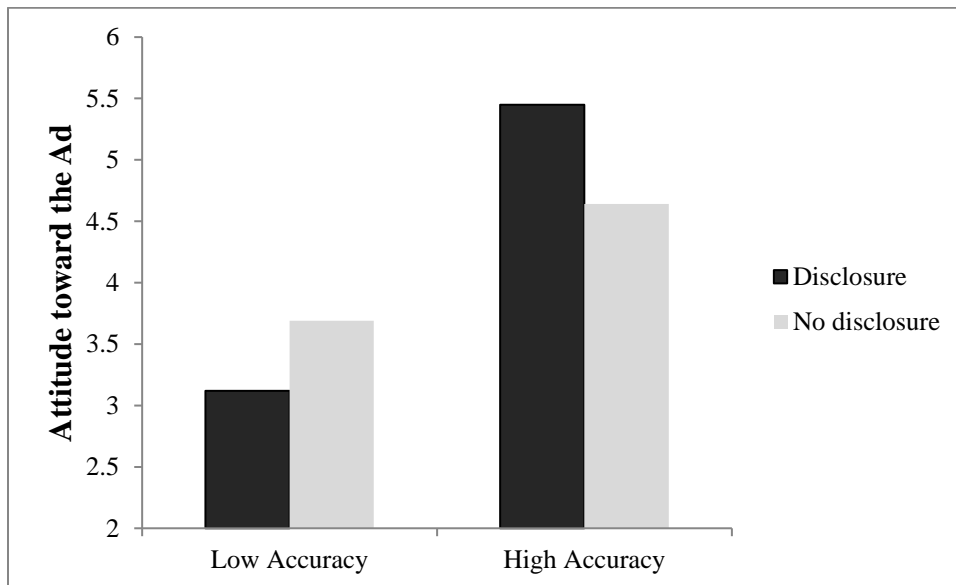
attribution of responsibility of the advertiser ( $M_{attribution} = 4.20$ ,  $SD = 1.16$ ), felt less psychological reactance toward the ad ( $M_{reactance} = 3.19$ ,  $SD = 1.56$ ), had a more favorable attitude toward the ad ( $M_{aAD} = 5.05$ ,  $SD = 1.44$ ), and had a more favorable attitude toward the brand ( $M_{aBrand} = 4.71$ ,  $SD = 1.48$ ). Thus, the results supported H2.

*Interaction Between Accuracy and Disclosure.* H3 predicted that the effect of OBA accuracy on ad evaluation would interact by the presence of an OBA disclosure. The result of a 2 (OBA disclosure: presence versus absence)  $\times$  2 (OBA accuracy: low versus high) MANOVA was significant (Wilks' Lambda = .79,  $F = 5.08$ ,  $p < .01$ ). The results of the univariate tests (within MANOVA) shown a significant interaction effect of the OBA disclosure and OBA accuracy on evaluative persuasion knowledge ( $F(1, 126) = 7.86$ ,  $p < .01$ ), motive attribution ( $F(1, 126) = 10.01$ ,  $p < .001$ ), psychological reactance ( $F(1, 126) = 24.61$ ,  $p < .001$ ), attitude toward the ad ( $F(1, 126) = 11.38$ ,  $p < .001$ ), and attitude toward the brand  $F(1, 126) = 10.97$ ,  $p < .01$ ).

To examine the interaction effect further, subsequent contrast tests were run for each disclosure group (disclosure present vs. absent). Because conducting five separate contrast tests had the potential to increase the number of type I errors, the Bonferroni correction procedure was used with an adjusted alpha level of .01 (overall  $\alpha$ /number of test =  $.05/5 = .01$ ) to examine the differences (Bland & Altman, 1995).

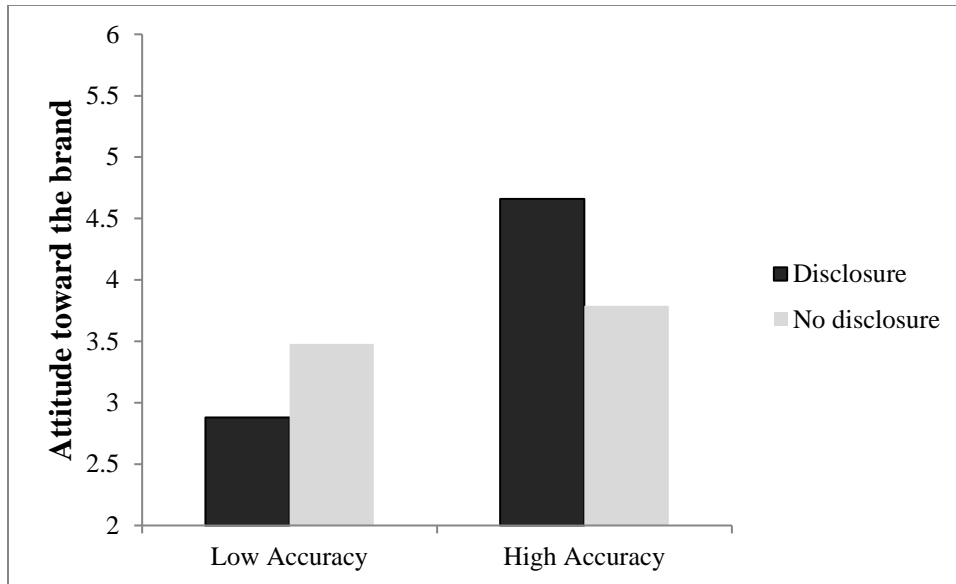
When the disclosure of OBA mechanism was absent, the results revealed a significant effect of OBA accuracy on motive attribution ( $F(1, 65) = 26.24$ ,  $p < .001$ ) and attitude toward the ad ( $F(1, 65) = 10.78$ ,  $p < .01$ ). The effects of OBA accuracy were non-significant at a  $p$  level of .01 but were significant at a  $p$  level of .05 on evaluative persuasion knowledge ( $F(1, 65) = 4.77$ ,  $p = .02$ ) and psychological reactance ( $F(1, 65) = 4.01$ ,  $p = .04$ ). There was no significant effect on attitude toward the brand ( $F(1, 65) = 0.44$ ,  $p < .05$ ).

**Figure 2.** Interaction Effect of OBA Knowledge and Accuracy on Aad



When disclosure was present, significant effects of OBA accuracy emerged (at a p level of .01) for motive attribution ( $F(1, 62) = 91.84, p < .001$ ), evaluative persuasion knowledge ( $F(1, 62) = 33.98, p < .001$ ), psychological reactance ( $F(1, 62) = 89.78, p < .001$ ), attitude toward the ad ( $F(1, 62) = 68.61, p < .001$ ), and attitude toward the brand ( $F(1, 62) = 30.97, p < .001$ ).

**Figure 3.** Interaction Effect of OBA Knowledge and Accuracy on Brand (Ab)



*Moderated Mediation Hypothesis.* To test the proposed hypotheses, a moderated mediation analysis (H4–H9) was executed utilizing PROCESS v 3.0 macro (model 7) in SPSS provided by Hayes (2013). PROCESS was performed using OBA accuracy as the independent variable (coded absent = 0 versus present = 1), the presence of disclosure as a moderator (coded absent = 0 versus present = 1), three parallel mediators (evaluative persuasion knowledge, responsibility attribution, and psychological reactance), and dependent variables (attitude toward the ad and attitude toward the brand). The number of bootstrap samples for bias-corrected bootstrap confidence intervals was 10,000. The participants’ demographics (age, gender, ethnicity) were entered as covariates (See Table 2).

**Table 3.** Parallel Mediation Model on Dependent Measures

OBA disclosure: absent versus present			
Mediator: evaluative persuasion knowledge	<i>B</i> (SE)	Upper 95%	Lower 95%
Accuracy → EPK → Aad			
Moderated mediation index	.60 (.25)	.1604	1.1521
Absent	.31 (.15)	.0256	.6420
Present	.91 (.24)	.4923	1.4503
Accuracy → EPK → Ab			
Moderated mediation index	.68 (.28)	.1746	1.3084
Absent	.36 (.17)	.0322	.7282
Present	1.04 (.27)	.5671	1.6330
Mediator: attribution of responsibility	<i>B</i> (SE)	Upper 95%	Lower 95%
Accuracy → attribution → Aad			
Moderated mediation index	−.26 (.18)	−.7133	.0288
Absent	.03 (.04)	−.0597	.1310
Present	−.13 (.06)	−.2628	−.0287
Accuracy → attribution → Ab			
Moderated mediation index	−.07 (.06)	−.2005	.0637
Absent	.01 (.03)	−.0376	.0673
Present	−.05 (.05)	−.1648	.0471
Mediator: psychological reactance	<i>B</i> (SE)	Upper 95%	Lower 95%
Accuracy → react → Aad			
Moderated mediation index	1.03 (.24)	.5771	1.5466
Absent	.31 (.16)	−.0055	.6431
Present	1.34 (.21)	.9577	1.7767
Accuracy → react → Ab			
Moderated mediation index	1.10 (.29)	.5690	1.7233
Absent	.32 (.18)	−.0104	.6903
Present	1.43 (.26)	.9461	1.9607

*Note.* BCBCI = bias-corrected 10,000 bootstrap confidence interval.

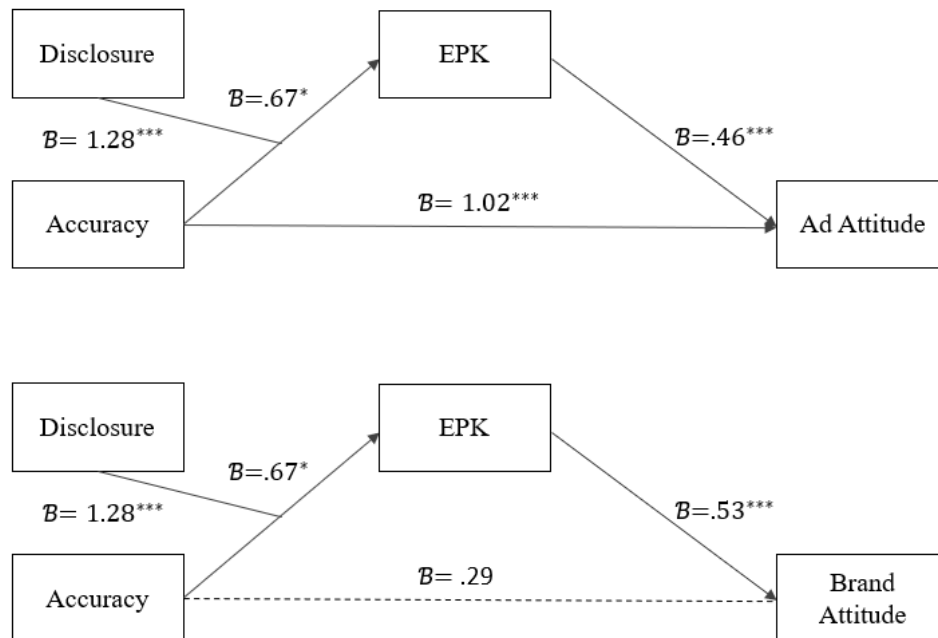
*Evaluative Persuasion Knowledge.* To test the expectation that the presence of OBA disclosure moderated the effects of OBA accuracy on evaluative persuasion knowledge (H5), an Ordinary least squares (OLS) regression was performed. The model found significant two-way interaction ( $F(3, 126) = 14.41, p < .001$ ). This indicated that the presence of the OBA disclosure interacted with the OBA accuracy and had an impact on evaluative persuasion knowledge. The coefficient for the interaction was significant ( $\beta = 1.28, SE = 0.46, p < .01$ ), which indicated that evaluative persuasion knowledge increased when exposed to an OBA with a higher level of accuracy; the presence of OBA disclosure moderated the relationship. This effect was significant at a 95% bias-corrected bootstrapping confidence interval (BCBCI) with 10,000 samples (0.3789, 2.1975). A higher level of OBA accuracy led to more favorable evaluative persuasion knowledge when OBA disclosure was present ( $\beta = 1.96, SE = 0.33, 95\% BCBCI [1.3244, 2.611]$ ) or absent ( $\beta = .67, SE = 0.32, 95\% BCBCI [0.0369, 1.3202]$ ).

The objective of H6 was to test the overall moderated mediation model and to establish whether the interaction effect of OBA accuracy and OBA disclosure impacted on participants' attitudes toward the ad and the brand (mediated via evaluative persuasion knowledge). An OBA disclosure conditionally impacted the indirect effect of OBA accuracy (through evaluative persuasion knowledge) on attitude toward the ad ( $\beta = 0.47, SE = 0.06, 95\% BCBCI [0.3353, 0.5991]$ ). For participants exposed to an OBA with a higher level of targeting accuracy, the presence of disclosure (versus absence of disclosure) led to a higher level of evaluative persuasion knowledge. This positively impacted attitude [ 0.4835, 1.4453] (index of moderated mediation = 0.6,  $SE = 0.25, 95\% BCBCI [0.1448, 1.1478]$ ).

For moderation mediation effect on attitude toward the brand, the presence of OBA disclosure conditionally impacted the indirect effect of OBA accuracy through evaluative

persuasion knowledge ( $\beta = 0.53$ ,  $SE = 0.07$ , 95% BCBCI [0.3780, 0.6868]). When a higher level of accuracy in OBA was presented with an OBA disclosure (versus absence of disclosure), this condition generated higher evaluative persuasion knowledge. This led to a favorable brand attitude [0.5671, 1.6330] (index of moderated mediation = .68,  $SE = .29$ , 95% BCBCI [.1746, 1.3084]). Therefore, H6 was supported.

**Figure 4.** Moderated Mediation on OBA outcome via Evaluative Persuasion Knowledge



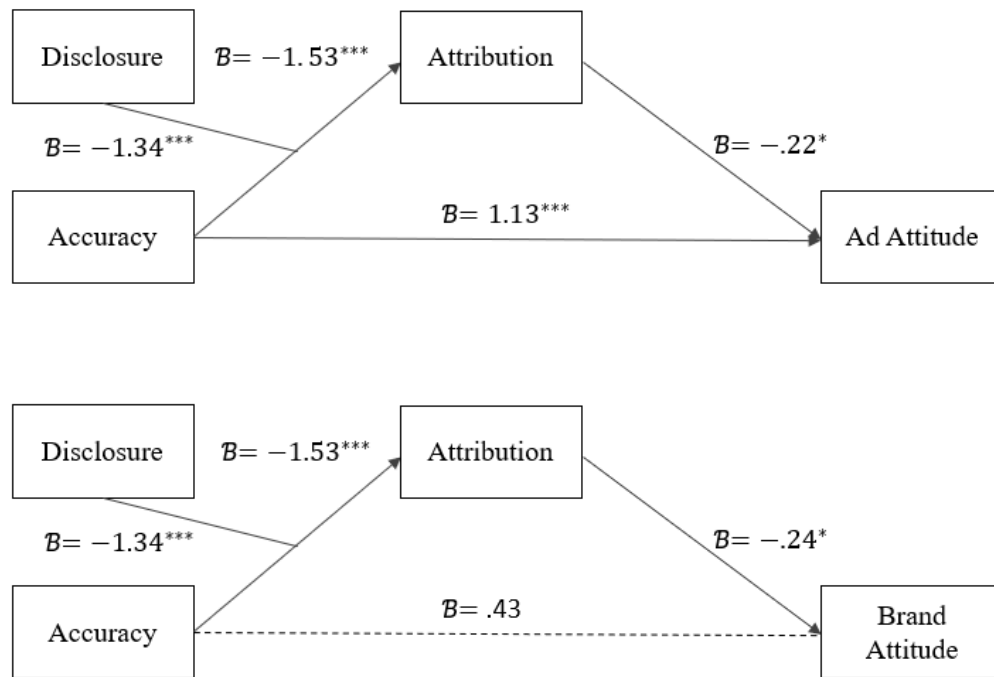
*Attribution.* To test the expectation that the presence of OBA disclosure moderated the effects of OBA accuracy on evaluative persuasion knowledge (H5), an OLS regression was performed. The model found significant two-way interaction ( $F(3, 126) = 14.41$ ,  $p < .001$ ), indicating that the presence of the OBA disclosure interacted with the OBA accuracy and impacted on evaluative persuasion knowledge. Specifically, the coefficient for the interaction was significant ( $\beta = 1.28$ ,  $SE = 0.46$ ,  $p < .01$ ), indicating that evaluative persuasion knowledge increased

when exposed to an OBA with a higher level of accuracy (the presence of OBA disclosure moderates the relationship). This effect was significant at a 95% BCBCI with 10,000 samples (0.3789, 2.1975). A higher level of OBA accuracy led to more favorable evaluative persuasion knowledge when OBA disclosure was present ( $\beta = 1.96$ ,  $SE = 0.33$ , 95% BCBCI [1.3244, 2.611]) or absent ( $\beta = .67$ ,  $SE = 0.32$ , 95% BCBCI [0.0369, 1.3202]).

The objective of H6 was to test the overall moderated mediation model and to establish whether the interaction effect of OBA accuracy and OBA disclosure impacted on participants' attitudes toward the ad and brand (mediated via evaluative persuasion knowledge). An OBA disclosure conditionally impacted the indirect effect of OBA accuracy through evaluative persuasion knowledge on attitude toward the ad ( $\beta = 0.47$ ,  $SE = 0.06$ , 95% BCBCI [0.3353, 0.5991]). For participants exposed to an OBA with a higher level of targeting accuracy, the presence of disclosure (versus the absence of disclosure) led to a higher level of evaluative persuasion knowledge. This positively impacted attitude toward the ad [0.4835, 1.4453] (index of moderated mediation = 0.6,  $SE = 0.25$ , 95% BCBCI [0.1448, 1.1478]).

For moderation mediation effect on attitude toward the brand, the presence of OBA disclosure conditionally impacted the indirect effect of OBA accuracy through evaluative persuasion knowledge ( $\beta = 0.53$ ,  $SE = 0.07$ , 95% BCBCI [0.3780, 0.6868]). When a higher level of accuracy in OBA was presented with an OBA disclosure (versus absence of disclosure), such conditions generated higher evaluative persuasion knowledge. This led to a favorable brand attitude [0.5671, 1.6330] (index of moderated mediation = .68,  $SE = .29$ , 95% BCBCI [.1746, 1.3084]). Therefore, H6 was supported.

**Figure 5.** Moderated Mediation on OBA outcome via Responsibility Attribution

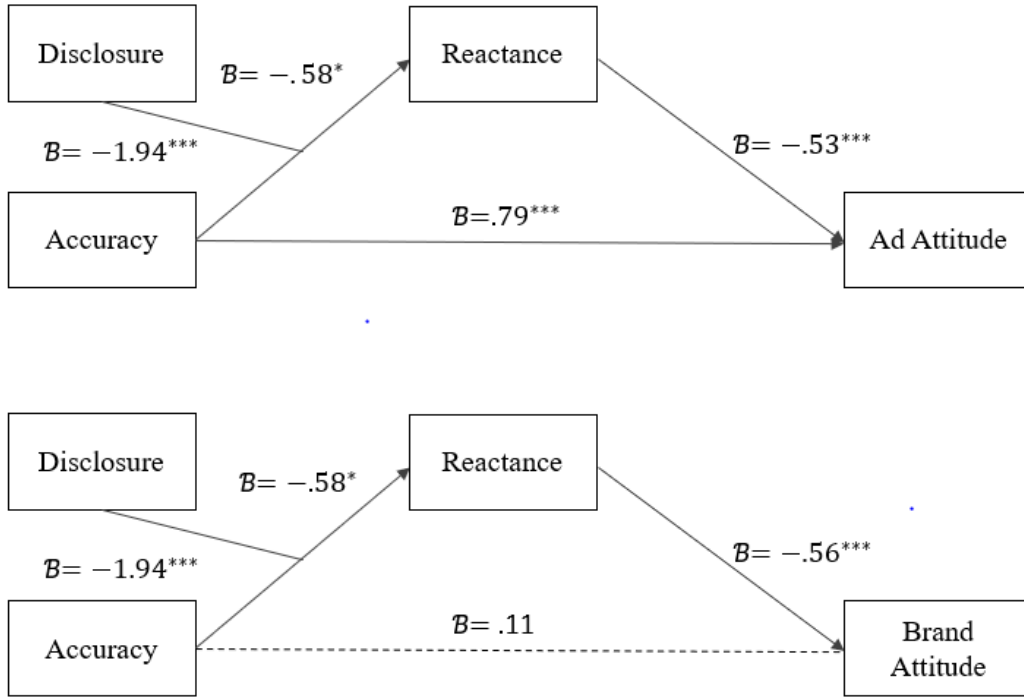


*Reactance.* An OLS regression was performed to test the expectation that there would be an interaction effect of OBA disclosure and OBA accuracy on evaluative persuasion knowledge (H7). The model found significant two-way interaction ( $F(3, 126) = 29.93, p < .001$ ), indicating that the presence of the OBA disclosure interacted with the OBA accuracy (which in turn influenced evaluative persuasion knowledge). The coefficient for the interaction was significant ( $\beta = -1.91, SE = 0.39, p < .001$ ), indicating that reactance increased when exposed to an OBA with lower level of accuracy (with the presence of OBA disclosure). This effect was significant at a 95% BCBCI with 10,000 samples ( $-2.7271, -1.1795$ ). A lower level of OBA accuracy increased reactance when OBA disclosure was present ( $\beta = -2.53, SE = 0.28, 95\% BCBCI [-3.0871, -1.9796]$ ) or absent ( $\beta = -.58, SE = 0.27, 95\% BCBCI [-1.1298, -0.0325]$ ).

H8 tested the interaction effect of OBA accuracy and OBA disclosure on attitude toward the ad through psychological reactance. OBA disclosure conditionally impacted the indirect effect of OBA accuracy via reactance on attitude toward the ad ( $\beta = -0.53$ ,  $SE = 0.07$ , 95% BCBCI [-0.6790, -0.3871]). A lower level of OBA accuracy led to a higher level of reactance, which negatively impacted attitude to the ad [0.4835, 1.4453]. The presence of disclosure led to severe reactance when the OBA showed low accuracy [0.9566, 1.7767] (index of moderated mediation = 1.3,  $SE = 0.25$ , 95% BCBCI [0.5711, 1.5466]). The result was not significant when OBA disclosure was absent [-0.0055, 0.6641].

For the moderation mediation effect on attitude toward the brand, the presence of OBA disclosure conditionally impacted the indirect effect of OBA accuracy through reactance ( $\beta = -0.56$ ,  $SE = 0.08$ , 95% BCBCI [-0.7409, -0.3902]). When a higher level of accuracy in OBA was presented with an OBA disclosure (versus absence of disclosure), it revealed lower reactance. This led to a favorable brand attitude [0.9461, 1.9307] (index of moderated mediation = 1.12,  $SE = .29$ , 95% BCBCI [0.5360, 1.7233]). This relationship was not significant when OBA disclosure was absent.

**Figure 6.** Moderated Mediation on OBA outcome via Reactance



## **CHAPTER 6**

### **DISCUSSION**

#### **Summary**

The current study investigated the impact of consumer understanding of OBA targeting mechanisms (through OBA disclosure) and the actual performance of targeting (OBA accuracy) on evaluative coping processes, attribution of responsibility, psychological reactance to ads, and subsequent advertising outcomes. The study proposed that when an OBA meets a threshold of understanding from consumers (i.e., an understanding that behavior tracking methods have been used to deliver a personalized ad), they expect it to show a relevant promotional message. The results of the experiment show that when an ad violates such expectation, consumers perceive the message as a mistargeting. This leads them to engage into a coping process through persuasion knowledge. Such perceptions of mistargeting lead consumers to evaluate the message as ineffective or inappropriate, form greater psychological reactance, and attribute the responsibility of delivering a mistargeting advertisement (an OBA that is perceived as irrelevant to interest or self). As a result, such coping mechanisms negatively affect ad outcomes. When there is no disclosure of using behavioral tracking (which means less transparency), consumers show less perception of mistargeting; they believe the ad is aimed at a broader population and their reactance is relatively lower. Although low accuracy conditions (i.e., mismatching a participant's college name) generated a less favorable attitude toward the ad and brand compared to high accuracy

conditions, the psychological reactance was higher for the OBAs with high transparency (including disclosure).

### **Theoretical Implications**

The findings of the current study contribute to the understanding of how consumers cope with OBA, especially in cases when disclosure of the OBA mechanism and the perceived accuracy of the message interact. Considering that OBA tactics are often not clearly identified by consumers, the study incorporates critical concepts of persuasion knowledge to understand how OBA works and to propose how such knowledge motivates consumers to develop coping strategies through psychological reactance and attribution theory. Contrary to what basic norms of OBA awareness and transparency- by disclosing the mechanism of online behavior tracking - would additively change consumer attitudes in a positive direction (e.g, Aguirre et al., 2015; Miyazaki, 2008; Van Noort et al., 2013), the current study confirmed that, it could generate negative evaluation. The result is in line with the findings of Summers et al. (2016), who found that a threshold of accuracy in matching consumers' actual behavior with the message created a favorable attitude toward the ad. When consumers understand that an ad has been delivered through tracking their behavior, they are more likely to accept such messages (based on their expectation that a promotion message will reflect their needs and interests). If advertisers cannot make accurate inferences about their target consumer, they may better off staying silent; the disclosure of OBA behavior tracking methods with perceived low accuracy led to less favorable attitudinal outcomes. This was found to be especially true for brand evaluation; when consumers perceive that an OBA is lacking accuracy in terms of matching their needs or interests, they blame not just the ad but also the brand. Furthermore, participants exposed to the accurate targeting scenarios, the OBA with disclosure revealed significantly more favorable attitude on both ad and

brand, which confirms consumers seem to appreciate transparency efforts when the ad matches with personal relevancy.

The study also developed and proposed an integrated model of how consumers cope with OBA lacks in targeting accuracy through persuasion knowledge, by combining reactance theory and attribution theory. While the PKM examines recognition and appraisal of the persuasion attempt, research into the subsequent coping process of consumers has been limited to covert advertising. Thus, prior studies of the integrated model of PKM on OBA (e.g., Ham, 2017) have been applied to situations where consumers recognize that an OBA has hidden motives to persuade consumers. However, OBA rarely mimics surrounding contents; it clearly shows its persuasion motives yet hides its mechanism of ad delivery. Thus, the findings of this dissertation is helpful in understanding situations where a persuasion intent is clearly identified (disclosing OBA mechanism) and in which the expected outcome of relevancy is insufficient (low in targeting accuracy). The application of this integrated model will help researchers understand how consumers psychologically process a persuasion episode where ambivalence is in nature, the risks outweigh the benefits or vice versa.

The experiment established empirical insights into the underlying mechanism of OBAs that fail to deliver accurate targeting. Such ads are seen as intrusive and may leave consumers feeling confused or irritated. Following the sequential process of resistance formation by Knowles and Linn (2004), we established both affective and cognitive reactance and examined how this influenced the ad evaluation stage. This study results suggest that consumers may become resistant when they perceive a discrepancy between what OBA suggests about their interests and how they actually perceive themselves.

When an individual is exposed to a mistargeted online video ad they may blame the advertiser. These findings are in line with attribution theory; consumers may start to form negative attributions about the reason why the ad was shown to them. Such initial processes harm the normal additive process of attitude formation; the showing of highly personalized messages (that may be seen as “creepy”) is moderated by transparency, which builds credentials and shifts attitudes in a positive direction (Van Noort et al., 2013). The attributional processes of assigning responsibility would incur stronger resistance which mediates the combined effects of performance and communication.

Prior studies used PKM to explain how consumers infer an advertising that is inherently possess the nature of costs and benefits (Kirmani & Campbell, 2004; Ham, 2017). Such studies were built on the concept of goal-pursuing self (Kirmani & Campbell, 2004), which individuals do have ability to protect themselves in evaluating the risks and rewards of OBA. In addition to such findings, this dissertation conceptualized and operationalized the prior stage to proceed such estimation by proposing the actual accuracy of targeting. Grounded by the concept of social exchange theory and privacy calculus, the study proposes that consumer perception that an OBA actually reflects their past behavior is a core process to evaluate its effectiveness and leads to either resistance or acceptance. When consumers know how a persuasion tactic works, they will move on to a more sophisticated process of evaluating the offers of it but also how efficient and ethically appropriate it is. Since many internet users are getting aware that an OBA is hard to completely avoid, the finding adds empirical evidence that they may ask how exactly it made an inference of their needs and wants.

## **Practical Implications**

Our results suggest that it is critical to show that ad targeting is accurate when an ad has been identified as being behaviorally targeted through disclosure methods. The industry may have struggles in delivering accurately targeted ads via collecting online behaviors because desktops and laptops are often shared by multiple users. Industries can exploit more sophisticated behavioral data collecting through mobile devices because they are less likely to have multiple users (Summers et al., 2016), or utilizing consumer's data that has used social login.

The results concerning the significance of reactance imply that advertisers should consider providing sufficient options to opt-out (e.g., Ad Choice) from behavioral tracking to reduce reactance and further ad avoidance. Psychological reactance occurs when people feel their freedom is restricted (Brehm, 1966); thus, allowing choices to reduce the restriction of consumer freedom is the best way to reduce reactance. In addition, advertisers could also consider consumers to perceive allowing behavioral tracking is a type of compensation, which would lead consumers to perceive having autonomy to make choices between privacy control or receiving useful advertisement.

This study also has social implications. The results showed that negative factors (i.e., perceived risks, reactance) were more strongly associated with protective motivation and behavior than positive factors (i.e., perceived benefits, perceived personalization). Consumers are more likely to perceive OBA as harmful rather than beneficial. Policy makers and ad industry players should consider this consumer perception and develop ways to practically protect consumers. As consumers learn that they are being manipulated, they may experience negative feelings and be inclined to distrust advertisers and Internet advertising in general (McCole et al., 2010). Such feelings of distrust may damage the brand in the long term.

## **Limitation and Future Direction**

The current study acknowledges some limitations. A major limitation is that this study examined only a specific situation for accuracy and personal relevancy. The situation was related to sports team affiliation and was limited to a student sample. Therefore, the study lacks some generalizability. However, since the study was the first to explore the concept of perceived mistargeting, future studies could expand the findings to include a broader range of demographics. In line with the concern above, the way this dissertation operationalized is rather perceived accuracy, rather than objective accuracy in consumer's past behavior. Although it seems perceived accuracy may play bigger impact on OBA acceptance, further study would need to design a study that also reflect the objective accuracy of targeting individual's behavior.

In addition, the current study did not explore some possible moderators from micro-level differences, such as each individual's level of privacy concern or perceived level of control over private data. Such factors are also some important predictors that affect OBA outcomes; some studies have mentioned that the younger generation are less likely to have privacy concerns (Turow et al., 2009). As discussed, consumers need to possess digital literacy to understand how a behaviorally targeted ad reaches to them. However, persuasion knowledge is an accumulated knowledge throughout their life (Friestad and Wright 1994), and thus consumers resistance toward OBA's privacy invasion could become more generous. In fact, privacy concern was entered as covariates from this study, yet there were no significant differences between participants receiving whether accurate or mistargeted OBA condition. Together, future research should consider how to examine the impact of individual's privacy concern and its changes in long term after exposed to mistargeted OBA.

The study described how the OBA applied behavior tracking, yet consumers less pay attention to such statements when they browse online. Thus, future could include other method of disclosure through which the industry explicitly shows that an ad is behaviorally targeted (such as the *i* icon) as well as more subtle cues that lead consumers to believe that an ad has been behaviorally targeted. This could also address whether indirect disclosure generates OBA awareness and creates negative attitudes toward OBA.

Exploring differences in the level of mistargeting could also be an interesting avenue for future research. Consumers could draw different perception of ‘mistargeting’ when they view an OBA that is not accurately reflects relevancy and interests. For example, an OBA for selling McDonald’s new hamburger can reach to some people who already finished their meals to other rival brands (e.g., Burger King or Wendy’s), or people who are trying to stay a healthy lifestyle. The first case would be perceived mistargeting due to its mismatch with purchase situation (because they have already made purchased decisions for another fast-food restaurant) while some would think a mistargeting due to a false interpretation about themselves (because they would rather choose other healthy diet option instead of fast-food). The findings of this study expect that the consumer receiving mistargeted OBA in the latter case would exhibit more severe reactance; however, the study encourages to explore future empirical evidence on the level of perceived mistargeting.

Finally, future research is also required to explore the relationship between self-image and receiving OBA or mistargeted OBA. If a consumer has not engaged in any behavior and receives an OBA that priming an ideal self-image, the negative results of mistargeting might be negated. On the other hand, when a consumer received an OBA that perfectly mathces past behavior but reflects one’s negative self-identity (e.g., delivering an ad which is recommended to

heavy drinkers), the accuracy might impact ad evaluation on the opposite direction. Given that advertisements can reach to consumers for both cases, it is worthwhile to consider which would lead blaming the advertiser and generate harsh reactance that could impact on negative attitudinal outcomes.

### **Limitation and Future Direction**

The foundation of online behavioral advertising rests on the commonly held presumption that it reaches the right customer at the right time, yet few studies examined when its targeting accuracy is low from a consumer's perspective. The current study investigated the effects of perceived mistargeting OBA when consumers know the behavior tracking mechanism of the ad but are unsatisfied with its targeting accuracy. The findings suggest that when consumers perceive mistargeted OBA, their evaluation of the effectiveness and appropriateness of persuasion decreases, blames the responsibility, and increases reactance toward the ad. The evidence of such mistargeted OBA provides insights into examining behavioral targeting accuracy for both researchers and advertisers.

## REFERENCES

- Aguirre, E., Mahr, D., Grewal, D., de Ruyter, K., & Wetzels, M. (2015). Unraveling the personalization paradox: The effect of information collection and trust-building strategies on online advertisement effectiveness. *Journal of Retailing*, 91(1), 34-49.
- Baek, T. H., & Morimoto, M. (2012), "Stay Away from Me: Examining the Determinants of Consumer Avoidance of Personalized Advertising, *Journal of Advertising*, 41 (1), 59–76.
- Baker, Scott R., Bloom, Nicholas., Davis, Steven J., and Terry, Stephen J. (2020). *COVID-Induced Economic Uncertainty*. Working paper no. 26983. National Bureau of Economic Research. Available: <https://www.nber.org/papers/w26983> Access: 04/05/2020.
- Bang, H., & Wojdyski, B. W. (2016). Tracking users' visual attention and responses to personalized advertising based on task cognitive demand. *Computers in Human Behavior*, 55, 867-876.
- Bauer, R. A., & Greyser, S. A. (1968). Advertising in America, the consumer view.
- Bland, J. Martin, and Douglas G. Altman. (1995), "Multiple significance tests: the Bonferroni method," *BMJ* 310(6973), 170.
- Bleier, A., & Eisenbeiss, M. (2015). The importance of trust for personalized online advertising. *Journal of Retailing*, 91(3), 390-409.
- Brehm, J. W. (1966). A theory of psychological reactance.
- Brehm, S. S., & Brehm, J. W. (2013). *Psychological reactance: A theory of freedom and control*. Academic Press.

Brown, K. A., & Ki, E. J. (2013). Developing a valid and reliable measure of organizational crisis responsibility. *Journalism & Mass Communication Quarterly*, 90(2), 363-384.

Boerman, S. C., Van Reijmersdal, E. A., & Neijens, P. C. (2012). Sponsorship disclosure: Effects of duration on persuasion knowledge and brand responses. *Journal of Communication*, 62(6), 1047-1064.

Boerman, S. C., Kruikemeier, S., & Zuiderveen Borgesius, F. J. (2017). Online Behavioral Advertising: A Literature Review and Research Agenda. *Journal of Advertising*, 46(3), 363-376.

Boerman, S. C., Van Reijmersdal, E. A., & Neijens, P. C. (2014). Effects of sponsorship disclosure timing on the processing of sponsored content: A study on the effectiveness of European disclosure regulations. *Psychology & Marketing*, 31(3), 214-224.

Boukes, M. (2021). Episodic and thematic framing effects on the attribution of responsibility: The effects of personalized and contextualized news on perceptions of individual and political responsibility for causing the economic crisis. *The International Journal of Press/Politics*, 1940161220985241.

Burgoon, J. K. (1978). A communication model of personal space violations: Explication and an initial test. *Human Communication Research*, 4(2), 129-142.

Campbell, M. C., & Kirmani, A. (2000). Consumers' use of persuasion knowledge: The effects of accessibility and cognitive capacity on perceptions of an influence agent. *Journal of consumer research*, 27(1), 69-83.

Campbell, C., & Evans, N. J. (2018). The role of a companion banner and sponsorship transparency in recognizing and evaluating article-style native advertising. *Journal of Interactive Marketing, 43*, 17-32.

Consumer Attitudes Towards Data Privacy Survey Q3 2018. (n.d.). Retrieved from <https://www.janrain.com/resources/industry-research/consumer-attitudes-towards-data-privacy-survey-q3-2018>

Chang, H. H., Tsai, Y. C., Wong, K. H., Wang, J. W., & Cho, F. J. (2015). The effects of response strategies and severity of failure on consumer attribution with regard to negative word-of-mouth. *Decision Support Systems, 71*, 48-61.

Choi, S., & Mattila, A. S. (2008). Perceived controllability and service expectations: Influences on customer reactions following service failure. *Journal of Business Research, 61*(1), 24-30.

Chen, J., & Stallaert, J. (2010). An economic analysis of online advertising using behavioral targeting, *MIS Quarterly, 38* (2), 429–49.

Coombs, W. T., & Holladay, S. J. (2005). An exploratory study of stakeholder emotions: Affect and crises. In *The effect of affect in organizational settings*. Emerald Group Publishing Limited.

De Blasio, A., & Veale, R. (2009). Why say sorry? Influencing consumer perceptions post organizational crises. *Australasian Marketing Journal, 17*(2), 75-83.

Dillard, J. P., Kinney, T. A., & Cruz, M. G. (1996). Influence, appraisals, and emotions in close relationships. *Communications Monographs, 63*(2), 105-130.

Dillard, J. P., & Shen, L. (2005). On the nature of reactance and its role in persuasive health communication. *Communication Monographs, 72*(2), 144-168.

Dogruel, L. (2019). Too much information!?! Examining the impact of different levels of transparency on consumers' evaluations of targeted advertising. *Communication Research Reports*, 36(5), 383-392.

Dolnicar, S., & Jordaan, Y. (2007). A market-oriented approach to responsibly managing information privacy concerns in direct marketing. *Journal of advertising*, 36(2), 123-149.

Ducoffe, R. H. (1995). How consumers assess the value of advertising. *Journal of Current Issues & Research in Advertising*, 17(1), 1-18.

Ducoffe, R. H. (1996). Advertising value and advertising on the web. *Journal of advertising research*, 36(5), 21-21.

Edwards, S. M., Li, H., & Lee, J. H. (2002). Forced exposure and psychological reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads. *Journal of Advertising*, 31(3), 83-95.

Ellen, P. S., Webb, D. J., & Mohr, L. A. (2006). Building corporate associations: Consumer attributions for corporate socially responsible programs. *Journal of the Academy of Marketing Science*, 34(2), 147-157.

Eslami, M., Krishna Kumaran, S. R., Sandvig, C., & Karahalios, K. (2018, April). Communicating algorithmic process in online behavioral advertising. In *Proceedings of the 2018 CHI conference on human factors in computing systems* (pp. 1-13).

Evans, N. J., Phua, J., Lim, J., & Jun, H. (2017). Disclosing Instagram influencer advertising: The effects of disclosure language on advertising recognition, attitudes, and behavioral intent. *Journal of interactive advertising*, 17(2), 138-149.

Federal Trade Commission (March, 2012), Protecting Consumer Privacy in an Era of Rapid Change: Recommendations for Businesses and Policymakers, Retrieved from

[www.ftc.gov/sites/default/files/documents/reports/federal-trade-commission-report-protecting-consumer-privacy-era-rapid-change-recommendations/120326privacyreport.pdf](http://www.ftc.gov/sites/default/files/documents/reports/federal-trade-commission-report-protecting-consumer-privacy-era-rapid-change-recommendations/120326privacyreport.pdf).

Franke, N., Keinz, P., & Steger, C. J. (2009). Testing the value of customization: when do customers really prefer products tailored to their preferences? *Journal of Marketing*, 73(5), 103–121.

Fransen, M. L., Verlegh, P. W., Kirmani, A., & Smit, E. G. (2015). A typology of consumer strategies for resisting advertising, and a review of mechanisms for countering them. *International Journal of Advertising*, 34(1), 6-16.

Friestad, M., & Wright, P. (1994). The persuasion knowledge model: How people cope with persuasion attempts. *Journal of consumer research*, 21(1), 1-31.

Folkes, V. S. (1984). Consumer reactions to product failure: An attributional approach. *Journal of consumer research*, 10(4), 398-409.

Gardner, L., & Leshner, G. (2016). The role of narrative and other-referencing in attenuating psychological reactance to diabetes self-care messages. *Health Communication*, 31(6), 738-751.

Girona, J. T., & Korgaonkar, P. K. (2018). iSpy? Tailored versus invasive ads and consumers' perceptions of personalized advertising. *Electronic Commerce Research and Applications*, 29, 64-77.

Goldfarb, A., & Tucker, C. (2012). Shifts in privacy concerns. *American Economic Review*, 102(3), 349-53.

Gomez, Joshua, Travis Pinnick, and Ashkan Soltani (2009), "KnowPrivacy," June 1, [http://www.knowprivacy.org/report/KnowPrivacy\\_Final\\_Report.pdf](http://www.knowprivacy.org/report/KnowPrivacy_Final_Report.pdf).

Ham, C. D., & Nelson, M. R. (2016). The role of persuasion knowledge, assessment of benefit and harm, and third-person perception in coping with online behavioral advertising.

*Computers in Human Behavior*, 62(3), 689-702.

Ham, C. D., Nelson, M. R., & Das, S. (2015). How to measure persuasion knowledge. *International Journal of Advertising*, 34(1), 17-53.

Ham, C. D. (2017). Exploring how consumers cope with online behavioral advertising. *International Journal of Advertising*, 36(4), 632-658.

Hariharan, V. G., Talukdar, D., & Kwon, C. (2015). Optimal targeting of advertisement for new products with multiple consumer segments. *International journal of research in marketing*, 32(3), 263-271.

Harvey, J. H., & Weary, G. (1984). Current issues in attribution theory and research. *Annual Review of Psychology*, 35(1), 427-459.

Hayes, A. F. (2013). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling.

Heider, F. (1944). Social perception and phenomenal causality. *Psychological Review*, 51(6), 358-374.

Hossain, M. T., & Saini, R. (2014). Suckers in the morning, skeptics in the evening: Time-of-Day effects on consumers' vigilance against manipulation. *Marketing Letters*, 25(2), 109-121.

Hudders, L., De Pauw, P., Cauberghe, V., Panic, K., Zarouali, B., & Rozendaal, E. (2017). Shedding new light on how advertising literacy can affect children's processing of embedded advertising formats: A future research agenda. *Journal of Advertising*, 46(2), 333-349.

Interactive Advertising Bureau (June 9, 2016), First Quarter U.S. Internet Ad Revenues Hit Record-Setting High at Nearly \$16 Billion, According to IAB. June 9. Retrieved from <https://www.iab.com/news/first-quarter-u-s-internet-ad-revenueshit-record-setting-high-nearly-16-billion-according-iab>.

Interactive Advertising Bureau. (April 7, 2021). IAB Releases Internet Advertising Revenue Report for 2020. Retrieved from <https://www.iab.com/news/iab-internet-advertising-revenue/>

Isaac, M. S., & Grayson, K. (2017). Beyond skepticism: Can accessing persuasion knowledge bolster credibility. *Journal of Consumer Research*, *43*(6), 895-912.

Jai, T. M. C., Burns, L. D., & King, N. J. (2013). The effect of behavioral tracking practices on consumers' shopping evaluations and repurchase intention toward trusted online retailers. *Computers in Human Behavior*, *29*(3), 901-909.

Jin, Y., Seipp, K., Duval, E., & Verbert, K. (2016, June). Go with the flow: effects of transparency and user control on targeted advertising using flow charts. In *Proceedings of the international working conference on advanced visual interfaces* (pp. 68-75).

Kalyanaraman, S., & Sundar, S. S. (2006). The psychological appeal of personalized content in web portals: Does customization affect attitudes and behavior?. *Journal of Communication*, *56*(1), 110-132.

Kelley, H. H., & Michela, J. L. (1980). Attribution theory and research. *Annual Review of Psychology*, *31*(1), 457-501.

Ketelaar, P. E., Bernritter, S. F., van't Riet, J., Hühn, A. E., van Woudenberg, T. J., Müller, B. C., & Janssen, L. (2017). Disentangling location-based advertising: the effects of

location congruency and medium type on consumers' ad attention and brand choice. *International Journal of Advertising*, 36(2), 356-367.

Kim, T., Barasz, K., & John, L. K. (2019). Why am I seeing this ad? The effect of ad transparency on ad effectiveness. *Journal of Consumer Research*, 45(5), 906-932.

Kim, H., & Huh, J. (2017). Perceived relevance and privacy concern regarding online behavioral advertising (OBA) and their role in consumer responses. *Journal of Current Issues & Research in Advertising*, 38(1), 92-105.

Kim, S. Y., Levine, T. R., & Allen, M. (2017). The intertwined model of reactance for resistance and persuasive boomerang. *Communication Research*, 44(7), 931-951.

Kim, Y., Baek, T. H., Yoon, S., Oh, S., & Choi, Y. K. (2017). Assertive environmental advertising and reactance: Differences between South Koreans and Americans. *Journal of Advertising*, 46(4), 550-564.

Kirmani, A., & Campbell, M. C. (2004). Goal seeker and persuasion sentry: How consumer targets respond to interpersonal marketing persuasion. *Journal of consumer research*, 31(3), 573-582.

Knowles, E. S., & Linn, J. A. (2004). *Resistance and persuasion*. Psychology Press.

Krafft, M., Arden, C. M., & Verhoef, P. C. (2017). Permission Marketing and Privacy Concerns—Why Do Customers (Not) Grant Permissions?. *Journal of Interactive Marketing*, 39, 39-54.

Koch, T., & Zerback, T. (2013). Helpful or harmful? How frequent repetition affects perceived statement credibility. *Journal of Communication*, 63(6), 993-1010.

Kumar, V., & Gupta, S. (2016). Conceptualizing the evolution and future of advertising. *Journal of Advertising*, 45(3), 302-317.

Laczniak, R. N., DeCarlo, T. E., & Ramaswami, S. N. (2001). Consumers' responses to negative word-of-mouth communication: An attribution theory perspective. *Journal of Consumer Psychology, 11*(1), 57-73.

Lambrecht, A., & Tucker, C. (2013). When does retargeting work? Information specificity in online advertising. *Journal of Marketing Research, 50*(5), 561-576.

LaVoie, N. R., Quick, B. L., Riles, J. M., & Lambert, N. J. (2017). Are graphic cigarette warning labels an effective message strategy? A test of psychological reactance theory and source appraisal. *Communication Research, 44*(3), 416-436.

Leo, X., & Huh, Y. E. (2020). Who gets the blame for service failures? Attribution of responsibility toward robot versus human service providers and service firms. *Computers in Human Behavior, 113*, 106520.

Leon, Pedro G., Justin Cranshaw, Lorrie F. Cranor, Jim Graves, Manoj Hastak, Blase Ur, and Guzi Xu (2012), "What Do Online Behavioral Advertising Privacy Disclosures Communicate to Users?," Proceedings of the Annual ACM Workshop on Privacy in the Electronic Society, 19–30.

Lewinski, P., Fransen, M. L., & Tan, E. S. (2016). Embodied resistance to persuasion in advertising. *Frontiers in psychology, 7*, 1-12.

Li, H., & Bukovac, J. L. (1999). Cognitive impact of banner ad characteristics: An experimental study. *Journalism & Mass Communication Quarterly, 76*(2), 341-353.

Li, H., Edwards, S. M., & Lee, J.-H. (2002). Measuring the intrusiveness of advertisements: scale development and validation. *Journal of Advertising, 31*(2), 37–47.

Li, H., & Nill, A. (2020). Online Behavioral Targeting: Are Knowledgeable Consumers Willing to Sell Their Privacy?. *Journal of Consumer Policy, 43*(4), 723-745.

Mangleburg, T. F., & Bristol, T. (1998). Socialization and adolescents' skepticism toward advertising. *Journal of advertising*, 27(3), 11-21.

Marreiros, Helia, Richard Gomer, Michael Vlassopoulos, and Mirco Tonin (2015), "Exploring User Perceptions of Online Privacy Disclosures," Proceedings of IADIS International Conference WWW/Internet. IADIS Press. <http://www.iadisportal.org/icwi-2015-proceedings>.

Matthes, J., & Naderer, B. (2016). Product placement disclosures: Exploring the moderating effect of placement frequency on brand responses via persuasion knowledge. *International Journal of Advertising*, 35(2), 185-199.

McCole, P., Ramsey, E., & Williams, J. (2010). Trust considerations on attitudes towards online purchasing: The moderating effect of privacy and security concerns. *Journal of Business Research*, 63(9-10), 1018-1024.

McDonald, Aleecia M., and Lorrie F. Cranor (2008), "The Cost of Reading Privacy Policies," *Information System: A Journal of Law and Policy for the Information Society*, 4 (3), 543-67

McDonald, A. M., & Cranor, L. F. (2010, October). Americans' attitudes about internet behavioral advertising practices. In *Proceedings of the 9th annual ACM workshop on Privacy in the electronic society* (pp. 63-72). ACM.

MacKenzie, S. B., & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context. *Journal of marketing*, 53(2), 48-65.

Maxham III, J. G., & Netemeyer, R. G. (2002). A longitudinal study of complaining customers' evaluations of multiple service failures and recovery efforts. *Journal of marketing*, 66(4), 57-71.

Miyazaki, A. D. (2008). Online privacy and the disclosure of cookie use: Effects on consumer trust and anticipated patronage. *Journal of Public Policy & Marketing*, 27(1), 19-33.

Mori (1970). Bukimi no tani [The uncanny valley], *Energy*, 7 (4), 33-35.

Moore, R. S., Moore, M. L., Shanahan, K. J., & Mack, B. (2015). Creepy marketing: Three dimensions of perceived excessive online privacy violation. *Marketing Management*, 25(1), 42-53.

Nelson, M. R., Wood, M. L., & Paek, H. J. (2009). Increased persuasion knowledge of video news releases: Audience beliefs about news and support for source disclosure. *Journal of Mass Media Ethics*, 24(4), 220-237.

Nielson (2016). Nearly half of online campaigns miss targets. Retrieved from <https://www.nielsen.com/uk/en/press-releases/2016/nearly-half-of-online-campaigns-miss-target-audience/>

Newell, S., & Marabelli, M. (2015). Strategic opportunities (and challenges) of algorithmic decision-making: A call for action on the long-term societal effects of ‘datification’. *The Journal of Strategic Information Systems*, 24(1), 3-14.

Nil, A., & Aalberts, R. J. (2014). Legal and ethical challenges of online behavioral targeting in advertising. *Journal of current issues & research in advertising*, 35(2), 126-146.

Norberg, P. A., Horne, D. R., & Horne, D. A. (2007). The privacy paradox: Personal information disclosure intentions versus behaviors. *Journal of Consumer Affairs*, 41(1), 100-126.

Nyilasy, G., Gangadharbatla, H., & Paladino, A. (2014). Perceived greenwashing: The interactive effects of green advertising and corporate environmental performance on consumer reactions. *Journal of Business Ethics*, 125(4), 693-707.

Rains, S. A. (2013). The nature of psychological reactance revisited: A meta-analytic review. *Human Communication Research, 39*(1), 47-73.

Richins, M. L. (1983). Negative word-of-mouth by dissatisfied consumers: A pilot study. *Journal of marketing, 47*(1), 68-78.

Rodgers, S., & Thorson, E. (2000). The interactive advertising model: How users perceive and process online ads. *Journal of interactive advertising, 1*(1), 41-60.

Rodgers, S. (2003). The effects of sponsor relevance on consumer reactions to internet sponsorships. *Journal of Advertising, 32*(4), 67-76.

Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *The journal of psychology, 91*(1), 93-114.

Rozendaal, E., Lapierre, M. A., Van Reijmersdal, E. A., & Buijzen, M. (2011). Reconsidering advertising literacy as a defense against advertising effects. *Media Psychology, 14*(4), 333-354.

Quick, B. L., & Kim, D. K. (2009). Examining reactance and reactance restoration with South Korean adolescents: A test of psychological reactance within a collectivist culture. *Communication Research, 36*(6), 765-782.

Quick, B. L., & Stephenson, M. T. (2007). Further evidence that psychological reactance can be modeled as a combination of anger and negative cognitions. *Communication Research, 34*(3), 255-276.

Pavlou, P. A., & Stewart, D. W. (2000). Measuring the effects and effectiveness of interactive advertising: A research agenda. *Journal of Interactive Advertising, 1*(1), 61-77.

Phelan, C., Lampe, C., & Resnick, P. (2016, May). It's creepy, but it doesn't bother me. In *Proceedings of the 2016 CHI conference on human factors in computing systems* (pp. 5240-5251). ACM.

Philip, J., Chadee, D., & Yearwood, R. P. (2014). Health care students' reactions towards HIV patients: examining prejudice, emotions, attribution of blame and willingness to interact with HIV/AIDS patients. *AIDS care*, 26(10), 1236-1241.

Puzakova, M., Rocereto, J. F., & Kwak, H. (2013). Ads are watching me: A view from the interplay between anthropomorphism and customisation. *International Journal of Advertising*, 32(4), 513-538.

Schindler, R. M., Morrin, M., & Bechwati, N. N. (2005). Shipping charges and shipping-charge skepticism: Implications for direct marketers' pricing formats. *Journal of Interactive Marketing*, 19(1), 41-53.

Schumann, J. H., von Wangenheim, F., & Groene, N. (2014). Targeted online advertising: Using reciprocity appeals to increase acceptance among users of free web services. *Journal of Marketing*, 78(1), 59-75.

Schwarz, A. (2012). How publics use social media to respond to blame games in crisis communication: The Love Parade tragedy in Duisburg 2010. *Public Relations Review*, 38(3), 430-437.

Seyama, J. I., & Nagayama, R. S. (2007). The uncanny valley: Effect of realism on the impression of artificial human faces. *Presence: Teleoperators and virtual environments*, 16(4), 337-351.

Smit, E. G., Van Noort, G., & Voorveld, H. A. (2014). Understanding online behavioural advertising: User knowledge, privacy concerns and online coping behaviour in Europe. *Computers in Human Behavior*, 32, 15-22.

Speck, P. S., & Elliott, M. T. (1997). Predictors of advertising avoidance in print and broadcast media. *Journal of Advertising*, 26(3), 61-76.

Springer Gabler, Wiesbaden. White, T. B., Zahay, D. L., Thorbjørnsen, H., & Shavitt, S. (2008). Getting too personal: reactance to highly personalized email solicitations. *Marketing Letters*, 19(1), 39–50.

Srinivasan, S. S., Anderson, R., & Ponnnavolu, K. (2002). Customer loyalty in e-commerce: an exploration of its antecedents and consequences. *Journal of retailing*, 78(1), 41-50.

Summers, C. A., Smith, R. W., & Reczek, R. W. (2016). An audience of one: Behaviorally targeted ads as implied social labels. *Journal of Consumer Research*, 43(1), 156-178.

Sutanto, J., Palme, E., Tan, C. H., & Phang, C. W. (2013). Addressing the Personalization-Privacy Paradox: An Empirical Assessment from a Field Experiment on Smartphone Users. *Mis Quarterly*, 37(4).

Tucker, C. E. (2014). Social networks, personalized advertising, and privacy controls. *Journal of Marketing Research*, 51(5), 546-562.

Tutaj, K., & Van Reijmersdal, E. A. (2012). Effects of online advertising format and persuasion knowledge on audience reactions. *Journal of Marketing Communications*, 18(1), 5-18.

Turow, J., Hoofnagle C. J., Bleakley A., & Hennessy, M. (2009). Americans Reject Tailored Advertising and Three Activities That Enable It. Retrieved from [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_idD1478214](http://papers.ssrn.com/sol3/papers.cfm?abstract_idD1478214).

Turow, J., Hennessy, M., & Draper, N. (2018). Persistent misperceptions: Americans' misplaced confidence in privacy policies, 2003–2015. *Journal of Broadcasting & Electronic Media*, 62(3), 461-478.

Ur, Blase, Pedro G. Leon, Lorrie F. Cranor, Richard Shay, and Yang Wang (2012), “Smart, Useful, Scary, Creepy: Perceptions of Online Behavioral Advertising,” Proceedings of the Eighth Symposium on Usable Privacy and Security, art. 4.

Van Doorn, J., & Hoekstra, J. C. (2013). Customization of online advertising: The role of intrusiveness. *Marketing Letters*, 24(4), 339-351.

Van Noort, G., Smit, E. G., & Voorveld, H. A. (2013). The online behavioural advertising icon: two user studies. In *Advances in Advertising Research (Vol. IV)* (pp. 365-378).

Van Reijmersdal, E. A., Lammers, N., Rozendaal, E., & Buijzen, M. (2015). Disclosing the persuasive nature of advergames: Moderation effects of mood on brand responses via persuasion knowledge. *International Journal of Advertising*, 34(1), 70-84.

Van Reijmersdal, E. A., Fransen, M. L., van Noort, G., Oprea, S. J., Vandeberg, L., Reusch, S., & Boerman, S. C. (2016). Effects of disclosing sponsored content in blogs: How the use of resistance strategies mediates effects on persuasion. *American Behavioral Scientist*, 60(12), 1458-1474.

Varnali, K. (2021). Online behavioral advertising: An integrative review. *Journal of Marketing Communications*, 27(1), 93-114.

Wei, M. L., Fischer, E., & Main, K. J. (2008). An examination of the effects of activating persuasion knowledge on consumer response to brands engaging in covert marketing. *Journal of Public Policy & Marketing*, 27(1), 34-44.

Weiner, B. (2000). Attributional thoughts about consumer behavior. *Journal of Consumer Research*, 27(3), 382–387.

Weiss, M. (June 5, 2019). Most publishers don't benefit from behavioral ad targeting. Retrieved from <https://digiday.com/media/digiday-research-most-publishers-dont-benefit-from-behavioral-ad-targeting/>

Wells, W. D., Leavitt, C., & McConville, M. (1971). A reaction profile for TV commercials. *Journal of Advertising Research*.

Wright, P., Friestad, M., & Boush, D. M. (2005). The development of marketplace persuasion knowledge in children, adolescents, and young adults. *Journal of Public Policy & Marketing*, 24(2), 222-233.

Wohn, D. Y., & Sarkar, C. (2014). The Uncanny Valley Effect in Behavioral Targeting and Information Processing of Peripheral Cues. In *iConference 2014 Proceedings* (p. 577–582). doi:10.9776/14075

Wojdyski, B. W., & Evans, N. J. (2016). Going native: Effects of disclosure position and language on the recognition and evaluation of online native advertising. *Journal of Advertising*, 45(2), 157-168.

Wojdyski, B. W., Evans, N. J., & Hoy, M. G. (2018). Measuring sponsorship transparency in the age of native advertising. *Journal of Consumer Affairs*, 52(1), 115-137.

Wojdyski, B. W., & Evans, N. J. (2020). The covert advertising recognition and effects (CARE) model: Processes of persuasion in native advertising and other masked formats. *International Journal of Advertising*, 39(1), 4-31.

Williams, P., Fitzsimons, G. J., & Block, L. G. (2004). When consumers do not recognize “benign” intention questions as persuasion attempts. *Journal of consumer Research*, 31(3), 540-550.

Yang, H. (2013). Young American consumers' online privacy concerns, trust, risk, social media use, and regulatory support. *Journal of New Communications Research*, 5(1), 1-30.

Ying, L., Korneliussen, T., & Grønhaug, K. (2009). The effect of ad value, ad placement and ad execution on the perceived intrusiveness of web advertisements. *International Journal of Advertising*, 28(4), 623–638.

Yoo, C. Y. (2009). The effects of persuasion knowledge on click-through of keyword search ads: Moderating role of search task and perceived fairness. *Journalism & Mass Communication Quarterly*, 86(2), 401-418.

Youn, S., & Kim, S. (2019). Newsfeed native advertising on Facebook: young millennials’ knowledge, pet peeves, reactance and ad avoidance. *International Journal of Advertising*, 38(5), 651-683.

Yu, J. (2020). Consumer responses toward green advertising: The effects of gender, advertising skepticism, and green motive attribution. *Journal of Marketing Communications*, 26(4), 414-433.

Zeng, F., Huang, L., & Dou, W. (2009). Social factors in user perceptions and responses to advertising in online social networking communities. *Journal of interactive advertising*, 10(1), 1-13.