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**Joy's Mediating Effect on Digital Consumer Engagement with  
Advertising**

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**Joy's Mediating Effect on Digital Consumer Engagement with  
Advertising**

**by**

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## **Dedication**

For the future, my dear muses Mason and Miles.

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## **Abstract**

# **Joy's Mediating Effect on Digital Consumer Engagement with Advertising**

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From a computational perspective, advertisers stand the chance to benefit from a better understanding of a message's framing effects on behavioral responses to an advertisement. Sentiment analysis, which relies on a text analytic process to determine the opinions, beliefs, and feelings of a speaker directed toward someone or something, has been shown to be useful in determining associations between words and discrete emotions. Surprisingly little research to date has examined the ad framing effects of emotion in an advertisement's copy or the role that the emotion plays in relation to behavioral outcomes of engagement. Current research exploring discrete emotions tends to live in the news media, science communication, or health communication streams of literature with less attention given to how discrete emotions affect behavioral outcomes in advertising. Even fewer studies have considered the role of emotion in text, aside from examining how terms may evoke an emotion using survey-based methods.

To address this gap, I introduce a text analytic process using a real-world advertising sample of Facebook advertisers. Using the NRC lexicon, I use natural

language processing to measure the sentiment and emotional frames of a corporate brand advertising sample. Each advertisement was coded for a mean sentiment measure before being measured for discrete word associations of joy. Given the broader theoretical aim of this dissertation and the overabundance of literature focused on the negative effects of media, I focus on the positive emotion of joy and examine its mediating effects on digital consumer engagement with advertising. This dissertation contributes to advertising effectiveness literature, first by conceptualizing engagement behaviors alongside outcomes of advertising processing, and then by arguing for the importance of engagement as a measure of effectiveness in relation to emotions as a frame.

My results extend previous emotion advertising literature by showing that joy-frames can mediate outcomes of advertising processing. Specifically, I show that words associated with joy in text mediate outcomes of clicks. Moreover, I show how word associations with positive, discrete emotions can mediate behavioral outcomes of digital consumer engagement with advertising and suggest how these findings can be used in a theoretical and applied manner.

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## Chapter 1: Introduction

Advertising researchers have asserted a need for increased attention on the concept of digital engagement with advertising in the literature (Rodgers & Thorson, 2018). Directly related to this line of inquiry is Gavilanes et al's., advertising processing model (2018) which conceptualizes digital consumer engagement with advertising alongside levels of advertising processing. In earlier advertising processing frameworks, past research revealed that the intermediate mind-set responses that are experienced by a consumer when exposed to an advertisement can be used to define advertising effectiveness (Stewart, 1974; Vakratras & Ambler, 1999; Petty, Cacioppo & Schumann, 1983; Stern, 2002). Although studies in advertising have examined digital consumer engagement (Voorveld et al., 2018; Calder, Isaac, & Malthouse, 2016), we know little about the role emotions play in these hierarchical frameworks for advertising processing.

On the other hand, interest in framing has continued to grow due to the implications for political communication, public policy, and consumer behavior. Framing theory is built upon the idea that how an issue is presented will influence how that message is perceived. Indeed, years of research have shown that frames shape opinions (Iyengar, 1994; Zaller, 1992, Nelson, Clawson & Oxley, 1997). Emotions, too, can act as a frame for which incoming advertising stimuli may be interpreted (Nabi, 2003). In explaining these effects, research has mainly conceptualized emotions as being exogenous variables, separate from the frames themselves, and treating them as a consequence of frames. Emotions, though, can arise as a reaction to a frame or they can

be a core part of the frame itself. The latter is the focus of this work. Work that explores emotion within the framing process has begun to make headway, yet there remains an opportunity to better understand effects of emotions as frames.

For instance, emotion can be framed within a message in a manner that arouses feelings of joy. The emotion of joy is defined as having a state of positive affect and has been associated with related, positive feelings of freedom, safety, and ease (Johnson, 2020). However, joy is said to be one of the least studied emotions despite it being one of the basic primary human emotions (Emmons, 2020). Distinct yet often used synonymously with happiness, joy tends to be more specific in terms of its limited duration. For instance, emotion can be framed within a message in a manner that arouses feelings of joy, whereas happiness may be more persistent and therefore less likely to be achieved through a single advertising message.

Nabi's emotions-as-a-frame model conceptualizes message-induced emotion to mediate message framing and persuasive outcomes. In extension of her emotion as a frame theory, I integrate her conceptual framework with Gavilanes et al. (2018) framework of digital consumer engagement with advertising in a social network. Sentiment analysis, which aims to find the opinions and private states (e.g., beliefs, feelings, and speculations) of a speaker directed toward a specific entity (Mohammad & Turney, 2013; Wiebe 1994) was then used to measure emotions. Using mediation analysis, joy was then tested as a mediator of sentiment on digital consumer engagement with advertising. As such this study provides additional insight into how varying levels of

behavioral responses can be understood related to varying mechanisms of advertising processing when emotion-consistent information is presented in social networks.

While research opportunities abound in computational advertising, I assert that engagement captures relevant heterogeneity in online advertising effects that can occur with advertising in a social network. Using measures of digital consumer engagement to understand advertising processing and the hierarchy of effects in Facebook enable two important outcomes. First, the findings contribute to marketing strategies that can elicit cognitive and emotional investments from consumers by understanding specific niche audience interests, behaviors, and emotions. As a person feels more connected to a brand, these feelings drive loyalty and increase a person's willingness to share information with a brand (Labrecque, 2014). Furthermore, a person's perceived attachment to a brand is a key predictor of consumer behavior and purchase intention (Park et al., 2010) and each engagement is an opportunity to build upon this momentum. Second, by using real-world data, the study and findings conducted in this dissertation help close the disconnect between real world practice and academic research (Lamberton & Stephen, 2016).

Notably, traditional advertising terminology that had been used in the past to define various measurements for television, print, or radio, also referred to impressions, reach, or cost per 1,000 impressions (e.g., CPM), for example. Much of the conventional knowledge, including the definitions and terms, have transferred and are used to understand advertising effects in social networks. However, the interactive features associated with social media have engendered new measures like retweets or shares that provide clues into consumer intent beyond just exposure of reach and

impressions. Because of these features, researchers now have access to behavioral traced data that suggest varying levels of cognitive and affective processing are occurring.

As mentioned previously, many studies have examined a handful of variables related to engagement (e.g., Lee, Hosanagar, & Nair, 2018). As has been suggested by the literature, engagement is of substantial value to companies (de Oliveira Santini et al., 2020). My intent goes beyond the conventional approach of advertising literature that focuses on short-term outcomes of persuasion, and ventures toward understanding the “why” behind the data by expanding our knowledge of consumer behavior on social media through the domain of computational advertising. With purpose, this dissertation argues that emotions as frames offer an opportunity to progress advertising scholarship beyond being a variable field (Thorson & Shelly 2019, Nan & Faber 2004) and offer broader theoretical implications.

Along with advertising being redefined as, “brand-initiated communication intent on impacting people” (Dahlen & Rosengren, 2016, p. 334), I contend that computational advertising enables advertising scholarship an opportunity to align with its broader paradigm shift as part of mass communication occurring in social networks. Specifically, my analytic focus on positive affect enables another contribution in support of engagement being used to understand how joy can drive positive outcomes in online and offline consumer behavior. This finding suggests that brands can be deliberate in their language and impactful in their messaging.

In review of the literature, the following sections first address a brief history of advertising before moving onto the importance of social media in scholarship and its

benefits to the field of advertising. Next, drawing upon theories related to social psychology, a brief overview of emotion is followed by some discussion dedicated toward framing literature and the role of gain/loss frames in persuasion. I then advocate for the need to examine the role of positive emotion as an opportunity to show the positive benefits of framing effects related to joy and surprise in advertising. This dissertation aims to computationally support the several prominent studies that have shown that how information is presented can influence how people respond to that message.

## Chapter 2: Review Of Literature

Advertising now reaches beyond *paid* media and is arguably more intertwined in modern media than it had been conventionally through print or television, for instance. Along with its natural evolution, the field of advertising has also experienced a dramatic shift in its role in the broader media landscape. This is most evident in the shift from traditional to digital advertising where advertisers are no longer broadcasting their messages to consumers in a unidirectional manner but instead are building bidirectional relationships with people ushered in with the one-to-one conversation. User-generated and user-shared content now pushes the envelope on the current boundaries of advertising. Moving beyond survey-based methods in advertising, Lee, Kim, & Ham (2016) suggest that experimental methods may be more fruitful in testing specified boundary conditions of social media advertisements. For instance, advertising perceptions may be used as stronger or weaker predictors of consumers' responses to the advertisements. Outcomes like co-producing or co-creating that include comments and sharing behavior in a social network are unique to digital consumer engagement with advertising in a social network and conceptually suggest that a consumer is more deeply involved with an advertising message.

Regarding the effectiveness of an advertisement's cognitive, affective, or behavioral outcome in a social media environment, Dahlen & Rosengren (2016) define advertising as any "brand-initiated communication intent on impacting people" (p. 334). For the purposes of this dissertation, I refine this to focus on advertising effectiveness in a

social network. As calls for research surmount to address these changes in the literature, opportunities simultaneously arise to advance theory and methods for studying the many attributes relating to advertising effects. The more broadly defined understanding of advertising is more inclusive and is more closely aligned with that of persuasive mass communication as “aimed at encouraging large groups of people to believe and act on the communicator’s viewpoint” (Matz, Kosinski, Nave, & Stillwell, 2017). As such, I approach this research within a specific area of literature while also conceptualizing how the study effects may also relate on a broader societal level.

### **A brief history of advertising**

By first reviewing the evolution of advertising as a field, it can help to make sense of the current media landscape. Nan and Faber (2004) provide a review of advertising theory, saying that "the development and growth of a discipline is often a matter of historical accident reflecting the changing interests or concerns of a given time." (p. 7). Broadly speaking, the academic field of mass communication has been attributed in large part as resulting from the use of propaganda in World War 1 and II (O’Guinn & Faber, 1991). Of course, advertising was around during the period of industrialization, but it wasn't until the late 19th and early 20th centuries when it is said that advertising supported the growth of the consumer culture way of life that is centered on consumption (O'guinn, Allen, Semenik, & Scheinbaum, 2014). It was during this period that advertising blossomed into a full-fledged industry when some of the first advertising agencies were founded.

In fact, advertising was fully unregulated in the U.S. until 1906 when the Pure Food and Drug Act was passed to require that all active ingredients be listed on product labels (O'guinn, Allen, Semenik, & Scheinbaum, 2014). The industry has evolved over the years. During the Great Depression advertising moved into the public's eyes as suspect—that is, part of the big business that had led to the economic depression it was facing (O'guinn, Allen, Semenik, & Scheinbaum, 2014). Mass communication, on the other hand, includes all communication generated toward the public. Even though the word “mass” is included in the term, it doesn't mean that every message needs to reach a mass audience. Instead, today, it includes both broadly targeted and micro-targeted messaging. Yet the goal has remained the same—to persuade.

Barnard and Ehrenberg (1997), however, argued that advertising's primary role was in reinforcing versus persuading and more often influenced selective demand at the expense of the competition. Primary demand is defined as the total sales in a product category whereas secondary demand or selective demand is in reference to the sales of a single brand within that category (Ehrenberg, 1974). One memorable example of this was the "Got Milk" ad campaign where the advertisers sought to drive primary demand and overall consumption of dairy milk.

Both attitude change and attitude theories have been found to dominate advertising literature (Pasadeos, Phelps & Kim, 1998). As Dahlen and Rosengren (2016), recognized in their more broadly defined approach to defining advertising, advertising in the 21st century reaches beyond paid media placements (i.e., traditional advertising) and as such is arguably more deeply intertwined in the daily lives of consumers. At the same

time, definitively labeling advertising as persuasive communication has led to a natural overemphasis and focus within the field on attitude change theories (Faber, Duff & Nan, 2012). While advertising has become more expansive, much of our current understanding draws from traditional approaches that date back to the turn of the 19th century.

Avant, Kim & Hayes (2017) suggest that an examination of trends in advertising research across broader, more established fields of communications and marketing may offer opportunities for relevant approaches to move advertising theory forward. In their review of 633 research articles published between 1980 and 2010, they show that parent disciplines of psychology, sociology, anthropology, economics, marketing, and communication are valuable resources of theories for advertisers (Avant, Kim & Hayes, 2017). Additionally, the continuous application of outside theory has created an opportunity for advertising to take a more prominent role in its theoretical contributions. Furthermore, despite its role as a new scientific field, advertising is positioned for impactful work ahead.

In Yale and Gilly's review (1988), which mainly focused on content characteristics in advertising, the authors found that advertising research published in the *Journal of Advertising* covered a wider range of topics such as social issues, advertising practices, and ad content in comparison to the *Journal of Advertising Research* which was largely focused on research topics and implications for practice. The researchers also argued that academic journals act as gatekeepers to a field and can dictate how a field moves forward. Coincidentally or perhaps serendipitously, because of advertising's

continued and broader economic role in our society, advertising effects offer a timely topic for examination.

Drumwright & Murphy (2004) found that of the possible ethical issues relating to advertising, practitioners were least likely to recognize macro-level issues that focus on the aggregate effects of advertising. These are sometimes referred to as the unintended social consequences of advertising (Pollay, 1986). Toward the first part of the 20th century, television was the dominant media, but today media consumption has evolved to occur on social and mobile technology. Subsequently, the media landscape has experienced major changes in how advertising is not only consumed but also attended. Accompanied by advancements in personalization and targeting, these new forms of data-driven advertising may not be well understood by consumers (Smit, van Noort, & Voorveld 2014).

### **Advertising as a science**

In the literature, the development of scientific theory using either research questions or hypotheses can be thought of in terms of either deductive or inductive. Research questions are useful in new areas of scientific inquiry where there is little known about the variables of interest, but just because a topic may be new, there also have likely been previous studies about how people relate to the topic from which to draw hypotheses (Shoemaker, Tanker & Lasorsa, 2003). While a deductive scientific model starts with a theory, inductive research is said to be better at building theory

(Shoemaker et al. 2003). Empirical work employing the study of social media tends to either borrow from both approaches and meet in the middle.

In science, data are defined as “marks on a physical medium (such as a piece of paper, a hard drive, or an electromagnetic wave) that are meaningfully (e.g., causally, or definitionally) related with certain singular facts belonging to a phenomenon of interest. If the data are correctly interpreted in terms of the relationship that they have with those facts, then the data constitute evidence for those facts and thus the phenomenon of interest.” (Pietsch, 2021; p. 12). Big data, on the other hand, is typically defined by the three V’s which stand for volume, variety, and velocity (Laney, 2001). Unique from traditional methods of scientific observation, data has transformed the scientific process for many fields, advertising not excluded. Beyond the scope of this dissertation, the transformation has become part of a larger debate about the impact of information and communication technology on the scientific method.

In their review of the many imminent opportunities in marketing using big data, Hofacker, Malthouse, & Sultan (2016) argue that the new data-driven culture supports an inductive approach to theory building. Induction-based research using behavioral data can drive new areas of scientific discovery (Liu-Thompkins & Malthouse, 2017). For instance, big data has been used to study network analysis (Vargo & Guo, 2016; Taneja, 2017) which explores the relationships between people (e.g., dyads) on social media. Thus, data have opened new doors to discovery and provide a measure of complex trace behavior that can be used to understand people and their behavior.

These opportunities are further compounded at the intersection of empirical work in advertising using big social data. Indeed, there are numerous studies previously published that explore how people and technology relate to one another, yet novel questions remain using interdisciplinary research to understand how conventional approaches to marketing are best applied in social networks. Rapid changes are underway—for instance, researchers have begun a discussion around redefining consumers to explicitly include people who use “free” services where the cost and value are about data instead of money (Helberger, Huh, Milne, Strycharz & Sundaram, 2020). Even the very definition of advertising has been widened. On the other hand, deductive research argues that almost all scientific research should be approached with a hypothesis (Shoemaker et al., 2003) and that those inquiries should be grounded in past theoretical work. Especially due to the interdisciplinary nature of this work, I contend that my focus on consumer behavior and marketing will benefit from both an inductive and deductive approach and therefore both will be employed in this dissertation.

### **Computational Advertising**

The goal of this dissertation, then, is to either reject or accept grounded hypotheses that can contribute to advertising theory from within the stream of computational advertising literature. My aim is to also argue for the importance of digital consumer engagement as a measure of advertising effectiveness and show how advertisers can use positive emotions to drive outcomes across both short-term and long-term desired advertising effects. In this section, I will review how computational

approaches in advertising have begun to contribute to advancing the literature and how this approach has led me to pursue the studies presented within this dissertation.

First, data has been referred to as the oil of the digital economy (Wedel & Kannan, 2016), and the ability to collect and analyze these massive amounts of data has led to transformations in other fields such as biology and physics. By the turn of the 21st century, the data-driven emergence of “computational social science” had been much slower with research on human interactions having relied mainly on one-time, self-reported data on relationships (Lazer, et al., 2009). Computational social science is described by Lazer and his colleagues as the use of “computational methods to complex, typically large-scale, human (sometimes simulated) behavioral data. Its intellectual antecedents include research on spatial data, social networks, and human coding of text and images” (p. 1,060).

In computational advertising, research offers an opportunity to examine and understand consumers’ behaviors using this data in relation to digital advertising effects (Rogers & Thorson, 2017). By understanding user experiences through engagement that occurs in real-time and as expressed naturally on social media, researchers may elicit not only a stronger understanding of digital consumer engagement with advertising in social networks but also, a much broader perspective of the social phenomena of advertising engagement in general. Previous research has also shed light on discrepancies between college students' reported use of social media and their actual use (Rosen, Whaling, Carrier, Cheever & Rokkum, 2013) and behavioral data can help mitigate these issues by

tracking opinions and behavior across time. As such, this dissertation provides additional insight into digital consumer engagement in social networks using real-world data.

The earlier definitions of advertising provide a useful precursor to developing research related to computational social science methods, and ultimately encourage the use of additional methods from outside advertising. One such application lies in computational linguistic methods which imply that language can provide insight into people and their behaviors across a variety of user contexts. For instance, the types of words people use can be helpful in predicting loan default in loan applications (Netzer, Lemaire & Herzenstein, 2019). In this example, the decision of a loan officer to determine whether to provide a loan to someone can be aided by using text as data. To accomplish this, and to answer the question of who is more likely to default on a loan, text-mining and machine learning techniques are applied to determine which words, ideas, and writing styles are associated with loan default. This study examined text with the use of computer-assisted analysis. Using LIWC (pronounced “Luke”), the researchers employed a text analysis tool designed to count words that fall into one or more psychologically meaningful categories (Tausczik & Pennebaker, 2010). For example, words like ‘God’ and the near future, or present tense or future tense verbs acted as clues for loan default (Netzer, Lemaire & Herzenstein, 2019).

LIWC has also supported computational work in advertising through the analysis of social media influencers (Britt, Hayes, Britt & Park, 2020). In their article, Britt et al evaluated each tweet for psychometric qualities of affective, social, or cognitive processing based on the number of words in each tweet that represented one or more of

these psychologically meaningful categories. As such, this “bag of words” technique illuminates how textual analysis can be useful in advertising research. Yet, there remains a gap in the literature in examining advertising with these methods, namely digital consumer engagement with advertising and emotions as a frame.

### **The rise and adoption of social media**

Social media is a communication phenomenon that has proliferated globally and offers a highly effective channel to reach people (Kosinski et al., 2015). Platforms like Facebook have given rise to an influx of rich advertising measurement data that can help explain how advertising delivery on these networks may or may not drive advertising effects (Gordon et al., 2019). Much of the adoption of social media can be attributed to a small social networking startup that launched in 2003 at the college campus of Harvard University. Later to be recreated as Facebook and eventually (e.g., about the time of writing the first draft of this dissertation) renamed to the parent company called Meta.

Facemash, which was Mark Zuckerberg’s original creation, attracted more than 450 visitors and 22,000 photo views within a mere few hours of its launch (Cruz & Diaz, 2020). Since 2004, Meta’s core platform, Facebook, experienced continuous growth, rising in popularity, usage and stock value. Joining the company in 2007 after years of success at Google, Sheryl Sandberg helped define what advertising would be like at Facebook and how it would come to be the main support for monetization. For Sandberg, there was no question “that Facebook represented one of the great advertising environments of all time” (Kirkpatrick, 2011; p. 256). In its 2021 annual earnings report,

that environment generated nearly \$115 billion in revenue, or 98 percent of the reported \$118 billion in total revenue (Meta, 2022). Because of both its size, popularity, and sustained usage in our society, Facebook is a social network worthy of attention (Kosinski et al., 2015). Facebook has dominated the social network space, as illustrated in Figure 1, and as a parent company, owns three of the top five social networks (by usage).

Social media is defined as a technology that provides digital environments for users where they can send or receive content and information over an online social network (Appel, Grewal, Hadi, & Stephen, 2020). These social media platforms include Facebook, as well as others like Instagram and Twitter. In practical terms, social media are a digital marketing channel where marketers can communicate with consumers through advertising (Appel, et al., 2020).

The richness and quality of the data available on social media offer unique contexts for studying theory and social media effects as suggested by current work exploring advertising effectiveness on social media. The trace data can inform research through the analysis of text and behavioral data. For example, qualitative researchers use APIs (or third-party applications) which are useful in harvesting text archives and analyzing patterns in social media communications (Lomborg & Bechmann, 2014).

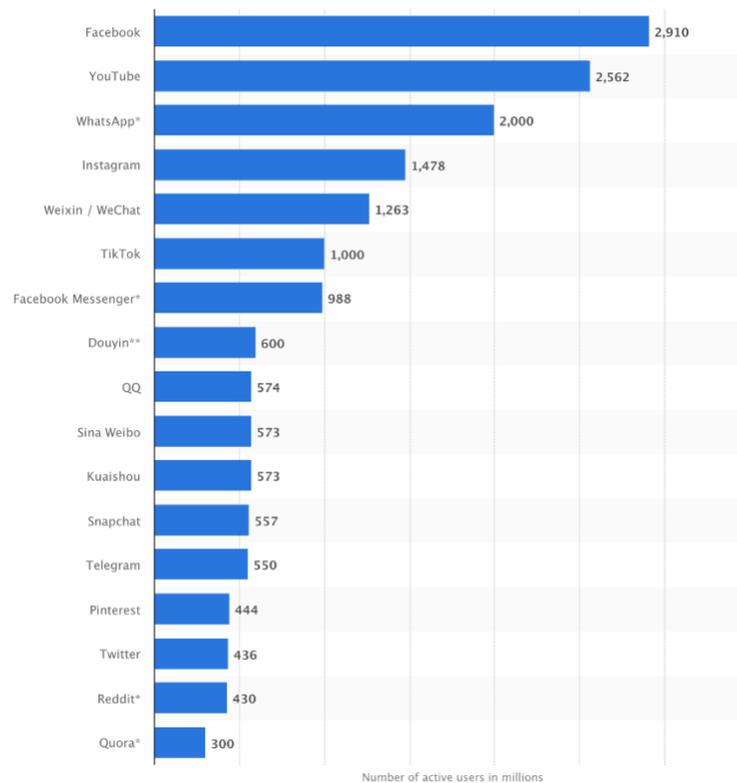


Figure 1. Most popular social networks worldwide as of January 2022, ranked by number of monthly active users (in millions)

On the other hand, quantitative researchers use social media to look at large amounts of behavioral data. Facebook and Twitter are the most widely used social media platforms in the literature and each offer their own unique benefit for research. Similarly, advertising has a unique role on each of these networks along with unique numbers and types of users (Thorson & Rodgers, 2019).

Social media trace data has been used in other fields to understand consumers and advertising effects. For instance, psychological targeting has been shown to have mass effects of persuasion. Defined as persuasive mass communication it is, “aimed at

encouraging large groups of people to believe and act on the communicator's viewpoint" (Matz, Kosinski, Nave & Stillwell, 2017; p. 48). From a macro effects perspective, social media data also provide the ability to predict personality traits and target users based on behavioral characteristics (Markovikj, Gievska, Kosinski & Stillwell, 2013). Taken together, this interest in targeted communications is promising for the future of advertising.

Social media introduces new opportunities to examine much of our seminal knowledge in advertising theory. For instance, according to the psychological reactance theory, if an individual feels that their freedom is threatened, either immediately or in the future, they will experience a negatively heightened state of motivation and arousal toward that threat (Brehm 1966). The classic example of this is provided in the context of parenting where a mom or dad tells their child to wear a specific pair of shoes to school. The child then experiences a loss of freedom in choice and in turn is said to experience a motivational state where they engage instead in "freedom restoration" behaviors (Miron & Brehm 2006). In the context of social media, according to the psychological reactance theory one may predict that social media usage should be declining, especially following the widely covered 2016 Cambridge Analytica scandal involving Facebook user data. Yet, despite the well-known motivations behind social media like Facebook, usage continues to grow. One explanation related to advertising is that it has become more technically advanced, elapsing a clear and easy understanding for consumers to grasp. As such, the novel data-driven approaches aren't well understood (Smit, van Noort, & Voorveld 2014). However, pop culture continues to spread awareness among the public

providing support toward social media as both a practical and scholarly issue worth studying.

### **Social Media Advertising**

Many of the use cases for social media are essentially considered word-of-mouth (WOM) in one form or another (Appel, et al., 2020). As suggested by the active stream of e-WOM (i.e., electronic word of mouth) research, the two way communication that occurs and is tracked online have offered numerous opportunities in scholarship for understanding advertising effects occurring in social networks. Studies exploring the effects of e-Wom, for instance, show that online recommendations are effective in motivating consumers when processing information during product consideration (Gupta & Harris, 2010) and importantly that e-WOM has a positive relationship with sales (e.g., Babić Rosario, et al., 2016). Along with previous e-WOM research, the volume of comments occurring on social media can increase consumer awareness leading to more positive evaluations and purchase intention behaviors (Yoon et al., 2018; Wu & Pan, 2017; Duan, Gu, & Whinston, 2008; Liu, 2006; Tirunillai & Tellis; 2012). Though e-WOM is a behavioral measure of engagement, it conceptually captures just one level of advertising processing, namely brand mentions and comments which relate to brand advocacy.

However, e-WOM literature considers social media from a communications perspective only (Appel, et al., 2020), whereas engagement is more theoretically comprehensive. Therefore, e-WOM may be amiss, specifically as social media matures

and broader social implications begin to emerge. Thus, to extend a more conceptually relevant approach to understanding media effects beyond e-WOM, I will discuss further in future sections how engagement may serve this purpose.

In a review of research on consumers in social and digital marketing settings, Stephen (2016) looked at articles published between 2013 and 2015 in four leading consumer research journals and found five themes in the literature of how consumers were affected by their social media environment. Of particular interest to this dissertation was the responses to digital advertising which was said in his review to be of high importance to marketers. In his review, much of the literature relied on search advertising and provided attention toward personalization, and more specifically, explored potential and presumed effects of psychological reactance to retargeting.

In another example, advertising researchers have been interested in how social media consumers perceive privacy issues in relation to their desire to remove political advertising in a news feed (Bright, Sussman & Wilcox, 2021). In this example, the research focus was on variables of a perceived privacy concern related to social media platforms and a person's desire to remove political advertising, but the larger implication showed that social networks can act as gatekeepers. Thus, the outcome of interdisciplinary interest in advertising can have positive effects on the development of broader theories, but also on the current and modern consumption of media and politics where current issues meet conceptual theory.

Wilson and Till (2019) also made a useful contribution to advertising theory when looking at messaging processing in non-traditional environments. In their resource-

matching hypothesis they suggested that advertising effectiveness is maximized when cognitive resources of a particular audience match that required of the ad. For example, a “chance encounter” ad in a location where there would be many distractions would require a message with extremely low complexity. The CRA framework, as the authors state, is a good place to start when thinking of non-traditional ad placement. Given the natural environment of social media, social media users are already engaged with the media and platform of their choice. Placing an ad in a user's feed may naturally match the level of complexity of their browsing behavior.

### **Involvement vs Engagement**

Involvement as a construct offers yet another useful perspective to help understand engagement. Haley (2019) describes well the conceptual overlap between these two constructs. He writes that “one of the earlier concepts formulated to explain why individuals may pay attention to advertising is the notion of involvement. If you venture into the offices of major U.S. advertising agencies or read Ad Age over the years, you’ll find industry people speaking of ideas such as ‘relevance’ and ‘engagement.’ The terms change from year to year as agencies attempt to differentiate their philosophy from that of other agencies, but the basic ideas remain the same. At the core of terms like “relevance” and “engagement” is the fundamental idea of involvement.” (p. 141). As Haley suggests, involvement may be central to the idea of engagement, but the theoretical underpinnings of engagement itself are much more comprehensive in explaining and defining measurable components of digital consumer engagement.

Indeed, involvement is a useful concept to explore when explaining consumer behavior (Thorson & Rodgers, 2012) and digital consumer engagement with advertising. In the mid 1960's, involvement was introduced in the literature by Herbert Krugman (Krugman 1965; Krugman 1966), who suggested that when a television viewer draws upon bridged associations between a message and their personal life, involvement occurs. Because of this perceived involvement, a message becomes relevant to an individual (Haley, 2019). Psychologically, a relevant message stands the chance to resonate better with a person, particularly their media effects improve recall and are more persuasive.

Krugman differentiated a person's level of involvement based on their relationship with the media. As perhaps his main contribution, his work suggested that involvement varies depending on the person's relationship to an ad (Maloney, 1994). It was later proposed by Ray (1973), that advertising response would be dependent upon a person's level of personal involvement (e.g., relevance), the message source, and message differentiation. When these three conditions were said to be met, they could elicit either a high-level or low-level of involvement dependent upon whether the message was perceived as being different from alternatives and whether the consumer was personally involved. Without differentiation or relevance, a low involvement response would occur. What emerged from these studies was the use of involvement to psychologically understand the process of how ads persuade.

Considered a relatively early discussion of involvement, Muehling, Laczniak and Andrews (1993) were some of the earliest communications scholars to provide a comprehensive review of involvement. They defined the concept, how to measure it, and

what the effects of advertising involvement were on persuasion. As involvement evolved in the 1980s, it became evident that there were many types of involvement from emotional to intellectual to other delineations between product categories and brands. An important similarity between involvement and engagement with advertising is the consistent approach of conceptualizing the consumer-brand interaction as being part of a relationship. Digital consumer engagement with advertising, then, can vary in how a consumer experiences the branded content.

In Thorson and Rodgers (2013) overview of the components of advertising, they state that depending on which form of involvement is studied, “this variable is generally defined by the relationships between messages and receivers” (p.12). How the message may be framed can lead to varying emotional responses which in turn can drive the gold standard in advertising, particularly persuasive effects as measured by behavior.

Anecdotally, this is probably about the time when advertising agencies began generating messages with the goal of driving an emotional response in their viewers. Albeit the use of involvement in advertising research was originally conceived in a time when big data was not yet as easily available to researchers. Conventional conceptualization was envisioned using a basic sender-receiver model of communication in mind. That is, the message was the focal point and it occurred in one direction, from the sender, and if successful, it reached the receiver.

## **Digital Consumer Engagement: Overview**

Calder, Isaac, and Malthouse (2016) define engagement as “a multilevel, multidimensional construct that emerges from the thoughts and feelings about one or more rich experiences involved in reaching a personal goal” (p. 40). The definition of digital consumer engagement has been as varied and creative in its conceptualization as it has been in its attempts to empirically analyze it. Because many of the definitional differences in engagement have been tied to the differences in the kinds of channels and content in the digital environment, this work may provide some consistency in a given social media context. On one hand, engagement is a departure from the one-sided relationship previously used in advertising and more closely aligned with the conceptualization of involvement. Yet, engagement is more than participation and also involves interactive experiences between a brand and a consumer (Brodie et al., 2011; Close-Scheinbaum, 2015).

In their study, Voorveld, Van Noort, Muntinga & Bronner (2018) offer a useful contribution examining how consumers experience advertising engagement across eight social media platforms (Facebook, Twitter, LinkedIn, YouTube, Google+, Snapchat, Instagram, and Pinterest). With the aim of going beyond the study of social media engagement alone (e.g., sans advertising engagement) which is more broadly and more commonly studied in the literature, the authors examine the specific and individual relationships between social media engagement, social media advertising engagement, and social media advertising evaluation. Using the engagement experience framework (Davis Mersey et al., 2010; Calder, Isaac, & Malthouse, 2016), engagement is

conceptualized using distinct characteristics that develop directly from digital experiences.

In their development of the engagement experience framework, Calder et al., (2016) suggest that research to date had largely relied on conventional “one-size-fits-all” measures with a fixed set of scale items. The current, more flexible approach using their framework examines engagement based on context-specific experiences that can vary across brands and products. The authors specifically study variations in engagement in three experiential scenarios: when consuming (a) live jazz music, (b) newspapers, and (c) television programming. Their findings provide evidence that a flexible approach to measuring engagement can help predict consumer behavior. The third of these studies also provided new evidence that engagement with television programming spilled over to increases in advertising effectiveness.

Voorveld et al., (2018) drew upon these findings to position their study. They argued that engagement with a social media medium does not equate to advertising effectiveness and that instead scholarship should include engagement with social media advertising, more specifically. The study is also one of the first of its kind to use a single-source self-report survey design to compare engagement across platforms. In the study, they had a total of 1,919 respondents which resulted in 1,346 qualified participants. From those participants, the study resulted in an average of about 400 engagement experiences to study per channel. The authors drew attention to an issue in the scholarship of blanketing social media engagement as a measure that is valid and consistent across all social media platforms. Instead, as suggested by their findings, they show that digital

engagement is highly unique to each platform. They also drew attention to an interesting component of their research, suggesting that the “engagement experience (occurs) at a specific media consumption moment” (p.42) and that for the consumer, this moment is fleeting and worse, easily forgotten (Kim, Sohn, & Choi, 2011; Voorveld et al., 2013; Bronner & Neijens 2006). Of the platforms included in the study, Facebook was ranked highest for social interaction (Haley & Pittman, 2022; Voorveld et al, 2018).

In O’Brien and Toms’ (2008) publication entitled, “What is user engagement? A conceptual framework for defining user engagement with technology” they attempt to deconstruct the term engagement and based on past research, they use semi structured interviews to explore user perceptions of being engaged. Their findings suggest that engagement is distilled into four stages including the point of engagement, a period of sustained engagement, disengagement, and reengagement. Importantly and useful to my particular line of inquiry, they define engagement as being characterized by attributes of positive affect, in addition to other attributes such as durability, sensory and aesthetic appeal, attention, feedback, novelty or variety, interactivity, and perceived user control.

In another recent study examining engagement, Araujo and his research collaborators (2020) argue that the computational turn toward engagement requires moving from conventional advertising which sought to purchase exposure to instead foster engagement through “meaningful and sustainable consumer interactions” (p. 429). In their review of the field, they adopt three stages of behaviors grounded in work by Maslowska, Malthouse, and Collinger (2016) that propose observing, participating, and co-creating as three levels of engagement.

In the Gavilanes, Flatten & Brettal (2018) study, the authors conceptualize yet a fourth extension in the multidimensionality of engagement and point it out as “a ‘black box’ (see Figure 2) of cognitive and affective intermediate mind-set responses (IMR) to advertising which is a common denominator in these frameworks” (p. 10). Toward this aim, Gavilanes, Flatten & Brettal (2018) expand prior research with a four-level engagement continuum that includes 1) neutral consumption, 2) positive filtering, 3) cognitive and affective processing and 4) brand advocacy. Each level is tied with a behavioral measure of Facebook engagement (i.e., clicks, likes, comments and shares). Conceptually, they contribute to the previous literature and show that each level is parallel to a different type of intermediate mind-set response. They also extend previous three-level models as mentioned previously that were used by Maslowska, Malthouse and Collinger (2016) as well as Muntinga, Moorman and Smit (2011).

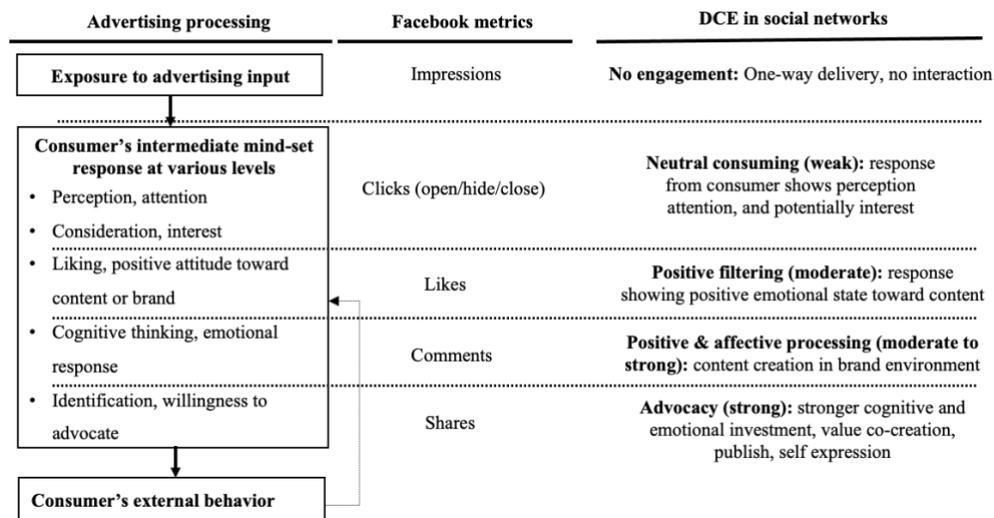


Figure 2. Advertising Processing Model: Digital Consumer Engagement In Social Networks (Gavilanes, Flatten & Brettal, 2018; p. 12)

Returning to the earlier reference of e-Wom literature, electronic word of mouth is tracked in the form of user comments and has attracted the attention of other researchers. Yoon et al (2018) provide additional support for their interest in comments as evidence of digital engagement behavior by citing the etymological concept of the word “comment” as being representative of interpretation and invention. In their study, the act of commenting is a high-effort response that is theoretically understood to result in greater effects on future purchase decisions. Their positioning is grounded theoretically in social self-perception or social influence (or both) as they apply an econometric approach to studying a corpus of Facebook comments that included 339 businesses and an associated 24,553,791 user comments collected from their Facebook business pages. However, the authors extend current digital consumer engagement research by exploring beyond looking at the relationship between volume and valence of the comments to measure the relationship between word count and authenticity of the comments and the company stock values.

How a brand facilitates experiences for a consumer in a social network will lead to higher levels of consumer engagement (Tafesse, 2016). What this study suggests is that by employing “design thinking” in the creation of advertising messages, a brand stands the chance to design a more positive and fruitful relationship. As a person feels more connected to a brand, these feelings drive loyalty and increase a person’s willingness to share information with a brand (Labrecque, 2014). Furthermore, a person's perceived attachment to a brand is a key predictor of consumer behavior and purchase

intention (Park et al., 2010) and each engagement is an opportunity to build upon this momentum.

In sum, there is evidence for the usefulness of understanding digital consumer engagement and taken together, highlights a current gap in the literature surrounding attributes of affect. As it is conceptualized, the relationships between people (e.g., audiences) and the relationship between brands and audiences (e.g., bi-directional) provide opportunities for research. Because the social roles between individuals and brands as expressed by “who says something to whom in what context” are situational in a social network (Peters et al., 2013), this dissertation contributes by exploring the consumer-brand context through a variety of attributes, with attention given toward positive affect.

### **Emotion as a psychological process**

Emotion literature places attention at the start of the emotional processing and in turn looks at effects of behavior as the crucial last part (Frijda, 1986). As this suggests, an individual must first attend to an object or message before they can emotionally process it and in turn alter their behavior. However, before emotional processing occurs, the message itself is the first part of this process. Diving into two directions on emotion research are studies of emotional regulation, which refer to the ability for a person to influence which emotions they have, when they have them and how they are both experienced and expressed (Gross, 2008) and in extension of gain-loss framing, the mediating and moderating variables of emotion (Nabi et al., 2020). Across the literature

though, the first part of this process concerns the cognitive antecedents where the latter regard behavioral effects.

Varying concepts among the literature are likely related to the number of individual differences in how an individual experiences affect. Because emotion is such a personal experience, it can be challenging to conceptualize as well as measure. This is akin to describing and understanding what blue looks like through another person's eyes. Thus, the study of emotion has attracted the attention of research for well over a century. Albeit, emotions can be experienced irrationally, but many people also approach them rationally. Magda Arnold (1960) is usually cited as introducing a cognitive approach to emotion known as appraisal theory.

As another avenue for theoretical attention, emotion regulation likely plays an important role in social network behavior. In the modal model of emotion (Gross, 2008), the situation-attention-appraisal-response sequence is outlined. Gross notes that the situation "is attended to in various ways, giving rise to appraisals that constitute the individual's assessment of—among other things—the situation's familiarity, valence, and value relevance (Ellsworth & Scherer, 2003). As noted above, the emotional responses generated by appraisals are thought to involve changes in experiential, behavioral, and physiological response systems.

It is important to keep in mind that these responses are believed to often change the situation that gave rise to the response in the first place" (p. 499). In line with this, then, it is reasonable to expect emotion to feed a continuous cycle of emotional response in an online environment. In turn, these emotions may drive response in an audience, as

well as evolve as individuals contribute their own emotional response. Indeed, he goes on to note that emotions often alter the environment and subsequent instances of emotion. While this is an indirect focus of the work in this dissertation, emotion regulation strategies likely have some effect on social media (see Figure 3; Gross 2008, p. 500-501).

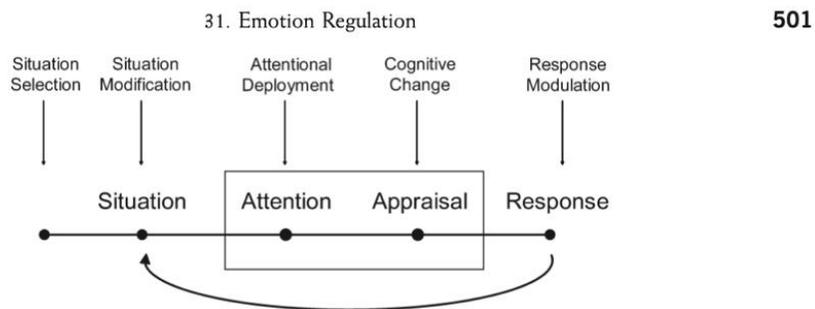


FIGURE 31.2. A process model of emotion regulation that highlights five families of emotion regulation strategies. From Gross and Thompson (2007). Copyright 2007 by The Guilford Press. Reprinted by permission.

Figure 3. Process model of emotion regulation (Gross and Thompson, 2007).

In social media, emotion can transfer between people. As one of the first published research articles having made waves by achieving some press interest, the “Experimental Evidence of Massive-Scale Emotional Contagion” (Kramer et al., 2014) published scientific evidence from a Facebook study showing that emotion can transfer in a social network. Known in psychology as “emotional contagion” (Hallinan, Brubaker & Fiesler, 2020; Fowler & Christakis, 2008; Hatfield et al., 1993; Rosenquist, Fowler & Christakis, 2011), the authors replicated previous studies and showed that emotions being expressed on Facebook through a news feed can influence and transfer to other users on the platform. The study has repeatedly been scrutinized for its infringement on ethical

research. Perhaps as a byproduct of this negative scrutiny, the impact of the findings has gone overtly unrecognized, namely that the potential for emotional contagion to occur was identified nearly a decade ago and social media is still largely unregulated. Moreover, the study brought light to the “black box” algorithmic delivery of curated news feed content and related effects of emotion in social networks.

Hatfield, Cacioppo & Rapson (1993) reported in their research on emotional contagion that when a person consciously assesses another person’s feelings, those feelings were heavily influenced by what the others said. In their report, the psychologists wrote that emotional contagion is the “the tendency to automatically mimic and synchronize expressions, vocalizations, postures, and movements with those of another person's and, consequently, to converge emotionally" (p. 96). The ability for this transference to occur suggests that the emotion expressed in the stream of advertising occurring in a news feed and in a social network also transfers to the consumers being targeted and reached with the media.

### **Assessing the emotionality in advertising**

The central concept of emotion and its role in consumer behavior has had a long and rich history in the advertising literature (e.g., Allen, Machleit, & Marine, 1988; Aaker, Stayman & Hagerty 1986; Batra & Ray 1986; Havlena & Holbrook 1986; Holbrook & Westwood 1987). Emotions are described as the “grammar of social living” (Keltner, Sauter, Tracy, & Cowen, 2019) but much like the descriptions we use in written and spoken language, emotions are wrought with varying approaches and conceptual

study. It can be helpful to understand affect as an umbrella term that encompasses both emotions and moods (Davidson et al., 1994). However, moods and emotions differ and are distinct from one another. Emotions are an affect state that also have an object, whereas mood is described as an affect feeling state with no salient object (Percy, 2012; Clore & Ortony, 2000). In other words, emotion may be experienced more quickly and be more fleeting.

Emotional appeals have long been employed in advertising as a tactic to build favorable attitudes toward a brand, product, or idea. Take, for instance, the well-known Coca-Cola happiness campaign that has been successful globally in its efforts to connect the Coke brand with the emotion of happiness. For some, the simple sound of opening a carbonated beverage can take them back to a special moment in time or place. This example illustrates how a positively framed message can be used in advertising to build an intimate and memorable brand experience. In short, advertising campaigns along with their messaging have the potential to build a positive and emotionally reciprocal relationship with consumers which in turn can lead to positive outcomes of persuasion and engagement.

Much debate has occurred with regard to whether cognitive, affective or social experiences are more important drivers of potential downstream desired consumer behavior. Liu-Thompkins et al. (2022) provided a meta-analysis of 319 studies across five decades showing that emotional drivers, more than social or cognitive, had the most impact and were more important over time for customer loyalty. In their study, they found that affective experience increased in importance over time and that it was 24%

more impactful than social factors, and 50% more than cognitive. They argued that traditional approaches to retail such as price and product assortment no longer suffice in driving a needed competitive advantage to build customer loyalty. Instead, they suggested that for a defensive path toward customer loyalty, a brand needs to provide a positive affective and/or social experience.

Congruent with my interest in engagement, mass media research tends to be more interested in outcome variables unrelated to emotion (Lang & Ewoldsen, 2010) and tests of emotional response are usually manipulation checks to confirm appropriate emotional response to a message. In psychology, however, researchers have long studied emotion and as well as approaches that are tightly linked to conceptual theories of emotion. While the study of discrete emotion offers many directions for future research in advertising, and Dewitte (2019) propose that anger and fear appeals offer an opportunity for research attention. In a meta-analysis, Witte & Allen (2000) note that ad-induced fear has been found to be unsuccessful in changing behavior. This can be conceptually understood as one of the dominating action tendencies associated with fear, namely to flee (Frijda, 1986). Thus, when a person experiences fear from an ad, they avoid the message altogether. On the other hand, evidence also suggests that when given a clear action plan that resonates with goal-directed behavior, a desired action can be facilitated (Poels & Dewitte, 2008). This finding, while important, can likely be better understood by marketers by delineating between outcomes of digital consumer engagement with advertising.

On the other hand, c and Milkman (2012) found that arousal levels of discrete emotions influenced the online virality of news articles, and their finding held regardless of valence. Specifically, news content with sad content were found to lead to less sharing behavior when compared to news articles containing the positive emotion awe or negative emotions anxiety and anger. In their study, Berger and Milkman used real world data of news article sharing behavior. The authors complemented the big data set with experimental studies measuring the causal relationships between the arousal of discrete emotions and sharing. While this study illuminates the ability for discrete emotions to improve outcomes of digital consumer engagement, it remains to be seen if these findings extend in an advertising context and whether discrete emotions can play a role in the effectiveness outside of an arousal state.

In sum, emotion can act as a measurable factor influencing the consumer-brand relationship, and in turn impacting online behavior. At the very least, measuring intermediate effects can help avoid underestimating the effectiveness of advertising (Chandukala et al., 2011), and the use of emotion in advertising copy. At best, however, these intermediate effects, such as the mediating effect of emotions as frames, may provide insight into understanding how specific emotions in online advertising can lead to stronger emotional, psychological, and behavioral investments from a consumer.

### **Framing in mass communications**

Framing is one of the most widely used paradigms in communications research having been applied across a variety of persuasive contexts in health communications,

politics, and marketing (Nabi et al., 2020). In framing theory, we are referring to the broad body of research that examines the emphasis and selection of how certain elements of a message influence an individual's decision-making process, but this experience is inextricably related to emotion.

Gain-loss framing has been embraced in a variety of communication contexts and supported in numerous studies. Framing can be considered both a macrolevel and microlevel concept (Scheufele, 1999) and can be used to communicate complex issues in a manner that people can easily understand the information. In microlevel instances, evidence for framing has been found in instances promoting organ donation in health communication (Reinhart, Marshall, Feely, & Tutzauer, 2007) or anti-smoking studies (Zhao & Nan, 2010). On the other hand, framing as a macro construct refers to how communicators can present information to resonate with audiences and their preexisting underlying schemas (Shoemaker & Reese, 1996). In this context, framing effects also occur when audiences interpret news discourse (Scheufele & Tewksbury, 2007; Pan & Kosicki, 1993), especially after repeated exposure (Capella & Jamieson, 1997). These sociological foundations are traced back to Goffman (1974), who argued that people cannot make sense of the world fully and are in a constant struggle to understand the world around them.

As one potentially powerful strategy for accomplishing this, gain-loss framing has been used in communication campaigns. Gain-loss frames and their effect on decision-making stems from Kahneman and Tversky's work developing prospect theory (1979). Awarded a Nobel Memorial Prize for their work (Kahneman, 2003), prospect theory is a

behavioral economics theory that explains differences in what rational people are expected to do versus what they actually do based on the emphasis of the gains or losses to be experienced. In short, the theory builds upon the concept of loss aversion and shows that people are generally more inclined to minimize loss when given the chance.

Illustrating this, Tversky and Kahneman (1981) show evidence of framing effects in a study where people were provided two treatment options for a fatal disease that had affected 600 people. In their research, they framed the two treatments in either positive framing, that focused on how many people would live, or negative framing, that focused on how many people would die (e.g., 400 people would die). In evidence in support of framing effects, 72% of the participants selected the positively framed treatment even though the actual effects of both treatments were precisely equal in mortality and survival rates (e.g., 200 people would live). The study demonstrated that people's decisions are not always rational and can indeed be influenced by how information is framed. Others have challenged the findings, pointing out serious limitations with the previously mentioned framing effects which are referred to as equivalency framing effects.

### **Framing in Advertising**

Moreover, all framing research shows that how information is presented can result in varying persuasion outcomes. Nabi (2003) argues that emotion can be infused into a message in a way that will make selected pieces of information more salient than others. She states that, "the way in which information is presented can influence how people understand, evaluate, and act on a problem or issue" (p. 225). This is conceptually quite

eloquent as it gives an indication of the potential positive impact that advertising can have in our society.

When a person attends to an object and finds that situation to be relevant to their own goals, that is described as a feature that leads to emotion (Lazarus, 1991). Gross (2008) refers to this in his process model of emotion regulation where “emotion arises in the context of a person-situation transaction that compels attention, has a particular meaning to an individual, and gives rise to a coordinated yet malleable multisystem response to the ongoing person–situation transaction” (p. 499). Gross suggests that emotion and cognition are interdependent.

In the Coca-Cola example mentioned previously, the sound of a soda can opening is both ephemeral and simple, but for some it may remind them of a warm summer day in Texas when they had their first sip of a cold and bubbly Coke as a child. Thus, emotional experiences can also be enduring, like a mood. Or they can also be more central to a person’s identity, like a person always wanting to improve themselves or their relationships. Moreover, as a person’s goals or their meaning and understanding of those goals change, the meaning behind these situations may also change. As a simplified example of this, for someone who used to smoke, an anti-smoking message may have little emotional effect because smoking is no longer relevant to them in their lives.

Framing effects in the advertising literature generally concern presenting either a positive outcome or a negative consequence (Chang, 2008; Homer & Yoon, 1992; Smith, 1996; Zhang & Buda, 1999). Of one of the more illuminating studies in this stream, Chang (2008) explored how positively framed advertisement messages relate to product

purchase, and in her study the message itself uses framing that is a positive benefit resulting from purchasing a product, whereas a negative frame relates to an unpleasant consequence from *not* buying a product (Homer & Yoon, 1992; Smith, 1996). In the comprehensive study, Chang first compares outcomes of positive affect to negative affect, using a positive frame, and then compares levels of valence, attitude, ad likability, believability, brand attitude, and attention between positive and negative framed ad messages.

This study is a departure from the previously reviewed literature, which had mainly concerned framing in the context of health communication, policy, or news media. Chang argues that because judgements are based on available information in a person's mind (e.g., Tversky & Kahneman, 1973), that by using affect priming in a message, it will lead to congruent judgment biases. He then argues that frame-evoked affect will lead to message elaboration when positive affect is evoked. This process is associated with past work based on the hedonic contingency framework (Wegener & Petty, 1994; Wegener et al., 1995) which shows that positive affect will encourage outcomes of message processing when the message content is uplifting. All of Chang's hypotheses were supported showing significant effects on outcomes of positively framed messages across attitude, likability, believability, attitude and attention.

In their study, Homer and Yoon (1992), examine advertising responses for simultaneous interrelationships among emotional and cognitive responses. They use structural equation modeling to show that brand related cognition is more influential when associated with a negative frame versus a positive frame appeal and that positive

and negative feelings can co-occur. However, they suggest that the differences in effects can be accounted for based on variations in the salience of the advertising message (Hastak & Olson, 1989). Therefore, it may be posited that as a specific discrete emotion becomes more salient in a message, that emotion may have more effect as a mediator on the positive or negative frame.

### **Emotional gain/loss framing on persuasion**

In addition to the study conducted by Chang (2008), which adopted Baron and Kenny's (1986) approach of using regression analysis to explore the mediating effects of the valence of the ad frame, Nabi recently conducted a meta-analysis that also employed mediation analysis to understand gain-loss framing effects and their impact on persuasion. In her meta-analysis she conceptualizes that the mediating effects of discrete emotions can direct the emotional response that is elicited in an audience (Nabi et al., 2020). More specifically, she and her fellow researchers use the emotions as a frame model (EFM; Nabi, 2003) to explore the relationship between discrete emotions and gain-loss frame effects on persuasion. This approach draws upon the emotion literature that suggests emotion can often make us more likely to do something (e.g., approach others or say something) than would have been otherwise if we had not experienced the emotion (Frijda, 1986). Often included with definitions of emotion, this behavior is generally a reactive behavior.

These impulsive actions are automatic and associated with neuroendocrine changes that can anticipate the behavioral response (Gross, 2008). The central role, then,

they argue, for understanding the emotional effects of gain-loss framing in advertising should be based upon emotion as a potential mediator of gain-loss framing effects and behavior. While framing research has historically focused on cognitive explanations for effects (Scheufele & Iyengar, 2014), the meta-analysis provides evidence in support of emotional response as an important mediating variable.

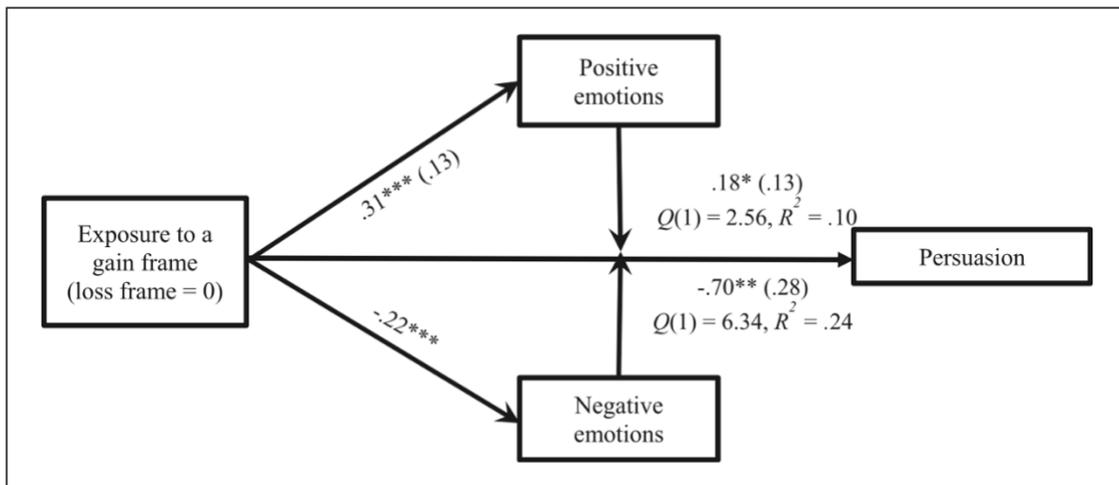


Figure 4. Nabi (2003) conceptual model of emotional gain-loss frame influence on persuasion

Moreover, this recent line of work has provided evidence that certain frames indirectly affect opinions through emotions with cognitive responses playing an important role (Gross, 2008). These results test mainly for episodic frames that rely on a specific person, event, or issue, which is in contrast to thematic frames that more broadly define issues. By essentially creating an emotional lens, Nabi (2003) asks people how they feel about an issue. This allows a measure or frame to understand how incoming stimuli are interpreted by a person. Her emotions as a frame research predict that people will have emotion-consistent information that is accessible in a person's memory and in

turn, will lead to emotion-consistent behavior. Other appraisal-based viewpoints address the relationship between emotion and decision-making but tend to focus less on message-framing contexts. However, Nabi's emotion as a frame emphasizes instead message-induced emotion and its mediating role between message framing and persuasion.

An uncontrollable flaw in the meta-analysis illuminated the general missingness of studies exploring discrete emotions in the literature. In her study, Nabi reported eight samples (i.e., studies) reporting positively valenced emotions and 22 samples that reported negatively valenced emotions. Of those, most of the samples reported on negative discrete emotions of fear ( $k = 20$ ), and anger ( $k = 7$ ), whereas fewer studies reported on positive valence, discrete emotions of happiness ( $k = 4$ ) or hope ( $k = 2$ ). In other words, a very pressing issue arises from this study, with fear being the only emotion to be addressed more than ten times in the literature. Further, this highlights a large gap in the literature to address whether discrete emotions influence the success of a gain-loss frame.

### **Equivalency versus Emphasis Framing**

Beyond equivalency framing is emphasis framing. Both framing tactics offer key approaches to conceptualizing and operationalizing framing in advertisements. In equivalence framing, the message presents precise and equivalent information but uses different orientations like gaining or losing an identical amount of money. In emphasis framing, however, a message is used to emphasize specific elements over others. For instance, those elements may be used to highlight certain perspectives like community

values versus individual success (Levin et al., 1998; Scheufele & Iyengar, 2014). Nabi (2018) has shown that loss-framed messages were more effective when using emphasis framing (rather than equivalency). None, as far as I have found, have examined how emphasis framing may work using positive frames alongside positive discrete emotions as frames within the message.

### **Positive Emotion & Joy**

Smith (1996) demonstrated that positive frames generated more favorable responses to ad messages than negative frames on product evaluations of a video camera. In an extension of this, Chang (2008) proposes and tests a process model and argues that in advertising, positive frames are more effective. Chang showed that ads that emphasized positive outcomes resulted in more favorable responses than those that suggested a negative consequence. In his sample of 160 participants, positive frames in advertisements resulted in higher levels of positive affect while also eliciting lower levels of negative affect when compared to negative frames in advertisements. Taken together, these studies provide evidence that positive frames may be more favorable.

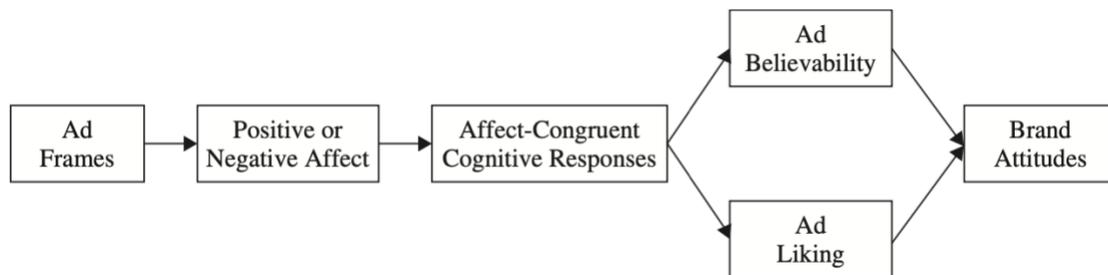


Figure 5. An affect priming model for ad framing effects (Chang, 2008)

Though there is supportive evidence for the persuasive effects of positive frames, loss frames have attracted more attention in the literature and positive emotions are tested less frequently (Nabi, et al., 2020). There is some evidence in the context of climate change that positive emotions such as hope can be effective in mediating message consistent behavior (Bilandzic et al., 2017; Nabi, et al., 2018). In one of her earliest works, Nabi (1999) presented the cognitive-function model (CFM) of persuasion that attempts to contribute toward our understanding of the effects of emotion and corresponding mediators related to cognitive processing, attitude change, and recall. Although the CFM offers “reasonable guidance” to “determine which negative emotions prompt what level of initial avoidance or approach response to messages and under what conditions” (p.311), without empirical testing, the paper leaves a gap in the literature. Moreover, Nabi acknowledges the complexity of the model, stating there’s no simple relationship between emotion and attitude change, and provides a list of assumptions and additional thoughts. At the time of publication (as well as today), persuasion and emotion research had primarily focused on fear, but she suggests that incorporating positive emotions (i.e., happiness, desire, support, pleasure, enjoyment) into the CFM could be useful for conceptualization.

Bilandzic (2017) and her colleagues explore how guilt, fear and hope mediate effects of goal framing on a person's perceived threat of climate change and likelihood to sacrifice. Aiming to resolve discrepancies in evidence, they contribute to the literature by introducing and testing distinct boundaries between gain-positive frames, gain-negative frames, and loss frames. Gain-positive frames include messages illustrating positive

consequences of climate protection. Gain-negative frames, on the other hand, position the message as avoiding negative consequences in climate protection. In the third frame, loss frames are tested by communicating negative consequences for not engaging in climate protection. Of the three frames that were tested, both gain-negative frames and loss frames were found to increase perceptions of threat and a person's willingness to sacrifice, but the loss frames increased outcomes through guilt and fear. The emotion of hope was increased using the gain-positive frame but resulted in subsequently lower outcomes of perceived threat and willingness to sacrifice.

On the other hand, happiness did not mediate a link between gain-loss frames and perceived responsibility for health issues related to obesity and lung cancer (Major, 2011). Albeit of the meta-analysis sample of studies, which included a total of 25 studies, the majority were based on loss-frames, equivalent framing in the context of health communications research. In addition to finding support for the ability for emotion to augment gain-loss frames, research has also found significant effects between the type of framing used. In sum, there is only lukewarm support for the direct influence of gain and loss frames on persuasion outcomes.

In psychology, positive emotions are recognized as being especially critical to forming and maintaining social bonds but remain an understudied focus (Shiota et al., 2004). Chen, Lin & Ho (2020) recently published a meta-analysis in the *Journal of Research in Personality* that explored how linguistic markers of extraversion were related to positive emotion and social processes. Their work draws on "a sizable amount of research (that) has shown the connection between personality and verbal behavior." (p.

2). The analysis drew heavily upon work from Pennebaker and his colleagues, as well as linguistic analyses that have shown that extraversion is related to social interactions, such as chatting with friends (Argyle & Lu, 1990). In their analysis, they used LIWC (Tausczik & Pennebaker, 2010) to measure the emotion and social process language in the studies included. Their findings showed that there was a lot of variation in the strength of relationships between extraversion and positive emotion words, especially given the communication context. However, there was an overall effect, and they found a small correlation between extraversion and positive emotion words.

More recent studies are using real-world data and experiments to test these effects. In their study, Saveski and his colleagues (2022) investigated the relationship between social media posts of news outlets with the engagement of other users over the course of more than three years. Their data set consisted of 566,000 tweets from the media outlets and 104 million retweets from those media outlets. The authors used the data sets to model the relationship between the media outlet's tweet text and the political diversity of the audience and found that positive words were more likely to have higher political diversity in the audience by the model (Saveski, et al., 2022). This work focuses on providing a tool to help journalists and media outlets be more effective at engaging diverse audiences but does not necessarily explore differences in the level of engagement among these audiences.

Seminal work in message framing has focused on the mediating role of emotions as a response to advertising (Batra & Ray, 1986; Edell & Burke, 1987; Holbrook & Batra, 1987). However, little research has focused on the salience of emotions as frames

in the message itself. Digital consumer engagement metrics, however, offer an opportunity to measure the relationships between these intangible levels of advertising processing. Specifically, both the gain-loss frame and discrete emotion are measured in the text of the ad. Then by teasing apart specific boundary conditions in the engagement data, I will measure the direct influence on outcomes of advertising processing using consumer engagement behavior.

In a study published in 2012, Teixeira, Wedel & Pieters showed that advertisers can leverage the interplay of emotion and attention to engage viewers of internet video advertisements. Using a controlled experiment, the researchers used automated facial expression detection to assess joy and surprise for a sample of advertisements. Attention was operationalized using measures of concentration recorded by eye tracking. Using tests of prediction, their findings showed that both surprise and joy led to concentrated attention and retained viewers. Though there were some variations between the levels and velocities of the effects, they found that increases in joy led to higher gains in attention and retention. The study provides insight into the possible relationship between emotion and engagement, ignoring the role that emotion as a frame itself can play.

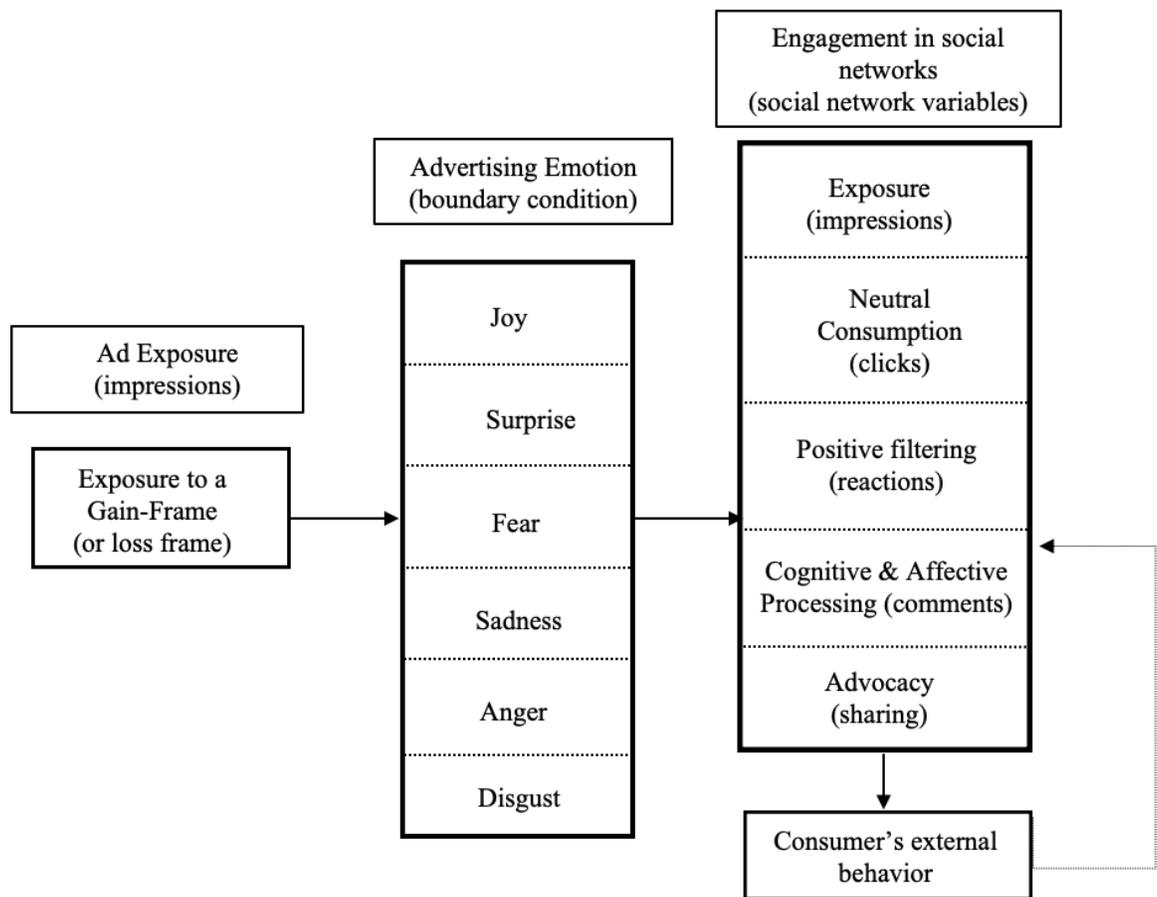


Figure 6. Emotions as a Frame Model of Digital Consumer Engagement in Social Networks

Given that emotional flow is a more recent development in the persuasion literature, empirical analysis is limited (Nabi, 2015). Much of the literature on discrete emotion in advertising is either lacking in its specific emotion approach or seems to be underexplored (Poels & DeWitte, 2019). Taken together, advertisers may employ an emotion as a framing strategy within a message. Then, using computational methods advertisers may enable a productive assessment of the outcomes of the emotionality in advertisements in a social network. Specifically, this approach will allow for the

measurement of emotion which Krettek described as “the invisible language weaved into the work that we do.” (Cowles, 2019).

## **Hypotheses**

Given the overrepresentation of negative emotions in the literature and the underrepresentation of behavioral outcomes, I gave a particular interest to extending previous studies that show that in advertising, positively framed advertisements have been found to have positive effects on eliciting behavior. Extending work in emphasis framing, I operationalize the approach of studying the emphasis of emotion, particularly frames of joy. Using a text analytic process, natural language processing techniques were used to measure advertisements for positive and negative sentiment before being measured for discrete emotions. Then each variable of interest was regressed using mediation analysis to understand if the sentiment is mediated by the discrete emotion of joy on outcomes of behavioral engagement.

Self-report studies have offered many advantages in the past, and have offered, with some limitations, the potential to measure evoked emotion, but there are several issues associated with self-report research. While the previously mentioned literature has made several contributions, there are several opportunities to strengthen and extend the nuances associated with advertising engagement experiences as they relate to emotion in advertising. For instance, since the use of big social data in research enables great flexibility afforded by a complementary mix of power and detail (Vargo & Guo, 2016),

we stand to capture more insight into the underlying mechanisms and congruences between framing and digital consumer engagement.

In both psychology and advertising, researchers have committed ongoing attention to emotion. Proksch, Orth, and Cornwell (2015), for instance, drew from the psychological approach known as competence enhancement to show that the discrete emotion of joy is a motivating driver of brand attachment. In fact, they showed that when using a multiple mediation analysis, the anticipated joy was stronger than the alternative measure of anticipated anxiety avoidance. Joy has also been shown to have a significant relationship with brand personality in driving electronic word-of-mouth (Lopez, Guerra, Gonzalez, & Madero, 2020). While joy often tends to get less attention in the literature, especially compared to the effects of negative emotions, it is a useful attribute relating to the consumer-brand relationship.

In sum, by studying the relationship between sentiment and joy as a mediator in an advertising message, and by examining how those frames relate to outcomes of engagement, I aim to fill a gap in the literature by uncovering deficiencies in how a message is framed and whether that content is eliciting the intended engagement response. Thus, I propose the following hypotheses with a particular interest in the mediating effects of joy.

H1: Joy will positively mediate the effect of a positive frame on clicks

H2: Joy will positively mediate the effect of a positive frame on comments

H3: Joy will positively mediate the effect of a positive frame on shares

### **Chapter 3: Method**

Departing from self-reports, while remaining focused on emotion-induced frames, this dissertation employs a mixed method and quasi-experimental design that incorporates a text analytic process and mediation analysis to understand if word associations with discrete emotions indeed mediate behavioral outcomes of digital consumer engagement with advertising. Drawing on Baron and Kenny's approach (1986), as well as Chang (2008) and Nabi (2020), regression analyses are used to test for mediation. Before conducting tests of mediation, I employ a computational advertising approach, referring to how the data were collected (e.g., through the Facebook advertising platform), how the data were analyzed (e.g., using a computer-assisted algorithm), and how the variables are conceptualized in relation to Facebook metrics (see Figure 6).

Thus, a text analytic process is used to examine the hypothesized relationships between a sample of advertiser's messages and the resulting advertising exposure and processing. When humans see a message, their understanding of the expressed emotional intent is used to determine whether the message conveys a positive or negative emotion. After applying text analysis, opinion mining is used programmatically to measure the emotion and sentiment in the text of each ad ( $n = 3,407$ ). Each ad, then, is measured for valence before being operationalized as either loss-frame or gain-frame and then using the discrete emotions to test for mediation.

This work extends similar computational research approaches that rely on social media data to understand the modern brand-consumer relationship (Britt et al., 2020).

The aim was to use social media data to provide a theoretically rich contribution to the advertising literature in the understudied domain area of affective attributes of positive emotion. Drawing on Nabi's conceptualization of framing effects of emotion and advertising persuasiveness, variables of valence (e.g., positive, or negative), discrete emotion and digital consumer engagement with advertising were operationalized to computationally understand if joy mediated the relationship between gain/loss frames in social media advertising. Importantly, the ads are presented using either a positive or negative frame and then measured for their use of words that are associated with an emotion (versus suggesting that a term had evoked a particular emotion).

### **Variables**

**Impressions.** Impressions count the number of times a message was potentially seen by a social media user. Being unique from reach, impressions measure the number of times the message was *seen* versus the unique number of people that saw the advertisement.

**Link clicks.** Facebook includes a measure of the number of unique clicks that occurred on a link. This variable is also sometimes referred to as click-throughs, and often closely related to outcomes of purchase intent. This behavior is not directly visible to others in a social network. It is a good indicator of interest in a message.

**Post comments.** Post comments are a second metric of engagement and suggest a higher level of advertising processing in the hierarchy of effects in Figure 6. These are

measured by the number of comments received on the advertisement message by a social media user that was reached by the advertisement.

**Post shares.** Post shares is the third engagement metric of interest and represents the fourth level of digital consumer engagement with advertising. This outcome suggests the highest level of engagement and is conceptualized as a measure of advocacy. This is a count of the number of times an advertisement was shared.

### **Retrieving Facebook advertising data**

The dataset used for this study was collected during a one year time period starting January 1, 2021, and ending December 31, 2021. The data included a total of 3,407 observations (e.g., ads) from a convenience sample of eight advertisers including from a variety of corporate brands including banks, consumer products, media, and utilities totaling \$183,952.80 in advertising spend. An example of one of the ads can be seen in Figure 7.

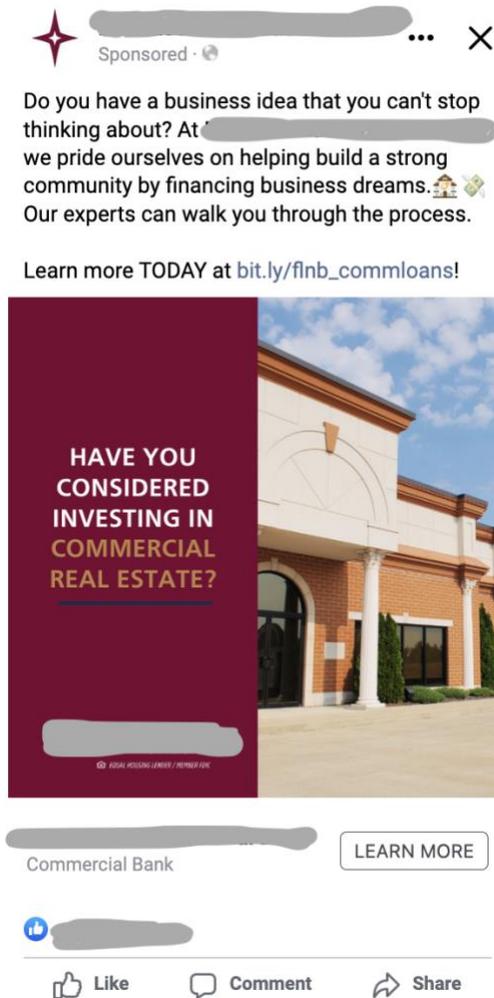


Figure 7. Facebook advertisement

The data were collected using the Facebook Ads Manager and were exported through the Facebook Ads Reporting tool. Because Facebook does not include the advertisement text in the export, the data were manually compiled with their corresponding text by matching each unique identifier and copying the individual ad text to an Excel before importing the complete data set into R. Once in R, the data were combined, cleaned, and organized and all unique identifiable data were removed. In the

cleaning process, stop words were removed such as “the”, “of”, and “to” to help facilitate analysis (Silge & Robinson, 2022). Extending previous literature, advertising effectiveness was examined using the trace data collected by Facebook and advertising processing variables were measured as outcomes of digital consumer engagement with advertising in a social media network.

The sample of corporate brand advertisements are presented by variable in Table 1. Each of the data was collected and measured using their natural integral data. In other words, the data were collected using integer count data.

Table 1. Descriptive Statistics of Variables

Variables	Obs.	<i>M</i>	<i>SD</i>	Min.	Max.
Impressions	3,407	7,875.00	25,378.66	1.00	332,625.00
Link clicks	3,407	40.17	129.00	1.00	3,615.00
Post Comments	3,407	3.45	7.06	1.00	102.00
Post Shares	3,407	4.71	9.76	1.00	188.00
Advertising Sentiment	Obs.	<i>M</i>	<i>SD</i>	Min.	Max.
Positive	3,407	3.70	2.91	0.00	27.00
Negative	3,407	0.68	1.29	0.00	12.00
Advertising Emotion	Obs.	<i>M</i>	<i>SD</i>	Min.	Max.
Joy	3,407	1.02	1.35	0.00	13.00

## **Computer-assisted opinion mining in R: Sentiment analysis**

Sentiment analysis, also often referred to as opinion mining, is a form of natural language processing. Sentiment analysis is defined as the area of research that deals with the analysis of people's opinion, sentiment, evaluation, attitude, or emotion that can be detected and measured from written language (Liu, 2012). As one of the more common approaches for measuring emotion in text, sentiment valence measures text on a scale of emotion as either positive or negative and is expressed with measures of associated sentiment scores (Barrett & Russell, 1998). The sentiment of a text on social media can then be classified as positive or negative. Thus, the goal of this research will be to examine the salience of the emotions of joy as a mediator of positive (e.g., gain) and negative (e.g., loss) frames and their related outcomes of digital consumer engagement with advertising in a social network. To extend Voorveld and her colleagues' (2018) research, this study uses a computational analysis method known as sentiment analysis.

There are studies in advertising that deal with separate components of advertisements like the pictures or music associated with the advertisement. For the purposes of this study, however, we focus on the text. Text is meant as the linguistic form of the advertisement which can be temporarily separated from other contexts for use in analysis (Cook, 2001). Text is different from context or discourse, which also involve situational factors outside of the advertisement text itself. A great deal of social media research focuses on how social networks operate and the participants who may be involved with a message. For the purposes of this dissertation, I focus primarily on the

sentiment expressed both by the framing, or valence, and discrete emotions expressed in the text (see Figure 8) of the advertisement.

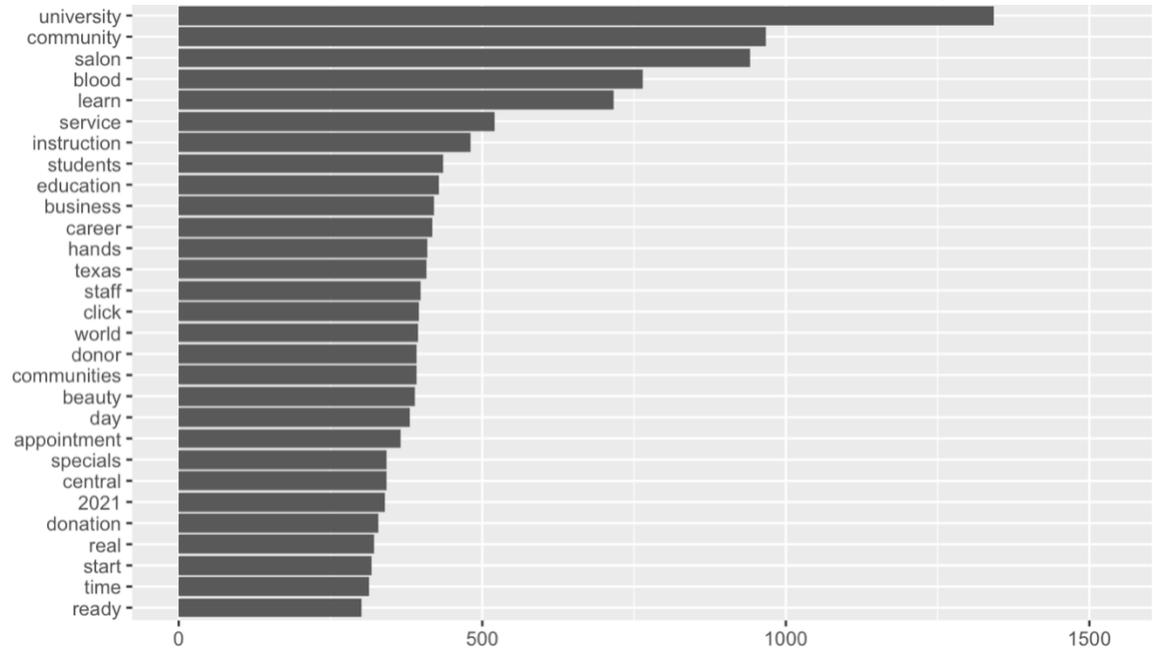


Figure 8. Most used words in the advertising sample (stop words removed)

A numeric scale was used to represent sentiment in a body of text, or the advertisement in this case, and in turn become an expression of the degree of positivity or negativity contained in the text (FinnStats, 2021), or a measure of the discrete emotion of joy. This study used the ‘Syuzhet’ package to generate sentiment scores, which includes three dictionaries and offers a method for accessing the sentiment extraction tool developed in the NLP group at Stanford (Jockers, 2020). The `get_sentiment` function accepts two arguments: a character vector (of sentences or words) and a method. The selected method determines which of the four available sentiment extraction methods will be used. The four methods are `syuzhet` (this is the default), `bing`, `afinn` and `nrc`.

In this study, I use the NRC (Mohammad and Turney 2013) sentiment lexicon which relies on a list of English words and their associations with two sentiments (negative and positive) and eight basic emotions of anger, fear, anticipation, trust, surprise, sadness, joy, and disgust. The annotations (see Figure 9) were manually created by crowdsourcing using Amazon Turk (Mohammad & Turney, 2013; Mohammad & Turney, 2010). In previous studies, NRC has been shown to provide similar positive vs. negative sentiment results as LIWC (Pennebaker et al. 2015) with both sentiment lexicons leading to the same conclusions (Saveski, Beeferman, McClure, & Roy, 2022).

# of Terms	Categories	Association Scores	Method of Creation
14,182 unigrams (words)	<b>sentiments:</b> negative, positive <b>emotions:</b> anger, anticipation, disgust, fear, joy, sadness, surprise, trust	0 (not associated) or 1 (associated)	<b>Manual:</b> By crowdsourcing on Mechanical Turk.  <b>Domain:</b> General
~25,000 senses*		not associated, weakly, moderately, or strongly associated	

Figure 9. The NRC lexicon uses 14,182 words

Using the tidy data principles described by Hadley Wickham (Wickham, 2014), the data is represented as follows; A variable is a column, an observation is a row, and each type of observational unit is a table (Silge & Robinson, 2022). Using tidy data, analysis was conducted with a standard set of tidy tools that are available in R including

packages such as dplyr (Wickham & Francois, 2016), tidyr (Wickham, 2016), ggplot (Wickham, 2009) and broom (Robinson, 2017).

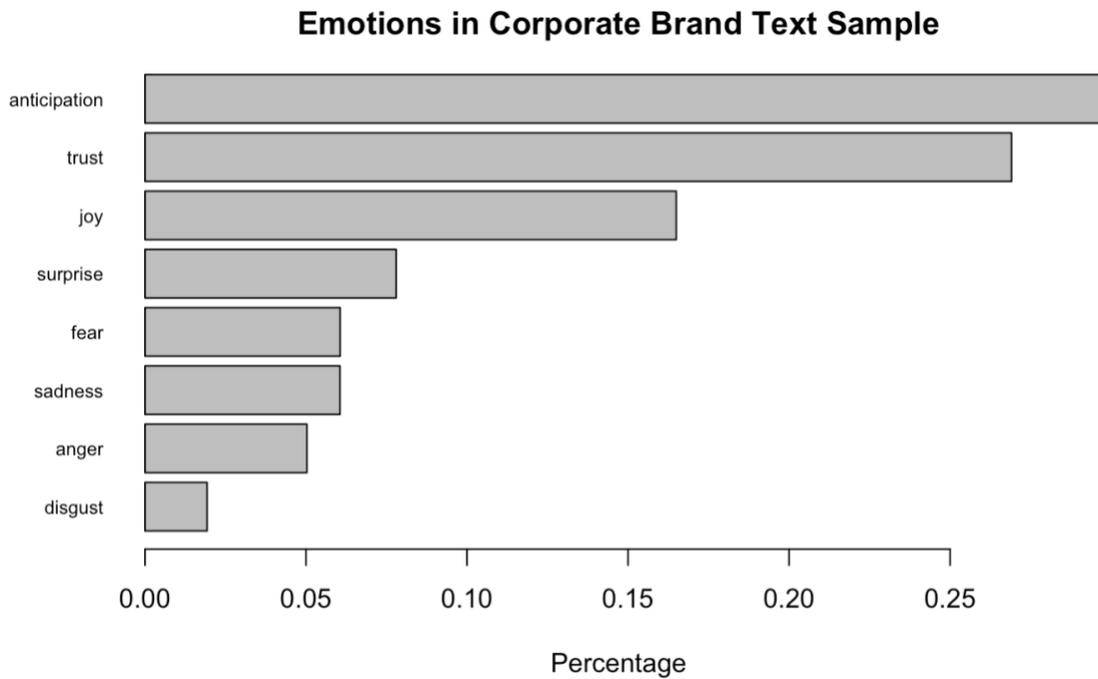


Figure 10. Comparing the count of words by the sentiment expressed as a percentage

The words associated with the joy emotion accounted for about 17 percent of the emotion detected in this sample of advertisers. The top ten most used words identified in the sample by the NRC joy lexicon were beauty, passionate, feeling, enjoy, celebration, passion, save, gift, happy, and perfect.

Table 2. Most Used Words Associated with Joy by Count

ID	Word	n	ID	Word	n
1	beauty	389	6	passion	148
2	passionate	226	7	save	126
3	feeling	214	8	gift	118
4	enjoy	201	9	happy	105
5	celebration	178	10	perfect	102

### Mediation analysis

Once sentiment and emotion scores had been assigned, each ad was coded with a mean sentiment as well as being coded as either positive or negative prior to running a mediation analysis on the digital consumer engagement variables of interest impressions, comments, shares. Using each mediator of interest, tests of mediation were conducted for significant effects related to outcomes of digital consumer engagement with advertising. For simplicity, I refer to these frames as positive-joy frames. See table 3 for a description of the possible advertising framing typologies.

Table 3. An advertising framing typology

Framing nomenclature	Description
Positive-joy	A positive frame that includes the emotion of joy
Positive-surprise	A positive frame that includes the emotion of surprise
Negative-surprise	A negative frame that includes the emotion of surprise
Negative-fear	A negative frame that includes the emotion of fear

Negative-sadness	A negative frame that includes the emotion of sadness
Negative-anger	A negative frame that includes the emotion of anger
Negative-disgust	A negative frame that includes the emotion of disgust

*Note.* Using the AFINN lexicon, there are a total of even combinations of advertising frames that can be computationally measured prior to running mediation analysis.

For the framing types of interest, the positive-joy frame is the mediation analysis that can be drawn into a path diagram in the shape of a triangle as shown in Figure 11. Using a one-headed arrow, means that the variable without the arrow is predicting the variable that has the arrowhead. Baron and Kenny (1986, p. 1176) define a mediator as a “given variable (that is) said to function as a mediator to the extent that it accounts for the relation between the predictor and the criterion.” In other words, mediation tells us why  $X$  can predict  $Y$  (see Figure 11).

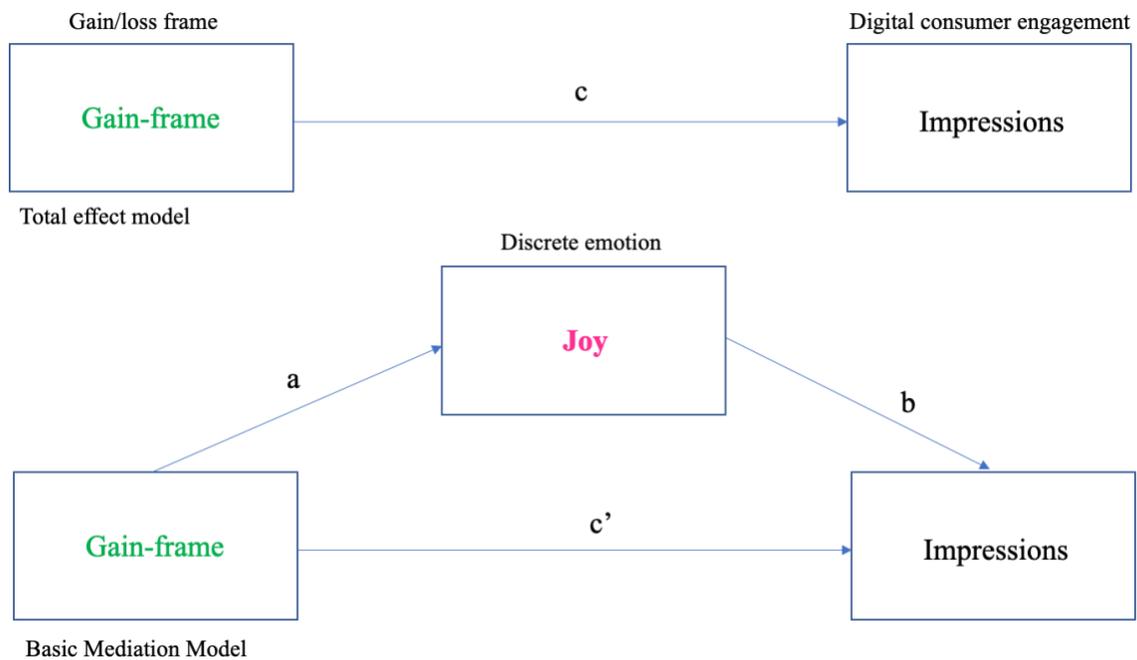


Figure 11. Model exploring mediation effect of joy on impressions

Using Baron and Kenny's (1989) four-step method, a mediation is tested for the total effect, the effect of the IV on the mediator, the effect of the mediator on the dependent variable, and causal mediation. Thus, a variable functions as a mediator when it meets the following conditions: (1) The independent variable accounts for significant variation in the presumed mediator; (2) the presumed mediator accounts for significant variation in the dependent variable; and (3) the relationship between the independent and the dependent variable is no longer significant once the variance in the dependent variable accounted for by the mediator is partialled out (p. 1176). Figure 11 illustrates the design of the mediation analysis for this work, which is a test that seeks to understand if joy can help explain the causal relationship of "how" the relationship between gain frame and ad exposure work.

## Chapter 4: Results

**H1.** H1 sought to understand if the joy mediated effects of clicks in this sample of advertisers. The results found that the effect of sentiment on link clicks was fully mediated via the joy-frame in ad text. As Figure 14 illustrates, the regression coefficient between sentiment and link clicks and the regression coefficient between joy-frame and link clicks was significant. The indirect effect was  $(.32)*(12.00) = 3.84$ .

**H2.** In the second model, H2 was not supported. The results found that the effect of sentiment on link clicks was not mediated via the joy-frame in ad text. The regression coefficient (see Figure 14) between sentiment and post comments was significant, however the regression coefficient between joy-frame and post comments was not significant.

**H3.** The third model was also unsupported. The results found that the effect of sentiment on link clicks was not mediated via the joy-frame in ad text. The regression coefficient between sentiment and post shares was not significant, nor was the regression coefficient between joy-frame and post shares (see Figure 14).

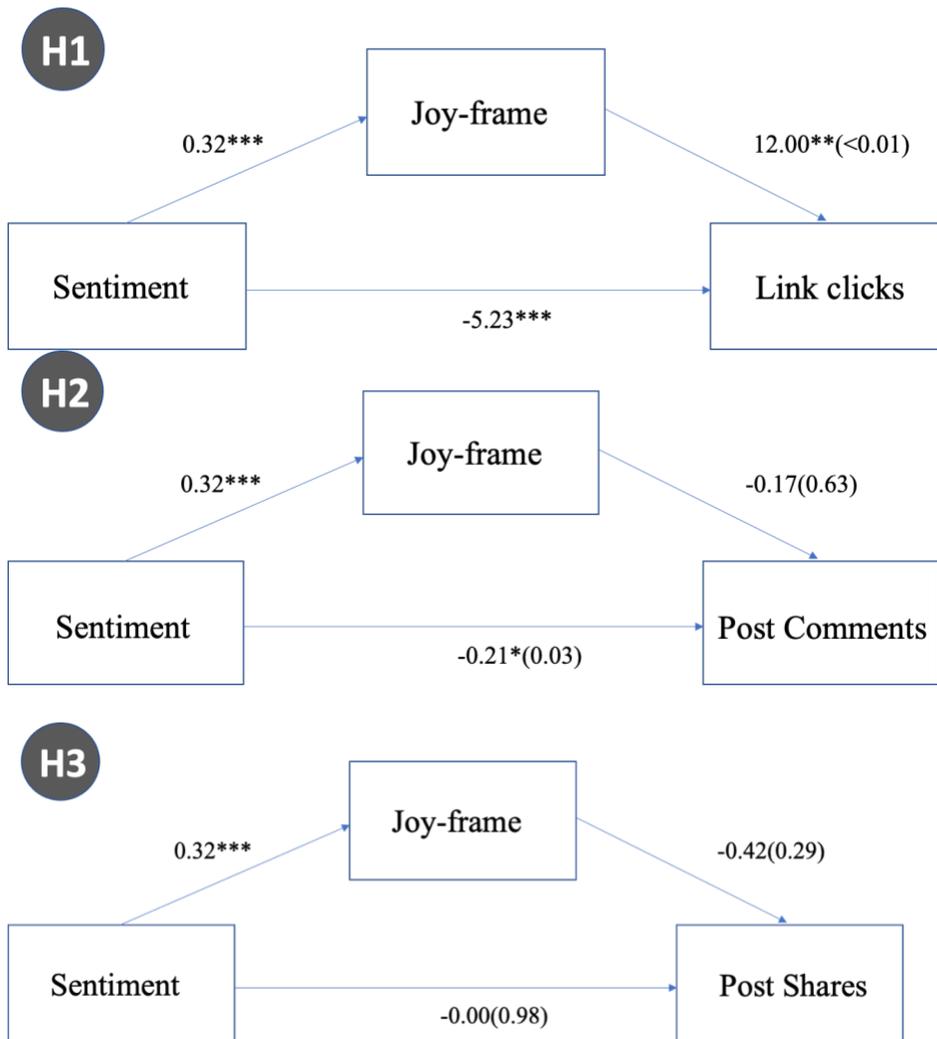


Figure 12. Joy-frames regressed on outcomes of digital consumer engagement

In summary, the results show that for sentiment, joy-frames had a mediating effect on clicks, but all other mediation analyses were not supported, and mediating effects of joy-frames were not present on post shares or post comments. Implications are discussed in the following section.

## **Chapter 5: Summary**

The results presented in this dissertation are mixed. For instance, the analysis found that while some of the outcomes of digital consumer engagement with advertising were mediated by joy-frames, others were not. Further, several of the regressions included results of negative relationships between variables of interest. The implications of these findings can be considered in light of previous studies. Berger and Milkman (2012) showed that in some situations, content is shared more often regardless of the valence of the message. More specifically, they show that content is more likely to be shared the more positive it is and that this persists even when controlling for emotion. Negative emotions are generally more distinguishable from one another than positive emotions (Keltner & Lerner 2010), but perhaps both are mediated by emotion. Negative emotions are straightforward to differentiate and easier to classify yet positive emotions tend to better support more desirable outcomes in advertising. In the current study, the joy frames were found to have no effect on sharing behavior and the relationship was not significant. As previously theorized, sharing can be understood as one of the highest levels of advertising processing and suggest a segment of consumers that are highly regarded as brand advocates. Thus, the results suggest that at least in the context of this group of advertisers, the joy-frames did not lead to improvements in sharing behavior.

The other relevant finding of this study was that joy-frames mediated the effects of sentiment on click behavior. Clicks have long represented the gold standard in online advertising, especially as they suggest that a consumer may be ready to purchase or at least learn more about a brand message. Conventional wisdom, however, has touted fear

appeals as being more effective at driving short-term behavior. The mediation analysis, however, demonstrated that there may be some importance in the use of words that are associated with joy and their relationship with outcomes of click-throughs. Impressions are often considered the first step as a key performance indicator for advertisers wishing to achieve brand awareness with a message, and the results of joy's mediating effect on clicks provide support for the impact and versatility of positive-joy frames in advertisements when they reach people.

Of the findings, joy was found to fully mediate clicks, but was not a significant mediator on comments or shares. While the data set used was unique, it remains relatively small compared to the number of media placed on Facebook. In addition to the sample size, one issue persists, and that is the general interest in statistically significant results that are more likely to be published in journals. Druckman (2001) notes that it is unpopular to cite equivalency framing cases that did not work but that they do indeed happen (e.g., Entman, 1993; Quattrone & Tversky, 1988; Zaller, 1992). As such, there are likely many examples of failed framing cases that have gone underreported.

This research suggests that it may be beneficial for an advertiser to be strategic in how they craft their messaging, providing evidence that language and emotional frames may be influential on the outcomes of clicks. Berger and Milkman (2012) suggested that their findings supported this approach. However, in computational advertising, an advertiser is trying to reach the right person with the right message at the right time. Therefore, to be successful, an advertiser may not only be strategic in how they craft their

advertising copy, but also in how they target people. These multidimensional aspects of engagement are key to conceptualizing an effective ad strategy.

## **Discussion**

Laczniak (2015), who was the editor of the *Journal of Advertising* from 2003 to 2006, sought to reflect on the use and application of theory in the advertising discipline. In his essay, Laczniak distinguishes between weaker, contextual, and stronger, universal theories for the advertising field. In describing these differences, Laczniak wrote that the "development of theory should be at the heart of academic pursuits and that theoretical developments need to be used to guide the "science" of advertising" (2015, p. 430). He goes on to provide three goals, the third of which was to share "broad-based guidelines for emerging scholars in advertising for theory development." Specifically, strong (or universal) theories are thought to describe research generalizations that are context-free. Extending this notion to our discipline, strong theories would contain advertising generalizations that could be made for all receivers, across all media, for all messages (e.g., exposure to ads will lead receivers to view brands in a more favorable manner)" (p. 431). Given the role of advertising in social media and the amount of data accessible to advertising scholars, emotion as a frame model of digital consumer engagement with advertising aims to provide a solution for induction-based research to work toward this theoretical objective.

The debut of the Netflix docudrama/documentary "The Social Dilemma" in 2020 illuminated for many people for the first time the nature of social media technology and

its considerable potential for negative impact on our society. Revealing how algorithms are designed to be intrusive and addictive, and how the technology has influenced elections and suicide (Haselton & Bursztynsky, 2020), the film drew attention to the downside of human impact that has been imbued with the stickiness of Facebook in our everyday lives. Meanwhile, media analysts have reported Facebook's plummeting stock blaming a shifting market share where "advertisers that can no longer get the level of targeting they want on Facebook are spending more on Google" (Levy, 2022; p. 4). At times, it seems that Google has used Facebook's fall from prestige to their advantage. If nothing else, Meta exudes conventional thinking that showcases their desire for growth at all costs. On the other hand, especially following the popularity of the Netflix documentary, there has been a rise in design thinking, which is defined as the practice of dealing with problems across professions, notably information technology (Dorst, 2011).

With computational approaches accelerating, design thinking strategies are more appropriate in advertising as tech and innovation continue to advance. Design thinking is primarily concerned with the idea that how professional designers' problem-solve can be of great value to firms, namely those trying to innovate, as well as to societies that may be seeking change (Kimbell, 2011). Directions in this area are already underway. Current social issues, misinformation, media mistrust, and concern for data privacy (Bright, Wilcox, Sussman, 2021), have ushered in a shift in marketing priorities by brands. If design thinking is to technology what corporate social responsibility is to advertising, then the paradigm shift is beginning. Thus, how do we as advertisers consider our role in this design thinking process? Considering the emotional effect our voice contributes to

the media landscape can help contribute to the literature stream with an ethical, design thinking strategy. Much like Google is integrating investments in responsible AI practices, computational advertisers should also consider the effects of our messaging in a social network.

Perhaps fueled by public interest and at the intersection of social media and advertising are new calls for ethics and transparency. The dramatic adoption of social media has driven a paradigm shift in how relationships between brands and consumers have evolved and corporate social responsibility has become widely popular in current research (add citation). With the natural evolution of digital media, this shift has provided the ability for brands to strengthen their relationships through online experiences with customers. Thus, the study of digital consumer engagement has blossomed and at its core lies consumer behavior research. Yet, the study of advertising effects in real market situations have been found to differ widely (Faber, 2015; Stewart, 1992). With this in mind, brands are now working to optimize their efforts to achieve digital consumer engagement as priority.

Much of the opportunity in advertising that has been afforded in recent years relate to technological advances that were ushered in by Google and Facebook through the means of personalized targeting and big data. While there is some disagreement among practitioners in the advertising and public relations field about who is responsible, many agree that the rules of ethics are changing (Schauster & Neil, 2017). Further, traditional advertising literature has been dominated by attitude change and attitude theories (Pasadeos, Phelps & Kim, 1998) but it is possible that social media now

engender more broadly persuasive effects. Macro effects are sometimes referred to as the unintended social consequences of advertising (Pollay, 1986), and can provide an explanation worth examining across advertising verticals.

Commonalities and shared interests across theoretical methodologies or variables can fuel collaborations across academic fields (Nan and Faber 2004). As old theory extends its utility across new fields, new variables may be applied as mediators or moderators strengthening the theory's generalizability and overall value (Reynolds 1971). As a limitation, Nan and Faber (2004) point out that the majority of advertising research remains focused on empirically studied ad effects with very few articles including little to no focus on integrated marketing communication and consumer skepticism. Drawing from issues related to social media, advertising research can address its role in integrated media and consumer skepticism.

### **Theoretical Implications**

Framing has implications for political communication, public policy, and consumer behavior, but also more directly to advertising. The findings in this dissertation offer theoretical and ethical implications that should be considering the popularity of social media in our society and the precision targeting of advertising in a social network. For instance, a quick search for current Facebook news will return topics and issues regarding why Facebook should support the “advocacy for polyamorous rights and sexual positivity and freedom” (Todd, 2022). The convergence of news and issues combined with the diffusion of content online has created an evolved digitized media landscape.

Recent calls for research have highlighted a demand for an advanced scholarly understanding of both the social functions of journalism as well as the effects relating to transformations in media (Mellado, Georgiou & Nah, 2020), but surprisingly little attention has been given to advertising's role in this. From the framing effects of how people describe their relationship status on Facebook, to the successful social movements like the Black Lives Matter movement, social media has organized diversity in voices and continues to draw national and global attention (Horowitz & Livingston, 2016).

Given my review of the literature, more attention is needed to understand how media volume is consumed by users. The “black box” that social media operate within leaves little room for academics or government agencies to understand the velocity or variety of messages a user sees in their feed, let alone the emotional framing in these messages. I have only come across one paper that examined the percentage or number of paid messages in a person's feed against other “organic” content. There are many theoretical implications worthy of study in social media from the spiral of silence theory to examining how the diffusion of information works in networks.

Cacciatore, Scheufele and Iyengar (2016) argue that in the context of framing, scholars need to “abandon the general term ‘framing’ altogether and instead distinguish between different types of framing” while also calling for attention to be refocused on “the potential empirical contributions that the concept can make to our field and our understanding of media effects” (p. 8). Thus, this dissertation shows that emotions can act as a frame resulting in specific levels of response in observable consumer behavior. The findings suggest that framing plays an important role in broader media effects of brand

communication in a social network. Namely, the “repeated pairing of certain emotions with particular ideas or events eventually shapes the way in which one interprets and responds to those events that in turn affect one’s worldview” (Nabi, 2003; p. 227). Consequently, the way in which advertisers pair emotions with content in a social network will contribute to how people interpret and respond to those messages.

In their review of advertising theory, Nan and Faber (2004) point out that advertising research generally relies on other disciplines for theory and focuses too heavily upon advertising messages as either a stimulus or topic. Nan and Faber suggest that future research examine what makes advertising a unique phenomenon through the inclusion of skepticism, repetition, message coordination and clutter. The ability for advertising to impact society is an arguably unique phenomenon, and deserves a line of inquiry into asking how design thinking is incorporated into our field and our ethics. As advertising scholar Drumright (2019) found, "Advertising is not an easy context for ethics. Clients are demanding. Deadlines are never-ending. Short-term results are mandatory. Creative content must push the limits of what is familiar and acceptable to compete for attention".

The results presented in this dissertation suggest that there is a positive relationship and increase in certain behavioral outcomes related to message framing effects of joy and surprise. While advertising as a whole may have previously been too focused on driving short-term results, this work contributes to a simple yet powerful argument that joy can drive both short term corporate goals (e.g., clicks) while also leading to larger long-term and positive implications for our society (e.g., agenda-

setting). As calls for transparency and ethics surmount, I argue that by employing design thinking strategies, advertising can move from being viewed as harmful to society and contribute to social good.

### **Limitations**

Though there are many benefits and opportunities for research using behavioral data, big data gathered through a social network is not without its own set of issues. For instance, the data processing stage is quite cumbersome and there are issues related to working with and understanding the data. Because of the power that is associated with big data, correlations or regression coefficients may be spurious (Vargo & Guo, 2016). Other chief issues are challenges related to understanding the data. Specifically, one common issue that occurs when working with computational data, or trace data, is related to validity. For instance, Facebook provides a surplus of measures that can be useful in assessing advertising impact. One, for instance, is called “estimated ad recall lift”, and is defined as the estimated number of people to recall seeing an ad if asked within two days of being served the ad (Facebook, 2021). The metric has become a useful measurement for advertisers placing media through the Facebook Ads Manager, but little empirical research has been dedicated to examining ad recall effects on social media. Of course, we don’t know precisely what is being measured.

The issue is further compounded by consistent and prominent press coverage of Facebook inflating their ad reporting data (Graham, 2021). One approach to solving this would be to conduct a test of construct validity (Campbell & Fiske, 1959). In employing

this type of analysis, the ad recall measure should show variations in relationships between the independent variables on ad recall. This test of validity should also show some consistencies with prior ad recall studies along with effects on downstream variables such as choice (Nedungadi, 1990).

Facebook, along with all social media platforms operate using a “black box” algorithm. The algorithms used are likely relying on a variety of variables that may change over time. While there is work underway to better understand recent advertising transparency efforts on social media (Edelson, Sakhuja, Dey, & McCoy, 2019), for social media researchers, this is especially challenging as social media technologies frequently update their platforms. For instance, news feeds are operated by algorithms which determine the delivery of media across the network. These so-called "black box" features can introduce statistical error. However, the algorithm could be solely based on another variable, such as ad spend. Any relation between ad spend then and the outcome measure of ad recall could be spurious or false.

Another limitation, which is also related to the Voorveld et al, 2018 study, is the general lack of demographic data in big social data. When using computational methods that rely on social media data, having a representative sample can also become an issue. For instance, a large majority of tweets may be sourced from a small minority of people. It has been suggested that only about 22% of Twitter users represent the broader U.S. population, and they are not only younger but also Democratic (Wojcik & Hughes, 2019). To mitigate these issues, future studies may also employ textual analysis methods that can be useful in detecting demographics (Sloan, 2017).

As advertising scholars and practitioners, we can continue to draw from theoretical approaches across the broader domain of social sciences while also working to advance the literature specific to our own, which is unique in its objective of appealing to people through communication. However, while computational methods offer novel insight into the design of an ad message and the emotion within it, the methods employed here do not measure ad evoked emotion. Moreover, the neuromarketing technologies needed to measure emotion *induced* outcomes in consumers are not yet accessible to the everyday advertiser. Hence the focus of this dissertation. However, there are some techniques which do exist and are becoming more common like Eye Tracking, EEG/Functional MRI (fMRI), Galvanic Skin Response (GSR), and Face Emotion Analysis (FACE) (Frechete, 2017). Many of these have not yet been adopted in mainstream practice, nor (to my knowledge) are they available at most advertising agencies.

### **Future research**

I have argued that one of the major contributions of this work is its use of big social data to address current advertising theory using approaches from computational advertising. Some are exploring natural language processing and its application for identifying influencers (Fang & Wang, 2022), or in the context of AI marketing agents (Liu-Thompkins, Okazaki, & Li, 2022) for instance. However, this is at least just the “tip of the iceberg”—there are other novel linguistic approaches that may be fruitfully used in the domain of computational advertising. More specifically, natural language processing

can give us insight into the brand-consumer relationship that occurs in social networks. Most interesting are the methods that measure relationships between people and related back to outcomes and boundary conditions of engagement. Using engagement as an effective measure of media effect, we stand to better understand how emotion and social psychology relate to brand loyalty and outcomes of consumer response. These personality and relationship measures also stand to move advertising beyond the goal of persuasion and provide research contributing to the impact of advertising as a powerful communication channel in our lives.

Advertising research has debated how best to accomplish the division of traits solely based on the receivers of ads (Cook, 2001). Because personality traits and attributes can be accurately predicted using social media data (Kosinski, Stillwell, & Graepel, 2013), it may be useful to compare advertising engagement across groups of predicted groups of consumers (e.g., high versus low consumption or political affiliation, etc.). In Cook's (2001) book, he cites categories such as trendies, utopians, traditionalists, drifters, and puritans as examples. The future of communication scholarship in this domain area of consumer behavior offers several directions.

In psychology, behavior matching is quantified using the language style matching (LSM) metric. LSM uses function words (e.g., pronouns, articles) to measure and quantify similarity between partners (Ireland & Henderson, 2014) and stability in relationships (Ireland et al., 2011). In consumer behavior research, LSM has only recently been used in addition to emotion to examine the relationship between language and restaurant review helpfulness but has been found to be significant in predicting perceived

helpfulness in reviews (Wang, Tang & Kim, 2019). LSM may offer another useful variable in relation to sales value of a company. Furthermore, the Yoon et al study didn't find support for authenticity in the Facebook page comments as being significantly associated with company performance but perhaps LSM can offer yet another lens to understand digital consumer engagement with advertising.

Among the issues of self-report methods are the overarching challenge of credibility (Paulhus & Vazire, 2007) and the fact that once the research has been employed, the results are stable and are not as fluid as an analysis using big data. Language, on the other hand, along with engagement trace data, allow for a dynamic measure of consumer behavior that can provide a window into important attributes related to downstream consumer behavior and overall advertising effectiveness. As the infamous statistician George Box once said, "all models are wrong, but some are useful." Thus, for a model to provide generalizable insights it also needs to simplify reality (Wedel & Kannan, 2016).

Another approach to using big social data is to employ a mixed method study that incorporates supplemental survey research, similar to the Berger and Milkman (2012) study looking into discrete emotions impact on sharing behaviors. In a more recent example, Hopp, Ferrucci, and Vargo (2020) examined misinformation sharing behaviors on Twitter and Facebook by using trace data in addition to self-report measures. This can be particularly useful when using Facebook as a research tool (Kosinski, et al., 2015), but can also enrich the findings of a study. Not only can this type of approach attract many participants, but it may also facilitate a potentially more reliable measure of the

advertising engagement moment (Voorveld, et al., 2018; Calder et al., 2016) that is measured more closely to the time the participant experienced the advertisement by asking participants to refer to their news feed directly. When either distributed or collected within the platform, the survey does not rely as heavily upon memory and may also yield the collection of additional consumer meta data and qualitative data.

Thus, it is proposed that the relationship between advertising and public attention can also be more fruitfully explored in the advertising literature using attributes of emotion through the lens of the second level of agenda-setting. Agenda-setting has been thoroughly studied in political communication and journalism literature as suggested by the persistence of scholarly research dedicated to the theory. Despite the clear affinity with advertising, however, advertising has traditionally held a backseat in the study of agenda-setting theory. Introduced by McCombs and Shaw (1972), the theory had traditionally been developed to measure the transfer of issue salience from the news media to the public. The first level sought to understand “who and what people are thinking about” through the issues and objects of public focus (McCombs, Lopez-Escobar & Llamas, 2000, p. 703). In the second level, studies the attributes of those objects, with attention to “how” people think about them. Over the past twenty years agenda-setting has also expanded to include a mix of new domains with contemporary observers who recognize social media as “new chief agenda setters” (McCombs & Valenzuela, 2020; p. 159). In other words, social media may offer a new route to setting the agenda. At the same time, the news media landscape has evolved to actively include social media while the theory has expanded beyond first-level agenda-setting to include

second and third-level agenda-setting effects with focus on how topics, framing, and attributes affect the public agenda.

Faber, Duff, and Nan (2012) suggest that advertising theory should add to our understanding, across the many factors and attributes, of how advertising ultimately relates to and affects people. Attributes may be particularly useful for accomplishing this, as they can be multidimensional and result in powerful effects. The study of attributes has also been requested as an area of research requiring more attention (Kosicki, 1993) which has only been further demonstrated by the technological shifts in social agenda-setting occurring on social media. By nature, attributes are more descriptive which makes them interesting for scholarly contributions in the field of advertising.

On social media, as well as in the broader media landscape, issues, advertisements, and attributes are presented together. Both framing and attribute studies explore how certain aspects or details, like fear or anger, influence people's thoughts and feelings in a given context (McCombs and Valenzuela, 2020). Anger has been found to be one of the strongest emotions to influence the public agenda (Vu, McCombs, Russell & Pain, 2020). With implications for race and policy discourse, emotions of fear and anger should be examined using branded online rhetoric and the association with user-generated content of language expressed online. The emotional attributes can offer a window into understanding behavioral targeting opportunities while also answering calls for understanding the brand impact on issues of social importance. Top-of-mind examples are issues of diversity and inclusion as well as public health issues relating to vaccination hesitancy. U.S. Americans have said they'd like to see more diversity in

advertising (Guttmann, 2020), but how have advertisers responded, and has that response had an impact? For instance, this type of research can open the door to exploring how brands not only participate in contexts of national importance but also how they drive and affect the conversation. With the shifting dynamics in public attention, social media has been shown to emphasize some issues more heavily (Neuman, Guggenheim, Jang & Bang, 2014). Such an understanding could be both profitable as well as “helpful to advertising practitioners promoting social causes such as anti-drinking and driving or healthy lifestyle behaviors” (Drumwright, 2019, Ch. 30, p. 516). Thus, it is both timely and poignant to consider how advertising relates to how people think about topics and issues, as well as how advertising outcomes of engagement relate to the attributes associated with brands.

I have also left several attributes that call for future attention. For instance, because of the temporal relationship between media and consumers, time series is used as a common method to forecast future attention based on what has been observed in the past (Soroka, 2012). Time series analysis has also been suggested as contributing to some of the more pioneering work in the field and is useful when using social media data to understand a variety of phenomena in communication research (Wells et al., 2019). Another method that has proven useful that may transfer well to advertising scholarship is network analysis. Specifically, it is used for researchers to map relationships between media networks and public agenda networks (Guo, 2012). These insights could pave the way toward understanding networks within paid communication within other integrated communications like news media or organic versus paid.

Given the advances in computational power and velocity of information available, future research may employ supervised machine learning techniques to advance computational advertising methods in this area of research. It is intuitively important toward the field to understand differences in engagement between groups of people based on their likelihood to consume. In the Saveski et al. (2022) study, they use the text in tweets to measure the diversity of the audience using predictive modeling. Drawing upon the engagement experience framework (Voorveld et al., 2018; Davis Mersey et al., 2010), future research may examine how big social data could provide new context-specific measures of text in advertisements that can predict engagement or help answer questions regarding engagement of negative emotion affecting consumer engagement with advertising. Finally, future studies should also employ computational analyses examining how engagement experiences differ across groups of people by illuminating behavioral attributes that may be useful in understanding engagement across media.

In the Yoon et al (2018) study, the authors examined the relationship between emotion in Facebook comments and a company's stock value. Their results found that the valence of emotion in the Facebook comments had a positive relationship with company performance. This effect was significant at the 10% significance level suggesting that a 1% increase in valence was associated with an estimated .0004% increase in revenue. To extend these findings, future research can benefit through the examination of relationships between additional discrete emotions like joy. Further, the valence of emotion should also hold when examined across the broader social media environment.

The measurement of consumer engagement doesn't equate to a 360-degree understanding of consumers (Araujo et al, 2020). However, the amount of data and information available to marketers brings exciting opportunities to observe how the brand-consumer relationship works in an advertising, marketing, and mass communications context. In sum, the advancements in computational advertising offer numerous exciting research agendas to be explored.

## **Conclusion**

It is difficult to conceptualize social media in a way other than one big narrative with many contributing voices and ideas. A potentially fatal measurement flaw in understanding advertising effects is the ease for which to overlook intermediating factors that could lead to statistical errors and in turn affect the theoretical conclusions drawn from research. Therefore, this dissertation aimed to contribute to the growing body of research in support of the use of digital consumer engagement as a valuable outcome of advertising and employed theory integration to introduce a conceptual model for understanding how joy-framed messages can act as a mediator in social networks. The findings offer new insights into how joy can drive short-term advertising objectives leading to clicks and in turn driving conversions and building brand relationships. This work also contributes a model for examining emotions as a frame in future research while also building upon an underserved stream of literature studying effects of positive emotional appeals.

Big social data, and more specifically behavioral data, can be especially useful in testing advertising theories but also in exploring theoretical constructs. While the decline of mass media has ushered in a new era of specialized media (Bennett & Iyengar, 2008; Maisel, 1973), the methods associated with the use of big data require interdisciplinary knowledge that is resulting in newfound pressure upon scholars to go deeper into one domain expertise while also going wider and drawing from other relevant areas of scholarship. As with the mixed methods employed in this dissertation, it is helpful to have knowledge of textual analysis methods as well as the technology used for computation, and its history. Scholars wanting to go beyond an entry-level approach to textual analysis can further incorporate time series analysis and machine learning techniques that have shown promise in predictive analysis of language (e.g., Saveski et al., 2022). In sum, computational social science methods are here now and ready to advance the field of advertising; The challenges associated with this paradigm shift may best be met by working across disciplines, and across academic levels of scholarship.

The results of this research argue that calls for academics to reconsider and reconceptualize how mass communications look moving forward (Turrow, 1992) deserve to include advertising as a viable and impactful media in social networks. Largely due to social media adoption, the distribution of messages and proliferation of channels offer an opportunity to revisit the theoretical function of advertising within modern media. Combined with the progress in AI and machine learning, mass communication is arguably more relevant now than in the past. Through big data and trace data, the line of inquiry that I hope to inspire with this research is to revisit and evaluate advertising's role

in social media and its related offline effects. Big data can be used to forecast future attention based on what has been observed in the past as well as offer an understanding of brand influence. Thanks to new methods in computational analysis, social media data offer opportunities for theoretical contributions to the field of advertising.

Coupled with artificial intelligence and machine learning, advertising has taken a more prominent role in our society but is just beginning to be given the appropriate attention in the literature. Supported by both personalization and algorithmic delivery of media, mass communication is delivered on-demand and in an individually tailored manner through technology. Prominently positioned in the middle of this chaotic mass media environment is advertising. Through the examination of attributes and their related effects on attention and media consumption, our field can be positioned to understand the impact of advertising in the coming years.

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