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The Effects of Loneliness on Consumers’ Digital Engagement with Social Media Ads

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The Effects of Loneliness on Consumers’ Digital Engagement with Social Media Ads

by

Yu Qin

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business Administration with a concentration in Marketing
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digital consumer behavior, digital marketing, social media marketing, social media advertising

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DEDICATION

To My Mom
Lan
With Love

You make me want to be just like you.

I am closer now.
ACKNOWLEDGMENTS

I would like to express my gratitude to my advisor, Dr. Varki, and my committee members, Dr. Kumar, Dr. Stock, and Dr. Bosson. Thank you for your generous assistance and insightful feedback along this journey. I am confident that the positive effect of your guidance on my intellectual growth is highly significant ($p < .05$).

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ABSTRACT

Social media has become an integral part of consumers’ lives and a popular platform for interactive marketing communication. In an age boasting of unprecedented digital connectivity, loneliness (defined as perceived social isolation) has, paradoxically, becoming widespread, affecting consumers’ preferences for products and brands in the marketplace. The present research extends the feelings-as-information theory and develops a conceptual framework in which loneliness modifies people’s cognitive processing style and induces concrete thinking in the context of evaluating social media messages. Using a mixed methods research approach, I first take a close look through the lens of a qualitative study at what it is like for the average consumer to experience loneliness. Additional experiments show that lonely consumers have higher digital engagement with concrete (vs. abstract) social media ads. Broadly, my findings on the effects of loneliness on consumers’ digital engagement with social media ads highlight the fact that loneliness may render different types of social media ads (abstract versus concrete) more or less effective. Study 1 tests the hypothesis that loneliness induces concrete thinking. Study 2 tests the prediction that loneliness increases consumers’ digital engagement with concrete social media messages. Study 3 and Study 4 test two moderating variables, social influence (strong vs. weak) and loneliness type (emotional vs. social), as they may modify the effect of loneliness on consumers’ digital engagement when they evaluate social media ads.
CHAPTER ONE:
INTRODUCTION

The whole conviction of my life now rests upon the belief that
loneliness, far from being a rare and curious phenomenon, is the
central and inevitable fact of human existence.

---Thomas Wolfe

In the film Castaway, Tom Hanks grew attached to “Wilson” the volleyball after his
plane crash. He endured times of absolute loneliness on a deserted island, with no friend, family,
or modern technology around. The companionship with his anthropomorphized confidant
“Wilson” was the closest to achieving some degree of his desired social connectivity. Loneliness,
in short, is perceived social isolation and is an aversive affect based on one’s self-perception of a
lack of social connectedness with others (Cacioppo and Patrick 2008).

The desire for social connectivity is one of the most fundamental and universal of all
human needs (Baumeister and Leary 1995). Evolutionarily, humans have an innate drive to forge
social connectivity because they are afforded better chances for survival and safety (Baumeister
and Leary 1995). In addition, social connectedness is a strong factor determining one’s physical
and mental well-being and performance. It is estimated that loneliness increases a person’s odds
for early death by 45%, as compared to 5% from air pollution, 20% from obesity, and 30% from
excessive drinking (Holt-Lunstad, Smith, and Layton 2010).
Robert S. Weiss, a noted sociologist, describes loneliness as “a chronic distress without redeeming features” (1973, 15) and this view of loneliness as an aversive affect dominated past literature in psychology. In a state of loneliness, when someone’s ingrained need for intimacy and social connection is unsatisfied, psychological, cognitive, and neurological consequences follow. The threat of social isolation impairs logical reasoning (Baumeister et al. 2005; Baumeister, Twenge, and Nuss 2002). It also hampers neural pathways in the brain that control social cognition and executive functions that regulate one’s attention, cognition, emotion, and behavior to better meet social standards or personal goals (Cacioppo and Patrick 2008). Research suggests that isolation increases group affiliation and conformity (Dewall et al. 2009; Mead et al. 2011), in particular, for publically consumed products (Wang, Zhu, and Shiv 2012) but it heightens some people’s desire for uniqueness in product choice (Wan et al. 2014). It increases status consumption (Lastovicka and Siriami 2011; Lee and Shrum 2012; Rucker and Galinsky 2008), materialism (Pieters 2013), nostalgic reminiscences (Zhou et al. 2008), risky financial decision making and consumption (Duclos, Wan, and Jiang 2013; Mead et al. 2011), distorts time perception (Twenge, Catanese, and Baumeister 2002), and encourages compulsive buying (Faber and O’Guinn 1992; Vohs and Faber 2007).

Unlike Tom Hanks, modern consumers do not have to be trapped on a deserted island to feel lonely. With profound demographic and lifestyle changes (e.g., longer life expectancy, aging population, high divorce rates, more single-person households, the alienating force of the Internet) that are transforming consumers’ life experiences and senses of being, loneliness is becoming widespread. The Internet expands our circle of social relationships, but it is also an alienating force of life that is far from being authentic and real (Boase et al. 2006; Sheldon, Abad, and Hinsch 2011).
Indeed, loneliness is a widespread issue. An average person now has zero confidant, as compared to three in 1985 (Hawkley and Cacioppo 2007). In the United States alone, at least sixty million people, or twenty percent of the population, openly identify themselves as lonely (Cacioppo and Patrick 2008). Thirty-five percent of the 3,012 respondents over the age of forty-five rated themselves as lonely on the UCLA loneliness scale, according to a 2010 AARP national survey. The actual rate of loneliness is estimated to be much higher, given the social stigma associated with admitting to loneliness, among men, in particular (Borys and Perlman 1985).

Lonely people are different from non-lonely people in terms of marital status, number of voluntary associations, disability, recent immigration status, chronic work and social stress, small social network, and lack of spousal confidant (Cacioppo, Hawkley, and Berntson 2003; Cacioppo and Patrick 2008). Therefore, those who are more likely to experience loneliness may include singles, retirees, seniors, immigrants, travelers, military personnel deployed overseas, college freshmen, people with autism, schizophrenia, and disabilities, and people who have undergone a recent life change event such as a divorce or death of a loved one. In fact, this means nobody is immune to loneliness.

Moreover, a study on lonely consumers is more meaningful in the digital age. Digital media has fundamentally changed how consumers communicate and connect with one another and with brands online. Over the last two decades, countless social media sites (Facebook, YouTube, Tumblr, LinkedIn, Snapchat, Instagram, Pinterest, Twitter, Google+, etc.) have mushroomed, allowing consumers to post comments, photos, and videos and share product and consumption information. Consumers are experiencing an unprecedented level of digital connectivity, owing to the latest digital technologies that enable our communication to transcend
physical and temporal boundaries. New media has become such an integral part of consumers’ lives that Llamas and Belk (2013) note that we may become panic-stricken if our Internet connection is down for a short period of time.

For example, social media is used by 68% of the 3.4 billion global internet users (Kemp 2016; Stephen et al. 2017). Close to 100% of U.S. college-educated and higher-income adults are on social media (Pew Research 2015). Facebook has 1.94 billion monthly active users and 1.28 billion daily active users on average as of March 31, 2017 (Facebook 2017). Specifically, as many as 87% of adults 18-29, 73% of adults 30-40, 63% of adults 50-64, and 56% of adults 65+ use Facebook (Patterson 2015). The average U.S. consumer spends forty minutes on Facebook each day, according to its CEO Mark Zuckerberg (Frier 2014).

In this era of Web 2.0, companies are increasingly shifting their marketing dollars from traditional media to digital media, in particular, to social media. The digital media ad spending in the United States was forecast to grow to $83 billion in 2017 and to overtake TV as the biggest advertising channel (Emarketer 2017). Despite this exponential growth, digital media misses the opportunity to effectively reach online consumers, losing $30 billion worth of potential sales (KPCB 2014). This gap suggests that marketers are still trying to figure out how to systematically integrate digital media into their overall marketing strategies and how to launch effective digital media ad campaigns. Before achieving this goal, marketers need to gauge consumers’ ad attitudes towards their brands and products on social media where consumers share their brand moments and experiences, and receive promotional offers and product updates.

On the other hand, the average online consumer faces challenges as well. Everyday, consumers have to sift through an overwhelming amount of online information, facing the perils of social media ad clutter, before choosing the ads that they want to like and share with others.
Prior marketing literature has documented the demotivating effects of choice overload when consumers had to choose from among 30 jams (Iyengar and Lepper 2000). If choosing among 30 jams is challenging enough, imagine how hard it would be to choose among hundreds or even thousands of online ads to which consumers are exposed, and how hard it would be for a brand’s social media ads to stand out, let alone expecting consumers to like and share with others. The challenge for marketers is how to develop effective communications and stay relevant and engaged with the online consumers. Therefore, with consumers facing a wide array of digital content options, it is important for marketers to know which types of digital marketing ads are appealing to certain consumer segments.

Before I delve into the gaps in prior marketing literature, I want to clarify two concepts, “loneliness” versus “aloneness,” since they are semantically close to each other. Aloneness or solitude describes a physiological state characterized by absence of having people around. Often as a result of a voluntary personal choice, solitude has a positive connotation. Loneliness, in contrast, is a psychological state, irrespective of the presence or absence of other people. As such, people in a crowd and with many social contacts can feel lonely, and solitary people can be perfectly content. In loneliness, what matters is not the frequency of the social interactions or the number of people around. It is an individual’s dissatisfaction over his or her perceived lack of social connectivity that counts. In addition, loneliness is also a different construct from social exclusion. Social exclusion always involves being intentionally rejected or ignored by others (Wang, Zhu, and Shiv 2012) but loneliness does not necessarily have this connotation.

**Gaps in Prior Marketing Literature**

Researchers find that consumers will prefer certain behaviors and products when their
desired level of social connectedness is unmet. Some people fill the connectivity voids with long-distance para-social-relationships (Horton and Wohl 1956), adopt pet animals (Beck and Meyers 1996), and anthropomorphize objects and products (Waytz, Cacioppo, and Epley 2010). Wang, Zhu, and Shiv (2012) are interested at how loneliness affects consumers’ acceptance of consensus-related social cues out of the fear of negative evaluation by others. When choosing products for private consumption, lonely consumers are found to prefer minority-endorsed products. Consumers prefer majority-endorsed products when their product preferences are subject to public judgment. Additionally, loneliness has been associated with strong materialism in Pieters’ research (2013). While previous marketing research has provided a basic understanding about how loneliness may affect consumers’ product choice in various consumption contexts, several gaps remain.

As digital media gains unprecedented popularity among consumers, marketers are increasingly turning to digital platforms for marketing communications. Prior literature on the phenomenon of sharing on social media has provided us some insights into what drives brand engagement to generate shares, likes, pins, re-tweets. For instance, Lamberton and Stephen (2016) suggest using more visuals to engage online audiences. Ansari and Mela (2003) find that customized digital messages aid customer decisions, reduce information overload, and generate higher levels of engagement, customer satisfaction and loyalty. Toubia and Stephen (2013) conclude through their research that the dominant driver of posting activity on Twitter is image-related utility, rather than intrinsic utility. In addition, research on content drivers of social transmission by Berger and Milkman (2012) suggests that high-arousal content such as funny items, or items that elicit awe, anger, and anxiety is shared more than low-arousal content (sadness). Goldenberg et al. (2009) show that social hubs (or highly connected individuals) speed
up idea diffusion and adoption processes for virtual goods shared between online users.

The current study differs from earlier studies in three ways. First, my research departs from the prior social media literature in the sense that I argue that consumers’ engagement with brands on social media can result not only from the funny or shocking content or the influencer/social hubs, but also from how receptive different online consumer segments are to the construction of social media ads. I argue that in order for the consumer to connect and resonate with the brand and the online brand message, the ad content must also match a consumer’s cognitive style. The current research shows that a brand’s social media ads are more effective when matched with particular levels of loneliness (high, low) perceived by online consumers.

Second, there is little marketing literature that has examined how and why consumers respond to certain social media ads (Hoffman, Novak, and Kang 2017). I hypothesize that loneliness induces concrete thinking, which leads to great engagement with social media ads that are concrete (as opposed to abstract). This is important because avoiding negative affective states such as loneliness is an important internal motive for using social media (Burke, Marlow, and Lento 2010). Web browsing is positively correlated with loneliness and is negatively correlated with one’s overall life satisfaction (Stepanikova et al. 2010).

Third, loneliness has been treated as a one-dimensional psychological state of mind in prior marketing scholarship (e.g., Pieters 2013; Wang, Zhu, and Shiv 2012). In my dissertation, I present loneliness as a multi-faceted social and emotional phenomenon. I distinguish between the two types of loneliness, namely, emotional loneliness (stemming from the lack of emotional attachment) and social loneliness (stemming from the lack of a sense of group belongingness). This distinction is based on Weiss’s work (1973), and I examine the effects of these two types of
loneliness on consumers’ engagement with social media messages. To explore these questions, I use a combination of qualitative research and quantitative research methods, including in-depth interviews and four experimental studies, in the context of digital media.

The Present Research

The central theme of my research is consumers’ perceived social connectedness (or lack thereof) in the digital age. This dissertation is consistent with the topics of interest outlined by the Marketing Science Institute (MSI 2014-2016) research priority tier #1: “How do social media and digital technology change customer experiences and the consumer path to purchase? How do social media and other marketing activities create engagement? How and at what points do emotions affect consumer decisions? How should qualitative and quantitative methods be combined to understand the total customer experience?”

Using a mixed-methods research approach, I first take a close look at the construct of loneliness through the lens of a qualitative study. Results from the in-depth interviews in the qualitative study inform the later hypotheses development and experiment testing. Across a total of four experiments, I examine an effective way in which marketers can design a brand’s social media ad in order to increase lonely consumers’ digital engagement. Prior research suggests that loneliness sensitizes people to potential risks and danger in the environment (Cacioppo and Hawkley 2005; Cacioppo and Hawkley; Pickett, Gardner, and Knowles 2004; Wang et al. 2012), and it is, therefore, plausible that lonely people are conditioned to think that they are on their own and will need to scrutinize information that they encounter in order to watch out for the risks and danger. By doing so, they are predicted to prefer concrete thinking (vs. abstract thinking). Further, when lonely consumers’ induced concrete thinking matches a concrete social
media ad, processing fluency results. (A concrete ad is one that uses detailed and defined images, wording, attributes, or concepts.) Processing fluency generates more pleasure and elicits more positive attitudes (Schwarz and Clore 1983; 1988) than processing dis-fluency. Therefore, lonely consumers are expected to have higher digital engagement with concrete social media ads than abstract ones.

This research also contributes to the literature on loneliness by linking loneliness with a consumer’s information processing and evaluation. I demonstrate that people who are lonely have an affinity towards concrete ad messages. My research shows that loneliness not only affects consumers’ behaviors (materialistic and non-conformist) as suggested by prior consumer research (Pieters 2013; Wang et al. 2012), but also impacts their cognition and perceptual preferences in ads.

Collectively, this dissertation provides immediate managerial implications to content marketers and suggests practical social media ad strategies to increase consumer-brand engagement. Of import, my research makes a contribution to the social media literature by building a bridge between online consumer segmentation and digital engagement in the context of social media communications. It contributes to our understanding about which consumer segments are more likely to engage depending on the types of the social media ads they view. Broadly, my findings highlight the fact that the level of loneliness may render some social media ads more effective than others. Failing to consider the unique digital use preferences of lonely consumers when designing social media ads can lead to less effective marketing communications.
CHAPTER TWO: QUALITATIVE RESEARCH

Mixed methods research is used in this dissertation to examine aspects of loneliness in the digital age. Mixed methods research is a multi-phase approach to scientific inquiry that combines both qualitative and quantitative forms of research (Creswell 2014). The key advantage of mixed methods research is that the mixing or blending of qualitative and quantitative data provides a stronger understanding of the issues than either approach alone can (Creswell 2014). Using phenomenological qualitative research, I first explore how average consumers experience loneliness. The focus of phenomenological inquiry is the subjective experiences and interpretation of the certain lived phenomenon. In other words, at the core of phenomenology is the intent to provide a description of a human phenomenon as it is experienced by the people themselves (Bentz and Shapiro 1998).

Specifically, I am interested in gaining insights into the following perspectives: What is the essence of loneliness? What is it actually like to experience loneliness? What are the effects of loneliness on consumers, in particular, in the digital age when digital technologies and social media afford us with the endless possibilities through which we connect with one another? I recruited eight voluntary participants from a large public university and a church in the southeastern United States. Data were collected through individual in-depth interviews that averaged 30 minutes in duration. Data saturation was reached when no new perspectives emerged from conducting further in-depth interviews. Their demographic information is provided as follows in Table 1.
As shown in Table 1, the participants represent a wide spectrum of consumer profiles, varying in gender, age, and the social roles that they self-identified. This heterogeneity reflected in the composition of participants was a form of data triangulation wherein data gathered from multiple sources were cross-examined and validated, generating common findings (Bloor 1997). Phenomenological research uses the analysis of significant statements by the interviewees, the generation of meaning units, and the development of central themes (Creswell 2014). As such, following the established analysis guidelines (Bentz and Shapiro 1998), I analyzed the descriptions of participants’ experiences with an intention of discerning the commonalities among the phenomena experienced by the participants, and reducing them to emerging perspectives or dimensions.

The qualitative data analysis shows that three main insights emerged related to the
essential meaning and the impacts of loneliness on consumers. First, loneliness is a feeling of isolation, invisibility, reclusiveness, and withdrawal. One respondent recounted his past experiences with loneliness:

It [loneliness] is a feeling or emotion that holds me back from feeling confident enough to connect with others whom I don’t know. Loneliness is like the feeling of not knowing other people enough to tell them something, so like when you make a friend it takes a certain amount of time where you feel comfortable of saying things… On the other hand, we all want to feel validated and connected with other people. When I get home after I had a great day, I would want to tell someone about that great day, but I don’t have anyone there to tell that. I find myself digging myself deeper into that reclusiveness, and I get so used to it so I don’t want to share and it becomes normal… Then it’s a battle to get comfortable of sharing. I do feel eager to share with other but I am so used to not sharing. I don’t make the effort of sharing anymore. [Eric, male, 23, immigrant]

Another participant who was a college freshman echoed the same sentiment:

Lonely people don’t have a lot of connections. I remember when I first moved into the dorm here, I didn’t know anyone there on my floor or in my building. I went through a couple of weeks just trying to get to know people on my floor. By that, I got disconnected, and I did more solitary things… I definitely see that now...
wouldn’t want to do extra things. I wouldn’t check Facebook. I would watch movies myself. [Mary, female, 20, college student]

A widower shared his account of loneliness:

After my spouse died, I became withdrawn… my world became smaller and smaller… I learned to be independent and I am alone a lot of time. If something happens, I have nobody to rely on… It’s a feeling of emptiness inside and it makes me feel invisible. [Jeff, male, 72, retired and widower]

Associated with this was their experience of using digital technologies and social media. One participant emphasized the importance of building connectivity, offline first. This finding is consistent with the previous literature (Cummings, Butler and Kraut 2002; Ellison et al. 2007), such that online communication largely extends the relationship that has been established offline.

Online when you share things, I feel you have to have that connection first… connections that are formed offline first. But I am sure there are people who connect online or start dating using those apps, they exist... but for me, I don’t see myself doing that because I can’t get past their level of trust or comfort before sharing online. [Bryan, male, 36, immigrant]

Another participant shared the following experience with using social media.
Lonely people think no one really cares what I’m doing. They are gonna be I’m not really talking to anyone, I feel isolated. If I put something on social media, who’s gonna care. Lonely people are gonna be cautious and they are also emotionally sensitive. I know some people will take their [Facebook] pictures down if they don’t get enough responses. [Jennifer, female, 19, college student]

The second critical insight emerging from the in-depth interviews is that lonely people are passive, cautious, indirect, and avoidant. One recent immigrant said:

I moved here from another country. It’s hard to make friends in college, unlike in high school. For the past years, I made a minimal amount of friends. So I started to feel lonely. I discontinued to use social media, which is weird because I no longer saw my actual friends any more. I discontinued Facebook and SnapChat. I stopped using it. Because the people I could connect with are not in the country, so connecting with them continuously thousands miles away does not make sense…

Disconnected consumers are cautious. I am careful about what I post online, so I see that, but the campaign says share this on social media, I would not do it. For socially connected people, I don’t think they will have a problem because they get past that feeling of normality: this is normal and they are comfortable doing this. [Eric, male, 23, immigrant]

A participant indicated that people would avoid Facebook when feeling lonely:
When you are lonely, you don’t want to check Facebook seeing everyone being happy. People don’t post bad things… they just post the highlights of their lives, so when you are on Facebook, you just see highlights. Oh, I’m not doing anything. I kinda avoided social media when I am lonely. [Jennifer, female, 19, college student]

A number of participants expressed their qualms about excessive tracking or stalking online.

Relationships are hard, and for whatever reason, people are not being lucky, not at the right place at the right time…. Especially [when] you are lonely, they feel you don’t have no people to rely on, and feel like there is no one there to look out for you either... Lonely doesn’t trust people, and they are probably lurkers… If you feel lonely, and the company keeps asking you for information, you feel you are being used; if you are just being pushed to, you feel you are losing control. [Jennifer, female, 19, college student]

As one said, “Lonely people are fearful of getting out there and taking risks. [Marcus, male, 33, divorced]” Lonely consumers seem to adopt the same cautious and avoidant approach to online purchases.

I do a lot of information search before buying something. As if obsessed, I always really intensively research YouTube videos and information on their website,
previous experiences of other customers with the product. After the purchase, I
don’t go online to review positively or negatively. [Eric, male, 23, immigrant]

This qualitative study highlights the dominant trend observed in lonely people that loneliness is associated with passivity and avoidance. The third critical insight gained from the in-depth interviews pertains to the types of life events that prompt loneliness. They largely fall into two categories: social loneliness triggered by life events such as attending college for the first time, immigrating to a new country and retiring, and emotional loneliness triggered by life events such as breaking up with a boyfriend or girlfriend or losing a beloved spouse in whom one used to confide. This finding is compatible with Weiss’ categorization of loneliness (1973) and supports the motivation for later experimental testing.
CHAPTER THREE:

THEORETICAL BACKGROUND AND CONCEPTUAL DEVELOPMENT

Everybody may experience the gripping psychological state of loneliness under specific social situations. The present research investigates the ways in which marketers can design their social media communications in order to increase lonely consumers’ digital engagement. Extending the feelings-as-information theory, I develop a conceptual framework that suggests that loneliness modifies people’s cognitive processing style and induces concrete thinking in the context of evaluating social media messages. I theorize that consumer segments (high loneliness, low loneliness) need to match the construal levels (concrete vs. abstract) in social media ads. This suggests that a brand’s social media ads cast at different levels of construal are differentially effective for particular online consumer segments. Specifically, I demonstrate that consumers with high loneliness will have higher digital engagement with the social media ads presented at concrete and low-level construals. I test two moderating variables, social influence (strong vs. weak) and loneliness type (emotional vs. social), that may modify the effect of loneliness on consumers’ digital engagement.

The following diagram illustrates the conceptual framework of the present research.
In the following paragraphs, I first review the relevant literature regarding the key terms used in the current research: digital engagement, construal, loneliness inducing concrete thinking, impaired self-regulation, social influence, and loneliness type (emotional loneliness versus social loneliness). I concurrently explain the rationale for the hypotheses to be tested later.

**Digital Engagement**

Industry sources discuss various concepts of digital engagement. For instance, digital engagement refers to the use of digital tools and techniques to find, listen to and mobilize a community around an issue (www.digitalengagement.info). It describes actions such as consumers’ spending time viewing a firm’s videos or opening its lead ads (Facebook). Digital engagement happens when online users are engaging in a firm’s posts, sharing its content, and interacting with the firm on a level more than reading its posts in their mini-feed (Taylordigital.com).
In a nutshell, digital engagement is immersive interactivity between online consumers and digital content. The academic definition of digital engagement can be traced back to the broader concept of engagement, a marketing construct that made its name in the services marketing literature. Engagement is a psychological state, based on the existence of focal interactive customer experiences with specific engagement objects (e.g., a brand or a product) (Brodie et al. 2011). It is important to distinguish engagement from “participation” or “involvement” in that engagement emphasizes the notion of interactive, co-creative experiences (Brodie et al. 2011), and engaged customers are co-creators of value as used in the Service-Dominant Logic (Vargo and Lusch 2008). Algesheimer et al. (2005) propose that engagement entails an intrinsic motivation to interact and cooperate with community members.

Scheinbaum (2016) clearly defines digital engagement as an online behavior resulting from a consumer’s thoughts, emotional connection, and intrinsic motivation to interact with a brand or its community in a digital, mobile, or social media setting. In the current empirical research, digital engagement is construed as consumers’ tendency towards liking a social media ad and visiting a brand’s social media page, based on the work of Hoffman, Novak, and Kang (2017).

**Construal**

Construal level theory (Trope and Liberman 2003; 2010) suggests that altering psychological distance affects the way in which information is processed. Psychological distance can be achieved in various ways, for example, socially (e.g., in-group members vs. outsiders; Small and Simonsohn 2008), temporally (e.g., one month away vs. six months away; Chandran and Menon 2004), spatially (New York vs. California; Fujita et al. 2006), and hypothetically (e.g., real vs.
fictional; Liberman and Forster 2009). The closer one feels to an object or a person, the more concrete one’s thinking becomes. The more distant one feels from an object or a person, the more abstract one’s thinking becomes.

Consequently, psychological distance affects cognition and judgment. It tends to activate abstract thinking or high-level construal that focus on global features, broad categorization, and the big picture. Psychological closeness tends to activate concrete thinking or low-level construal that focus on local features, narrow categorization, and details (Trope 2012). For example, Small and Simonsohn (2008) show that knowing a victim well increases one’s altruistic attitude and behavior towards other victims who are similarly afflicted. This happens due to an increased concrete construal that is activated towards the other similar victims. In another study, Chandran and Menon (2004) demonstrate the differential effects of framing health hazards in two temporal mindsets occurring everyday (versus every year) on patients’ self-risk perceptions. The researchers find that every-day framing (versus every-year framing) leads to increased self-risk perceptions, intentions to use precautions, concern and anxiety about the hazard, and effectiveness of risk communication because every-day framing makes the risks appear more proximal and concrete.

**Loneliness Inducing Concrete Thinking**

Extending the feelings-as-information theory (Schwarz and Clore 1983; Schwarz et al. 2012), I propose that loneliness induces concrete construal or thinking. The feelings-as-information theory explains the dynamic interplay of moods and evaluative judgment, in which feelings are used as a source of information in influencing people’s cognitive processing style. Accordingly, Cacioppo and Hawkley suggest that lonely people have a “lonely social cognition”
such that they make a mountain out of every social molehill. They scrutinize and react more negatively to every bit of negative experiences, and derive less pleasure from positive experiences (Hawkley, Preacher, and Cacioppo 2007). In addition, lonely people have been found to be more anxious, pessimistic, fearful of negative evaluation, self-protective, and keenly attuned to social cues in their environment (Cacioppo and Hawkley 2005; Wang et al. 2012). Lonely or rejected individuals who are high in the need for social belonging are “particularly attentive to and accurate in decoding social cues” (Cacioppo and Hawkley; Pickett, Gardner, and Knowles 2004, 1095).

It is important to note that the above findings are also compatible with my own qualitative research reported earlier in this dissertation. For example, one participant commented: “I learned to be independent and I am alone a lot of time. If something happens, I have nobody to rely on… It’s a feeling of emptiness inside and it makes me feel invisible.” Another said: “I am sure there are people who connect online or start dating using those apps; they exist... But for me, I don’t see myself doing that because I can’t get past their level of trust or comfort before sharing online.” Another participant shared that “Lonely people are fearful of getting out there and taking risks.”

Similarly, unhappy people pay more attention to and put more efforts towards any potential risks, and they feel a need to stay cautious and vigilant (Bless et al. 1990). Thus, as they are conditioned to construe their world as a threatening and risky place that is beyond their control (Cacioppo and Hawkley 2008), it is reasonable to predict that lonely people will scrutinize in detail every bit of information that they encounter, as compared to non-lonely people. It is plausible that lonely consumers prefer concrete thinking in their mental representation and information processing. Labroo and Patrick (2009) also show that a positive
mood (such as happiness) helps people see the big picture and, in contrast, a negative mood (such as unhappiness) leads people to focus on immediate concerns and reduce abstract thinking. However, the marketing literature has not investigated whether or not loneliness generates concrete thinking, which this research intends to test. Hence, here is the first hypothesis.

**H1:** Loneliness induces concrete thinking.

When the concrete thinking style induced in loneliness matches a concrete social media ad, it “feels right”. This feeling right is used as information in consumers’ evaluative judgment (the feelings-as-information theory; Schwarz 2012) and creates processing fluency that refers to the ease or the difficulty with which external information is processed (Schwarz 2004). Processing fluency involves effortless and faster processing; Processing “dis-fluency” uses effortful and slower processing (Jacoby 1983; Schwarz 2004). Further, processing fluency generates more pleasure and elicits more positive attitudes than does processing dis-fluency (Schwarz and Clore 1983; 1988). Therefore, lonely consumers are predicted to have higher digital engagement with those social media ads that use concrete, low-level construal (vs. abstract, high-level construal).

**H2:** Lonely consumers have higher digital engagement with those social media ads that use concrete, low-level construal (vs. abstract, high-level construal).

**H3a:** Concrete thinking is the mediating mechanism underlying the positive effect of loneliness on digital engagement with concrete social media ads.
Impaired Self-Regulation

Impaired self-regulation is defined as one’s inability to override spontaneous and impulsive responses (Baumeister and Heatherton 1996; Baumeister et al. 2005). When one’s deeply ingrained need for social connectivity is unmet, as in loneliness, negative cognitive consequences follow. To begin with, experimental manipulations on social isolation increase the challenge of self-regulation (Baumeister et al. 2005), and loneliness is correlated with reduced self-regulation (Cacioppo and Patrick 2008). In a series of Baumeister et al.’s experiments (2005), the participants who were primed to think about a lonely future life consumed less of a healthy beverage. In another study, the participants ate more unhealthy cookies after being told that nobody in their group wanted to work with them.

Other research in psychology and marketing suggests that impaired self-regulation is associated with materialism (Pieters 2013), compulsive spending (Vohs and Faber 2007), self-gifting (Mick and DeMoss 1990), self-defeating behaviors and having a distorted perception of time (Twenge, Catanese, and Baumeister 2002), status consumption (Lee and Shrum 2012; Rucker and Galinsky 2008), and risky financial decision making and consumption (Duclos, Wan, and Jiang 2013; Mead et al. 2011). For example, rejected people take more foolish risks, make more unhealthy choices, and procrastinate more than others (Twenge, Catanese, and Baumeister 2002).

Further evidence from social neuroscience confirms the similar belief that loneliness diminishes self-regulation. As such, loneliness affects neural pathways in the brain that control social cognition and executive function, regulating one’s attention, cognition, emotion and behavior to better meet social standards or personal goals (Cacioppo, Hawkley, and Patrick
Evidence from young adults who performed a dichotic listening task indicates that self-regulatory processes are impaired in lonely individuals (Cacioppo et al. 2000).

More importantly, research has shown that impaired self-regulation induces low-level construal (Wan and Agrawal 2011). For example, participants who engage in difficult tasks preferred restaurants that offer a good view and mediocre food (a less rational option) over restaurants that offer a mediocre view and good food (a more rational option). Loneliness drains people’s cognitive resources and generates feelings of mental fatigue, and they would prefer the readily available concrete information. Therefore, it is plausible that lonely consumers prefer the low-level construal social media ads due to impaired self-regulation. This is to be tested as an alternative explanation.

*H3b: Impaired self-regulation is the mediating mechanism underlying the effect of loneliness on consumers’ digital engagement with concrete social media ads.*

**Social Influence**

Another possible moderator of the effect of loneliness on consumers’ digital engagement with social media ads is social influence. In other words, I am interested in evaluating how susceptible lonely consumers are to social influence on social media, which means the number of likes, shares, and comments that a particular ad receives. Prior work on social influence by Bandura (1977), Cialdini (1984), and Iyengar et al. (2011) suggests that observing deal popularity among others signals deal worth, attractiveness, and quality to the observer. This, in turn, reduces the perceived risks involved with the product, and increases the observer’s purchase likelihood (Luo et al. 2014). Therefore, it is plausible that as a moderating condition, a
strong social influence attenuates the positive effects of loneliness on consumers’ digital engagement with social media ads.

\[H4: \text{A strong social influence attenuates the positive effect of loneliness on consumers’ digital engagement with social media ads.}\]

**Emotional Loneliness Versus Social Loneliness**

The present research runs counter to the conventional notion that loneliness is a one-faceted construct, as assumed in the previous body of marketing scholarship (e.g., Pieters 2013; Wang, Zhu, and Shiv 2012). As per Weiss (1973), it is possible for consumers to experience two types of threats to connectivity, resulting in social loneliness and emotional loneliness. According to Weiss (1973), emotional loneliness stems from lack of an intimate other in whom one can confide. On the other hand, social loneliness arises out of lack of a large social network such as friends and acquaintances.

Indeed, the emotional loneliness experienced by a widower who recently lost his beloved wife to cancer would be different from the social loneliness experienced by a tourist who visits a foreign country for a week or by a college freshman who leaves home to be on his own for the first time in his life. Prior research shows that lack of companionship (which is the essence of emotional loneliness) is significantly more likely to cause loneliness than lack of social support (which is the essence of social loneliness; Rook 1987). Being lonely without an intimate attachment or a confidant makes a person perceive more risks in the environment than does being lonely without social support. Therefore, I predict emotional loneliness is a more powerful moderator, such that emotionally lonely consumers have higher digital engagement with concrete
social media ads than do socially lonely consumers.

Support for the same prediction can also be found in the existing “self” literature documented in social psychology. The self has three components: the individual self, the relational self, and the collective self (Sedikides, Gaertner and O’Mara 2011). The individual self includes one’s attributes such as traits, experiences, memory, goals, and preferences. The relational self pertains to one’s partner-shared attributes and reflects interpersonal attachment. The collective self concerns one’s ingroup-shared attributes and reflects membership in valued social groups (Sedikides, Gaertner and O’Mara 2011, page 98). The tripartite self exists within a person, combined to define the self-concept. This understanding about what defines who a person is is also crucial to the delineation of loneliness types, shown as follows.

Consumers may experience two types of threats to connectivity, resulting in social loneliness and emotional loneliness (Weiss 1973). Emotional loneliness stems from lack of an intimate other in whom one can confide. In other words, emotional loneliness threatens the relational self because an interpersonal, emotional attachment is missing. On the other hand, social loneliness arises out of lack of a large social network such as friends and acquaintances, and threatens the collective self. Emotional loneliness versus social loneliness may contribute differently to a person’s sense of perceived dis-connectivity, which can be better understood in the context of the PAD emotional state model (Mehrabian and Russell 1974).

The PAD emotional state model describes emotions using a three-dimensional model: Pleasure-Arousal-Dominance. Under this framework, both loneliness types are unpleasant in nature. On the arousal dimension, emotional loneliness has a higher negative arousal value than does social loneliness because lacking an emotional attachment causes a deeper and more intense sense of loneliness. This is perhaps because having a satisfactory relational self is more crucial
for wellness and self-concept than having a satisfactory collective self (Sedikides, Gaertner and O’Mara 2011). In other words, not having a satisfactory relational self is more disturbing than not having a satisfactory collective self. In the three-tier hierarchy of motivational self-potency, the individual self is placed on top, relational self in the middle, followed by the collective self at the bottom. The relational self occupies a higher hierarchical position than the collective self and constitutes the motivational hub of the self-system (Sedikides et al. 2013). Based on this line of reasoning, it is plausible that emotional loneliness resulting from a relational-self threat (as in emotional loneliness) violates the needs for connectivity at a deeper level than does social loneliness stemming from a collective-self threat (as in social loneliness).

The Dominance – Submissiveness dimension in the PAD model is defined as a feeling of control or influence over external factors versus a feeling of being controlled or influenced by external factors (Mehrabian and Russell 1974). In terms of the two loneliness types, it is reasonable to expect that one could more easily establish a socially embedded group membership than could one establish an emotional attachment to an intimate partner. Therefore, it is plausible that emotional loneliness registers lower on the dimension of Dominance than does social loneliness. Taken together, my reasoning based on the PAD model suggests that emotional loneliness has a higher (negative) arousal level and a lower dominance level. If this is the case, it should follow that emotional loneliness will be a stronger form of loneliness than social loneliness. Thus, here is the next hypothesis related to loneliness type and digital engagement.

**H5: Emotionally lonely consumers have higher digital engagement with concrete social media ads than do socially lonely consumers.**
Overview of Experimental Studies

Four studies are conducted. Study 1 tests the proposed link between loneliness and cognition, obtaining evidence that loneliness induces concrete thinking in people. Study 2 tests the framework in which concrete thinking (or the mediating process) that produces the effect of loneliness on digital engagement interacts with the moderator variable, social media ad type. In this research, the term “social media ad type” refers to concrete social media ads or abstract social media ads. Studies 3 and 4 examine the moderating effects of social influence (strong vs. weak) and loneliness type (emotional vs. social) on the effect of loneliness on consumers’ digital engagement.

The following diagram shows the roadmap detailing the studies.
Figure 2. Roadmap of the Empirical Testing

Data collection was done on Amazon Mechanical Turk (MTurk or AMT). MTurk has been validated as an effective approach of collecting anonymous data. Forty-three percent of the recent behavioral studies published in the *Journal of Consumer Research* (June 2015–April 2016) were conducted using MTurk (Goodman and Paolacci 2017). Nowadays, it is not uncommon to solely use MTurk data in empirical research (Paolacci and Chandler 2014). In comparison to undergraduates, the MTurk participants are demographically more diverse and they appear to be reliable and consistent in the self-report information (Paolacci and Chandler 2014). The MTurk subject pool is also more heterogeneous and more representative than other traditional samples (Goodman, Cryder, and Cheema 2013). In terms of data quality, no
difference was found between the groups in cognitive biases, logical fallacies, response time (as in the Stroop, Switching, attentional blink, subliminal priming), and risk taking tendencies (Crump, McDonnell, and Gureckis 2013; Goodman, Cryder, and Cheema 2013; Paolacci and Chandler 2014).

In addition, college students are not used in the research because college students typically represent a younger demographic whose experience with loneliness may be limited, relative to that of the MTurkers. My data represent a wide range of participants in terms of marital status (including married, widowed, divorced, separated, and never married), age (ranging from 18 to 88), educational level (ranging from less than high school to doctorate), and annual income (ranging from below $10,000 to above $150,000), all of which have been cited in prior literature as likely variables to affect consumers’ experience with loneliness (Cacioppo and Patrick 2008).

**STUDY 1**

The goal of Study 1 is to find initial evidence to support the hypothesis that loneliness affects people’s information processing style and induces concrete thinking (vs. abstract thinking). Before Study 1, a manipulation check on loneliness level was run on a separate group of one hundred and twenty two participants with demographics similar to those in Study 1. The study follows an established procedure for manipulating self-threats (Han, Ducheck, and Rucker 2015; Pickett, Gardner, and Knowles 2004). Participants were randomly assigned to recall a past personal experience when they felt very lonely (in high loneliness condition) or when they felt just somewhat lonely (in low loneliness condition). They were told to write at least four lines describing what exactly happened to them and how it made them feel at that moment. Next, they
filled out the manipulation check question regarding the intensity of loneliness felt at the moment on a 7-point scale (1 = strongly disagree; 7 = strongly agree). The result indicated that the loneliness manipulation was successful ($F(1, 120) = 43.69$, $M_{\text{high loneliness}} = 5.60$, $M_{\text{low loneliness}} = 4.45$, $p < .05$) because the mean loneliness score in the high loneliness group was significantly higher than that of the low loneliness group.

**Design**

Study 1 used a one-factor, three-level experimental design, in which the loneliness level (high, low) was manipulated, plus a control condition. Participants’ tendency to think concretely or abstractly was measured, using behavioral identification form (BIF; Vallacher and Wegner 1989).

**Participants**

One hundred and twenty five participants (61.11% female; mean age = 36.26 years) were recruited from Amazon Turk and were compensated with a small monetary reward.

**Procedures**

Participants first were randomly assigned to one of the three conditions: high loneliness, low loneliness, and control. The loneliness manipulation was the same as in the manipulation check, and participants in the control condition wrote nothing and were instructed to move onto the next page. Next, based on an established procedure commonly used in psychology, for example, by Alter, Oppenheimer and Zemla (2010), and Slepian, Masicampo and Ambady (2015), they answered a shorter version of the BIF scale (Vallacher and Wegner 1989) including
ten items. Each item described an action either concretely or abstractly. For example, “making a list” could be construed as an abstract action of “getting organized” or as a concrete action of “writing things down.” Following an established procedure by (Cho, Khan, and Dhar (2013), 1 point was assigned to a concrete action and 0 point was assigned to an abstract action. Participants’ ratings across the questions were summed up to generate a composite score ranging from 0 to 10. The composite score indicated a person’s tendency towards using abstract thinking versus concrete thinking. The higher the score, the more concrete a person’s thinking became. Participants also reported other information on age, gender, marital status, depression, and sadness and suspicion check.

**Results and Discussion**

Planned contrasts revealed that participants in the high loneliness condition (M = 4.80) rated the BIF significantly higher than those in the low loneliness condition did (M = 3.50, t = -2.39, p < .05, Cohen’s D = .47). The BIF rating in the control condition (M = 3.33) was approximately equivalent to that in the low loneliness condition (M = 3.50, t = -.42, n.s., Cohen’s D = .10) and was significantly lower than that in the high loneliness condition (M = 4.8, t = -2.63, p < .05, Cohen’s D = .11). None of the covariates, including age, gender, sadness and depression, was found to be significant, and was not mentioned again in later studies unless found otherwise.
The results support H1 that loneliness promotes concrete thinking, as compared to abstract thinking. As shown in the figure above, the more intense loneliness is, the more concrete or less abstract one’s thinking becomes. It is interesting to note that the control group is similar to the low loneliness group in their thinking style. This suggests that the low loneliness condition could be viewed as a proxy for the control condition in later studies.

**STUDY 2**

The purpose of Study 2 is three-fold. First, given that Study 1 supports the hypothesis that loneliness induces concrete thinking, Study 2 directly examines the link between loneliness and digital engagement in the context of Facebook social media ads or stories. Facebook use the term “stories” to describe all messages, updates, photos, and videos. Study 2 tests for whether the proposed mediator of concrete thinking explains the effect of loneliness on consumers’ digital
engagement. Study 2 also tests the alternative explanation of impaired self-regulation.

Prior literature suggests that abstract thinking or high-level construal focuses on global features, broad categorization, and the big picture about “Why,” whereas concrete thinking or low-level construal focuses on local features, narrow categorization, and details about “How” (Trope 2012; Trope and Liberman 2003). The social media ads manipulation here follows the above distinction outlined in the previous literature.

Design

Study 2 used a 2 (loneliness level: high, low) X 2 (social media ad type: concrete, abstract) between-subjects factorial design.

Participants

One hundred and sixty participants (57.14% female; mean age = 35.21 years) were recruited from Amazon Mechanical Turk and compensated with a small monetary reward.

Procedures

The loneliness manipulation was similar to that of Study 1. Immediately after the loneliness manipulation, participants were randomly assigned to view one of the two social media ads/stories, allegedly being featured on their daily Facebook News Feed. Adapted from an established procedure (Han, Duchek, and Rucker 2015), the two Facebook stories promoted a health program from Healthy Lifestyle Base. The two messages differed only in the construal level (concrete, abstract). The concrete ad showed an educational program titled “the ultimate program with the right features” emphasizing the low-construal level information such as
“HOW” to participate in it. It detailed “plan your own daily activity and diet calendar,” and “provide aerobics classes twice a week.” On the other hand, the abstract ad had a headline “the ultimate program for being healthy” emphasizing the high-construal level information such as “WHY” to participate. The benefits provided included “give your body and mind complete conditioning” and “ensure you feel great all the time”.

![A concrete social media ad](image1)

![An abstract social media ad](image2)

**Figure 4.** Social Media Ads Used in Study 2

Participants then reported their ratings on digital engagement, measured by how likely
they were to visit the brand page (1 = highly unlikely, 7 = highly likely) and how likely they were to “like” the brand message (1 = highly unlikely, 7 = highly likely; Hoffman et al. 2017). I averaged the ratings on the two questions to obtain the measure for digital engagement. I expected to find an interaction between the two factors, loneliness level (high, low) and social media ad type (concrete, abstract). Simple effect testing that followed was expected to show that the lonely group showed higher digital engagement with the concrete Facebook story featuring “how” rather than “why”.

To probe the mediating process, the BIF measure was captured immediately after the dependent variable of digital engagement was measured. In addition, participants answered the ten questions designed to measure impaired self-regulation (1 = strongly disagree, 7 = strongly agree) adopted from the state self-control capacity scale by Ciarocco, Twenge, Muraven, and Tice (2010). Participants reported their ratings on statements such as: I feel mentally exhausted; if I were given a difficult task right now, I would give up easily; if I were tempted by something right now, it would be very difficult to resist. It is important to note that the state self-control capacity scale was more appropriate to use here than the general self-control scale (Tangney, Baumeister, and Boone 2004) that measured self-control as a trait. Here, the focus was to measure self-control as a state. At the end, they answered questions on the covariates and suspicion check.
Results and Discussion

A two-way ANCOVA found a significant interaction between loneliness level (high, low) and social media ad type (concrete, abstract), $F(1, 156) = 5.11$, $p < .05$, $M_{\text{high loneliness + concrete ad}} = 3.43$, $M_{\text{low loneliness + concrete ad}} = 3.22$, $M_{\text{high loneliness + abstract ad}} = 2.35$, $M_{\text{low loneliness + abstract ad}} = 3.44$, Cohen’s D = .30. Also revealed was a significant main effect of loneliness level on digital engagement ($F(1, 158) = 3.40$, $p < .05$, $M_{\text{high loneliness}} = 2.85$, $M_{\text{low loneliness}} = 3.36$, Cohen’s D = .30). As expected, there was no significant main effect of social media ad type on digital engagement ($F(1, 158) = .31$, n.s., $M_{\text{concrete ad}} = 3.14$, $M_{\text{abstract ad}} = 3.29$, Cohen’s D = .11), suggesting that both the abstract and the concrete ads were equally attractive in influencing consumer’s digital engagement.

The mediating process was tested using the bootstrapping method with 5,000 bootstrap samples and bias-corrected confidence estimates (the Hayes PROCESS macro - model 15).
Results confirmed the mediating role of concrete thinking as measured by BIF, $\beta = .145$, 95% CI [-1.90, -.52]. In addition, the direct effect of loneliness on digital engagement remained significant ($\beta = -1.21$, $t = -3.46$, $p < .05$) when controlling for concrete thinking, thus suggesting partial mediation. My findings supported the predictions that in comparison with abstract social media ads, concrete social media ads generated higher digital engagement with lonely participants. In addition, the moderator, social media ad type, had a significant effect on the direct process path ($\beta = -1.24$, $t = -2.11$, $p < .05$). See the Figure below for more details. In addition, impaired self-regulation was ruled out as a mediator because the confidence interval straddled zero when I ran a mediation testing to examine this possibility (95% CI [-.09, .20]).

![Mediation Testing Diagram]

Fig. 6. Mediation Testing

The findings support the predictions that lonely consumers have higher digital engagement with those social media ads that use a concrete, low-level construal versus an abstract, high-level construal. In addition, concrete thinking (rather than impaired self-regulation) is the mediating mechanism underlying the effect.
STUDY 3

Study 3 aims to evaluate how susceptible lonely consumers are to social influence in social media ads. It is predicted that a strong social influence attenuates the positive effect of loneliness on consumers’ digital engagement with social media ads. A strong (vs. weak) social influence is construed as having a large (vs. small) number of likes, shares, and comments made by others on social media ads in this study. A concrete or an abstract content does not characterize the ad previously used in this study because my focus here is on social influence as a moderating variable.

Design

Study 3 used a 2 X 2 between-subject factorial design, with one factor as loneliness level (high, low) and the other factor as social influence (strong, weak). Loneliness was manipulated as in Study 1. Social influence was manipulated by varying the population of a social media ad, in terms of the number of likes, shares, and comments. The Facebook ad with 8.4K likes, 258 comments, and 2.9K shares was considered to have a strong social influence, whereas the ad with 17 likes, 1 comment, and 1 share was considered to have a weak social influence.

Participants

Two hundred and twenty eight MTurkers (60% female; mean age = 36.41 years) participated in this study in exchange for a minimal pay.

Procedures

The participants were first randomly assigned to either a high or a low loneliness
condition, as in Study 1. Afterwards, participants viewed one of the two Facebook messages supposedly appearing on their Facebook news feed, promoting the new orange juice from a quick-service restaurant. The social media ad with strong social influence reads “The quick-service chain restaurant, The Evergreen, is introducing a new lemonade infused with Vitamin D and calcium. Within 24 hours, there have been 8.4K likes, 258 comments, and 2.9K shares of the Facebook message.” The social media ad with low social influence reads that “The quick-service chain restaurant, The Evergreen, is introducing a new lemonade infused with Vitamin D and calcium. Within 24 hours, there have been 17 likes, 1 comment, and 1 share of the Facebook message”.

Other measures remained the same as in previous studies. To check the manipulation of social influence, the following question was asked of participants: “On a scale of 1-7 (1 = low level; 7 = high level), how popular do you think this Facebook ad is?” An independent t-test showed that the two ads were significantly different in their perceived level of social influence \( t = 15.16, \ p < .05, \ M_{\text{high social influence}} = 5.41, \ \ M_{\text{low social influence}} = 2.73 \). This indicated that social influence was successfully manipulated within the ads.
A social media ad with a weak social influence

A social media ad with a strong social influence

**Figure 7.** Social Media Ads Used in Study 3
Results and Discussion

As hypothesized in H4, a two-way ANCOVA found a non-significant interaction between loneliness level and social influence, $(F(1, 224) = .95, \textit{n.s.}, M_{\text{high loneliness + strong social influence ad}} = 2.51, M_{\text{low loneliness + strong social influence ad}} = 2.80, M_{\text{high loneliness + weak social influence ad}} = 3.03, M_{\text{low loneliness + weak social influence ad}} = 2.99$, Cohen’s D = .22. The effect of social influence (strong, weak) on digital engagement of the high loneliness group was non-significant $(F(1, 143) = 3.22, \textit{n.s.}, \text{Cohen’s D} = .30)$. In addition, the main effect of loneliness on digital engagement was non-significant $(F(1, 226) = 1.16, \textit{n.s.}, M_{\text{high loneliness}} = 2.78, M_{\text{low loneliness}} = 2.89$, Cohen’s D = .06).

![Digital Engagement as a Function of Loneliness Level and Social Influence Level](image)

**Figure 8.** Study 3 Result

The results suggest that a strong social influence, as reflected in a large number of likes, shares and comments, attenuates the positive effects of loneliness on consumers’ digital engagement with social media ads. The social media ad used in Study 3 is a neutral image of a glass of lemonade, being neither concrete nor abstract in particular. This may explain the reason...
for the non-significant difference found between the effect of the two loneliness conditions on digital engagement.

STUDY 4

The purpose of this study is to test the predicted differential effect of the two types of loneliness (emotional vs. social) on consumers’ digital engagement. In terms of the manipulation checks on EL and SL, since the one-dimensional UCLA Loneliness scale (Russell, Peplau, and Cutrona 1980) is insufficient in distinguishing between social and emotional loneliness, the Social and Emotional Loneliness Scale for Adults (SELSA; DiTommaso, Enrico, and Spinner 1992) is used to measure emotional and social loneliness. In addition, high loneliness vs. low loneliness is manipulated in Study 1, Study 2, and Study 3. Study 4 can be thought of as testing a potential new way of manipulating high vs. low loneliness by means of emotional and social loneliness, respectively.

Design

Study 4 employed a 2 (loneliness type: emotional loneliness, social loneliness) X 2 (social media ad type: concrete, abstract) factorial design. The dependent variable of digital engagement was measured as in the previous studies.

Participants

A total of two hundred and ninety nine Amazon MTurkers participated in the study in exchange for a minimal monetary compensation. Participants were randomly assigned into either the EL condition or the SL condition, as described in the procedure portion below. Based on the
manipulation check, there were sorted into four groups: high EL + low SL, low EL + high SL, high in both EL and SL, and low in both EL and SL. After the participants who were both high in EL and SL, or both low in EL and SL were removed, one hundred and sixty seven EL or SL participants (59 % female; mean age = 38.01 years) remained for further analysis.

**Procedures**

First, based on Weiss’s definition on EL versus SL (1973), participants were randomly assigned into one of the two loneliness type conditions. The EL participants were told to write about a time when they did not have an intimate relationship or a close emotional attachment (a partner or a best friend) in life. The SL participants wrote about a time when they did not have a broad group of friends or social network in life. They were told to write in detail for at least 4 lines about the specific circumstances and how it made them feel at the moment about which they were writing.

Next, they reported their response to the manipulation checks on EL and SL, adopted from the SELSA scale (DiTommaso, Enrico, and Spinner 1992). Emotional loneliness was measured by averaging ratings on the following three questions (1 = strongly disagree, 7 = strongly agree): “I experienced a general sense of emptiness for not having a confidant”; “I missed having an emotional attachment”; and “I felt isolated for lack of an intimate figure.” Social loneliness was measured by averaging ratings on the following three questions (1 = strongly disagree, 7 = strongly agree): “There were plenty of people I could rely on when I had problems”; “There were many people I could trust”; and “There were enough people I considered to be in my social circle.”

The same Facebook ads were used as those in Study 2, promoting a health program from
Healthy Lifestyle Base. The two messages differed only in the construal level (concrete, abstract). The concrete ad showed an educational program titled “the ultimate program with the right features” emphasizing the low-construal level information such as “HOW” to participate in it. It read “plan your own daily activity and diet calendar,” and “provide aerobics classes twice a week”. In contrast, the abstract ad’s headline “the ultimate program for being healthy” emphasized the high-construal level information such as “WHY” to participate. The benefits provided included “give your body and mind complete conditioning” and “ensure you feel great all the time”. All remaining measures were the same as those used in previous studies.

**Results and Discussion**

A manipulation check using the EL data indicated a successful manipulation of loneliness type \( F(1, 165) = 330.16, ~ p < .05, ~ M_{EL} = 6.66, ~ M_{SL} = 3.41 \). Similarly, the manipulation of loneliness type was successful using the SL data, \( F(1, 165) = 572.99, ~ p < .05, ~ M_{EL} = 1.61, ~ M_{SL} = 5.04 \). Analysis via ANCOVA showed a non-significant interaction between loneliness type and social media ad type \( F(1, 163) = 2.58, ~ n.s., ~ M_{EL + concrete \ social \ media \ ad} = 3.03, ~ M_{SL + concrete \ social \ media \ ad} = 2.95, ~ M_{EL + abstract \ social \ media \ ad} = 2.10, ~ M_{SL + abstract \ social \ media \ ad} = 2.95, ~ Cohen’s \ D = .22 \). In addition, the loneliness type was not found to be significant, \( F(1, 163) = 1.70, ~ n.s., ~ M_{EL} = 2.51, ~ M_{ML} = 2.95, ~ Cohen’s \ D = .24 \), nor was the social media ad type found to be significant, \( F(1, 163) = 1.02, ~ n.s., ~ M_{concrete \ social \ media \ ad} = 2.99, ~ M_{abstract \ social \ media \ ad} = 2.58, ~ Cohen’s \ D = .23 \). Although none of the effects in this study turned out to be significant, the interaction between loneliness type and social media ad type was in the expected direction.
Figure 9. Study 4 Result
CHAPTER FIVE:
GENERAL DISCUSSION

Using a mixed methods research approach including a phenomenological qualitative study plus four experimental studies, I first examined what it was like to experience loneliness. This was followed by experiments that showed that lonely consumers had stronger digital engagement with concrete (vs. abstract) social media ads through the mechanism of concrete thinking. I argued and subsequently showed that loneliness affected cognition by enhancing concrete thinking.

A practical question may arise with regards to how to identify that lonely consumers on social media. One of the realistic methods is to use the number of friends one has as a proxy for the size of one’s social network. Using number of Facebook friends as a proxy is free and quick but this method is not very accurate because aloneness does not equate to loneliness.

However, a more accurate method is to use a Facebook function called Custom Audiences (Facebook), which enables companies to find lookalike customers to their existing ones by comparing the profile and usage history of the look-alike customers and the company’s customers. A social media campaign can start with a list of existing and known customers who have engaged with a firm’s Facebook content (for example, having watched the firm’s video for more than 10 seconds or clicked on the link within an ad). Next the firm could use the Custom Audience to identify more lookalikes within certain geographic or demographic parameters. The firm could then set a campaign budget, create a targeted, concrete social media ad and, and have the ad displayed to a group of similar but new lonely customers.
**Theoretical Contributions**

My research contributes to the literature in digital marketing and social media in the following ways. I extend the prior research examining the various factors that can affect consumers’ engagement on social media (e.g., Toubia and Stephen 2013, Berger and Milkman 2012, Berger 2014, Goldenberg et al. 2009, Lamberton and Stephen 2016). My focus is on the consumers’ digital engagement at the interplay of consumer segments (highly lonely vs. somewhat lonely) and social media ads (concrete vs. abstract), rather than either alone, as focused in the most previous literature.

Regarding the mediation result in Study 2, it is interesting to note that loneliness influences consumers’ digital engagement directly and also indirectly via the process of critical thinking, as predicted. Although the direct path from loneliness to digital engagement is moderated by social media ad type (concrete vs. abstract), there is insufficient evidence to support the prediction that social media ad type also interacts with concrete thinking to produce processing fluency. This indicates that concrete social media ads interact directly with loneliness to produce effects on digital engagement.

In Study 3 with a focus on the moderator of social influence, there are a number of things that are worth mentioning. First, increasing the perceived group size increases people’s tendency towards conformity, but it has diminishing returns beyond the group size of five (Rosenberg 1961). The strong social influence ad used has 8.4K likes, 258 comments, and 2.9K shares of the Facebook message, whereas the weak social influence ad has 17 likes, 1 comment, and 1 share, which might have been perceived as having a moderately large group size in the eyes of lonely consumers, although statistical difference has been noticed in the manipulation check. Second, Wilder (1977) shows that the number of the perceived distinct and independent others, rather
than the actual number of others, affects individual’s conformity. He finds that conformity increases “as the number of separate individuals and groups (distinct social entities) in opposition increased” (253). Future research can use varying degrees of perceived group cohesion and examine its effect on lonely people’s level of digital engagement in the context of social media ads.

In addition, my research contributes to the scant marketing literature on loneliness. This topic on social media ads is particularly meaningful for the lonely consumer segment in the digital age. Better understanding lonely consumers’ unique needs and product preferences has important implications for enhancing consumer well-being and public health. While previous research suggests that consumers use consumption and spending to signal their desired state and identity, little is known about how loneliness influences consumers’ preference towards certain social media ads. This research contributes in this regard.

Further, the current work also contributes to the marketing literature by presenting loneliness as a multi-faceted social and emotional phenomenon. The result obtained in this study does not support the prediction that the emotionally lonely consumers have higher digital engagement with concrete social media ads relative to the socially lonely consumers. This could be due to an inverted U-shaped data pattern detailing the relationship between loneliness intensity and engagement. It is possible that beyond a certain point in loneliness intensity, digital engagement starts to fall. Although no significant results are found in Study 4, it is one of the first studies in marketing to examine the potentially different effects of emotional loneliness versus social loneliness on consumers’ digital engagement on social media. I hope that my effort strengthens the field’s research in this area.
Managerial Contributions

My research expands the scope of inquiry on loneliness to social media ad designs. It provides immediate managerial implications to content marketers and suggests practical social media ad strategies to increase digital engagement. My qualitative study indicates that lonely consumers are passive, indirect, avoidant, and hesitant to actively engage brands (i.e., having low digital engagement). This tendency poses a challenge for marketers using social media to listen to the relatively silent lonely consumer segment that constitutes a significant portion of the U.S. population. Hence, ads on social media that engage the lonely consumers are desirable.

I acknowledge that the metric of impressions or views provides little value to companies interested in promoting their business on social media. This is because impression only suggests a user’s exposure to a social media advertisement rather than any more meaningful indicator of consumer motivation or behavior. The present research emphasizes consumer digital engagement on social media, with an emphasis on such evaluation-based measurable as the likelihood of “liking” a Facebook advertisement and the likelihood of visiting a Facebook brand page.

Recent research has attached a dollar value to a “like” on Facebook. Each “like” is valued at $174 on average by the social media marketing company Syncapse (www.adweek.com), using the Value of A Like (VOAL) formula by Hubspot (Zarrella, Harvard Business Review). Syncapse compares “the consumer habits of fans and non-fans using the categories of product spending, brand loyalty, likelihood to recommend, media value, cost of acquisition, and brand affinity” (taylordigital.com) and calculates the value of a “like.” Knowing how to engage social media users directly contributes to the bottom-line of companies.

In addition, Facebook currently uses an Overall Advertising Relevance Score (OARS) within its Ad Manager to assess “how an ad resonates with the audience … because the more
relevant an ad is to its audience, the better it’s likely to perform” (Facebook). After an ad is viewed over five hundred times, a Facebook ad automatically receives the Overall Advertising Relevance Score (on a 1-10 scale), which is calculated based on positive feedback (the number of receiving shares, likes, etc.) and negative feedback (the number of times Facebook users hide an ad or choose not to see ads from a company). In other words, positive feedback is similar to the construct of digital engagement that this research employs, and negative feedback suggests the opposite, or digital dis-engagement. The current research helps companies determine what messages and images to use to achieve precise segmentation, targeting, and positioning, and to increase ad effectiveness in the end.

Last but not the least, the void of emotional loneliness can only be effectively filled by the installment of a satisfactory emotional attachment to an intimate other (Weiss 1973). On the other hand, social loneliness can be remedied by establishing a social network that is perceived to be satisfactory to the individual. In addition, volunteering, participating in charity events, donations, and lending a helping hand to others in need could be effective ways of building the desired level of social connectivity (Cacioppo and Patrick 2008).

Limitations and Future Research

The present research is limited, and overcoming these limitations could provide opportunities for future research. It is hoped that this study will spark a stream of new research in the area of social media marketing and loneliness. First, the present research measures digital engagement as one’s likelihood to “like” a Facebook message or visit a brand’s Facebook page. Future research could examine more behavior-based social media delivery metrics such as reach,
conversion rate, bounce rate, ROI of a social media campaign, or other downstream variables such as ad evaluation or choice.

Second, the focus of the research is Facebook, the largest and most popular social media site. There are other popular social media avenues such as YouTube, Instagram, Tumblr, LinkedIn, Snapchat, Pinterest, Twitter, Google+, etc. Future studies could examine other social media sites beyond Facebook.

Third, the screen type (desktop, laptop, mobile phones, tablets, etc.) that participants used in the experiments was not tracked and controlled for in the present research. Previous research indicates that a small screen size limits the scope of one’s visual perception and shortens one’s attention span (Chen et al. 2003; Reeves et al. 1999). Thus, another possible direction for future research is to investigate if the screen size of various digital platforms moderates the effect of loneliness on digital engagement.

Fourth, my experiments explored only situational loneliness, though some studies point out that loneliness may be dispositional as well. Cacioppo and Patrick (2008) have suggested that loneliness is 48 percent genetically determined and 52 percent environmentally determined. In all my studies, I manipulated loneliness by treating it as a state variable. However, I did have measures such sadness, depression, etc. to control for the influence of dispositional variables, to an extent. Further research could test the effect of chronic loneliness on digital engagement by directly measuring participants’ global, chronic, dispositional loneliness score using the UCLA Loneliness scale (Russell, Peplau, and Cutrona 1980). Similar results are expected. The UCLA scale is composed of twenty questions, such as “I am unhappy doing so many things alone” “I cannot tolerate being so alone” “I lack companionship” “My interests and ideas are not shared by those around me.”
Fifth, “MTurk may well be the most represented participant pool in the history of consumer research” (Goodman and Paolacci 2017). However, when previous researchers compare MTurkers to traditional subjects, MTurkers demonstrate stronger demand effects (Behrend et al. 2011; Goodman and Paolacci 2017), which could potentially reduce the internal validity of my research. Proper measures suggested in prior literature (e.g., Paolacci and Chandler 2014) have been taken to reduce the social desirability: For example, I used between-subject experimental manipulations, conducted manipulation checks, and hid the research question of interest among other questions. Future research could also collect experimental data from undergraduates to crosscheck the results. In addition, MTurkers are more introverted and more nervous about social interactions (Goodman, Cryder, and Cheema 2013). The implication of those characteristics of MTurkers is unclear because introversion has been dismissed as a strong antecedent to loneliness (Cacioppo and Patrick 2008); using undergraduates data is a good idea to potentially corroborate my results. In selecting my participants in Studies 1 through 4, I could have used the exclusion criteria for those who work in or have direct relatives who work in advertising or advertising agencies due to their potential inherent biases.

Sixth, the ads featured in the experimental studies are for utilitarian products or services (i.e., fitness programs and lemonade). Future research could test product type (utilitarian vs. hedonic) as a moderating variable, since prior research (Han 2015) suggests that consumers with a concrete mindset favor products with utilitarian attributes framed as a loss, and this effect disappears when utilitarian attributes are framed as a gain.

Last but not the least, Wang, Zhu, and Shiv (2012) suggest that lonely consumers switch from preferring minority-endorsed products to majority-endorsed products when their choice is subject to the public eye. A natural direction for future research is to explore the possible
moderating effect of information consumption or sharing mode (public vs. private) on the effect of loneliness on digital engagement.
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Appendix A:

IRB Approval Letter
2/12/2016

Yu (Ruby) Qin
Marketing 4202 E Fowler Ave
Tampa, FL 33620

RE: Exempt Certification

IRB#: Pro00025340
Title: The Connected Consumers and Their Product Evaluations

Dear Ms. Qin:

On 2/11/2016, the Institutional Review Board (IRB) determined that your research meets criteria for exemption from the federal regulations as outlined by 45CFR46.101(b):

Approved documents:

IRM protoc.docx

IRB cons.docx

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

As the principal investigator for this study, it is your responsibility to ensure that this research is conducted as outlined in your application and consistent with the ethical principles outlined in the Belmont Report and with USF HRPP policies and procedures.

Please note, as per USF HRPP Policy, once the Exempt determination is made, the application is closed in ARC. Any proposed or anticipated changes to the study design that was previously declared exempt from IRB review must be submitted to the IRB as a new study prior to initiation of the change. However, administrative changes, including changes in research personnel, do not warrant an amendment or new application.

Given the determination of exemption, this application is being closed in ARC. This does not limit your ability to conduct your research project.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any
questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson USF Institutional Review Board