

THE THEORETICAL ANTECEDENTS TO COMMUNICATION PRIMES:

A HOLISTIC PERSPECTIVE WITH PUBLIC POLICY IMPLICATIONS

by

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DISSERTATION ABSTRACT

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Title: The Theoretical Antecedents to Communication Primes: A Holistic Perspective with Public Policy Implications

This research provides a thorough review of the research on priming and marketing (essay 1) as well as empirically explores several unintended consequences of priming (essay 2) and the antecedents to priming effects (essay 3). In essay 1, priming research is reviewed using a classification system based on priming outcome using the ABC model of attitudes (i.e., affective, behavioral, and cognitive priming). The priming process is discussed, and types of priming in each category are reviewed before challenges in the priming process are discussed. In essay 2, non-product-centric (i.e., collateral) primes (e.g., co-branding, sponsorship, cause marketing) are explored. This research explores how collateral information works as a prime to influence product evaluations, specifically with application to cause marketing. Study 1 of essay 2 explores the consumer outcomes of collateral communication primes by showing that adding a health cause to a cookie package (i.e., the prime) significantly increases product health perceptions. Study 2 explores limits on collateral communication priming and finds that health charities on product packaging increase brand attitude and purchase intentions, while disclaimers increase processing and reduce prime effects. Study 3 explores person specific antecedents to collateral communication primes revealing that an individual's

theory of mind leads to ad skepticism that, in turn, influences reaction to primes. Essay 3 specifically examines the theoretical framework underlying priming effects by examining priming from two bodies of competing theory rooted in individual and social antecedents to behavior. Study 1 of essay 3 confirms past findings and develops materials to be used in studies 2 and 3 by showing that spokesfigures are marketer-supplied cues that vary in manipulateness, and these cues interact with other cues, such as complexity and persuasion. Study 2 provides support for individual antecedents to cue-based primes (cognitive abilities, as measured by working memory capacity, and advertising skepticism). Study 3 builds on study 2 by adding in social antecedents (theory of mind and psychological reactance) to develop a comprehensive model of consumer information processing. All together, these three essays explore the literature on priming and marketing and provide a more holistic understanding of the antecedents to priming effects.

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CHAPTER I

OVERVIEW OF ESSAYS

This dissertation is composed of three essays, each addressing a different aspect of priming in the field of marketing. The first essay is a conceptual paper that reviews the field of priming including types of priming, priming theory, and measurement of priming. In addition, fields related to priming are discussed to help distinguish priming from other constructs. The paper concludes with development of an ABC model of priming grouping types of priming by their priming outcome - either affective, behavioral, or cognitive. This paper sets the groundwork and understanding of priming needed to fully appreciate essay 2 and essay 3.

The second essay explores priming specifically as it relates to collateral information (i.e., non-product-centric information). This second essay takes fundamental concepts from the first essay into an experiment-based setting. The context of this essay is health, which has been growing in importance in marketing over the last several years. More importantly though, this essay explores theoretical antecedents (theory of mind and advertising skepticism) to collateral communication primes to provide a more holistic understanding of priming effects.

The third essay builds on the first two essays to examine how two theoretical models predict consumer response to priming effects - one model rooted in individual mechanisms and the second model rooted in social mechanisms. Results show that individual mechanisms (cognitive abilities and advertising skepticism) and social mechanisms (theory of mind and psychological reactance) work together to influence

consumer response to primes. While the second essay explores only the constructs of theory of mind and advertising skepticism, this third essay provides additional understanding of a holistic model of consumer priming effects by incorporating cognitive abilities and psychological reactance into the prime model.

CHAPTER II

ESSAY 1:

THE ABC MODEL OF CONSUMER PRIMING

Contribution Statement

Prior research has investigated aspects of the priming process, such as consistent and reverse priming effects (DeCoster and Claypool 2004) and content and process priming (Janiszewski and Wyer 2014). Numerous other papers have used priming techniques in assessing consumer outcomes (Berger and Fitzsimons 2008; Chartrand et al. 2008; Fitzsimons, Chartrand, and Fitzsimons 2008). However, little work has been done in creating a comprehensive framework for understanding and categorizing the priming studies already conducted and comparing what researchers have designated as priming to other constructs in the marketing literature. Therefore, this research develops an ABC framework of priming (including affective, behavioral, and cognitive priming), building off the ABC model of attitudes, to categorize prior priming research, contribute to future research and replication by thoroughly understanding what is meant by various priming terms, and contrasting the construct of priming to that of other constructs in the field of marketing.

Introduction

A clear understanding of priming is lacking in the field of marketing. Books and review papers have been written describing specific priming techniques (c.f., Janiszewski and Wyer 2014 for content and process priming; Kinoshita and Lupker 2003 for masked priming; McNamara 2005 for semantic priming). However, priming techniques are most often used in isolation in research resulting in little clarity about how one priming technique is related to another. Psychology textbooks often discuss only the general concept of priming or only a small selection of priming techniques, usually including semantic, repetition, and masked priming (Healy, Proctor, and Weiner 2003). These fuzzy distinctions among priming techniques should raise concern among researchers, especially when experimental techniques using priming are replicated from prior research where the initial priming technique may have been poorly developed. Therefore, this paper seeks to clarify priming techniques and provide a useful framework for understanding such techniques based on a new ABC (affective, behavioral, cognitive) priming categorization system.

Priming Defined

The concept of priming dates back to the 1960s in the psychology literature where Segal (1966) investigated priming words in one task thereby cueing retrieval of similar words in a later task. In this same decade, Quillian (1967) introduced spreading activation theory, the first theory of priming. However, not until the mid-1980s did priming

techniques begin to appear in the business, and more specifically, marketing literature. Some research in marketing was conducted before the 1980s, though not explicitly connected to priming theory. For example, Steinberg and Yalch's (1978) study showed that store food samples of meat increased final purchase amounts for obese consumers. In essence, the food samples acted as a prime for increased consumption, although the authors described the process as the food stimuli influencing internal cues for hunger. Steinberg and Yalch's (1978) study shows that researchers use many different terms to refer to the priming process. This study also brings into question the broader theoretical boundaries of priming. In other words, we seek to explore when an effect is a result of priming and when an effect is a result of some other type of consumer reaction.

Specifically, McNamara (2005) defines priming as "an improvement in performance in a perceptual or cognitive task, relative to an appropriate baseline, produced by context or prior experience" (p. 3). Without reference to any specific type of priming, often researchers refer to this general priming concept as the priming paradigm (Higgins and King 1981). Within the priming paradigm exists the prime, which is the item used to manipulate or increase knowledge activation, and the target, which is the item to which the prime is applied in an effort to influence knowledge activation and produce specific outcomes (Higgins, Bargh, and Lombardi 1985). Some researchers also refer to the prime as the *stimulus* or *independent variable*; however, a stimulus or an independent variable are only a prime if it increases knowledge activation which influences future response to a target. Referring back to Steinberg and Yalch's (1978) study, the store food samples were the prime, and the total meat sample consumption was the target.

Priming Theory

Theories of priming can be classified into two main groups: (1) prospective priming theories and (2) retrospective priming theories (Jones 2012). Prospective theories of priming describe that a prime initiates knowledge activation that then influences response to a target; thus, the majority of the priming process occurs before exposure to the target. In contrast, retrospective theories of priming posit that the priming process does not begin until after exposure to the target. There are two main prospective priming theories: (1) spreading activation theory and (2) expectancy theory; as well as two main retrospective priming theories: (1) semantic matching theory and (2) compound-cue theory.

Spreading activation theory states that a prime activates nodes in memory that are associated with that prime (Collins and Loftus 1975; Quillian 1967). When an individual responds to a target, the individual is more likely to use these activated nodes, as opposed to non-activated nodes, in the target response. For example, if the prime *water* is used, all nodes in one's memory associated with water become activated (e.g., swim, fish, drink, bathe, health). Then when this individual is asked what activity they would like to do next, the individual is more likely to respond with water-related activities (e.g., swim, fish, bathe) because words associated with *water* are more active in the individual's mind. As a result of knowledge activation's occurrence prior to exposure to the target, spreading activation theory is said to be a prospective theory.

In contrast to spreading activation theory, expectancy theory posits that upon exposure to a prime, one's mind automatically creates a set of expected target words

(Posner and Snyder 1975). Because this expectancy set of words needs to be created, expectancy theory proposes a slower priming process than spreading activation, although this may be only milliseconds of difference (Neely and Keefe 1989). Thus, once exposed to the target word, response to the target is much faster than if not previously exposed to the prime. However, many researchers have shown expectancy theory to not be an accurate representation of the priming process because priming effects occur even when individuals cannot list the target word in response to the prime (Chwilla, Hagoort, and Brown 1998). In any case, expectancy theory is classified as a prospective theory given that the majority of the priming process (i.e., creation of the expectancy set) occurs prior to exposure to the target.

Turning now to retrospective theories, semantic matching theory states that individuals are exposed to both the prime and target and then use the prime to make sense of the target (Neely and Keefe 1989). This sense making process is focused on searching for semantic meaning in the case of non-words, although it could be argued that such a search for meaning applies to logical meaning in addition to semantic meaning. For example, in a cause-related marketing campaign where a cause is partnered with a brand, an individual's mind may grab hold of a cause prime and use that to actively evaluate the relationship between the cause (i.e., prime) and brand (i.e., target). Due to the necessity of having both the prime and the target before the priming process begins, semantic matching theory is classified as a retrospective theory of priming.

Rather than an active process of sense making, compound cue theory posits that a prime and target are stored together in short-term memory. Once presented with the prime and target, this compound cue in short-term memory is matched to compounds

already existing in long-term memory (Doshier and Rosedale 1989; Ratcliff and McKoon 1988). Because this matching process is central to compound cue theory, familiarity of the prime-target compound cue is essential to successful priming under this theory. Similar to semantic matching theory, compound cue theory requires both the prime and target together before the priming process can begin, thereby making compound cue theory a retrospective theory of priming.

All of these theories, both prospective and retrospective, lead to the same end result of increased knowledge activation. However, the process by which this knowledge is activated differs greatly among theories. Although it may seem as if these theories are exclusive, meaning that only one theory can be correct, some argue that these theories can be used in conjunction with one another. For example, Neely and Keefe (1989) describes a three-stage model of priming that begins with spreading activation (the most subconscious), proceeds to expectancy theory (where expected targets are automatically created), and then, after exposure to the target, proceeds with semantic matching to understand more complex prime-target pairs.

While Neely and Keefe's three-stage model of priming allows three different theories of priming to work together, some priming theories cannot be combined to provide a more holistic understanding of the priming process due to fundamental differences in their bases in models of memory. For example, the compound cue theory of priming operates in coalescence with global memory models, such as SAM (search of associative memory) or TODAM (theory of distributed associative memory) (McNamara 1992). The SAM model is a cue-based memory model (i.e., memory is retrieved from cues) and describes that memory is represented by the strength of connection between

cues (Raaijmakers and Shiffrin 1981). Similarly, the TODAM model describes memory as a series of vectors of attributes, and items are retrieved from memory when a current vector is matched with vectors in memory (Murdock 1993). In contrast to these retrieval memory models, spreading activation models suggest that information spreads between related nodes of memory (Collins and Loftus 1975). In other words, memory is a fully connected network rather than a scattering of strong and weak connections between objects. Thus, while some theories may be able to work together as Neely and Keefe (1989) describe, compound cue theory and spreading activation, in particular, are in direct opposition to one another due to their foundation in different models of memory.

Priming Techniques

To understand and categorize priming techniques better, each type of priming is categorized by priming outcome: affective, behavioral, and cognitive, which follows suit with the tri-component ABC model of attitudes (Breckler 1984). These three priming outcomes build upon prior research that distinguish between affective and cognitive priming (Erdley and D'Agostino 1988; Yi 1990a) and between behavioral and affective priming (Wyer et al. 2010) now to develop a model that incorporates priming of all three attitudinal components – affect, behavior, and cognition. Although studies have shown that priming can be conducted non-consciously, the result of priming still falls into one of the three outcomes of priming (Chartrand et al. 2008). For example, a Wal-Mart poster can non-consciously prime low cost, which results in low-cost consistent behaviors (e.g.,

thrifty shopping). This provides support for a three category, and no more, priming framework centered on affective, behavioral, and cognitive priming outcomes.

Additionally, a section on methods of priming reviews methods for administering priming techniques (e.g., masked priming) that can be used to administer any outcome based priming procedure. For example, a masked priming technique can be used to produce a cognitive, behavioral, or affective priming outcome.

Affective Priming

In the tri-component ABC model of attitudes, affect refers to the feelings and emotions related to an attitude (Breckler 1984). The concept of affective priming was developed by Fazio, Sanbonmatsu, Powell, and Kardes (1986) and shows that affective responses significantly varied as a result of affect-loaded stimuli. In a follow-up study, Spruyt et al. (2002) tested priming with affectively congruent and affectively incongruent pictures. When the prime picture was affectively congruent with a target picture (e.g., both conveyed happy emotions or both conveyed sad emotions), response time to the target picture was significantly quicker, thereby supporting the affective priming effect. In another study, Spruyt et al. (2002) found that affective pictures produced greater priming effects than word primes suggesting a greater power to visual primes in affective priming studies. Also, in one of the most comprehensive reviews to date of affective priming studies, Klauer and Musch (2002) describe the recent increased attention in affective priming and a variety of conditions in which affective priming occurs (e.g., with both pictures and colors, at different time lengths between prime and target, with or

without distracter tasks, etc.). Specifically, these authors define affective priming as “the phenomenon that processing of an evaluatively polarized word (e.g., love)... proceeds faster and more accurately when it is preceded by an evaluatively consistent prime word (e.g., sunshine) rather than an evaluatively inconsistent prime word (e.g., death)” (p. 9-10). Note that this example indicates primes that are both affective and cognitive in nature, although the affective component is strongest. Jones and Fazio (2008) note that affective priming, along with other related tools such as the implicit association test, is directly related to consumer behavior when understanding consumer attitudes towards products and brands because of the central focus on understanding consumer processing.

Behavioral Priming

In contrast to affect and affective priming, which focus on feelings and emotions, behavior refers to actual actions as well as behavioral intentions according to the tri-component ABC model of attitudes (Breckler 1984). Behavioral priming, sometimes also referred to as social priming, results in increased participation in prime activated behaviors. Reviews of behavioral priming studies can be seen in the Handbook of Social Psychology (Dijksterhuis 2010) and in articles by Dijksterhuis and Bargh (2001) and Wheeler and Petty (2001).

In the consumer domain, research in behavioral priming investigates how priming with attributes under the marketer’s control can alter consumer behaviors. For example, Fitzsimons, Chartrand, and Fitzsimons (2008) found that presentation of an Apple logo led consumers to behave more creatively than consumers primed with an IBM logo. In

another article, Mandel (2003) showed that priming consumers to think of the interdependent self as opposed to the independent self led consumers to take higher financial risks (e.g., buy a more expensive product) and lower social risks (e.g., not buy a product that may not be socially accepted). As yet another example, Laran, Dalton, and Andrade (2011) found that consumers primed with low quality brand names (e.g., Wal-Mart) were more likely to shop for low value products as opposed to consumers primed with high quality brand names (e.g., Nordstrom). In contrast, these authors found that consumers primed with low quality brand slogans (e.g., “Save money. Live better”) actually led consumers to shop for high value products in reactance to a perceived persuasion attempt. This idea of consistent and inconsistent (i.e., reactance) responses to primes will be discussed later in a section on orientation of priming responses.

Procedural Priming. Procedural priming falls under the umbrella of behavioral priming but focuses specifically on priming a process, such as strategies or methods for processing information. Procedural priming, also known as process priming, results in much longer enduring changes in processing than other priming methods, such as semantic priming, where only the end result is primed (Forster, Liberman, and Friedman 2009). The enduring effects of procedural priming over other methods of priming relate to the distinction between declarative and procedural knowledge. Priming declarative knowledge (e.g., images, facts, serial strings) activates a node in memory, which maintains knowledge activation in short-term memory only until new information enters short-term memory (usually resulting in decay in several seconds, though this depends on prior experience) (Smith 1990). In contrast, Smith (1990) describes that priming

procedural knowledge (e.g., the if-then statements) actively retrieves and acts on several steps in a procedure and “may activate information in memory, deposit new representations into memory, or perform motor actions” (p. 5). Because of these greater cognitive resources devoted to following the procedure, decay of procedural primes is much slower than primes involving declarative knowledge.

For example, in a study by Smith and Branscombe (1987), participants were placed in one of two conditions – either trait priming or procedural priming. In the trait primed condition, participants unscrambled words that related to hostile behaviors (i.e., priming the trait of hostile). In the second condition, participants were instructed to match unscrambled sentences with traits (i.e., priming the procedure of matching). After 15 minutes, participants in the trait primed condition were much less likely to exhibit hostile attitudes than the procedure primed condition, thereby suggesting that procedure priming is much more enduring than task priming. For a brief review of procedural priming in the consumer behavior literature, see Shen and Wyer (2008). These authors also conducted a series of studies to show that procedural priming has the greatest effects when consumers are placed under time pressure (e.g., making a decision about which computer to buy in a short amount of time). Tong et al. (2011) also show that procedural priming, either cost-benefit focused or social-cultural focused, can be used to effectively change perspectives regarding cross-border transactions, potentially leading to changes in voting behavior and, ultimately, changes in international business regulations. These authors explain that reactions to cross-border transactions are often initially affective and stemming from national pride whereas procedural priming can instead prime a more rational mindset to evaluate the costs and benefits of such cross-border transactions. Shen and Wyer (2008)

note, however, that consumers can reach a point of excessive repetition where a process is practiced so much as to cause a procedural prime to have less impact or even become ineffective.

Goal Priming. Goal priming is another type of behavioral priming, which focuses specifically on activation of end-goal states thereby leading individuals to behave in ways consistent with goal attainment (Forster et al. 2009). Papies and Hamstra (2010) describe the process behind goal priming as either encouraging a specific goal or conflict between two goals with the primed goal being the one the individual pursues (e.g., goal conflict between hedonic current consumption desires and long-term health management). Recent research suggests that goal priming is often confused with semantic and procedural priming. Forster, Liberman, and Friedman (2007) provide seven traits that distinguish goal priming from other types of priming: (1) it is value-oriented, (2) motivation decreases after goal is attained, (3) priming effects differ based on distance to goal, (4) priming effects are proportional to likelihood of achieving the goal, (5) it causes inhibition for goal conflicts (in the case when a primed goal is in conflict to an already existing goal), (6) it is self-control oriented, and (7) it is moderated by the number of ways a goal can be achieved. See Bargh (2006), in the context of language learning, and Dijksterhuis, Chartrand, and Aarts (2007) for review articles on goal priming. Specifically in the context of consumer behavior, Papies and Hamstra (2010) show that goal priming is successful when consumers are primed for healthy consumption with a healthy recipe poster resulting in consumption of fewer meat samples offered in store than consumers receiving no goal prime. However, Laran, Janiszewski, and Cunha

(2008) show that goal priming is contextually dependent. For example, in experiment one of a series of studies, participants were randomly assigned to one of two conditions – either making a dinner reservation for tonight (time context similar) or making a reservation for a month from now (time context dissimilar). Through an unscrambling task, participants were primed either with “have fun” or “impress others” and then asked to choose a restaurant for a reservation. In contextually congruent situations (i.e., making a reservation for that evening), goal priming effects (i.e., participants in the “have fun” priming condition choosing a restaurant highly regarded as “having fun”) were greatest in comparison to the contextually non-congruent situation (i.e., making a reservation for a month in the future). Thus, the success of goal priming is dependent on many factors including context and congruence between the prime and the target.

Cognitive Priming

In comparison to affective and behavioral priming, cognition refers to beliefs, opinions, and perceptions, according to the tri-component ABC model of attitudes (Breckler 1984). Cognitive priming refers to changes in thought based upon the presence of a prime (Myers and Hansen 2012). In psychology, cognitive priming is often more focused specifically on word outcomes, which is referred to as semantic priming and will be discussed later. In terms of advertising, Yi (1990a) states that cognitive priming effects are found often in advertising when product attributes are primed by ads and prime effects are measured through changes in consumer brand evaluations. For example, Yi (1990b) studied cognitive priming effects with two conditions – one condition where

“versatility” was primed and another condition where “ease of use” was primed. When an advertisement’s features were congruent with the prime, brand attitudes were greater than when features were incongruent with the prime, thereby showing cognitive priming effects. It is important to note that many priming studies conducted in the field of marketing, and more specifically consumer behavior, are in fact cognitive priming studies (i.e., measuring what a consumer thinks after being exposed to a prime) even when studies are not explicitly labeled as cognitive priming. For example, Kahle and Homer (1985) showed that celebrity endorsers can prime product attractiveness. As an another example, Chang (2010) studied the influence of priming either one’s independent or interdependent concept of self on evaluation of an advertisement with consensus information. Chang (2010) found that priming the interdependent view of self led to significantly more positive ad evaluation in comparison to participants primed with an independent view of self. Although this study was not described as cognitive priming, the test for priming effects was of cognitive nature (i.e., what do you think about the effectiveness of this advertisement?).

Category Priming. Category priming is a type of cognitive priming that occurs specifically when a subset of terms (e.g., high class) is primed thereby influencing response to a target. More specifically, Herr (1989) states that “by unobtrusively presenting exemplars of a category, that category becomes temporarily more accessible from memory and more likely to be used subsequently in processing new information” (p. 67). In a study by Herr (1989), college students completed either a low-class or high-class car prime (i.e., the category prime) before evaluating two fictitious car brands. As

expected, estimated car cost was significantly higher for students in the high-class prime condition.

Also, substantial research has investigated how category priming can be used to activate stereotypes. For example, Stafford, Leigh, and Martin (1995) showed that activating a pushy salesmen stereotype (e.g., a car salesman) using a picture of a salesman resulted in instantly lower attitudes toward an unrelated salesperson. As Stafford, Leigh, and Martin (1995) note, category activation (or in this case, stereotype activation) can occur quickly and easily. In a more recent study, Mange et al. (2012) show that priming ethnic or religious stereotypes of often associated “dangerous” groups (in this study, Arabs and Muslims) led Americans to think more aggressive responses than when not primed. Again, this is an example of successful category priming in the context of stereotypes where behaviors are consistent with the primed category. Kawakami et al. (2012) also show that category priming can be used in terms of social categories (e.g., jocks, hippies, overweight) and successfully influence self-construals. Across many different situations, category priming results in mostly consistent responses to a target based upon the category that is activated by the prime.

Semantic Priming. Semantic priming, another form of cognitive priming, is one of the oldest forms of priming. This type of priming considers how a semantic prime (e.g., a word, phrase, sign, or symbol) can influence response to a stimulus. More specifically, McNamara (2005) defines semantic priming as “the improvement in speed or accuracy to respond to a stimulus, such as a word or a picture, when it is preceded by a semantically related stimulus (e.g., cat-dog) relative to when it is preceded by a semantically unrelated

stimulus (e.g., table-dog)” (p. 4). See McNamara (2005) for a thorough review of semantic priming. The classic introduction to semantic priming comes from Meyer and Schvaneveldt (1971), in which participants were given either semantically related words (e.g., nurse-doctor) or semantically non-related words (e.g., nurse-butter). Participants responded 85 ms faster for semantically related words than semantically non-related words, thereby providing support for semantic priming. Although speed of response could be seen as a behavior, speed only reflects the priming process, whereas the outcome in this example is actuality similarity ratings of words, a cognitive semantic outcome.

Specifically in marketing, Labroo, Dhar, and Schwarz (2008) were able to increase purchase intentions for wine by semantically priming wine characters (e.g., a bottle of wine with a frog on it was semantically primed with the word “frog”). These authors also discuss how semantic priming is directly related to fluency research because congruency between a prime and a target increases processing ease and therefore perceptual fluency. As another example, Galli and Gorn (2011) used the semantic primes of “black” and “white” along with either black object target words (e.g., cola) or white object target words (e.g., soymilk) and found that brand reactions were more positive for congruent stimuli (e.g., white and soymilk or black and cola). Both Labroo, Dhar, and Schwarz (2008) and Galli and Gorn (2011) tested unconscious semantic priming, conducted through masked priming (discussed later) and showed that even unconscious semantic primes can successfully alter cognitive reactions and evaluation of brands.

Associative Priming. Associative priming, yet another form of cognitive priming, is highly related to semantic priming, enough that these two terms are often used interchangeably (Lucas 2000). Semantic priming occurs as a result of direct semantic relation between words (e.g., bronze is a type of gold), whereas associative priming occurs because of common relation developed in the mind that are not necessarily semantically related (e.g., dogs are often associated with bones). In a meta review of semantic priming studies, Lucas (2000) found that associative priming studies resulted in greater effect sizes (average of .49) in comparison to semantic priming studies (average of .25). See McNamara (2005) for a review comparing associative and semantic priming. Moss et al. (1995) note that priming studies can feature both associative and semantic elements resulting in greater effect sizes through an effect called the associative boost. For example, whereas a dog is often only semantically related to a wolf, a golden retriever is both semantically and associatively related to a dog. In the second example, an individual should be more likely to associate “dog” with “golden retriever” rather than “dog” with “wolf” given the associative boost. Lucas (2000) also shows that the associative boost (i.e., both semantic and associative relationships) increased priming effects by .26. Associative priming studies are found often in the consumer behavior literature, but are most often just referred to as general priming studies. For example, Liu, Smeesters, and Vohs (2012) primed participants with one of two phrase unscrambling tasks – monetary-related or non-monetary-related. Although not explicitly described in the study, it could be assumed that the unscrambled phrases contained a mixture of both semantic and associative primes, thus benefiting from the associative boost. Findings

revealed that participants primed with monetary-related words responded significantly differently to product choices than participants primed with non-monetary-related words.

Disconnect between Priming Technique and Outcome Measurement

A clear distinction needs to be made between a researcher's priming technique and measurement of the priming outcome. One of the most common discrepancies occurs when researchers use behavioral priming techniques to encourage a consumer to purchase a product, yet measure the effects of priming through cognitive-based purchase intention questions. Much research has discussed how purchase intentions are far from a perfect estimate of actual purchase behavior (Chandon, Morwitz, and Reinartz 2005). Similarly, recent research in green marketing shows large gaps between intentions to be sustainable and actual participation in sustainable behaviors (Prothero et al. 2011).

Whether it is an affective priming technique that is measured with a behavioral outcome or a cognitive priming technique that is measured with an affective outcome, the outcome of measurement is going to influence priming effect results. The most accurate assessment of priming effects is expected when the priming technique matches the measurement of priming outcome (i.e., affective-affective, behavioral-behavioral, cognitive-cognitive).

Orientation of Priming Response

Most often, the presence of a prime increases prime-relevant affective, behavioral,

and cognitive responses, which results in consistency between the prime and the response to the target. For example, priming creativity with an Apple logo led consumers to be more creative than when primed with an IBM logo (Fitzsimons et al. 2008). Also, as an example from cognitive priming, high value word primes led to higher perceptions of the value of a fictitious car brand (Herr 1989).

This consistent response to a prime is highly associated with assimilation effects that occur, as Schwarz and Bless (1992) describe, “whenever the judgment reflects a positive (direct) relationship between the implications of some piece of information and the judgment” (p. 217). As Shen and Chen (2007) state with regards to priming, individuals assimilate the primed word, idea, or context into existing attitudes. In a study by McFerran et al. (2010), the authors found that priming either an obese or thin body type led participants to assimilate the prime into already developed stereotypes. For non-dieters, this result meant decreased consumption with the obese prime and increased consumption with a thin prime as a result of a stereotype that obese individuals should eat less. As another example, Dahlen (2005) found that when faced with ambiguous advertisements in non-traditional advertising media (e.g., an elevator door), consumers try to assimilate the advertised brand with the medium. Dahlen (2005) showed that assimilation effects are greatest when congruency exists between the brand and the medium (e.g., “fast” Red Bull on a “fast” elevator door), thereby allowing assimilation to easily occur. In other words, assimilation effects are greatest when there is uncertainty surrounding a stimulus, and therefore the prime is used with existing knowledge in memory to solve the uncertainty.

However, there are also situations when the presence of a prime instead decreases prime-relevant affective, behavioral, and cognitive responses, thereby resulting in a target response that is inconsistent or reactant to the prime (Herr, Sherman, and Fazio 1983). Glaser (2003) states that this conditionality (i.e., under what conditions reverse priming will and will not occur) is an important, unresolved question in the priming literature. This idea of reactance or reverse priming, also known as contrast effects, was supported in Laran, Dalton, and Andrade's (2011) study where priming with a low quality brand slogan (e.g., Wal-Mart's "Save More. Live Better") led consumers to spend more money than when primed with a high quality brand slogan. Research suggests that reverse priming occurs because consumers act in opposition and try to correct for a marketing claim or set of words that appears to be persuasive or biased (Glaser and Banaji 1999; Laran et al. 2011). As Glaser (2003) states, "such corrective processes would be driven by a motivation to respond accurately" (p. 96), or in the case of the consumer, to make accurate and wise consumption-related decisions.

In a meta-analysis of priming articles in the social psychology and personality literature, DeCoster and Claypool (2004) note that in conditions where persuasion/bias is not perceived, consumers act in prime-consistent ways (e.g., a positive affective prime will lead to a positive affective outcome). In contrast, in conditions where persuasion/bias is perceived, consumers act in prime-inconsistent ways (e.g., a positive affective prime will lead to a negative affective outcome). However, these effects depend greatly on an individual's awareness, motivation, and capacity for evaluation. Individual differences in skepticism also influence the effectiveness of primes (Bousch et al. 1993). When motivation is high, processing is higher leading to correction in judgments to account for

persuasion. However, when motivation is low, processing is lower leading an individual to be much more likely to just assimilate the prime into decision making.

Methods of Administering Priming

Affective, behavioral, and cognitive priming techniques are all priming outcomes. Priming methods, in comparison, focus on how a prime is administered and are coupled with a priming outcome. For example, a contextual priming technique using the environment surrounding a target as the prime could be used to elicit a behavioral priming outcome. In the discussion to follow, the most common methods of priming in both psychology and marketing are reviewed.

Masked Priming

In contrast to other priming techniques that allow seconds, minutes, or even longer between presentation of the prime and the target, masked priming shows a prime for a very short time (sometimes just 50-60 milliseconds) with a target immediately following the prime (Kinoshita and Lupker 2003). The prime is “masked” in the sense that the prime is shown for an extremely short time and is most often unobservable to the study participant. See Kinoshita and Lupker (2003) for a thorough review of masked priming. The concept of masked priming was first introduced into the psychology literature in the early 1980’s with Evett and Humphrey’s (1981) four-field paradigm. This paradigm provides four steps in the masked priming process: step 1 -a mask (a series of

pound signs: #####), step 2 - a prime (presented for only a few milliseconds), step 3 - a target, and step 4 - another mask. Kinoshita and Lupker (2003) suggest that masked priming can outperform other forms of priming in determining the actual influence of a prime on a target because masked priming eliminates post-perceptual processing via the frontal lobes.

However, masked priming has yet to be adequately investigated within marketing. Additionally, one might expect masked priming to reach similar conclusions to that of the mixed findings on subliminal advertising (Moore 1982) with both techniques trying unconsciously to manipulate the participant's thought process and actions. Although not described as a masked priming study, Labroo, Dhar, and Schwarz (2008) found that masking the word "frog" led study participants to desire a target wine that featured a frog significantly more than participants not receiving this masked prime. In spite of these findings from psychology, one must question the applicability of such masked priming in consumer behavior contexts.

Repetition Priming

Repetition priming is one of the simplest forms of priming that Eysenck (2004) describes as the "more efficient processing of a stimulus when it has been presented and processed previously" (p. 313). The more often the prime is presented (i.e., the amount of repetition), the more likely the prime will be given as the response to the target. In one of the earliest studies of repetition priming, Tulving (1962) showed study participants a series of words (i.e., the prime) before a word completion task. In the task, half of the

words were presented beforehand and half were not. Participants were significantly more likely correctly to complete the word completion tasks for words seen in the prime than for words not seen during the prime. In another experiment, Forster and Davis (1984) showed that repetition priming effects are greatest for low frequency words (e.g., koala) in comparison to high frequency words (e.g., store) (Forster and Davis 1984).

In marketing, repetition priming is often associated with the mere exposure effect where consumers like things seen more often (Obermiller 1985) and have greater fluency in processing things seen more often (Mantanakis, Whittlesea, and Yoon 2008). Although initially developed by social scientists (Zajonc, Markus, and Wilson 1974), many consumer behavior researchers now use the mere exposure effect to explain consumer response to advertisements. In contrast to repetition priming, the mere exposure effect focuses specifically on affective responses (i.e., preference or liking) (Obermiller 1985). Also, Lee (1994) showed that repetition priming can actually have negative effects on consumer liking with as few as three exposures, and success of the mere exposure effect is dependent on the stimulus. Success of the effect is most variable when contrasting stimuli are presented in close proximity (e.g., an interesting stimulus, then an uninteresting stimulus) leading one stimulus to deliver a heightened mere exposure effect (i.e., a stronger affective response than if presented in isolation) and the other stimulus to experience a decreased mere exposure effect (Lee 1994). Additionally, Law (2002) found that the success of repetition techniques is dependent upon whether competitors are using repetition techniques at the same time. For a comparison of repetition priming and the mere exposure effect in consumer behavior, see Lee (1994).

Conceptual vs. Perceptual Priming

Often in the psychology literature, priming is described as either conceptual or perceptual. As McNamara and Holbrook (2003) describe, conceptual priming focuses on meaning, while perceptual priming focuses on the form of the stimulus. For example, a semantic prime would be an example of a conceptual prime because the prime is based on meaning (e.g., “golden retriever” is related to “dog” because of the meaning of the words). In contrast, visual primes or fill-in-the-blank primes (e.g., “d_g” for “dog”) act as perceptual primes because they focus on stimulus form. In the context of consumer behavior, Lee (2002) states that brand choice can be a result of both conceptual priming (when making a memory-based choice) or perceptual priming (when making a stimulus-based choice). Lee (2002) tested conceptual and perceptual priming effects with brand names in two priming conditions – a fill-in-the-blank prime (i.e., perceptual prime) and a prime involving listing all brand names that come to mind (i.e., conceptual prime). After completing the prime, participants were asked to classify brands into appropriate categories by either writing the names of brands (i.e., conceptually-related) or circling the names of brands (i.e., perceptually related). Results showed that correct brand-category recognition was highest with congruent processing (conceptual prime with writing brand names or perceptual prime with circling brand names). Again, in general, conceptual priming is focused on meaning, while perceptual priming is focused on form.

Contextual Priming

Contextual priming, also known as environmental cueing, has been defined as manipulation or activation of knowledge using marketing cues that precede or surround a target advertisement (Yi 1990b). However, more recently, this definition has been expanded to include priming through cues in the environment in areas other than just advertising, such as price cues and evaluations of product quality (Schindler 2006), incidental exposure and product evaluation and choice (Berger and Fitzsimons 2008), and even health claims and product consumption (Wansink and Chandon 2006). Contextual priming is based on the premise that consumers experience ambiguity in evaluation of goods and services and therefore turn to contextual cues in advertising or the environment to reduce ambiguity before making an evaluation or purchasing a product (Yi 1990b).

For example, an experiment by Snyder and Kendzierski (1982) showed that individuals are primed by the conversations of surrounding people so that pro-action conversations (in this case, confederates promoting a future psychology study) led to increased participation in the ambiguous future study. Studies specifically in consumer behavior show that contextual priming is highly successful, both in the lab and in the field. In the lab setting, Yi (1993) found that contextual advertisements, priming either oil or safety, surrounding a target car advertisement resulted in consumers desiring the target product to be either fuel efficient or safe (depending on the prime received). In the field setting, Berger and Fitzsimons (2008) ran a series of studies showing how simple contextual factors significantly influence product evaluations. In one study, participants

were exposed to one of two product slogans for a digital music player, either focused on luggage or trays. Participants were students in a college dorm, and only half of which ate at a cafeteria that had dining trays. Results showed that ten days after exposure to the slogan, students exposed to the tray slogan that also ate in the cafeteria that had trays exhibited the highest product evaluations. Therefore, the trays in the cafeteria acted as a contextual prime. As another example, Howlett et al. (2012) found that when only calorie information is displayed on a restaurant menu, consumers perceive the menu item to be healthy, even if other aspects of the meal are unhealthy (e.g., high in sodium). In this case, the low calorie amount acts as a contextual cue for the overall healthiness of the restaurant menu item. Although many marketing studies use contextual priming with cognitive priming outcomes (e.g., overall product evaluations), contextual priming can be used with affective and behavioral priming outcomes as well.

Other Related Theoretical Areas

To ensure a thorough understanding of the field of priming, it is important to go beyond types of priming (e.g., affective, behavioral, cognitive) and methods of priming (e.g., masked, repetition, contextual) and look into the fields that are related to priming. Although these fields are distinctly different from priming, as will be described, an understanding of each of these related theoretical areas can help illuminate what constitutes priming and what does not.

Heuristics

Heuristics, in particular, are described as mental shortcuts for decision making (Tversky and Kahneman 1974). There are three main types of heuristics used in making decisions under uncertainty: (1) availability heuristic, (2) representativeness heuristic, and (3) anchoring heuristic (Tversky and Kahneman 1974). As Yi (1990b) notes in a contextual priming study, the availability heuristic, in particular, assesses top of mind awareness just as priming does. According to Tversky and Kahneman (1973), the availability heuristic refers to the ease of retrieval of information with frequent items (e.g., a primed item) easier to retrieve than infrequent ones. The representativeness heuristic is associated with categorical, semantic, and associative priming techniques with each of these techniques comparing the relationship between two items. As Bernstein (2010) describes in more detail, the representativeness heuristic is “a mental shortcut that involves judging whether something belongs in a given class on the basis of its similarity to other members of that class” (p. 257).

Another common heuristic related to priming is the anchoring heuristic, sometimes known as anchoring bias, which occurs when individuals make a decision based on a reference point (Tversky and Kahneman 1974). For example, in Herr’s (1989) study using categorical priming, either high class or low class terms were primed as reference points leading participants to evaluate fictitious car names accordingly (e.g., if primed with high class, participants evaluated the fictitious car also as high class). It is important to note the distinction between heuristics and priming, although both relate to decision making shortcuts. While heuristics are mental shortcuts that an individual

makes, priming is (often) purposeful placement of words, images, or other environmental cues (often) by a marketer or company to evoke certain affective, behavioral, or cognitive responses.

Framing Effects

In the context of marketing, Levin and Gaeth (1988) state that framing effects occur when “consumers’ product judgments vary as a function of the verbal labels used to define specific product attributes” (p. 374). One example of such framing effects occurs when marketers claim that meat is either 75% lean (positive frame) or 25% fat (loss frame) (Levin and Gaeth 1988). Just as priming can influence product preference, framing can also make products either more or less desirable (Wright and Rip 1980). As one example, framing research has shown that individuals are more affected by learning what they have to lose (i.e., a loss frame) as opposed to what they have to gain (i.e., a gain frame), which is also referred to as prospect theory (Tversky and Kahneman 1981). Also, as Yi (1990b) states, contextual priming in the consumer behavior context can provide the frame of reference for viewing advertisements.

In a recent study, Sung and Choi (2011) showed that priming and framing can be combined in the same study. These authors primed self-construal through contextual advertising images featuring either individual or team sports. Participants primed with individual sports evaluated ads framed with a promotion focus more positively while participants primed with team sports evaluated ads framed with a prevention focus more positively. In Sung and Choi’s (2011) study, priming and framing were two distinctly

different concepts, but both are very similar in that both alter the evaluation of future information. Essentially, framing represents the way information is labeled (e.g., either prevention or promotion focused) and priming is the change in processing and knowledge activation.

Implicit Memory Effects

Graf and Schacter (1985) define implicit memory as being “revealed when performance on a task is facilitated in the absence of conscious recollection” (p. 501). In other words, implicit memory effects occur when the individual is unaware of elements that facilitate a task (e.g., a decision) being completed. Implicit memory exists in contrast to explicit memory which involves conscious knowledge of facilitation effects. Graf and Schacter (1985) add that priming is the facilitative element in both implicit (for primes that individuals are unaware of) and explicit (primes that individuals are aware of) memory effects. See Sanyal (1992) for a thorough review of the distinction between implicit memory and priming specifically within the context of consumer behavior.

As examples of implicit memory and priming, both semantic and masked priming result in implicit memory effects. For masked priming in particular, the masked prime is flashed on the screen for such a short time that individuals do not have the time to consciously process the prime (Kinoshita and Lupker 2003). In the consumer domain, Schmitt (1994) found evidence of implicit memory effects in a priming study after a debriefing session showed that participants were not aware of being primed. Additionally, Berger and Fitzsimons (2008) found evidence of implicit memory effects

from environmental cues (i.e., contextual priming) in a study examining how the holiday Halloween primes desire for orange candies. In both consumer and psychological contexts, priming is the facilitating element in implicit memory effects.

Halo Effects

Nisbett and Wilson (1977) initially defined halo effects as the application of one personality trait of an individual to reflect all of the individual's personality traits (e.g., a distant person was also assumed to be irritating). In the consumer realm, halo effects have been used to describe how the personality of a salesperson influences product evaluation (e.g., a happy salesperson leads to more positive product evaluations) (DeShields Jr, Kara, and Kaynak 1996). More recently, halo effects have been studied alongside priming in the context of health, which have become known as "health halos". Wansink and Chandon (2006) describe a health halo as when a consumer overgeneralizes one healthy trait of a product (e.g., low fat) to represent the totality of the product (e.g., also low sugar, high fiber, low sodium, etc.). In essence, the presence of one healthy trait (e.g., low fat) acts as a prime for the overall healthiness of the food. These health halo, or "health prime", effects have been found with low fat labels (Wansink and Chandon 2006), low sodium labels (Howlett et al. 2012), and organic labels (Schuldt and Schwarz 2010), among many others. Whereas priming can take many different forms, halo effects just represent traits of a part being applied to a whole (e.g., salesperson to company or low fat to all nutrition facts).

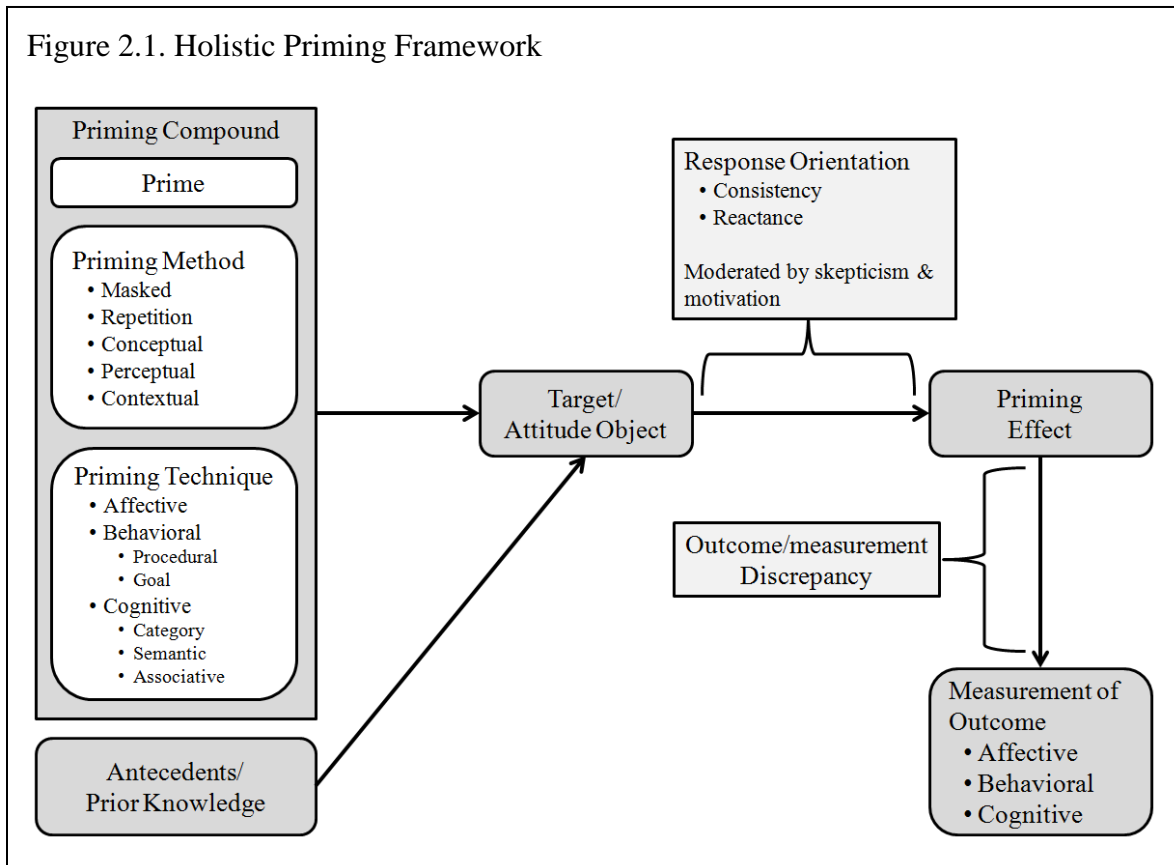
A Conceptual Diagram of Priming

Based on the review of priming techniques and methods as well as discrepancies in the priming literature, a holistic priming framework is developed in figure 2.1. As seen in the framework, the prime (e.g., word, picture, sound) is coupled with a priming method (e.g., contextual priming) and ABC priming technique (affective, behavioral, or cognitive). Along with antecedents and prior knowledge (e.g., how familiar is the consumer with the prime and target), the priming compound (prime, priming method, and priming technique) then influences response to the target, also known as the attitude object. This response to the target results in a response orientation of either consistency or reactance. The ABC priming effect (again: affective, behavioral, or cognitive) is then measured by the researcher, which can result in discrepancies when the researcher's desired priming outcome does not match the measurement of the outcome. This holistic priming schema provides one of the first views into the broad field of priming, and more specifically as it relates to research in the field of marketing and consumer behavior.

Conclusion

Numerous techniques and methods of priming as well as related theoretical areas exist that are often confused with one another. Before now, there has not yet been a comprehensive understanding of the field of priming, leaving researchers simply to mimic the priming techniques of the previous researcher. This situation is unfortunate

because a lack of understanding of the field of priming may decrease the accuracy and clarity of marketing research.



This paper provides a first attempt at developing a holistic framework of the priming process based on a new ABC categorization system for priming effects. Priming is used in numerous different contexts in the marketing literature from packaging cues to activating self identities to repetition of advertisements. Now with this holistic priming framework, researchers can begin to understand the processes involved in priming and improve research, especially in cases where clear priming discrepancies exist.

Connecting Essay 1 and Essay 2

Now that essay 1 has established a clear understanding of the field of priming both within and outside the field of marketing, essay 2 will build on this understanding through experimental studies. Specifically, essay 2 explores collateral communication primes in marketing including the antecedents and limits to such primes. In other words, essay 2 uses the theory developed in essay 1 to explore how non-product-centric information can prime consumers, thereby influencing product evaluations.

CHAPTER III

ESSAY 2:

BE A GOOD COOKIE:

THE INTERPLAY AMONG COLLATERAL COMMUNICATION PRIMES, THEORY OF MIND, AND CAUSE-RELATED MARKETING

Contribution Statement

Prior research has shown that marketer-conveyed information can prime consumers leading to altered product evaluations (Gerend and Sias 2009; Kliger and Gilad 2012; Walker and Wan 2012; Wansink and Chandon 2006). However, research has not adequately investigated the influence of non-product centric (i.e., collateral) information on consumer evaluations. Therefore, this research explores the influence of such collateral information from the framework of spreading activation theory (Collins and Loftus 1975), with application to cause-marketing. Findings reveal that collateral information can lead to misconstrued evaluations, disclaimers increase processing and reduce collateral priming effects, and a consumer's theory of mind is a critical antecedent to such priming effects. This research builds upon and provides implications for the priming, processing, cause-marketing, and attribution literatures.

Introduction

Keebler recently introduced new cookie packaging that featured a logo for the

American Red Cross along with a call to action to “give blood today.” Coca-Cola partnered with the World Wildlife Fund in a campaign to help save freshwater resources. Kentucky Fried Chicken (KFC) sold a pink bucket of fried chicken to act as a visual communication for their partnership with the Susan G. Komen Breast Cancer Foundation. Many companies are using cause-related marketing initiatives in corporate social responsibility (CSR) efforts to improve brand image. However, when cause-related marketing initiatives pair, for example, a health-oriented cause with unhealthy packaged goods, there is the possibility of these packaged goods being perceived as healthier than they actually are. In this example, the health-oriented cause could act as a communication prime for the overall healthiness of the product. Likewise if a cleaning goods product were to have package communications describing donations to environmental causes (e.g. Dawn dishwashing liquid's Saving Wildlife Campaign with donations to the Marine Mammal Center and International Bird Rescue), the charity may act as a communication prime potentially making the product appear more natural, organic, or environmentally friendly. Whether it is the presence of a cause, co-branding, sponsorship, or spokesfigures, brand communication and related consumer behaviors are argued to be influenced by these supplemental cues—what we will refer to as *collateral communication primes*.

Extensive research outside of marketing has examined the operation of priming mechanisms in the mind (Collins and Loftus 1975) and how primes can influence performance on a variety of basic tasks (McNamara 2005). The marketing literature has explored the consumer outcomes of priming (e.g., Laran et al. 2011; Yi 1990b), which examine, for example, how primes influence advertisement interpretations, product

evaluations, and purchase intentions. This paper seeks to contribute to the priming and marketing literature in four ways: (1) to understand the theoretical processes that underlie collateral communication primes with application to cause-related marketing, (2) to examine how these collateral communication primes alter evaluations of both the brand and the cause partner, (3) to investigate how these effects interact with product categories, and (4) to explore practical relevance in public policy and associated consumer well-being.

The choice of context for this paper stems in part from the proliferation of cause-related marketing campaigns but also from the growing need and demand for research on consumer well-being and pro-social behaviors, which Mick et al. (2012) broadly define as transformative consumer research (TCR). Under this thinking, consumers wanting to live well and to do good things should be presented with the clearest possible information to inform their decision-making. On the other hand, firms and causes wanting the best possible outcomes for stakeholders should be supported in their work together, but not at the cost of miscommunication and misperception. The growth in cause marketing has been shown again and again to speak to consumers and influence decision-making (Nan and Heo 2007; Varadarajan and Menon 1988), but this success has seen criticism in alleged greenwashing where products possibly harmful to the environment are paired with causes that support the environment (CBC News 2012; Simon 1995). Interestingly, less has been discussed about how cause-related marketing influences consumer behaviors, such as food choice, with none of the past work considering the role collateral communication primes play in information processing and decision making.

Conceptual Development

Communication Primes

Under the priming paradigm a specific piece of information (e.g., a product slogan, color of an advertisement, presence of a health cause logo) is used to manipulate or increase activation of knowledge to produce specific outcomes (Meyers-Levy 1989). One of the most used priming theories in the marketing literature, spreading activation theory, suggests that a prime activates a target which then causes a faster and more accurate response to the target and associated knowledge (Collins and Loftus 1975), similar to the principle of the availability heuristic. As an example, a communication prime relating to hazard (e.g., red color) or sustainability (e.g., an environmental activist as a spokesperson) can activate information in the mind associated with these attributes, thereby altering consumer product judgments (Gerend and Sias 2009; Kliger and Gilad 2012; Walker and Wan 2012; Wansink and Chandon 2006). In some cases, these communication primes result in poorer product perceptions, such as the case with sustainability communications leading to consumer perceptions of greenwashing and manipulative intent (Walker and Wan 2012).

Research on communication primes and health stems in part from the Food and Drug Administration's (FDA) Nutrition Labeling and Education Act of 1990 that has as a mandate, to determine the influence of package labeling on food purchase decisions (Silverglade 1996). Initial priming research related to health focused on fat and calorie information as health cues. For example, Andrews, Netemeyer, and Burton (1998) found

that food shoppers generalized healthy food traits (e.g., low fat) in an advertisement to other traits of a product. Wansink and Chandon (2006) suggest that *health halos* occur when a consumer over-generalizes one healthy trait of a product to represent the totality of the product (e.g., if low in fat then also low sugar, high fiber, low sodium). Wansink and Chandon (2006) showed disturbing findings that placing a low fat label next to a bowl of M&M's led to significantly greater consumption than when no label was present. In a follow-up study, Chandon and Wansink (2007) showed that Subway diners estimated Subway meals to have 21% fewer calories than McDonald's meals of the same calorie levels, thereby suggesting that the name Subway primes *healthy* in the consumer's mind.

Other studies find that the labels *organic* and *fair trade*, as well as green colored labels, act as communication primes causing consumers to decrease calorie estimates, increase consumption, and feel a lower need to exercise after consumption (Schuldt 2013; Schuldt, Muller, and Schwarz 2012; Schuldt and Schwarz 2010; Wan-chen et al. 2013). Chandon (2013) showed that package cues, such as size, can also convey health perceptions. Taken together, these findings suggest that communication primes are pervasive across both packaging and advertising.

Collateral Communication Primes

Much of the past research has been oriented toward product-centric cues (Andrews et al. 1998; Chandon and Wansink 2007; Wansink and Chandon 2006). This research departs from past investigations in considering the influence of collateral, non-product information. Specifically, we conceptualize *collateral communication priming*

as non-product centric information that activates nodes in the consumer's memory and influences consumer evaluations. Non-product centric information is in addition to, yet distinctly different from, product-centric information such as package weight, product features, and nutrition facts. While product-centric information is often mandated and objective, such information may also include product claims (e.g., “contains a full serving of whole grains”) and product descriptions as well as brand related information (e.g., a parent brand logo, contact information). Non-product centric information, on the other hand, is not explanatory of brand claims, product claims, or product characteristics; instead, such non-centric information is purposeful, discretionary, additional information presented contemporaneously with product-centric information. For example, the FDA mandates much of the product-centric information for cosmetics including name and place of business, directions for safe use, a statement of who the product is distributed by, warning labels, as well as ingredient information (Food and Drug Administration 2012). Non-product centric information such as packaging color and cobranding information are not mandated.

Cause-Related Marketing and Collateral Communication Primes

Cause-related marketing has been defined as “the process of formulating and implementing marketing activities that are characterized by an offer from the firm to contribute a specified amount to a designated cause when customers engage in revenue-providing exchanges that satisfy organizational and individual objectives” (Varadarajan and Menon 1988, 60). More recent research suggests that the term *cause marketing*

applies more broadly to a cause and brand partnering together in marketing initiatives (Samu and Wymer 2009). A wide range of activities (e.g., cause cobranding, cause sponsoring, cause/brand public service announcements) between a brand and a cause are referred to as cause-related marketing and are used by firms as corporate social responsibility (CSR) initiatives to improve brand image, increase sales, and gain brand visibility. While cause-related marketing specifically involves a brand partnering with a charity, CSR more broadly involves a company's actions to influence its perceived societal perceptions (Luo and Bhattacharya 2006). Under this thinking, cause-related marketing can be thought of as a component of CSR.

With regards to cause-related marketing, Nan and Heo (2007) confirm that companies employing such tactics increase favorable brand attitudes. Likewise, research on embedded premiums (e.g., a brand's promise to donate 10% of sales to a cause) similarly shows that incorporating a cause in marketing communications positively influences brand preference (Henderson and Arora 2010). Previous research has also shown that cause-related marketing initiatives can result in consumer misperceptions (Hamlin and Wilson 2004). For example, Bower and Grau (2009) found that when a corporation and nonprofit partner in a cause-related marketing initiative, consumers can misperceive that the nonprofit is giving a seal of approval for the corporation. The greater the fit between the corporation and the nonprofit, the more likely the consumer is to perceive that the nonprofit approves corporate behaviors. Just as composite branding literature shows that one brand can influence perceptions of another brand (Park, Jun, and Shocker 1996), a cause in a cause-brand partnership has the potential to influence perceptions of a brand.

Research in cause-related marketing as well as the endorsement literature suggests that brand-cause fit is highly important and results in improved attitudes toward cause-related marketing initiatives (Basil and Herr 2006; Nan and Heo 2007). This idea of brand-cause fit could also be applied to our understanding of communication primes. In priming, similar concepts are easier to pair together (McNamara 2005). A cause where the orienting nature of the prime matches the evaluative orientation (e.g., a health cause when evaluating health perceptions, an environmental cause when evaluating naturalness perceptions, or a humanitarian aid cause when evaluating helpfulness perceptions) should lead to greater communication prime effects. Causes may naturally prime different attributes when paired with different product categories. The inference and sense making literature suggest that when there is missing information for a decision attribute, consumers will make an inference based on other attributes provided (Dick, Chakravarti, and Biehal 1990; Kardes, Posavac, and Cronley 2004). As an example, research on health decision-making frequently discusses how consumers use the nutrition facts panel or other nutrition information to make inferences about overall product health (Andrews et al. 1998; Chandon and Wansink 2007; Grunert, Wills, and Fernández-Celemín 2010).

Inference making is common in marketing because advertisements and product packaging provide only partial information for decision making, thus requiring consumers to either consciously or unconsciously develop stimulus-based inferences about product attributes (Kardes et al. 2004). In a review of inference making, Kardes, Posavac, and Cronley (2004) describe that with new products, consumers utilize information from the product category to make inferences about the product. It is important to distinguish here between collateral communication priming and inference

making, while both can occur automatically (Kardes et al. 2004), priming activates a node in memory associated with the prime and then inference making is used to evaluate communication attributes (of which the prime may influence inferences made because that node in memory is activated). Given this thinking:

H1: Collateral communication prime effects are greatest when there is high similarity between the orienting nature of the prime (e.g., health, environment) and the consumer evaluative orientation (e.g., product healthfulness, naturalness).

Collateral Communication Primes and Individual Difference Variables

Prior research suggests the importance of examining individual difference variables to provide a thorough understanding of priming effects (Chandon and Wansink 2007). For example, Chernev (2011) showed that communication prime effects created when healthy and unhealthy foods are paired together are even greater for individuals on diets. Across numerous studies consumer interest has been shown to moderate priming effects with highly interested consumers more likely to use slow, deliberative processing, and thereby experience priming effects less than uninterested consumers (Yi 1993). Gallicano, Blomme, and van Rheede (2012) found that consumers high in health interest were more likely to reference nutritional information on restaurant menus resulting in a significant decrease in prime effects. Thus, highly interested consumers should be less influenced by collateral communication primes since these consumers are more likely to engage in extensive information processing, such as reading nutrition facts or evaluating

the authenticity of a cause-related marketing campaign. Similarly, consumers high in consumer outcome-relevant knowledge (e.g., health knowledge when assessing product health perceptions, organic/natural knowledge when assessing product naturalness perceptions) should also be less likely to be influenced by collateral communication primes because of greater product understanding. With health specifically, health knowledge has been shown to be distinctly different from health interest and to moderate the relationship between contextual health cues and prime effects. Similar to health interest, high health knowledge consumers are less likely influenced by primes than consumers low in health knowledge (Andrews, Netemeyer, and Burton 1998, 2009). Thus:

H2: Consumers' level of interest (H2a) and consumer outcome-relevant knowledge (H2b) moderates the relationship between collateral communication primes and product evaluations whereby consumers with high interest (knowledge) are less likely to be influenced by communication primes in comparison to consumers with low interest (knowledge).

Pre-Test: Cause and Category

To develop materials for experimental designs to be used in studies 1a and 1b, a pre-test was conducted to explore whether or not cause type interacts with product category. This pre-test utilized free association measures so as to not influence consumer thought with provided choices. In essence, the free association responses reveal what is

activated in the consumer's mind after exposure to a collateral communication prime and a product category.

The National Taxonomy of Exempt Entities (National Center for Charitable Statistics 2013) was used to identify cause classifications. Four different types of causes were explored in this study: (1) Health: American Heart Association (AHA), (2) Environment: World Wildlife Fund (WWF), (3) Human Services: American Red Cross, and (4) Employment: Goodwill. Classification categories relating to health (both national and community-oriented with human services causes) and the environment along with one category, expected to be unrelated to health (employment), were chosen. Environment was included as a category because prior research shows that organic and natural products can prime health (Schuldt and Schwarz 2010). In addition, several distracter brand names (e.g., Moonstones, Weihenmeyer & Co., Railroad Tracks) were included to check for participant attentiveness to the task. Products in a variety of categories affordable by and typically purchased by students were also pretested.

Methods

Participants and Design. This pre-test explored the interaction between cause type and product category. Two hundred and ninety one undergraduate business students participated in exchange for course credit (average age = 22.1, 39% female). Participants were randomly assigned to a 4 (cause type: health, environment, human services, employment) x 5 (product category: none, cookies, crackers, t-shirts, multi-purpose

cleaner) repeated measures delay design. Order of presentation of causes was randomized.

Materials and Procedure. Each participant was asked to free associate the first, second, and third word that came to mind for a cause from each cause type. All participants provided free associates for each cause with no product category at time one (e.g., "What is the first word that comes to mind when you hear: Goodwill?"). Three weeks later, these same participants provided free associates for each cause with a randomly assigned product category (e.g., "What is the first word that comes to mind when you hear: Goodwill and cookies?"). Both causes and product category were presented in words. By examining free association responses to causes across several product categories, this study investigates how cause-related collateral communication prime effects differ by a brand's product category. In addition, respondents answered one question about the healthiness of the product category for the food categories: "How healthy is the product category?" on a six-point scale from *very unhealthy* to *very healthy* and one question about how health-oriented each cause was on a four-point scale from *extremely not health-oriented* to *extremely health-oriented*. Cause attitudes were also evaluated with the question "What is your overall attitude toward the cause?" on a nine-point scale ranging from *dislike extremely* to *like extremely*.

Results

Free associates were found to differ based on cause category. When the cause was presented alone, the health cause (AHA) most often produced free associates of *health* (17.87%) and *heart* (16.49%); the environmental cause (WWF) most often produced free associates of *animals* (53.95%) and *nature* (16.84%); the community cause (Red Cross) most often produced free associates of *blood* (27.49%) and *helpful* (20.62%); the employment cause (Goodwill) most often produced free associates of *cheap* (25.77%) and *donations* (25.09%). These percentages were based on first associates, though similar trends follows for all associates.

These free associates changed based on the product category with which the cause was partnered. While *health* was the most frequent associate for the health cause with cookies and cleaner, *heart* was the most frequent associate for crackers, and *red color* was the most frequent associate for shirts. Although the most frequent associate did not change between product categories for the environmental cause, the percentage of respondents drastically differed with roughly 55% of respondents free associating *animals* for crackers and shirts but only roughly 35% free associating *animals* for cookies and cleaner. Again, these percentages are based on first associates, though similar trends follows for all associates.

A random subset of 42 of the 291 participants also completed the questions regarding product category and cause health. Regarding health perceptions of the product categories, crackers were perceived as neutral in healthiness ($M=3.35$, $SD=0.82$) in comparison to cookies that were perceived as unhealthy ($M=2.08$, $SD=0.86$), $t(41) = 7.49$,

$p < .001$. For causes, the American Heart Association ($M=3.60$, $SD=0.66$) and American Red Cross ($M=3.44$, $SD = 0.88$) were perceived as health-oriented, and the World Wildlife Fund ($M=1.45$, $SD=1.07$) and Goodwill ($M=1.60$, $SD=0.87$) were not perceived as health-oriented. A planned comparison reveals a significant difference between the two health-oriented causes and the two non-health-oriented causes, $t(41) = 21.08$, $p < .001$. Paired sample t-tests indicated that participants have higher overall attitude toward the American Red Cross ($M = 7.88$, $SD = 1.09$) than Goodwill ($M = 6.90$, $SD = 1.83$), $t(41) = -3.54$, $p = .001$, and the World Wildlife Fund ($M = 7.19$, $SD = 1.37$), $t(41) = -4.01$, $p < .001$. However, there are no significant differences in overall attitude between the American Heart Association ($M = 7.29$, $SD = 1.49$) and Goodwill, $t(41) = -1.55$, $p = .129$, the American Heart Association and the World Wildlife Fund, $t(41) = -0.40$, $p = .694$, nor between Goodwill and the World Wildlife Fund, $t(41) = -0.95$, $p = .346$. Given the similarity in overall attitude, the American Heart Association will be used as the primary health-oriented charity in the studies to follow when comparing to Goodwill and the World Wildlife Fund.

Discussion

From this pretest we learned that American Heart Association (AHA) produces *health* as a free associate when partnered with several product categories. It is expected that AHA primes the health node in memory, and that this may influence evaluation of product attributes. Similarly, the World Wildlife Fund produces *animals* as the top free associate that, when serving as a collateral communication prime, will likely influence

product evaluations. Findings also suggest that the activated associates may be difficult to predict. For example, *cheap* was either the first or second most frequent associate for Goodwill across all partnered product categories. Additionally, top free associates for three product categories (cookies, crackers, t-shirts) included *smelly* when partnered with Goodwill.

Study 1a: Cookies, Collateral Communication Primes, and Consumer Perceptions

From the pretest, the product category of cookies is used in study 1a to examine whether cause partner information produces collateral communication prime effects (e.g., heightened product health perceptions as a result of the presence of the cause) in an experimental setting. Also explored is the influence of individual difference variables, health interest and health knowledge, on such collateral communication prime effects.

Method

Participants and Design. One hundred and nine undergraduate business students participated in this study in exchange for course credit (average age = 21.4, 39% female). Participants were randomly assigned to one of three conditions: (1) no cause on package, (2) health cause on package (American Heart Association), or (3) non-health cause on package (Goodwill).

Materials and Procedure. The pre-test verified a significant difference in perceived health between the healthy American Heart Association and the non-healthy Goodwill but no significant differences in overall attitude between charities. The number of words on package stimuli was kept consistent across conditions to maintain similarity in cognitive load. Both cause collateral primes consisted of an offer to contribute to the charity, dependent on purchase, and displayed the cause logo and name. See figure 3.1 for package stimuli design.

Previously validated scales were used to test all constructs and included: Keller et al.'s (1997) Health Perceptions Scale (original $\alpha=.93$, study $\alpha=.89$) to measure product outcome perceptions, Chandon and Wansink's (2007) Health Interest Scale (original $\alpha=.85$, study $\alpha=.90$) to measure consumer interest, and Schuldt, Muller, and Schwarz's (2012) health knowledge scale (additive dichotomous questions) to measure outcome-relevant knowledge.

Results

Hierarchical linear regression was used to test whether cause condition, health interest, and health knowledge significantly predicted health perceptions. Cause condition was formed into two dummy codes (health cause vs. control and non-health cause vs. control). While cause condition significantly predicted health perceptions, $F(2, 106) = 11.32, p < .001, r^2 = .18$, neither health interest, $F\Delta(1, 105) = 1.92, p = .169, r^2\Delta = .02$, nor health knowledge, $F\Delta(1, 104) = 0.74, p = .390, r^2\Delta = .01$, significantly contributed to the

model. All interaction effects between health interest, health knowledge, and cause condition were also not significant, $F\Delta(6, 98) = 0.64, p = .696, r^2\Delta = .03$.

Respondents seeing a collateral health cause communication on the package rated the product as significantly healthier ($M=3.87, SD=1.38$) than those seeing a non-health cause ($M=2.98, SD=1.26$) and no cause at all ($M=2.73, SD=1.19$). Thus, the health cause significantly increased health perceptions beyond the control condition, $t(106) = 4.62, p < .001$, but the non-health-oriented cause does not significantly increase health perceptions beyond the control condition, $t(106) = 1.32, p = .190$. Therefore, collateral communication prime effects are greatest when there is high similarity between the orienting nature of the prime (in this case, the health cause) and the evaluative orientation (in this case, health perceptions). Qualitative responses indicated no cohesive reasoning for these effects. When asked in debriefing why the charity was on the package (in every condition except the control), some participants thought the brand was merely doing a good act for the charity, others perceived it as a pure manipulative act of advertising, some thought it as an endorsement by the charity, while others thought the charity was producing the product. In other words, the American Heart Association primes *health* in the consumer's mind subconsciously that then influences the consumers' inference making of product healthiness, although the nature of these inferences varies.

Discussion

The results of study 1a show that adding collateral communication (in this case,

Figure 3.1. Example Mock Package Stimuli (Variants Used in Studies 1a, 1b, and 2)



Non-Health Cause Condition



Health Cause Condition



No Cause/Control Condition

Note: Package size decreased from size displayed to study participants to fit stimuli from all three conditions on one page.

health cause partner information) to a product's package increases health perceptions and acts as a collateral communication prime. Neither health knowledge (i.e., outcome-relevant knowledge) nor health interest significantly moderate the relationship between cause presence and collateral communication prime effects, thus not supporting hypothesis 2a or 2b and suggesting that collateral communication prime effects are persistent across these individual difference variables for the stimuli used in this study. However, while health interest appears to have adequate variance ($M = 4.81, SD = 1.44$), health knowledge may have restricted variance ($M = 4.84, SD = .83$). Beier and Ackerman (2003) suggest that cognitive ability has the greatest influence on health knowledge, which would suggest that college students who are generally high in cognitive ability would have less variance in health knowledge. This study was limited to prime-related perceptions (i.e., health perceptions) but did not explore other possible outcomes of collateral primes (e.g., overall attitude, purchase intentions).

Study 1b: Crackers, Collateral Primes and Attitudes and Intentions

Cause-related marketing can positively affect brand image because the cause can cultivate consumer beliefs that the brand is supporting worthwhile things, and thus the consumer should support the brand (Varadarajan and Menon 1988). Nan and Heo (2007) even find that cause-related marketing initiatives increase consumer attitudes toward a company regardless of brand-cause fit. Aaker, Vohs, and Mogilner (2010) suggest that cause-related marketing is effective at increasing overall attitude because the warmth associated with a cause is partnered with the competence associated with a brand (causes

are often associated with low competence while brands are associated with low warmth) leading to positive effects on overall attitude and purchase intentions for both the brand and cause. Thus:

H3: Collateral communication primes involving cause-related marketing increase overall attitude toward a product (H3a) and purchase intentions (H3b).

Study 1b investigates these additional collateral communication prime outcomes with a wider variety of cause categories (health, environmental, and social). A different product category, a cracker package, confirmed from the pre-test as neutral in healthiness in comparison to the relatively unhealthy cookies from study 1a, is used to generalize prior findings as well as determine the influence of cause-related marketing initiatives on overall product attitudes (hypothesis 3a) and purchase intentions (hypothesis 3b). We use a neutral healthiness product in this study to show the robustness of collateral communication prime effects. There was more room for movement in health perceptions for cookies due to collateral priming from low to high healthiness (study 1a) in comparison to the more subtle change possible for crackers, from moderate to high healthiness (study 1b).

Methods

Participants and Design. One hundred and forty undergraduate business students participated in this study in exchange for course credit (average age = 21.8, 49% female). Participants were randomly assigned to one of four conditions: (1) no cause on package, (2) health cause on package (American Heart Association), (3) environmental cause on

package (World Wildlife Fund), or (4) social cause on package (Goodwill).

Materials and Procedure. The same scale for health perceptions from study 1a is used again (study $\alpha=.86$). To measure purchase intentions, Keller and colleague's (1997) Purchase Intentions Scale is used (original $\alpha=.89$, study $\alpha=.83$), and to measure overall attitude, Keller and colleague's (1997) Overall Product Attitude Scale is used (original $\alpha=.89$, study $\alpha=.96$).

Results

Results from a MANOVA revealed that cause condition significantly predicted product evaluations (health perceptions, overall attitude, purchase intentions), $F(9, 326) = 1.94, p = .046$, Wilk's $\Lambda = 0.88$. Between subjects tests showed that cause condition significantly predicted health perceptions, $F(3, 136) = 2.99, p = .033$. Planned contrasts showed that addition of a collateral health cause communication on a product package significantly increased health perceptions in comparison to a control ($p = .021$). Although mean differences showed an increase in health perceptions for the environmental cause and a decrease in health perceptions for the social cause, neither the environmental ($p = .454$), nor social cause conditions ($p = .732$) were significantly different from the control; see table 3.1 for descriptive statistics. These findings suggest that a cause must be health-oriented to inflate health perceptions.

For overall attitude, the full model was not significant at the .05 level, $F(3, 136) = 2.53, p = .060$. Planned contrasts showed that both the American Heart

Table 3.1. Means and Standard Deviations by Cause Type (Study 1b)

	Health Perceptions	Overall Attitude	Purchase Intentions
<i>Control</i>	3.14 (1.31)	3.49 (1.26)	3.13 (1.08)
<i>Health cause</i>	3.79 (1.39)	4.40 (1.46)	3.94 (1.28)
<i>Environmental cause</i>	3.36 (0.94)	4.22 (1.72)	3.82 (1.37)
<i>Social cause</i>	3.04 (1.02)	3.94 (1.44)	3.73 (1.08)

Note: Standard deviations are in parentheses. Health cause = American Heart Association, Environmental cause = World Wildlife Fund, and Social cause = Goodwill.

Association ($p = .010$) and World Wildlife Fund ($p = .050$) increased attitudes in comparison to the control, which might be expected because consumers appreciate companies donating to causes. The social cause, Goodwill, however did not increase overall attitude ($p = .223$), which is the main contributor to non-significance of the full model. Although the pre-test showed no significant difference in overall attitude toward Goodwill and the American Heart Association, mean values showed Goodwill as having lower overall attitude, which could play out more when attaching to packaging, thereby obscuring results. For purchase intentions, addition of any cause on a package significantly increased purchase intentions, $F(3, 136) = 3.07, p = .030$. Planned contrasts revealed that Goodwill ($p = .044$), the American Heart Association ($p = .005$), and the World Wildlife Fund ($p = .025$) all increased purchase intentions.

Discussion

Results from a MANOVA reveal that cause condition significantly influences product evaluations. Similar to study 1a, addition of a health cause (i.e., not a social or environmental cause) on a package acts as a collateral communication prime and

increases health perceptions of the product, thereby supporting hypothesis 1. Thus, across food types, less healthy cookies in study 1a and neutral healthiness crackers in study 1b, collateral communication prime effects occur. Also, as expected, addition of cause information to food packaging increases both overall attitudes and purchase intentions, regardless of cause type, thus supporting hypothesis 3.

One question that these findings raise is the public policy implications of these collateral communications. If the beneficial cause relationships are to be retained but miscommunication reduced, what approach might be used? The next section explores the possibility of utilizing disclaimers to achieve clear communication by countering collateral priming effects.

Study 2: Limiting Collateral Communication Primes

Collateral Communication Primes, Processing, and Disclaimers

Disclaimers may be an effective way to reduce misleading collateral communication prime effects. Disclaimers draw and direct attention, which can lead to greater processing, more thoughtful analysis, and, as a result, decrease the influence of heuristic-based priming cues. In a review of dual processing models, Evans (2008) finds that all models depict two consumer processing systems—one that is automatic and often based on heuristics (also known as system one) and another that is systematic and deliberate (also known as system two). Kahneman (2003) highlights that there are many situations when the automatic, system one processing is not appropriate, and instead, the

more deliberate system two processing must take over. For example, system one processing is more appropriate for natural assessments and quick product decisions while system two is used more for judgments, such as those judgments that consumers make when evaluating a disclaimer.

In the context of health, use of a disclaimer has been shown to reduce prime effects as well as heighten perceptions of disease risk (Andrews, Netemeyer, and Burton 2009). However, in a review by Green and Armstrong (2012), 15 out of 18 studies showed that mandatory disclaimers increase consumer confusion and are ineffective or harmful to the brand (e.g., decreasing overall attitude or purchase intentions toward the product or brand). These authors cite poor disclaimer wording and consumer reactance to disclaimers as two reasons for the failure of mandatory disclaimers. Yet, in confusing situations (perhaps if one is questioning why a collateral cause message is on a package), disclaimers may, if worded simply, reduce overall confusion and help consumers make more accurate decisions. The trajectory of this influence of disclaimers is difficult to track. When consumers are provided information to help understand a collateral claim, trust is increased (if the claim is authentic) or decreased (if the claim is deceptive) (Garretson and Burton 2000). Product-centric information that is mandated results in consumer trust that the information is authentic, thereby leading to little influence of disclaimers. Thus, disclaimers should provide the greatest influence on non-mandated collateral information where deception is likely to occur. In the case of sponsorship primes, Campbell, Mohr, and Verlegh (2013) find that disclaimers evoke consumers' persuasion knowledge, helping consumers reevaluate the authenticity of collateral

information. Therefore, we expect that disclaimers will cue consumers to evaluate collateral claims and, in doing so, limit priming effects. Thus:

H4: Addition of a disclaimer to a package with a collateral communication prime will reduce collateral prime effects (H4a), decrease overall attitude toward the product (H4b), and decrease purchase intentions (H4c).

Further Exploration of Individual Difference Variables

Although health interest and health knowledge (i.e., outcome-relevant knowledge) did not influence collateral communication prime effects, it is possible that other individual characteristics may. Wansink and Chandon (2006) found that overweight consumers (i.e., $BMI \geq 25$) were significantly more likely than normal weight consumers to be influenced by primes (relating to food products) resulting in increased consumption. Soetens and Braet (2007) found that overweight consumers engage in more elaborate processing with food-related cues than other cues. Similarly, Wansink and Chandon (2006) found that overweight consumers are more influenced by food-related primes because of a need to reduce post-consumption guilt, and health claims help to reduce this guilt. In other words, overweight consumers engage in more processing to rationalize food decisions in an effort to maintain satisfaction with the self. The National Institutes of Health classify consumers with a body mass index (BMI), a relation between height and weight, greater than or equal to 25 as overweight (National Institutes of Health 2013). Observing consumers' weight as a moderator in research involving health or food

consumption has been cited an important future research consideration (Provencher, Polivy, and Herman 2009). Thus:

H5: Consumers' BMI moderates the relationship between communication primes and product evaluations (e.g., health perceptions) whereby overweight consumers ($BMI \geq 25$) are more likely to be influenced by communication primes than normal weight consumers ($BMI < 25$).

Study 2 seeks to identify the role of additional information in marketing communications on processing and collateral prime effects by testing the influence of a disclaimer on the product package on health perceptions (hypothesis 4a), overall attitude toward the product (hypothesis 4b), and purchase intentions (hypothesis 4c). In addition, study 2 continues to examine individual difference variables influencing communication prime effects. Respondents' height and weight are collected to identify differences in communication prime effects between normal weight and overweight consumers (hypothesis 5).

Method

Participants and Design. One hundred and seven undergraduate business students participated in this study in exchange for course credit (average age = 21.8, 48% female). Participants were randomly assigned to one of three conditions: (1) no cause on package, (2) health cause on package (World Health Organization), or (3) health cause on package with disclaimer.

Materials and Procedure. The disclaimer was worded: “* This is not an endorsement by the World Health Organization.” An additional pre-test (student sample, N=146) verified that the World Health Organization is perceived as a health-oriented organization ($M=3.35$, $SD=0.83$, scale from 1: *extremely not-health-oriented* to 4: *extremely health-oriented*). Package stimuli were identical to study 1b except with a different cause (to further generalize results) and a disclaimer condition. The cause and disclaimer conditions featured the World Health Organization name and blue logo over a globe. The same scales for health perceptions (study $\alpha=.86$), purchase intentions (study $\alpha=.80$), and overall attitude (study $\alpha=.95$) as used in the prior studies were used in this study.

Results

Respondents were classified as normal weight ($BMI < 25$) or overweight ($BMI \geq 25$) based on the National Institute of Health’s BMI classifications (National Institutes of Health 2013). Findings from a MANOVA revealed that cause condition significantly influenced combined product evaluations (health perceptions, overall attitude, purchase intentions), $F(6, 196) = 4.95$, $p < .001$, Wilk’s $\Lambda = 0.75$, however, neither BMI, $F(3, 98) = 1.32$, $p = .272$, Wilk’s $\Lambda = 0.96$, nor the interaction between BMI and cause condition, $F(6, 196) = 0.35$, $p = .904$, Wilk’s $\Lambda = 0.98$, significantly influenced product evaluations. Neither consumer liking of crackers nor frequency of consumption of crackers significantly influenced product evaluations and therefore were not included in the model.

Between subjects tests further examined the effect of cause condition and BMI on health perceptions, overall attitude, and purchase intentions. Overweight consumers were not significantly (at the .05 level) more likely to perceive products as healthier than normal weight consumers, $F(1, 100) = 3.91, p = .051$. Also, there was not a significant interaction between condition and consumer weight for health perceptions, $F(2, 100) = 0.46, p = .632$, mean differences between the health cause and no cause conditions suggested that overweight consumers ($M_{\text{difference}} = 1.55$) were more likely to experience collateral prime effects than normal weight consumers ($M_{\text{difference}} = 1.01$); see table 3.2 for means and standard deviations. In other words, a collateral communication prime with a health-orientation increased health perceptions by 55.8% for overweight consumers but only 38.4% for normal weight consumers.

Similar to studies 1a and 1b, the collateral communication prime (i.e., cause condition) influenced health perceptions, $F(2, 100) = 9.56, p < .001$. Planned contrasts showed that a package with a collateral health cause was perceived as significantly healthier than a package with no cause ($p < .001$). However, packages with both a health cause and disclaimer resulted in health perceptions that were significantly less than a package with a health cause and no disclaimer ($p = .048$). Open-ended responses suggested greater processing and elaboration in the disclaimer condition through longer and more detailed responses. In response to the question, "Why do you think the World Health Organization is on this package of crackers?," word count analysis showed a difference in mean values, although not significant at the .05 level, between the disclaimer condition ($M = 15.78$ words) and the health cause condition ($M = 11.09$ words), $t(70) = 1.97, p = .053$. These results provide support for the

theoretical thinking that disclaimers increased processing, thus leading to decreased collateral communication prime effects.

Table 3.2. Means and Standard Deviations by Cause Type and Weight Classification (Study 2)

	Weight	Health Perceptions	Overall Attitude	Purchase Intentions
Control	<i>Normal</i>	2.63 (1.03)	4.08 (1.33)	3.29 (1.50)
	<i>Over</i>	2.78 (1.04)	3.74 (1.58)	3.22 (1.47)
	<i>Combined</i>	2.67 (1.02)	3.99 (1.38)	3.28 (1.47)
Health cause	<i>Normal</i>	3.64 (1.15)	4.27 (1.69)	4.26 (1.22)
	<i>Over</i>	4.33 (1.26)	4.31 (1.25)	4.33 (0.92)
	<i>Combined</i>	3.88 (1.22)	4.28 (1.53)	4.28 (1.11)
Health cause + Disclaimer	<i>Normal</i>	3.14 (0.95)	4.47 (1.00)	3.74 (1.13)
	<i>Over</i>	3.70 (1.43)	4.97 (1.26)	4.12 (1.33)
	<i>Combined</i>	3.31 (1.12)	4.62 (1.09)	3.86 (1.19)

Note: Standard deviations are in parentheses. Health cause = World Health Organization. According to NIH classification, consumers with a BMI of less than 25 are classified as normal weight, and consumers with a BMI of 25 or greater are classified as overweight. Combined weight represents cause condition effects collapsed across weight category.

While disclaimers increased processing and decreased inflated health perceptions (i.e., collateral communication prime effects), of benefit to marketers is to know that disclaimers did not negatively influence attitude toward the product nor decrease purchase intentions. Planned contrasts revealed that there was no significant difference in overall product attitude between the health cause and disclaimer conditions ($p = .210$). In fact, mean differences even showed that overall product attitudes increased with the addition of a disclaimer. Across all cause conditions, between subjects tests showed that cause condition did not significantly influence overall attitude at the .05 level, $F(2, 100) = 2.62, p = .078$. With regards to other product evaluations, cause condition significantly predicted purchase intentions, $F(2, 100) = 4.80, p = .010$. Planned contrasts revealed that

consumers had significantly higher purchase intentions for a package with a health cause than a package without a health cause ($p = .003$). Adding a disclaimer to a package with a health cause did not significantly reduce purchase intentions in comparison to a package with a health cause and no disclaimer ($p = .267$). Similar to health perceptions, between subjects tests showed that neither BMI nor the interaction between BMI and cause condition significantly influenced overall attitude or purchase intentions.

Discussion

The results of study 2 replicated the results of studies 1a and 1b by showing that addition of cause partner information to product packaging acts as a collateral communication prime and increases health perceptions, thus supporting hypothesis 1. No significant difference exists between normal weight and overweight consumers, thus not supporting hypothesis 5, although mean differences do show that overweight consumers are generally more influenced by communication primes. In addition to the prior findings that health interest and health knowledge do not influence communication prime effects, this non-significant finding of BMI provides mounting support for the pervasiveness of collateral communication prime effects across different consumers. These conflicting findings may, however, be due to somewhat more constrained variance in the student samples here. For instance, while the variance in Wansink and Chandon's (2006) consumer sample was not reported, the mean BMI in their work was 25.1 whereas the mean here is 24.1.

Importantly, addition of a disclaimer significantly reduces collateral communication prime effects (in this case, measured through changes in health perceptions between cause and no cause conditions), thus supporting hypothesis 4a. Adding a disclaimer contributes to increased consumer processing which then reduces the influence of collateral communication primes as consumers are elaborating on communication material rather than heuristically processing prime cues. It may also be that adding a disclaimer gives confidence to the consumer regarding the trustworthiness of the marketer. These findings offer a beneficial contribution to marketing practitioners and public policy makers.

Contrary to what could be expected given past findings, individual difference variables such as health interest, health knowledge (i.e., outcome-relevant knowledge) and BMI appear to play a limited role in the way in which collateral communication primes influence product beliefs. In addition, our prior studies showed that health interest and knowledge had adequate variance so a question arises—when consumers are involved and especially knowledgeable about a product, when are these background characteristics employed? In other words, what causes a consumer to bring their orientation or understanding to bear in attitude formation and decision-making?

Study 3: Antecedents to Collateral Communication Primes, Theory of Mind, and Advertising Skepticism

Antecedents to Collateral Communication Primes

Up to this point, this research has explored consumer outcomes to collateral communication prime effects (e.g., health perceptions, overall attitude, purchase intentions), as well as possible moderators (e.g., interest, outcome-relevant knowledge, BMI). To provide a more holistic understanding of the processing of collateral communication primes, we now explore the antecedents to such priming effects. If variation in prime outcomes does not stem from interest, knowledge or characteristics such as BMI, what are other sources of variation?

As other sources of variation, we investigate a consumer's level of skepticism and ability to understand the intentions of others. Obermiller and Spangenberg (1998, 160), the developers of one of the most used advertising skepticism scales (the SKEP scale), define advertising skepticism as "disbelief of advertising claims" and describe this as an individual difference variable. These authors add that highly skeptical consumers may be more likely to doubt advertising claims while consumers low in skepticism should be more likely to trust advertising claims. With application to the context of health, Keller and colleagues (1997) found that perceptions of healthiness decreased as claim skepticism increased. It would be expected that consumers high in advertising skepticism would be more likely to process and elaborate on collateral communication primes,

thereby leading to reduced prime effects in comparison to consumers low in advertising skepticism. Thus:

H6: Collateral communication primes will be less effective for consumers high in advertising skepticism than consumers low in advertising skepticism.

While advertising skepticism may explain a general tendency that influences communication prime effects, what is it that cues skepticism? When collateral communications are presented contemporaneously with product information, there are multiple perspectives being presented—that of the brand and in the case here, that of the cause. It is possible that a consumer's perspective taking abilities influence their advertising skepticism which in turn is related to the influence of collateral communication prime effects. Kinderman, Dunbar, and Bentall (1998) describe theory of mind as the ability to take another person's perspective. In marketing research, theory of mind has been discussed as a highly influential metatheory because it describes the human ability "to recognize that another's intentions or desires may differ from one's own" (Craig et al. 2012, 362). This is readily exemplified in the young child who does not have a fully developed theory of mind. When asked: "What does Mom want for her birthday?" this child may say a doll. The child with a more developed theory of mind might respond, "Mom wants some perfume." Taking other's intentions into mind is key in understanding persuasion attempts.

The concept of theory of mind originated in the 1970's from research on chimpanzees to determine whether primates could determine the intentions of humans with initial results showing that primates had at least minimal theory of mind capabilities (Premack and Woodruff 1978). Theory of mind in humans has its roots in understanding

human socialization. In other words, socially adept humans are able to understand the intentions of others leading to predictability of others' actions, emotions, and reasoning behind behaviors.

Used often in the psychology literature, and especially with children's decision making, theory of mind is also explanatory in adult decision making (Liddle and Nettle 2006). Applied to the current context, a person's theory of mind can help them understand the perspective of an organization or multiple organizations. In other words, it may help consumers to understand or to question why a brand is adding a cause or other collateral communication to product packaging. Theory of mind is correlated with executive functioning among many other traits, such as creativity, moral reasoning, and social abilities (Carlson, Moses, and Claxton 2004; Repacholi and Slaughter 2003), suggesting that consumers high in theory of mind may also have cognitive abilities that are used in product evaluation.

Theory of mind provides the reasoning for differences in social attribution. Kinderman and colleagues (1998) explain that under-developed theory of mind constrains an individual's ability to develop mental representations of attribution situations. For example, a person that is limited in his or her ability to understand the intentions of others will not be able to logically simulate the other individual's intentions in a situation. Due to this simulation inability, attributions are difficult to create. Attribution theory from psychology explains that attributions are formed from both internal attributions (e.g., a person's personality) as well as external attributions (e.g., environmental factors) (Buss 1978). Theory of mind relates to attribution theory, in that low theory of mind individuals are less capable of accurately developing these internal and external attributions.

Prior research in psychology suggests that theory of mind and memory capacity are distinct and uncorrelated (Paal and Berezkei 2007). In other words, regardless of a consumer's short-term memory abilities, theory of mind will influence perspective taking and thereby, we argue, perceptions of a brand's actions, such as collateral communication primes. People high in theory of mind are better able to understand the intentions of others (Paal and Berezkei 2007), including marketers. Therefore, high theory of mind consumers should question the intent of others and lower the likelihood of experiencing collateral communication prime effects.

H7: Theory of mind leads to advertising skepticism that in turn influences collateral communication priming, whereby consumers high in theory of mind have higher advertising skepticism and are less likely to experience prime effects in comparison to consumers low in theory of mind.

To increase the generalizability of these results and to increase external validity, study 3 uses actual packaging with collateral communications that may function as primes. Consumers' theory of mind and level of advertising skepticism are assessed to test the theoretical argument that these are antecedents to collateral communication prime effects, and more generally, to provide a holistic understanding of both the antecedents and consumer outcomes of collateral communication primes.

Methods

Participants and Design. One hundred and eighty-seven undergraduate business students participated in this study in exchange for course credit (average age = 22.1, 42%

female). This study featured a 3 (cause: none, health cause, health cause with disclaimer) x 2 [prior brand attitude: high (Keebler cookies), low (KFC chicken)] between subjects design.

Materials and Procedure. In contrast to prior studies, actual packaging was used for this study to show that collateral communication prime effects occur above and beyond prior brand knowledge and experiences; see figure 3.2 for stimuli. A pre-test (college student sample, N=40) verified that Keebler had high (positive) brand attitude ($M = 4.80$, $SD = 1.74$) while KFC had low (negative) brand attitude ($M = 3.95$, $SD = 2.43$), and these were significantly different from one another, $t(39) = -2.68$, $p = .011$.

To measure theory of mind, participants completed the scenario-based Imposing Memory Task developed by Kinderman, Dunbar, and Bentall (1998). While there are a host of theory of mind measures, many are criticized for having ceiling effects where participants perform nearly perfectly (c.f., Dodell-Feder et al. 2013). Given the greater complexity of the Imposing Memory Task, especially for advanced theory of mind questions, ceiling effects are reduced for this measure (Nettle and Liddle 2008). In each scenario at least two characters are described performing various tasks (e.g., going to the post office). Following each scenario, a series of questions are asked to assess both knowledge of facts (e.g., “Sam went to the post office to buy a stamp”) and theory of mind understanding (e.g., “Sam thought Henry knew the post office was on Bold street”). Factual questions were used here to eliminate respondents that did not thoroughly read the passage and therefore would skew theory of mind results. Less than 5% of

participants answered less than 70% of the memory questions incorrectly. Following the procedure by Kinderman, Dunbar, and Bentall (1998), t-tests were conducted between the low memory and high memory groups on all dependent variables. There were no significant results, and therefore all participants were included in the analysis.

Figure 3.2. Example Actual Brand Packaging Stimuli (Used in Study 3)

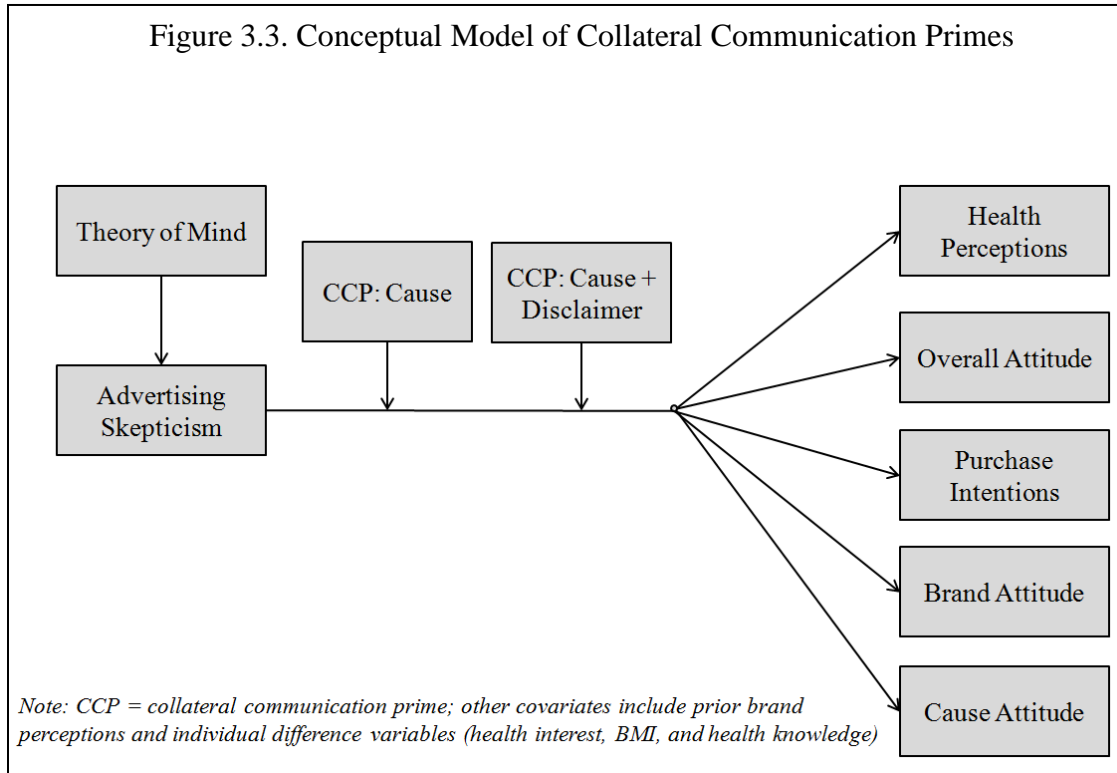


Theory of mind questions assessed whether participants were able to discern the difference between what they (as the reader of the passage) knew in comparison to what

the characters in the passages knew. Following the post office example, the scenario text included: "Henry had initially told Sam the post office was on Elm street. Sam went to Elm street only to learn that the post office was on Bold street." The reader knows that the post office is on Bold street; however, Henry does not. Thus, a high theory of mind respondent would realize this difference and state that Sam actually thought that Henry knew the post office was on Elm street. The theory of mind scale was developed by giving one point to each correct theory of mind response (*Max Possible* = 11, *Sample Range* = 4-11, *Mean* = 8.82, *SD* = 1.33). Similarly, a memory scale was developed by giving one point to each correct factual response (*Max Possible* = 14, *Sample Range* = 4-14, *Mean* = 12.72, *SD* = 1.55). A reduced three-scenario version of the full five scenario Imposing Memory Task was used, as has been used in prior research (Taylor and Kinderman 2002). A pre-test (college student sample, N=18) showed a strong positive correlation between the shortened and full measures, $r = .827, p < .001$.

In addition, participants completed the advertising skepticism scale (original $\alpha = .86$, study $\alpha = .87$) developed by Obermiller and Spangenberg (1998). The same scales as used in prior studies were again used in study 3 to measure health perceptions (study $\alpha = .88$), overall product attitude (study $\alpha = .98$), and purchase intentions (study $\alpha = .79$). Two three-item scales developed by Lafferty and Goldsmith (2005) were used to assess how collateral communication primes influenced brand and cause perceptions. The brand (cause) scale asked: "Is your attitude toward the brand (cause)... (1) good/bad, (2) positive/negative, and (3) favorable/unfavorable?" with all questions measured on seven-point Likert-like scales (brand study $\alpha = .99$; cause study $\alpha = .99$). For the control condition, the cause attitude questions were asked at the end of the study and masked as a

separate study. See figure 3.3 for a conceptual model of antecedents to and collateral communication primes effects on outcomes.



Results

A series of conditional process analyses were conducted examining the relationship between theory of mind and product evaluations. In each model there was one mediator (advertising skepticism), two moderators representing dummy codes for the cause only and disclaimer conditions, and four covariates (brand reputation, health interest, health knowledge, BMI). Five models were run for each of the five different dependent variables: (1) health perceptions, (2) overall attitude, (3) purchase intentions, (4) cause attitude, and (5) brand attitude. See table 3.3 for a summary of results.

Table 3.3. Regression-Based Bootstrapping Results (Study 3)

		Health Perceptions	Overall Attitude	Purchase Intentions	Cause Attitude	Brand Attitude
Direct paths						
	TOM-Adskep (path a)	0.0758	0.0758	0.0758	0.0758	0.0758
	Adskep-DV (path b)	-0.422	0.1292	-0.0654	0.5384	0.0359
TOM-DV (path c')	Effect	-0.0326	0.0731	0.0283	0.2789	0.031
	p value	0.6286	0.4034	0.691	0.0125	0.8026
Indirect effect of collateral communication prime (ab)						
No cause	Effect	-0.032	0.0098	-0.005	0.0408	0.0027
	CI	-.1068 to .0045	-.0272 to .0795	-.0611 to .0342	-.0003 to .1405	-.0790 to .0942
Cause only	Effect	-0.0682	-0.003	-0.0441	-0.002	-0.0072
	CI	-.1624 to -.0045	-.0768 to .0508	-.1344 to .0004	-.1082 to .0799	-.1098 to .0609
Cause + Disclaimer	Effect	-0.0523	-0.0544	-0.0353	-0.0355	-0.1097
	CI	-.1401 to -.0033	-.1588 to -.0035	-.1111 to .0020	-.1437 to .0089	-.2740 to -.0104
Covariates						
	Brand Reputation	0.4947**	0.5633*	0.2314	.9082**	1.445***
	Health Interest	-0.2325**	-0.0109	-0.0515	.3766**	-0.0754
	Health Knowledge	-0.1118	-0.0845	-0.0523	0.1281	-0.1775
	BMI	-0.5628**	-0.2314	-0.3165	-0.0165	0.1035

Note: * ($p < .05$), ** ($p < .01$), *** ($p < .001$)

The moderated mediation conditional process analyses were run using Preacher and Hayes' (2008) macro for SPSS with 10,000 bootstrapped samples and bias-corrected confidence intervals. As the results in table 3.3 show, advertising skepticism significantly mediated the relationship between theory of mind and collateral communication prime effects, although only in conditions with either a cause or cause and disclaimer but not in the no cause condition. In other words, theory of mind and advertising skepticism need something to activate their use, which is the collateral communication prime. In the case of health perceptions, higher theory of mind led to higher levels of advertising skepticism, which then led to lower health perceptions for both the cause and cause/disclaimer conditions.

Individual difference variables in this study had a main effect on product evaluations, although they did not interact with the collateral communication prime to influence product evaluations. For example, consumers high in health interest or classified as overweight with BMI (≥ 25) perceived lower health perceptions across all conditions. Health knowledge had no effect on product evaluations. Similarly, for the covariate of brand reputation, higher brand reputation led to greater health perceptions, overall attitude, cause attitude, and brand attitude, but this effect was also consistent across conditions.

Simple effects tests showed, similar to prior studies, that adding a cause to a product package acts as a collateral communication prime to significantly influence health perceptions ($p < .001$) in comparison to a package with no prime. Similarly, there was no significant difference in health perceptions between a package with no collateral

communication prime and a package with a collateral communication prime and disclaimer ($p = .470$).

Discussion

As expected, theory of mind leads to advertising skepticism that influences collateral communication prime effects (in this study, measured by health perceptions). This means that consumers more capable of understanding the intentions of others, and in turn with higher levels of skepticism toward advertising (i.e., questioning the intent of marketer's practices), tend to be uninfluenced by collateral primes, thereby supporting hypotheses 6 and 7. Consumers lower in theory of mind, on the other hand, have higher levels of trust in advertising leading to a much greater likelihood of collateral communication prime effects. Thus, the variation in experiencing collateral communication prime effects can be explained in part by differences in theory of mind and related tendencies toward skepticism.

These findings also replicate the results from studies 1a, 1b, and 2 where a health cause significantly increases health perceptions and a disclaimer significantly reduces these health perceptions, thereby supporting hypothesis 1 and hypothesis 4a. Also similar to prior studies, these effects are pervasive across individual difference variables. Although the results from this study show for the first time in this series, that consumer interest can have a main effect on product evaluations, this effect does not interact with the collateral communication prime. In other words, health perceptions are heightened for all consumers that are high in health interest, likely a result of using actual product

stimuli. Regardless of level of health interest, collateral communication prime effects still occur.

Additionally, the results of this study extend the generalizability of the findings by showing that collateral communication prime effects occur for both mock stimuli (studies 1a, 1b, and 2) and for actual brand stimuli (study 3). Because theory of mind plays such a preeminent role in understanding collateral communication prime effects, future research examining any aspect of such prime effects (e.g., color primes, visual primes, contextual primes, etc.) needs to explore the role of theory of mind.

General Discussion

This research examined the antecedents to, consumer outcomes of, and limits to collateral communication priming. Findings revealed that theory of mind and advertising skepticism are antecedents influencing collateral communication prime effects, which then significantly influence a variety of consumer outcomes (including health perceptions, overall attitudes, and purchase intentions). Additionally, the findings from this research show that disclaimers can be used to increase consumer processing thereby inhibiting the miscommunication potential of collateral communication primes but at the same time preserving attitudes toward the product and cause.

All three studies show that adding a cause to a package acts as a collateral communication prime by significantly increasing health perceptions of the package. Several individual difference variables are explored (health interest, health knowledge, BMI), none of which significantly influence prime effects, thereby suggesting the

pervasiveness of communication prime effects across individuals. In contrast, the more fundamental measure, theory of mind, is shown to be a significant determinant of collateral communication prime effects whereby low theory of mind consumers are much more influenced by collateral primes than high theory of mind consumers.

Importantly, theory of mind may be more than just a theoretical antecedent in the case of collateral communication primes; it may also be a key to understanding a consumer's ability to be deceived, persuaded, and manipulated. In each of these cases, theory of mind can contribute to a broader understanding of the antecedents of consumer behaviors across a variety of constructs.

With regards to the collateral communication prime orientation, findings revealed that there must be a high degree of similarity between the orienting nature of the prime and consumer evaluative orientation in order for collateral communication prime effects to occur. In other words, for a product where one might evaluate the healthfulness of an offering, a health cause may orient processing and influence perceptions whereas a social cause does not influence health perceptions.

The significant effects of collateral communication primes should raise interest and concern among consumers, marketers, and public policy makers alike. Of particular concern, specifically in the context of cause-related marketing, is when food brands partner with a health cause, subsequently utilizing the cause in their marketing program, and, in doing so, alter product perceptions. Although, the health cause will benefit from additional funding and this is a positive for society, if consumers perceive the food as healthier than it actually is, this can be detrimental. As in the case of Keebler's on-

package collateral communication prime of the American Red Cross, policy makers need to question the intention and outcomes of this widespread marketing practice.

In addition to the practical implications, this research contributes to the literature on priming, consumer processing, and cause-related marketing. Findings build on the initial priming paradigm (Meyers-Levy 1989) to show that collateral information can also act as a prime. Although this study examines cause marketing, these findings can also be applied to other collateral marketing cues such as information from sponsorship efforts, co-branding, or spokespeople. With regards to consumer processing, we find that disclaimers increase elaboration. Prior research suggested that overweight consumers should engage in more elaborative processing of food cues than normal weight consumers (Soetens and Braet 2007). Our differing findings may be due to more restricted variance of BMI in our student sample. Finally, our findings also contribute to the literature on cause-related marketing which before has shown the benefits of cause marketing at increasing attitudes and purchase intentions of brands (Aaker et al. 2010; Nan and Heo 2007; Varadarajan and Menon 1988). We show that cause-related marketing can have unintended consequences resulting in consumers making choices based on altered product perceptions.

This research is limited by the sole use of lab studies with student participants, which potentially limits variance of individual difference variables. Also, a single shortened theory of mind measure was utilized. Other limitations include measuring behavioral intentions rather than actual behavior and assessing purchase intentions outside of the context of competing products.

Future research in this area should examine collateral communication prime effects in other contexts besides cause-related marketing. Additionally, further examination of the relationship between disclaimers and processing would be beneficial to understanding when collateral communication prime effects will take precedence in a heuristics-based processing model or when consumers will rely on other types of processing or information in the environment. Also, examining other factors that could contribute to the theoretical underpinnings of priming effects, such as differences in working memory, would be beneficial. Further research should also investigate other outcomes of collateral communication prime effects. For example, collateral communication primes could actually decrease a consumer's total donation to a cause as consumers feel they have fulfilled their charitable giving needs by purchasing a product with a cause on it (Krishna 2011). Because much research has examined the consumer outcomes of collateral communication prime effects, future research would most benefit from understanding the limits to and antecedents of such prime effects.

Conclusion

This research distinguishes between product-centric information (e.g., company logo, nutrition facts, warning messages) and non-product centric information (e.g., package color, cobranding information, cause-related marketing cues), the latter of which we term a *collateral communication prime*. In marketing their products and services, companies regularly include collateral communications in advertising, on packaging, and on social media outlets. While our research focused on primes on packaging, recent

examples where collateral communication priming may influence product perceptions include United Airlines employees wearing pink ties in honor of Breast Cancer Awareness month, Coca Cola making posts on social media indicating their sponsorship of the 2014 Olympic games, and the Campbell's brand participating in the Labels for Education program. Our findings suggest that marketers and consumers alike need to be aware that any collateral information that accompanies product information could influence product evaluations, in intended or unintended ways. For example, the United Airline's pink ties may prime sadness or even thoughts of death, Coca Cola's sponsorship of the Olympics may prime perceptions of energy or health, or Campbell's Labels for Education campaign may prime school or thoughts of school lunches.

This research has explored the antecedents (theory of mind, advertising skepticism), limits (disclaimers and their role in increasing processing), and consumer outcomes (changed product evaluations) of collateral communication prime effects. We find that theory of mind is a critical antecedent to priming in these contexts where the communications of at least two actors are present at the same time. More broadly, this research identifies theory of mind as possibly important in any context where a consumer's ability to detect deception, persuasion, and manipulation is important. Not only are these findings relevant for theorists and policy makers but understanding the influence of collateral communication prime effects can help marketers create more effective products and aid consumers in making better decisions.

Connecting Essay 2 and Essay 3

Now that essay 2 has shown that theory of mind and advertising skepticism are important antecedents to consumer priming, essay 3 will expand on these antecedents to develop a more comprehensive model of the consumer priming rooted in two perspectives - individual priming mechanisms and social priming mechanisms. While branching out of the health context slightly, essay 3 still incorporates examination of health primes in studies 1 and 2 through including health perceptions as a dependent variable. Essay 3 also seeks to expand the contribution beyond just a health context and therefore uses the context of clothing for study 3; however, as discussed in essay 3, context can be a priming cue just as any other piece of marketer-supplied information.

CHAPTER IV

ESSAY 3:

MARKETER-SUPPLIED CUES AND PRIMING:

AN INVESTIGATION OF INDIVIDUAL AND SOCIAL MECHANISMS

Contribution Statement

Prior research has extensively examined the influence of marketer-supplied cues on consumer outcomes showing that cues (e.g., spokesfigures, environmental images) influence purchase intentions, overall attitude, and other product evaluations (Amos, Holmes, and Strutton 2008; Folse, Burton, and Netemeyer 2013; Kahle and Homer 1985; Spry, Pappu, and Cornwell 2011); however, much less research has investigated how marketer-supplied cues are incorporated into more holistic consumer information processing models. Therefore, this research first confirms prior findings that marketer-supplied cues influence consumer evaluations. We then proceed to compare two competing consumer processing models rooted in (1) individual priming mechanisms and (2) social priming mechanisms. In comparing these perspectives, this research contributes to the literature on socialization, priming, cues, and mental processing. Additionally, through evaluation of these two competing perspectives, our theoretical model of consumer processing incorporates two new constructs that have previously received little discussion in the marketing literature: working memory capacity (i.e., a component of intelligence indicating the amount of information a consumer can hold in short-term memory at any one time) and theory of mind (i.e., ability to understand the intentions of

others) to show that higher levels of both constructs (i.e., high working memory capacity or high theory of mind) lead to reduced product evaluations.

Introduction

Marketer-supplied cues are abundant in corporate communications (Fitzsimons et al. 2008; Janiszewski and Wyer 2014; Labroo et al. 2008). We define a *marketer-supplied cue* as any information provided by a marketer, targeted at any sense (e.g., visual, auditory), that has the potential to influence consumer perceptions, processing, and evaluations. These marketer-supplied cues can result in both advertent and inadvertent priming (Forehand and Deshpandé 2001; Kang and Herr 2006). For example, package color, symbols in marketing communications, cause partnerships, and spokesfigures are all marketer-supplied cues that can influence product evaluations, whether or not planned by the company. These marketer-supplied cues can interact with one another as well as with other non-marketer-supplied information, such as in contextual cueing (Chun and Jiang 1998) where the environment surrounding a product influences product evaluations. We argue that marketer-supplied cues may prime response patterns in predictable ways when based upon consumer traits.

While understanding when marketer-supplied cues can change consumer evaluations, such as when an argument is effective in changing cognition, is interesting and practically relevant; it is also important to understand when marketer-supplied cues function as primes and implicitly influence information processing. For example, a long marketing message provides explicit information to aid in evaluation of the product, but

the message length is also a cue that could implicitly prime evaluations (e.g., product complexity). Understanding how cues can act as implicit primes is important in understanding preferences and purchase behavior, as well as instances of miscomprehension, undue persuasive impact, or unexpected negative reactions.

It is important to acknowledge that our discussion of marketer-supplied cues and priming is distinguished from the elaboration likelihood model (ELM) (Petty and Cacioppo 1986). The ELM is a dual-process model describing that consumers process cues primarily through a heuristic-based peripheral route rather than an evaluative and cognitive central route, although this is being seen more as a continuum (Petty et al. 2008). Research on marketer-supplied cues, however, suggests that cues can prime consumers, thereby influencing evaluations in both the peripheral and the central routes. For example, under the ELM view, a celebrity spokesperson would be evaluated using the peripheral route, likely transferring celebrity attractiveness to positive evaluations of the product. In addition to priming in the peripheral route, marketer-supplied cues can also influence central route evaluations by implicitly priming concepts, such as persuasion attempts, leading a consumer to cognitively critique message text with a focus on the primed concepts (e.g., with an expectation of persuasion tactics). Posten, Ockenfels, and Mussweiler (2013) also support the difference between priming and the ELM in stating that priming “critically shapes how we see, interpret, and judge others’ behaviors in the reflective system [i.e., central route]” (p. 14). In other words, the ELM and our discussion of marketer-supplied cues are distinctly different because marketer-supplied cues can implicitly prime consumers and influence product evaluations in both the peripheral and central routes whereas the ELM suggests that cues are only used in the peripheral route.

Only limited research has examined how primes are incorporated into more holistic consumer information processing models. For example, Wright (2002) describes that judgment and decision making is rooted in either individual factors or social factors with consumption often being inherently social. Research has yet to fully investigate the role of such individual judgment mechanisms (e.g., fluid intelligence, working memory capacity) or social judgment mechanisms (e.g., theory of mind, psychological reactance) in priming research in marketing. Therefore, this research has three main contributions: (1) exploring how marketer-supplied cues with varying levels of manipulative abilities implicitly prime consumers, thereby influencing product evaluations, (2) developing theoretical models explaining consumer processing of marketer-supplied cues rooted in individual and social mechanisms, and (3) examining how activation and use of such theoretical models differ based on contextual cues (e.g., evaluation context).

Spokesfigures as Marketer-Supplied Cues

Although there are numerous types of marketer-supplied cues, one of the most flexible and most extensively utilized and studied is the spokesfigure. Estimates show celebrity spokesfigures (not including uncompensated spokescharacters or spokesanimals) as representing \$50 billion of marketing spending (Crutchfield 2010). Celebrity spokesfigures and other marketer-supplied cues have different potentials stemming from varying levels of heuristic cue activation, anthropomorphic qualities, and manipulative capabilities. For example, a celebrity spokesfigure is more manipulative

than an unknown spokescharacter. Similarly, a heart cue is more manipulative than an unfamiliar shape, such as a triquetra.

Research has examined celebrity spokesfigures (e.g., Amos et al. 2008; Bartz, Molchanov, and Stork 2013; Kahle and Homer 1985; Spry et al. 2011), with some research also exploring spokescharacters (Folse et al. 2013; Folse, Netemeyer, and Burton 2012; Garretson and Niedrich 2004); however, only a small body of research has compared types of spokesfigures in a single study (Stafford, Stafford, and Day 2002). Recent research examining celebrity spokesfigures has focused on credibility and how behaviors in a celebrity's personal life can negatively influence a brand (Bartz et al. 2013; Spry et al. 2011). Garretson and Niedrich (2004) explored attributes of spokescharacters that lead to brand trust and positive brand attitude. According to Garretson and Niedrich (2004), spokescharacters are "nonhuman characters used to promote a product or a brand" (p. 25). These authors find that spokescharacters are most influential for consumers with low brand knowledge because the character is used as a brand cue. Folse, Netemeyer, and Burton (2012) add that spokescharacters can be imbued with personality traits that influence product evaluations including overall attitude, trust, and willingness to pay. For example, a spokescharacter described as sincere should more positively influence product evaluations than a spokescharacter described as exciting.

A spokesfigure can act as a prime because the spokesfigure cues information in consumer memory that influences evaluation of a company's products. Under the spreading activation theory of priming (Collins and Loftus 1975), a cue (e.g., the spokesfigure) activates nodes in long-term memory associated with that cue (e.g., an

animal cue may activate the mental nodes of soft, cute, or innocent), which then influences evaluation of a target.

Although not specifically examining spokesfigures, research has shown that marketer-supplied cues can implicitly prime ease of use and views of self, thereby influencing future product evaluations (Chang 2010; Yi 1990b). Fitzsimons, Chartrand, and Fitzsimons (2008) show that marketer-supplied cues can also implicitly prime behavior. For example, the Apple brand primes higher consumer creativity in comparison to the IBM brand, and the Disney brand primes higher consumer honesty in comparison to the E! network brand. In another example, Labroo, Dhar, and Schwarz (2008) show that semantic priming with a word (e.g., *frog*) leads consumers to have higher product evaluations for products with packaging containing a visual related to the primed word. Similarly, Forehand and Deshpandé (2001) show that priming awareness of one's ethnicity leads to favorable attitudes toward a spokesperson with a similar ethnicity.

Research has shown that celebrity spokesfigures tend to be more valuable in branding than other types of spokesfigures, yet the risk associated with celebrity spokesfigures is higher given their life outside of the endorsement (Bartz et al. 2013). Characters give companies the flexibility to create the identity of a spokesperson; however, the reputation of such characters must be developed, which takes time (Garretson and Niedrich 2004). Animals can be presented as either a character (e.g., Tony the Tiger) or as a real-life animal (e.g., Geico's Hump Day commercial with a camel). Prior research shows animals, when used as a marketer-supplied cue, result in increased sales (Lancendorfer, Atkin, and Reece 2008; Yelkur et al. 2013), but little research has examined animals specifically as spokesfigures. Feldhamer and colleagues (2002)

mention the universal understanding of animals across cultures as a benefit of using animals in marketing communications. Lancendorfer, Atkin, and Reece (2008) specifically mention that animals can activate heuristic processing (i.e., reliance on the animal prime), which then leads to more positive product evaluations. Heuristic processing is primarily cue-based, thereby transferring the positive associations with the animal to product evaluations. In other words, the cue implicitly primes consumers which augments evaluation of the product. Animals can also lead to negative product evaluations for high involvement products where systematic processing is needed to fully evaluate all product attributes (Lancendorfer et al. 2008). Given these prior differences in isolated studies, we expect that type of spokesfigure will influence product evaluations.

Interactions among Marketer-Supplied Cues

Marketer-supplied cues can interact with one another to influence product evaluations. For example, highly complex message cues provide explicit information but may also implicitly prime quality. These complex message cues may also decrease a consumer's cognitive resources for processing other marketer-supplied cues and the overall persuasive intent of a message (Meyers-Levy and Malaviya 1999). Messages that are story-based (in comparison to messages purely listing product attributes), should be more capable of incorporating other marketer-supplied cues into the marketing message, thereby leading to a greater likelihood of processing such cues. Similarly, the appeal of the message (emotional, humorous, informational) could also function as a cue and lend to easier or more difficult incorporation of other marketer-supplied cues into the message.

Persuasion cues in a message could also interact with other marketer-supplied cues to influence overall message trust. These examples are just a sampling of ways in which marketer-supplied cues can interact with one another to influence product evaluations. Given that marketer-supplied cues carry different levels of manipulative capabilities (Akturan 2011), we focus our examination on three cues related to manipulateness that could also function as implicit primes - spokesfigures, complexity, and persuasion elements.

Message complexity and presence of persuasive wording are expected to interact with other marketer-supplied cues to influence product evaluations because complexity and persuasive wording, by themselves, lead to lower advertisement and product evaluations (Cotte, Coulter, and Moore 2005). Research on anthropomorphism (i.e., assigning human qualities to non-human objects) suggests that human-like objects and characters have a greater ability to perform human-like actions than non-human-like objects and, thus, also have the potential to be manipulative. Folsch, Netemeyer, and Burton (2013) specifically show that spokescharacters have anthropomorphic qualities that influence product evaluations. The most human-like objects are the most capable of being manipulative and deceptive (Cheney and Seyfarth 2007). Thus, an advertisement featuring persuasive wording partnered with a celebrity or animated character should be perceived as more manipulative than a spokesfigure such as an animal or object. Prior research has confirmed this expectation that celebrity spokesfigures are perceived as manipulative, sometimes to the point of being deceptive and untruthful (Akturan 2011). Thus, we would expect celebrity spokesfigures to be the most manipulative given their

fully-human qualities and societal role, characters next manipulative given their anthropomorphic qualities, and animals least manipulative. Therefore:

H1a: Marketer supplied cues relating to overt persuasion (e.g., persuasive wording) interact with the manipulative potential of other marketer-supplied cues to influence product evaluations whereby cues more capable of manipulation (e.g., celebrity spokesperson) produce the highest product evaluations when overt persuasion is not present in comparison to cues less capable of manipulation (e.g., animal) or the absence of a cue which produce the highest product evaluations when over persuasion is present.

In addition to the influence of persuasive wording, high complexity situations limit consumers' cognitive resources (Meyers-Levy and Malaviya 1999), that might be available to evaluate manipulative presence, thereby influencing product evaluations. Bradley and Meeds (2002) find a possible curvilinear trend in complexity where moderate levels of complexity lead to the highest product evaluations. Low levels of message complexity may trigger detailed cognitive critique of advertising and manipulative elements leading to lower product evaluations if the consumer detects manipulation. In contrast, messages with high levels of complexity may cause cognitive overload leading consumers to be unable to evaluate all advertising elements, including manipulative cues, thereby leading to higher product evaluations as consumers do not have the resources to determine that the message is manipulative. Therefore:

H1b: Marketer-supplied cues relating to complexity interact with other marketer-supplied cues (e.g., overt persuasion cues, cue manipulative potential) to influence product evaluations whereby messages with low complexity cues

lead to the lowest product evaluations when paired with manipulative cues, in comparison to messages with high complexity cues that lead to the highest product evaluations when paired with manipulative cues.

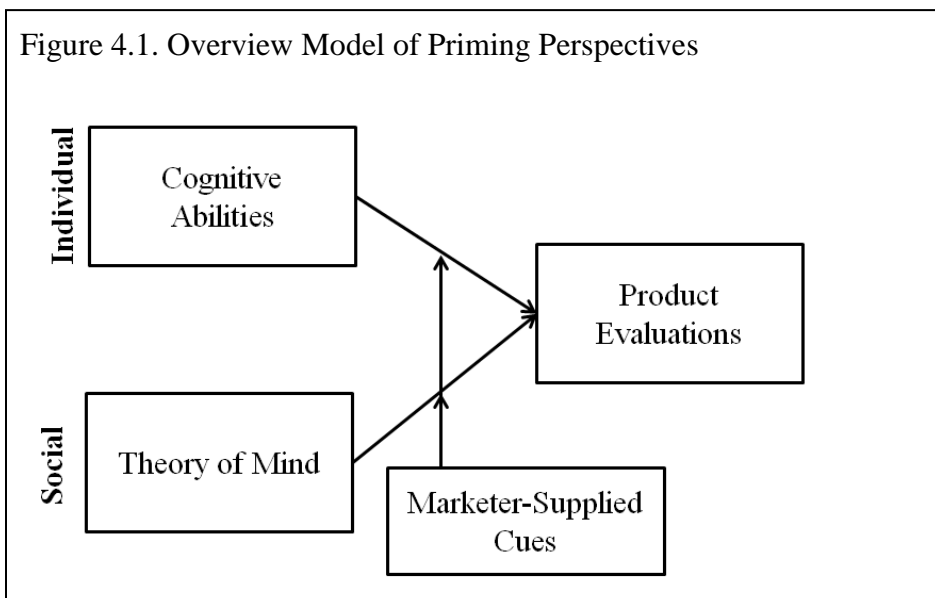
Understanding Processing of Marketer-Supplied Cues

We now transfer our discussion from features of marketer-supplied cues and how these cues may prime cognitions to the psychological processes leading up to evaluation of these cues and associated priming outcomes. There are two competing theories of how consumer traits lead to priming outcomes - one in the individual sphere with an orientation to consumer intelligence and the other in the social sphere with an orientation to understanding others. Wright (2002) posits a differential influence of one's own mental capabilities in comparison to one's social intelligence, suggesting that these two perspectives provide key insight into consumer persuasion. For example, strong mental capabilities contribute to literacy, detection of false information, and an ability to understand complex messages leading to a reduced influence of persuasive messages. Similarly, Wright (2002) argues that social intelligence contributes to understanding the intentions of marketers and to detecting persuasion in interactions with sales people that would then lead to a reduced influence of persuasive messages. This ability to understand the intentions of others is more formally known as theory of mind.

Similar distinctions have been made in other fields, such as management, where research examines whether individual intelligence or organizational intelligence (i.e., understanding organizational processes and norms) is the primary antecedent to various

employee behaviors (Glynn 1996; Perry-Smith 2006). International business research has investigated the differential influence of individual and cultural intelligence (Earley and Ang 2003). Educational research frequently investigates whether social intelligence or cognitive intelligence has a greater influence on student success (Kagitcibasi 2012; Meijs et al. 2010). Distinctions between individual and social intelligence have even been used to explore human evolution (Herrmann et al. 2007).

Therefore, we explore marketing prime effects from two competing perspectives: one based on individual intelligence (rooted in measures of cognitive abilities) and another based on social intelligence (rooted in measures of theory of mind); see figure 4.1 for an overview. This figure shows that both cognitive abilities and theory of mind influence product evaluations, although these relationships can differ based upon the marketer-supplied cues that are present. We confirm past findings and develop materials in study 1 that will serve in study 2 to investigate the individual-based processing model and study 3 to investigate the combined individual and social-based processing models.



Study 1: Marketer-Supplied Cues

This study's main purpose is to confirm past findings using new stimuli that will also be used in studies 2 and 3. Thus, we examine the influence of marketer-supplied cue manipulateness (using spokesfigures) on product evaluations, specifically with regard to interactive effects with persuasive wording (hypothesis 1a) and message complexity (hypothesis 1b). Hereto forth we will refer to marketer-supplied cue manipulateness as cue manipulateness for simplicity. Following the thinking of Walker and Wan (2012), we operationalize persuasive wording through use of greenwashing. Among many calls to action, these authors specifically mention a need to examine how persuasive wording influences product trust, which we investigate in this study along with other product evaluations.

Pre-test

Methods. To confirm that spokesfigures vary in manipulative capabilities, a pre-test was conducted with 44 undergraduate students (average age = 22.1, 40.0% female). Three questions were used to assess manipulative capabilities: (1) "I think a company is most likely lying to me when I see a(n) _____ on their packaging," (2) "I would be most skeptical of packaging with a(n) _____ on it," and (3) "I would most trust packaging with a(n) _____ on it," where participants responded with either *Celebrity*, *Animal*, *Character*, or filled in an *Other* blank.

Pre-tests were also conducted to select advertisement text and spokesfigures. Complexity of advertisement text was assessed using a scale composed of three questions, all measured on seven-point Likert scales ranging from *strongly disagree* to *strongly agree*. Scale items were (1) “The statement is complex,” (2) “The statement requires me to really focus to understand,” and (3) “The statement is easy to understand,” with the third item reverse coded ($\alpha = .853$). Liking was measured with one item asking, “How much do you like this visual?” on a five-point scale ranging from *strongly dislike* to *strongly like*. Participants were shown six visuals in each of three categories (character, animal, person) in randomized order. The celebrity condition included only unknown visuals of people to eliminate possible confounds with prior knowledge of celebrities. In all our studies, celebrity status is indicated through text.

Results. Findings confirmed expectations that celebrities were the most manipulative, characters were moderately manipulative, and animals were the least manipulative. Celebrities were more frequently reported as lying (62%) than were characters (18%) or animals (5%). Participants also reported the highest skepticism toward celebrities (42%) as compared to characters (26%) or animals (15%). Additionally, animals were reported as most trusted (44%) in comparison to celebrities (24%) and characters (4%).

The high complexity condition ($M = 3.67, SD = 1.54$) was rated as significantly more complex than the low complexity condition ($M = 1.81, SD = 1.09$), $t(42) = -6.93$, $p < .001$. Of the 44 pre-test participants, 19 answered the visual liking questions. Paired t-tests were used to compare liking, and visuals of similar liking were chosen for use in

study 1 including a visual of a person ($M = 2.74$, $SD = 1.05$), character ($M = 2.26$, $SD = .99$), and an animal ($M = 2.89$, $SD = .99$). Liking did not significantly differ between the human and animal, $t(18) = 0.90$, $p = .380$, or the character and the human, $t(18) = 1.58$, $p = .132$, though did differ between the animal and character, $t(18) = 2.19$, $p = .042$, with the animal being better liked. This is to be expected given the general nature of the selected spokescharacter; see figure 4.2.

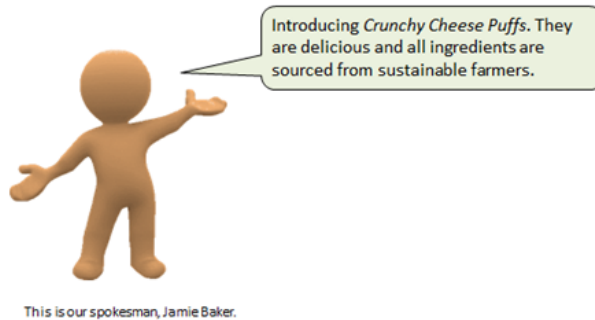
Methods

Participants and Design. Four hundred and forty-one undergraduate students (average age = 21.6, 40.0% female) participated in this study in exchange for partial course credit. This study featured a 2 (complexity: low, high) x 2 (persuasive wording: no, yes) x 4 [cue manipulateness: none (control), low (animal), moderate (character), high (celebrity)] repeated measures design. Each participant was randomly assigned to see two new product announcements in random order.

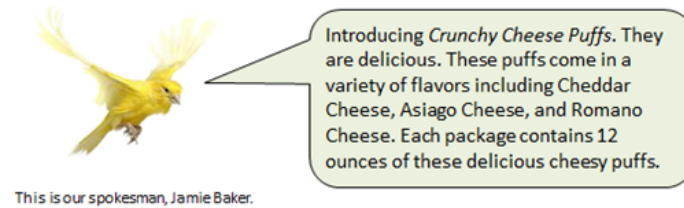
Materials and Procedure. New product announcements were partnered with a level of cue manipulateness for a new snack chip described as Crunchy Cheese Puffs. Complexity and persuasive wording were manipulated in the advertisement text. All ad text contained “Introducing Crunchy Cheese Puffs. They are delicious.” The high complexity conditions also included “These puffs come in a variety of flavors including Cheddar Cheese, Asiago Cheese, and Romano Cheese. Each package contains 12 ounces of these delicious cheesy puffs.” The persuasive wording condition also contained the

Figure 4.2. Advertisement Text and Cue Manipulativeness (CM) Examples

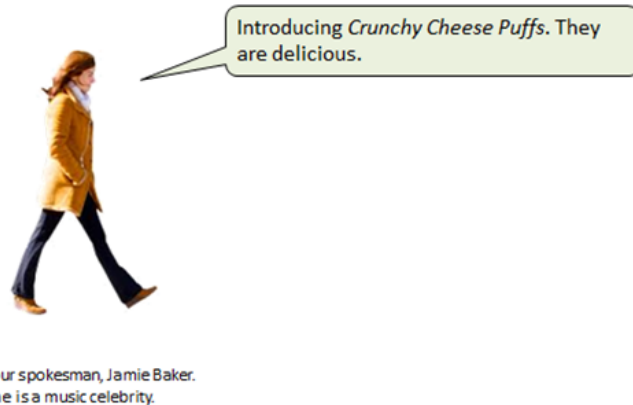
Low complexity, yes persuasive wording,
moderate CM (character)



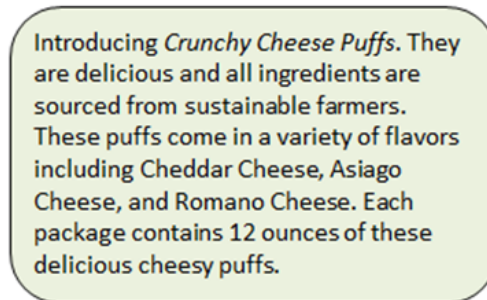
High complexity, no persuasive wording,
low CM (animal)



Low complexity, no persuasive wording,
high CM (celebrity)



High complexity, yes persuasive wording,
no CM (no spokesfigure)



text “all ingredients are sourced from sustainable farmers.” It should be noted that this addition of persuasive wording also implicitly primes higher complexity of the message, $t(874) = 2.80, p = .005, M_{\text{persuasive wording}} = 2.96, SD = 1.57, M_{\text{no persuasive wording}} = 2.63, SD = 1.71$. See figure 4.2 for examples of how advertising text was displayed as well as visuals of the spokesfigures.

To measure the influence of cue manipulateness, complexity, and persuasive wording, four dependent variables (DVs) measuring general product evaluations (willingness to pay, product health perceptions, purchase intentions, and overall attitude) and two DVs measuring product trust evaluations (authenticity and manipulative intent) were used. These outcome measures were selected based on prior research using similar measures (Folse et al. 2012; Walker and Wan 2012). Product health perceptions were included because prior research has shown that marketer-supplied cues can influence product health perceptions for food products (Wansink and Chandon 2006). Willingness to pay was measured with one item: “How much would you be willing to pay for the Crunchy Cheese puffs mentioned earlier, assuming a standard 12 ounce bag?” The remaining general product evaluation DVs were measured using Keller and colleague’s (1997) three-item product health perceptions scale ($\alpha = .859$), three-item overall attitude scale ($\alpha = .954$), and three-item purchase intentions scale ($\alpha = .791$).

Perceived authenticity was measured with one item on a seven-point scale ranging from *strongly disagree* to *strongly agree*: “I believe Crunchy Cheese Puffs are produced by an authentic company.” Perceived manipulative intent was measured using Cotte, Coulter, and Moore’s (2005) six-item manipulative intent scale ($\alpha = .814$).

Results

Manipulation checks. To check the complexity manipulation, participants responded to the question “How complex do you think the statement you just read was?” on a seven-point scale from *very simple* to *very complex*. As expected, participants in high complexity conditions ($M = 2.87, SD = 1.58$) rated the statement as significantly more complex than participants in the low complexity conditions ($M = 2.64, SD = 1.73$), $t(874) = 2.00, p = .045$. Manipulation of persuasive wording was confirmed through a free response question asking participants' thoughts about the statement. Responses confirming manipulation of greenwashing (and more generally, persuasive wording) included statements such as, "cheesy puffs are more than likely not naturally produced by sustainable farmers and thus are trying to manipulate the audience." At the end of the study participants were also asked what spokesperson they saw, if any, to confirm the spokesperson manipulation and attention paid to the exposure. No participants were removed due to failure to answer the manipulation check correctly.

Study results. Analysis of variance was used to examine the influence of complexity, persuasive wording, and cue manipulateness on general product evaluations and product trust evaluations. There was a significant main effect of complexity for willingness to pay, $F(1, 856) = 4.80, p = .029$, whereby participants in the high complexity conditions were willing to pay more for the product than participants in the low complexity conditions; see table 4.1 for means and standard deviations. However, the complexity wording mentioning sophisticated cheese names may have partially

contributed to this increased willingness to pay. For product health perceptions, there was a main effect of persuasive wording, $F(1, 856) = 15.64, p < .001$, whereby participants in the persuasive wording conditions had higher product health perceptions than the no persuasive wording conditions. Because persuasive wording was operationalized through use of greenwashing, the sustainable message of greenwashing may have led to perceptions of higher healthiness. Prior research has confirmed that sustainable products are perceived as healthier (Schuldt and Schwarz 2010).

There was a significant three-way interaction among complexity, persuasive wording, and cue manipulateness for both purchase intentions, $F(3, 856) = 2.51, p = .002$, and overall attitude, $F(3, 856) = 3.91, p = .009$. There were also significant three-way interactions for both perceived authenticity, $F(3, 856) = 2.93, p = .033$, and perceived manipulative intent, $F(3, 856) = 3.91, p = .009$. See figure 4.3 for a graph comparing these four three-way interactions. Further analysis of these three-way interactions was conducted using regression with all main effects, two-way interactions, and three-way interactions. Dummy codes were created for variables with no persuasive wording, low complexity, and no cue manipulateness (i.e., the control condition) used as the baselines. For overall attitude, there was a significant three-way interaction between persuasive wording, high complexity, and high cue manipulateness (celebrity), $B = 1.59, SE = 0.64, p = .014$. Additionally, there was a significant three-way interaction between persuasive wording, high complexity, and low cue manipulateness (animal), $B = 1.42, SE = 0.63, p = .024$. In other words, in situations of high complexity when persuasive wording is used, any level of cue manipulateness increases overall attitude, in comparison to situations of no cue manipulateness. This is likely a result of highly

Table 4.1. Descriptive Statistics for Cue Manipulativeness (CM), Complexity, and Persuasive Wording Presence

<i>No Persuasive Wording</i>								
<i>CM</i>	None		Low (Animal)		Moderate (Character)		High (Celebrity)	
<i>Complexity</i>	Low	High	Low	High	Low	High	Low	High
Willingness to Pay	2.02 (.19)	2.50 (.19)	1.73 (.19)	2.02 (.18)	1.86 (.15)	2.30 (.15)	2.37 (.14)	2.21 (.15)
Health Perceptions	2.57 (.19)	2.51 (.19)	2.78 (.18)	2.64 (.18)	2.78 (.14)	2.82 (.14)	3.04 (.14)	2.80 (.14)
Purchase Intentions	3.75 (.19)	3.73 (.19)	3.59 (.19)	3.37 (.19)	3.49 (.15)	3.96 (.15)	3.75 (.15)	3.59 (.15)
Overall Attitude	4.05 (.23)	4.06 (.23)	3.67 (.23)	3.53 (.22)	3.55 (.18)	4.36 (.18)	4.0 (.18)	3.81 (.18)
Authenticity	3.66 (.19)	3.88 (.19)	3.80 (.19)	3.65 (.19)	3.64 (.15)	4.02 (.15)	3.98 (.15)	3.71 (.15)
Manipulative Intent	3.44 (.14)	3.13 (.14)	3.42 (.13)	3.42 (.13)	3.66 (.11)	3.21 (.11)	3.45 (.11)	3.40 (.11)
<i>Yes Persuasive Wording</i>								
<i>CM</i>	None		Low (Animal)		Moderate (Character)		High (Celebrity)	
<i>Complexity</i>	Low	High	Low	High	Low	High	Low	High
Willingness to Pay	2.05 (.18)	2.47 (.18)	2.01 (.19)	2.44 (.18)	2.47 (.24)	2.18 (.23)	2.20 (.23)	2.19 (.23)
Health Perceptions	3.35 (.18)	3.10 (.18)	2.87 (.19)	3.18 (.18)	3.30 (.24)	3.17 (.23)	2.77 (.23)	3.16 (.23)
Purchase Intentions	4.08 (.19)	3.76 (.19)	3.58 (.19)	4.00 (.19)	4.13 (.25)	3.97 (.24)	3.36 (.24)	3.76 (.24)
Overall Attitude	4.57 (.22)	3.86 (.22)	3.65 (.23)	4.30 (.22)	4.27 (.29)	4.02 (.28)	3.63 (.28)	4.38 (.28)
Authenticity	3.98 (.19)	3.92 (.19)	3.84 (.20)	4.12 (.19)	4.17 (.25)	3.61 (.24)	3.64 (.24)	3.88 (.24)
Manipulative Intent	3.15 (.13)	3.55 (.13)	3.50 (.14)	3.15 (.13)	3.24 (.18)	3.50 (.17)	3.39 (.17)	3.29 (.17)

Note: Means (standard deviations).

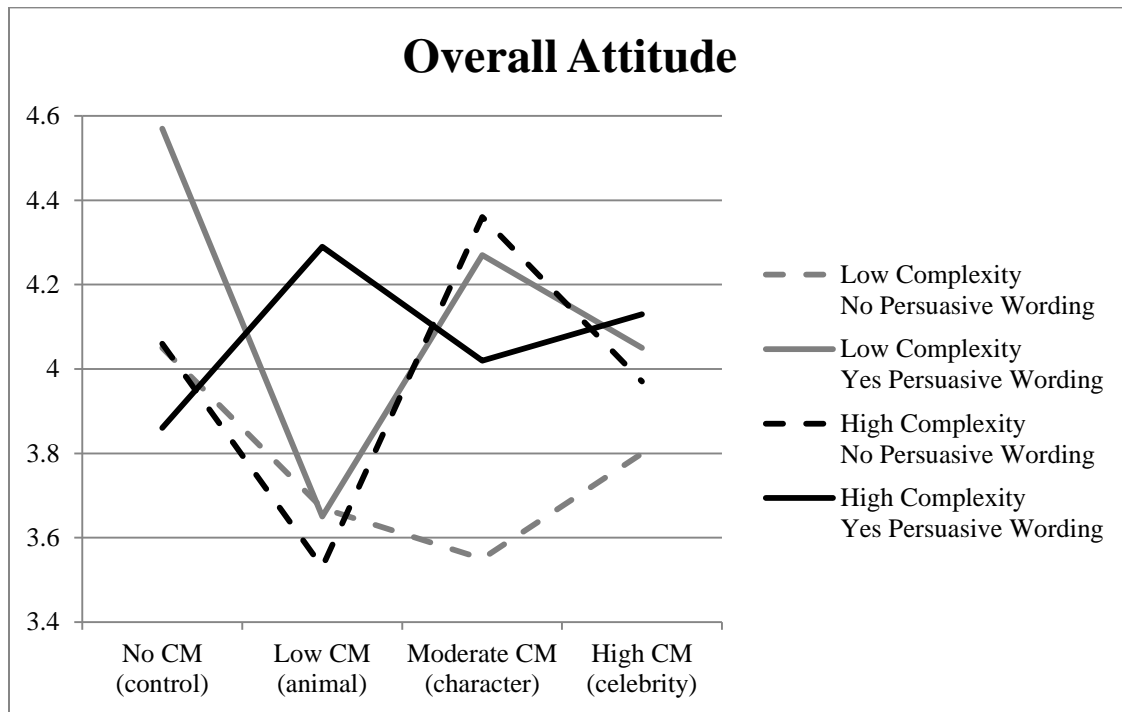
complex messages cognitively overloading the consumer leading to insufficient capacity to evaluate message manipulateness and reliance instead on more heuristic-based processing. A similar pattern of effects was found for perceived authenticity, purchase intentions, and manipulative intent.

Discussion

These findings support past thinking that marketer-supplied cues can implicitly prime consumers, thereby influencing product evaluations (Chang 2010; Fitzsimons et al. 2008; Yi 1990b). Spokesfigures that may be used to increase product credibility are found in our study to be a cue that implicitly primes manipulateness. However, we find that it is important to comprehensively understand marketing communication cues rather than studying select cues in isolation. While a spokesfigure cue may implicitly prime manipulative abilities when evaluated in isolation, adding in cues related to complexity and persuasion alter the way in which each cue influences product evaluations. For example, celebrity spokesfigures act as a cue that implicitly primes high manipulateness leading to reduced product evaluations; however, adding in cues relating to high complexity or persuasion decreases a consumer's overall cognitive resources available to process all cues leading to higher product evaluations because less manipulation is perceived, thereby supporting hypothesis 1a and 1b.

This is keeping with Anand and Sternthal's (1989) work describing the resource matching hypothesis where adequate cognitive abilities are required to match the complexity of an advertisement. Meyers-Levy and Malaviya (1989) add that reduced

Figure 4.3. Graph of Three-Way Interaction among Complexity, Persuasive Wording, and Cue Manipulativenness (CM) for Overall Attitude



Note: The main takeaway from this graph is that the influence of marketer-supplied cues on product evaluations are poorest when consumers are provided little information and have ample cognitive resources to process the information (i.e., the situation of low complexity and no persuasive wording). Also, marketer-supplied cues high in manipulativenness generally perform best under high complexity given the consumer's lessened ability to critically evaluate the manipulative nature of the cue, leading to higher believability and liking.

cognitive abilities as a result of high complexity are especially important to be taken into consideration when examining processing of manipulative messages where manipulation may not be perceived when the resources are not available to detect it. Thus, it is critical to examine how every element of a marketing communication could act as a cue to implicitly prime product evaluations as well as explore how each cue interacts with other cue to alter these implicit priming effects.

In general, using a highly manipulative marketer-supplied cue (e.g., celebrity spokesperson) leads to some of the lowest product evaluations, except when partnered with cues related to high complexity and persuasion. Cues less associated with manipulative abilities (e.g., character or animal spokesperson) lead to high product evaluations when partnered with cues related to low complexity cues and use of persuasion. At either extreme of cognitive load (i.e., overloaded with high complexity and persuasive wording or barely activated with low complexity and no persuasive wording), consumers either are overwhelmed with information to process or may feel they do not have enough information to make an informed decision, as indicated with free responses to the new product announcements.

Companies must proceed cautiously when employing a combination of marketer-supplied cues in their communications (e.g., some high complexity cues, some low persuasion cues, and other cues where the implicit priming effects are unknown) as these cues can interact with one another to influence product evaluations both positively and negatively. Now that study 1 has explored how marketer-supplied cues interact with one another to implicitly prime consumers and influence product evaluations, these cues will be used to examine consumer information processing models rooted in individual (study 2) and social (study 3) priming perspectives. Whereas marketer-supplied cues were explored as a focal point in study 1 during materials development, these cues become secondary in studies 2 and 3 where understanding consumer information processing is the focal point, and these cues are explored as moderators to processing models.

An Individual Priming Perspective

Hirschman (1983) notes the importance of consumer intelligence in relation to the broader information processing paradigm. Under this view, consumers of higher intelligence have a higher capacity for processing marketing communications. Consumers with higher intelligence are also more likely to be skeptical of advertising tactics (Obermiller and Spangenberg 1998), having a view that advertising is actually insulting to one's intelligence (Hoch and Ha 1986). In other words, consumers with higher intelligence are better able to critically evaluate a company's marketing communications and assess the accuracy and authenticity of marketing claims. These more intelligent and more skeptical consumers in turn are more likely to dislike advertisements and products partially due to their disbelief in product claims (Obermiller, Spangenberg, and MacLachlan 2005), especially when deceptive practices are perceived (Darke and Ritchie 2007).

There are numerous measures of intelligence. Early work measured both general intelligence (what we know as IQ) as well as working memory capacity (WMC) showing a strong positive correlation between these measures with both intelligence indicators predicting consumer outcomes (Hirschman 1983). Redick and colleagues (2012) supported prior research in showing three main components of cognitive abilities: (1) fluid intelligence (i.e., cognitive processing capabilities), (2) working memory capacity (i.e., ability to hold information in short-term memory), and (3) perceptual speed (i.e., quickness of cognitive processing). WMC, in particular, represents a fundamental level of understanding consumer processing because of the necessity of holding

information in short-term memory to be able to quickly process such information. Specifically, WMC refers to an individual's capacity to "store pragmatic, semantic, and syntactic information" as well as his or her ability in "disambiguating, parsing, and integrating" information in short-term memory (Daneman and Carpenter 1980). Much of consumer information processing occurs in the short-term given the abundance of information consumers face each day and little time to process each piece of information. For example, in food decisions alone, consumers make over 200 decisions each day (Wansink and Sobal 2007) suggesting that high WMC consumers would have more capacity to process these decisions than low WMC consumers.

Decreased levels of WMC could be expected to exhibit similar outcomes as situations of high cognitive load where mental processing abilities are limited. In fact, Engle (2002) showed just this; performance on various cognitive tasks was the same for both high and low WMC capacity consumers when placed under cognitive load. In other words, while high WMC consumers generally perform better on cognitive tasks, all consumers (regardless of level of WMC) have constrained cognitive capacity when placed under cognitive load. Under constrained cognitive capacity, consumers rely on more simple, heuristic-based processing mechanisms which then influence product evaluations (Bolls and Muehling 2007).

Research outside of marketing also confirms the correlation between intelligence and working memory capacity (Conway, Kane, and Engle 2003; Unsworth and Engle 2005) with some authors stating that WMC is the cause of individual differences in intelligence (Conway et al. 2002; Kyllonen 1996). Unsworth and Engle (2005) state that differences in WMC are related to differences in attentional control suggesting that

consumers high in WMC may be better able to attend to marketing communications and, as a result, make more accurate responses to marketing-related primes. Given these findings, whether WMC or general fluid intelligence is measured, it is expected that higher levels of cognitive abilities will result in higher skepticism leading to lower product evaluations. Findings outside of marketing support this hypothesis, showing that less intelligent consumers are more likely to be deceived (Shryane et al. 2008) as a result of less suspicion (Stricker, Messick, and Jackson 1967). Thus:

H2: Advertising skepticism mediates the relationship between cognitive abilities and product evaluations whereby consumers with higher cognitive abilities have higher advertising skepticism (H2a), and consumers with higher advertising skepticism have lower product evaluations (H2b).

Study 2: Individual Priming Mechanisms

This study builds on study 1 to explore the individual predictors of priming effects. More precisely, this study explores the influence of cognitive abilities measured through working memory capacity (hypothesis 2a) and advertising skepticism (hypothesis 2b) on product evaluations, in conjunction with marketer-supplied cues.

Methods

Participants and Design. One hundred and eight undergraduate students (average age = 21.7, 40.2% female) participated in this study in exchange for course credit. This

study featured a 2 (complexity: low, high) x 2 (persuasive wording: yes, no) x 2 [cue manipulateness: moderate (character), high (celebrity)] repeated measures design. Each participant was randomly assigned to two of the eight conditions.

Materials and Procedure. Study 2 uses the character and celebrity spokesfigures from study 1, representing different levels of cue manipulateness. A pre-test of 55 undergraduate students (average age = 21.8, 40.7% female) confirmed that celebrities are more manipulative than characters, $t(54) = 7.21, p < .001, M_{\text{celebrity}} = 3.69, SD = 0.51, M_{\text{character}} = 2.62, SD = 0.99$. This pre-test measured manipulateness with the question, "A celebrity (character) has the ability to influence me," measured on a five-point Likert scale ranging from *strongly disagree* to *strongly agree*.

The same outcome product evaluation variables as used in study 1 are also used in study 2: willingness to pay (single item), perceived authenticity (single item), product health perceptions ($\alpha = .888$), purchase intentions ($\alpha = .821$), overall attitude ($\alpha = .955$), and perceived manipulative intent ($\alpha = .851$). Additionally, a measure of perceived product trust is included in study 2 for a more comprehensive understanding of consumer trust evaluations. Perceived product trust was measured with one item on a seven-point scale ranging from *strongly disagree* to *strongly agree*: "I trust the company that produces Crunchy Cheese Puffs."

Participants first completed an online working memory capacity (WMC) task based on the automated working memory span task developed by Unsworth, Heitz, Schrock, and Engle (2005). Both the online and automated tasks run using the same procedures. Both tasks measure WMC by asking participants to remember two to five

visuals depicted on the screen after answering simple math symmetry problems. Math symmetry involves presentation of a combined problem and answer (e.g., $7 + 6 = 15$), and then requires participants to indicate whether the answer is true or false (i.e., symmetric or non-symmetric). Several practice rounds are used to adjust for individual differences in time to solve math problems. The task is then automated in that participants are given their average math solving time \pm two standard deviations. This prevents participants from storing the visuals in long-term memory before proceeding to complete math problems. After completing several math problems, participants are asked to recall the visuals, in order. WMC scores can range from 0 (remembering no visuals in the correct order) to 75 (remembering every visual in the correct order). WMC scores for participants in this study ranged from 0 to 62 with an average of 30. See Foster, Hicks, and Engle (2013) for more details on how working memory capacity is calculated. To control for participants memorizing the order of visuals, the percentage of correctly solved math problems is also collected. An 85% cutoff score for math correctness has been used, though studies lately suggest this cutoff is not needed (Unsworth et al. 2009). Regardless, all participants answered at least 85% of math problems correctly, so all participants were included in further analysis.

Advertising skepticism was also measured to assess the mediating relationship between cognitive abilities and product evaluations. Advertising skepticism was measured using a nine-item scale ($\alpha = .888$) developed by Obermiller and Spangenberg (1998), with each question being measured on a five-point Likert scale ranging from *strongly disagree* to *strongly agree*.

Results

Structural equation modeling (SEM) using 5,000 bootstrapped samples with bias-corrected confidence intervals was conducted using Amos 18.0 to test the individual perspective of priming (i.e., advertising skepticism mediating the relationship between cognitive abilities and consumer product evaluations). Three measures of consumer evaluations were used: product health perceptions (single item), general product evaluations (latent variable representing willingness to pay, purchase intentions, and overall attitude, $\alpha = .751$), and product trust evaluations (latent variable representing perceived trust, authenticity, and the reversed manipulative intent scale, $\alpha = .752$).

According to SEM fit guidelines by Hu and Bentler (1999), fit for this model (Model 1) was mixed: $\chi^2(73) = 264.83$, $p < .001$, $CFI = .895$, $RMSEA = .111$, and $SRMR = .076$; see table 4.2 for detailed model and path specifications. In this model, SRMR was adequate, but CFI, RMSEA, and chi-square represented poor fit. However, when persuasive wording was removed from the model (Model 2), fit significantly improved: $\chi^2(41) = 38.75$, $p = .571$, $\chi^2\Delta(32) = 226.08$, $p < .001$, $CFI = 1.000$, $RMSEA = .001$, and $SRMR = .034$. This follows the discussion from study 1 where greenwashing may not be an ideal operationalization of persuasive wording. Regardless of the presence or absence of persuasive wording, support is provided for the individual perspective of priming.

Higher cognitive abilities, as measured through working memory capacity, led to higher advertising skepticism ($B_{Model 1} = .007$, $p = .037$; $B_{Model 2} = .007$, $p = .037$), which then led to lower general product evaluations ($B_{Model 1} = -.136$, $p = .005$; $B_{Model 2} = -.146$,

$p = .004$), lower product trust evaluations ($B_{Model 1} = -.359, p = .002; B_{Model 2} = -.344, p = .003$), and lower product health perceptions ($B_{Model 1} = -.410, p = .001; B_{Model 2} = -.418, p = .001$). We provided path statistics for both models in addition to the chi-square difference test to compare models, as has been done in prior research (Bodur, Brinberg, and Coupey 2000; Escalas and Stern 2003). In summary, consumers that had low cognitive abilities (and thereby low advertising skepticism) had the highest product evaluations.

Marketer-supplied cues (complexity, cue manipulateness, and persuasive wording) continued to show significant effects on product evaluations. The significant three-way interaction between cue manipulateness, complexity, and persuasive wording for general product evaluations ($B = .606, p = .019$) and product health perceptions ($B = 1.629, p = .021$) suggests that the highest product evaluations occur with high cue manipulateness (celebrity), high complexity, and use of persuasive wording. This is as expected given that high complexity decreases consumers' cognitive resources available to evaluate the manipulative nature of the marketer-supplied cues, thereby leading to more positive overall evaluations. These results also continue to show the complex interaction among cues leading to implicit priming effects. It is also expected that health perceptions would be highest under these circumstances given the processing resources available and the added product details that complexity and persuasive wording (operationalized through greenwashing) provide.

For product trust evaluations, there is a significant two-way interaction between complexity and persuasive wording ($B = -.892, p = .036$), suggesting that product trust is highest when either complexity is low and persuasive wording is high or when

complexity is high and persuasive wording is low. This is likely a result of consumers desiring more product information but not to the point of being cognitively overloaded. Again, we have shown that the determinants to these marketer-supplied cue effects can be rooted in the individual perspective of priming (i.e., cognitive abilities and advertising skepticism).

Discussion

Cognitive abilities play a critical role in influencing product evaluations. Advertising skepticism mediates this relationship between cognitive abilities and product evaluations. Thus, we provide evidence to support the individual priming perspective (cognitive abilities → advertising skepticism → product evaluations), thereby confirming hypotheses 2a. High cognitive abilities (measured in this study through working memory capacity) are shown to heighten advertising skepticism, likely a result of a greater understanding of persuasive tactics. This higher level of advertising skepticism then leads to lower product evaluations, thereby supporting hypothesis 2b.

While the three-way interactions among complexity, persuasive wording, and cue manipulateness were significant for product health perceptions and general product evaluations, the three-way interaction for product trust evaluations was not significant. This differing result for product trust evaluations between studies 1 and 2 is likely a result of only including two levels of cue manipulateness in study 2, moderate (character) and high (celebrity). Because the only significant two-way interaction for product trust evaluations was complexity by persuasive wording, it becomes evident that cue

Table 4.2. SEM Results for the Individual Priming Perspective Model

Direct Effects	
Antecedent Paths	
WMC → AdSkep	.007* (.003)
AdSkep → General Product Evaluations	-.136** (.049)
AdSkep → Product Trust Evaluations	-.359** (.115)
AdSkep → Product Health Perceptions	-.410*** (.126)
Condition Paths	
CM → General Product Evaluations	.158 (.113)
CM → Product Trust Evaluations	.172 (.300)
CM → Product Health Perceptions	.656* (.330)
Complexity (C) → General Product Evaluations	.273* (.123)
Complexity (C) → Product Trust Evaluations	.685* (.308)
Complexity (C) → Product Health Perceptions	1.043** (.339)
Persuasive Wording (PW) → General Product Evaluations	.113 (.117)
Persuasive Wording (PW) → Product Trust Evaluations	.011 (.314)
Persuasive Wording (PW) → Product Health Perceptions	.344 (.346)
CM X C X PW → General Product Evaluations	.606* (.258)
CM X C X PW → Product Health Perceptions	1.629* (.704)
C x PW → Product Trust Evaluations	-.892* (.425)
Indirect Effects	
WMC → General Product Evaluations	-.001** (.001)
→ Product Trust Evaluations	-.002** (.001)
→ Product Health Perceptions	-.003** (.002)

Note: Cells represent unstandardized estimates (and standard errors). WMC = working memory capacity; AdSkep = advertising skepticism. * = $p < .05$, ** = $p < .01$, *** = $p < .001$, ^D = directional significance. Two-way interactions are only listed when the three-way interaction is not significant. Only the two-way interaction between complexity and persuasive wording is significant. *Product Health Perceptions* is a single item. *General Product Evaluations* is a latent variable representing willingness to pay, overall attitude, and purchase intentions. *Product Trust Evaluations* is a latent variable representing perceived trust, authenticity, and manipulative intent (reversed scale). *Persuasive Wording* is a dummy variable where 1 = presence of persuasive wording. *Cue Manipulativeness (CM)* is a dummy variable where 1 = high CM (celebrity) and 0 = moderate CM (character). Complexity is a dummy variable where 1 = high complexity.

manipulativeness is the non-significant portion of the interaction, thereby supporting our conjecture that the reduced number of levels of cue manipulativenness in study 2

influences the significant effect of cue manipulateness on product trust evaluations.

From this study we learn that consumers with low cognitive abilities, measured by working memory capacity (i.e., those that can hold fewer items in short term memory at any one time) have higher product evaluations as a result of lower levels of advertising skepticism. It seems reasonable that someone with low cognitive abilities would have less skepticism toward advertising as they are less able to hold in their mind the many complexities of advertising in mind at one time, thereby leading to more positive evaluations of products.

The results from study 2 showed that consumer information processing does follow the individual priming perspective. Earlier we discussed how information processing can be rooted in both an individual and a social priming perspective (Wright 2002). Therefore, study 3 will build on study 2 to examine the influence of both individual and social priming antecedents in a more holistic model of consumer information processing of marketer-supplied cues.

A Social Priming Perspective

In contrast to the *individual priming perspective*, the *social priming perspective* emphasizes the importance of social understanding as being antecedent to priming effects. Wright (2002) posits that research in consumer behavior needs to focus on the social nature of intelligence due to the inherently social nature of consumer interaction - what Wright terms *behavioral marketplace theory*. In other words, consumers and brands

engage in interactions, and thus a social perspective should be taken when examining a consumer's response to such an interaction.

At the core of understanding social interaction is theory of mind, a consumer's ability to understand the intentions of others (Kinderman et al. 1998). Used most often in the psychology literature, especially in developmental psychology (Liddle and Nettle 2006), theory of mind plays an important role in understanding marketing communications. If a consumer is able to understand the intentions of others, it could be expected that they would be better able to assess the manipulative intent of marketers and be less likely to react against marketing communications because of this increased understanding.

Similar to theory of mind, psychological reactance also measures a consumer's perceptions of others, though more specifically with regards to restriction of freedom. Brehm (1966) describes reactance as occurring when one's freedom is restricted causing the individual to enter into a state of aroused motivation leading to reactive behavior to try to restore freedom. In an examination of the factor structure of Hong and Page's (1989) psychological reactance scale (the most used measure today), Donnell, Thomas, and Buboltz (2001) show that three factors arise: (1) response to advice and recommendations (e.g., "Regulations trigger a sense of resistance in me"), (2) restriction of freedom (e.g., "I become angry when my freedom is restricted"), and (3) preference for confrontation (e.g., "I consider advice from others to be an intrusion"). Acknowledging these three distinct factors within psychological reactance is important because they inherently involve others, thus lending both the psychological reactance and theory of mind indicators to a similar social dimension.

Because high theory of mind consumers are better able to understand the intentions of others, it would be expected that these consumers would be less likely to be reactant against marketing communications because these consumers already understand the marketer's tactics. In other words, reactance occurs because of a loss of freedom (Clee and Wicklund 1980; Donnell et al. 2001; Hong and Page 1989), and high theory of mind consumers should feel less freedom restriction because they understand the perspective of the marketer and why certain tactics are being employed. Sturgis, Read, and Allum (2010) use the term *social trust* to refer to individuals capable of accurately evaluating the intentions of another person and thereby making accurate judgments as to whether to trust this other person or not. Because of this trust judgment, reactance is not needed for consumers high in social trust.

Lower reactance is shown to lead to lower product evaluations (Clee and Wicklund 1980; van Doorn and Hoekstra 2013). For example, imagine a company advertising a limited supply of sausage links. A high theory of mind consumer knows that this is a marketing tactic, has no need to react, and thus has relatively low product evaluations (including purchase intent) as they understand this as a manipulative tactic on behalf of the company. In contrast, a low theory of mind consumer does not understand the marketer's sales tactics, reacts to the restricted freedom to purchase as much as they like, leading them to potentially heightened product evaluations and possibly even purchase more of the sausage links than if the "limited" label was not applied. Thus:

H3: Psychological reactance mediates the relationship between theory of mind (ToM) and product evaluations whereby consumers with higher ToM have

lower psychological reactance (H3a), and consumers with lower psychological reactance have lower product evaluations (H3b)

Contextual Cues

It could be expected that there are situations when a consumer would engage the individual priming perspective more than the social priming perspective and vice versa. For example, the context of private goods (e.g., toilet paper, socks, medicine, laptop battery) might lead consumers to activate and use the mechanisms of the individual priming perspective (including use of intelligence and advertising skepticism). In contrast, the context of social goods (e.g., pizza, graphic tees, liquid soap, laptop case) might instead lead consumers to activate and use the mechanisms of the social priming perspective (including use of theory of mind and psychological reactance). This contextual cue of evaluation context, the context surrounding a decision as discussed in prior research (Chandon and Wansink 2007; Steinberg and Yalch 1978; Yi 1993), is argued here to influence the activation and use of either the individual or social priming perspective models and is explored in study 3.

Whereas social goods are seen by others during use, private goods are primarily only seen by the good's user (Bourne 1957). Lertwannawit and Mandhachitara (2012) describe that evaluation of social goods can lead to status consumption where interpersonal factors are a primary determinant of the good purchased. Clark, Zboja, and Goldsmith (2007) add that these interpersonal factors derive from normative influence but not informational influence, although all influence is dependent upon the general

tendency for one to seek status. Such informational influence is found in consumption of private goods where status consumption is not present and one's public status is not changed by use of a good that is socially unobservable. Thus:

H4: Contextual cues (e.g., evaluation context) influence activation and use of individual and social priming perspectives where consumers evaluating goods of a private context activate and use individual priming mechanisms (H4a), while consumers evaluating goods of a social context activate and use social priming mechanisms (H4b).

Due to the individual priming perspective beginning with activation and use of one's intellect, it might be expected that marketer-supplied cues, such as the varying levels of manipulative capabilities of spokesfigures, would have less influence on product evaluations than consumers engaging in a social priming perspective. Consumers engaging in an individual priming perspective should rely more on intellect and careful cognitive evaluation of products rather than relying on heuristic cues, especially those that influence social desirability (e.g., use of a celebrity spokesfigure). O'Cass and Frost (2002) suggest that consumers engaging in status consumption, in comparison to those consumers engaging in private consumption, rely much more on symbolic characteristics of a brand (e.g., a celebrity spokesfigure). Kahle and Homer (1985) show that one such symbolic characteristic is the attractiveness of a celebrity spokesfigure, which these authors show to generally exude a positive influence on product attitudes and purchase intentions. Because private products are expected to initiate use of the individual priming perspective, consumers evaluating private products should be less influenced by marketer-supplied cues, such as such the manipulative nature of a spokesfigure. Thus:

H5: Contextual cues (e.g., evaluation context) influence marketer-supplied cue uses where consumers evaluating goods of a private context are less influenced by marketer-supplied cues (e.g., spokesfigure) than consumers evaluating goods of a social context.

Study 3: Combining Individual and Social Mechanisms

Pre-test

Methods. Fifty-three undergraduate students (average age = 22.3, 63% female) participated in this pre-test in exchange for course credit. This pre-test was designed to identify a private and social product with the same level of cognitive involvement. The private/social continuum was measured with the statement, "My friends' thoughts influence me when I buy... [product's name]," measured on a seven-point Likert-like scale ranging from *strongly disagree* to *strongly agree*. Cognitive involvement was measured with the question, "How much do you think about this product before you purchase it?", measured on an eight-point scale ranging from *very little* to *a great amount*. Participants were asked about two items in each of three product categories, in randomized order: paper products (toilet paper, napkins), clothes (socks, graphic tees), and electronics (cell phone cover, cell phone charger).

To better examine the cue of persuasive wording, this study seeks to use general persuasive manipulation rather greenwashing as an operationalization of persuasive wording. Additionally, product claims were tested to identify statements that were low

and high in manipulative presence but did not differ in terms of deceptiveness. We sought statements that could be persuasive but not to the point of being falsely deceptive so as to only activate the presence of persuasive wording and not deception as well. Participants were randomly presented with one of four product claims: (1) "It is absolutely wonderful!", (2) "It is absolutely wonderful! Five times better than others.", (3) "It is absolutely wonderful! You have to buy it!", or (4) "It is absolutely wonderful! Five times better than others. You have to buy it!" All participants then answered two evaluative questions measured on seven-point Likert-like scales ranging from *strongly disagree* to *strongly agree*: (1) "This statement is deceptive." and (2) "This statement is manipulative."

To show that the individual priming perspective stems from the broader construct of cognitive abilities, rather than solely working memory capacity, a letter set task is used to measure cognitive abilities in study 3. Redick and colleagues (2012) describe three main components of cognitive abilities: fluid intelligence (of which the letter set task is a measure), working memory capacity, and perceptual speed. This letter set task has been shown to be highly correlated with the working memory capacity measure from study 2 (Redick et al. 2012).

Participants completed a full (20 question, five minute) and shortened (10 question, two minute) version of the cognitive abilities-based letter set task to determine if a shortened version of the task could be used to provide a similar assessment of cognitive abilities that the full task provides. In the letter set task, participants are shown five sets of four-letter strings and asked to identify the one four-letter string that does not belong in the set (Ekstrom et al. 1976). For example, a simple set in the task includes

QPPQ, HGHH, TTTU, DDDE, and MLMM. The correct answer for this set is QPPQ because all others in the set contain three of one letter and one of another. Presentation of the full and shortened tasks were separated by unrelated consumer studies to prevent memorization of answers.

Results. To examine the social nature and cognitive involvement of product pairs, t-tests were conducted to find a product pair that did not differ on cognitive involvement but did differ on the influence of peers' thoughts on the purchase decision. There was a significant difference in cognitive involvement for toilet paper and napkins, $t(52) = 7.61$, $p < .001$, $M_{\text{toilet paper}} = 4.58$, $SD = 1.83$, $M_{\text{napkins}} = 2.89$, $SD = 1.55$, and for a cell phone cover and charger, $t(52) = 3.52$, $p = .001$, $M_{\text{phone cover}} = 6.25$, $SD = 1.80$, $M_{\text{phone charger}} = 5.17$, $SD = 2.06$; however, there was no significant difference in cognitive involvement for socks and graphic tees, $t(52) = 1.53$, $p = .133$, $M_{\text{socks}} = 5.30$, $SD = 1.49$, $M_{\text{graphic tees}} = 5.75$, $SD = 1.72$. In addition, socks and graphic tees were significantly different in terms of the influence of peers' thoughts on purchasing decisions, $t(52) = 4.10$, $p < .001$, $M_{\text{socks}} = 3.21$, $SD = 1.84$, $M_{\text{graphic tees}} = 4.47$, $SD = 1.85$. Therefore, socks are used as the private product and graphic tees as the social product for study 3.

T-tests show that the statements "It is absolutely wonderful!" and "It is absolutely wonderful. You have to buy it!" significantly differ in persuasive wording presence (PWP), $t(24) = 4.55$, $p < .001$, $M_{\text{No PWP}} = 3.88$, $SD = 1.30$, $M_{\text{PWP}} = 4.96$, $SD = 1.24$, but do not differ in deceptiveness, $t(24) = 0.81$, $p = .425$, $M_{\text{No PWP}} = 3.96$, $SD = 1.21$, $M_{\text{PWP}} = 4.20$, $SD = 1.32$. All other statement combinations either did not differ on persuasive

intent or also differed on deceptiveness. Therefore, these two statements are used for study 3.

Of the 53 participants in the pre-test, 17 completed both the two minute, 10 item and the five minute, 20 item letter set task. Performance on the two tasks was highly correlated, $r = .625$, $p = .007$. Therefore, the shortened two-minute, 10 item letter set task is used in study 3 to measure cognitive abilities.

Methods

Participants and Design. Two hundred and fifteen undergraduate students (average age = 21.5, 39.5% female) participated in this study in exchange for course credit. This study featured a 2 (evaluation context: private, social) x 2 (persuasive wording: yes, no) x 2 [cue manipulateness: moderate (character), high (celebrity)] between subjects design where participants were randomly assigned to one of the eight conditions. Evaluation context is used in study 3 instead of complexity (that was used in studies 1 and 2) given the theoretical relationship proposed between evaluation context and the individual and social priming perspectives. Persuasive wording is again included in study 3 as a marketer-supplied cue given the close connection between persuasive text and cue manipulateness as well as to further investigate another operationalization of persuasive wording, not based on greenwashing.

Materials and Procedure. As determined in the pre-test, socks were chosen as the private product, and graphic tees were chosen as the social product given the influence of

peers' opinions in purchasing decisions. Also confirmed in the pre-test, the statement "It is absolutely wonderful!" is used for the non-persuasive condition, and the statement "It is absolutely wonderful! You have to buy it!" is used for the persuasive wording condition. The levels of cue manipulateness are the same as in study 2 with moderate manipulateness (character) and high manipulateness (celebrity). The layout of the text and visuals in all conditions mimicked the conditions from figure 4.2; however, introduction text featured the statement "Introducing this new line of socks (graphic tees)" and then followed with text from the corresponding persuasive wording condition.

To examine the social priming perspective's contribution to consumer information processing, two new constructs are included in study 3 that were not included in study 2: theory of mind and psychological reactance. Theory of mind was measured using the Imposing Memory Task, a series of scenarios developed by Kinderman, Dunbar, and Bentall (1998). In every scenario, participants are asked questions to assess both knowledge of facts (e.g., "Sam went to the post office to buy a stamp") and theory of mind (e.g., "Sam thought Henry knew the post office was on Bold street"). Participants that answered too many factual questions incorrectly can be eliminated so as to not include results of participants who did not thoroughly read the theory of mind scenarios. Theory of mind questions assess whether participants are able to discern the difference between what they (as the reader of the passage) know in comparison to what the characters in the passages know. Using the post office example again, the scenario text includes: "Henry had initially told Sam the post office was on Elm street. Sam went to Elm street only to learn that the post office was on Bold street." The reader knows that the post office is on Bold street; however, Henry does not. Thus, a high theory of mind

respondent would realize this difference and state that Sam actually thought that Henry knew the post office was on Elm street. We use a shortened three-scenario version of the full five-scenario version of the imposing memory task, which has been used in prior research (Taylor and Kinderman 2002). Additionally, a pre-test (college students, N=18) showed high correlation between the three-scenario and five-scenario versions of the Imposing Memory Task, $r = .827, p < .001$. Due to the complexity of the theory of mind measure, only native English speakers were included in this study.

A theory of mind scale was calculated by giving one point to each correct theory of mind response (*Max Possible* = 11, *Sample Range* = 4-11, *Mean* = 9.10, *SD* = 1.41). Similarly, a memory scale was calculated by giving one point to each correct memory response (*Max Possible* = 14, *Sample Range* = 7-14, *Mean* = 12.89, *SD* = 1.19). Less than 5% of participants answered less than 70% of the memory questions incorrectly. Following the procedure by Kinderman, Dunbar, and Bentall (1998), t-tests were conducted between the low memory and high memory groups on all dependent variables. There were no significant results, and therefore all participants were included in the analysis.

The same scale to measure advertising skepticism as used in study 2 was again used in study 3 ($\alpha = .862$). A second mediator, psychological reactance, is included in study 3 to examine the social priming perspective. Psychological reactance was measured using a fourteen-item scale ($\alpha = .781$) developed by Hong and Page (1989) with all items assessed on a five-point Likert scale ranging from *strongly disagree* to *strongly agree*.

Cognitive abilities are measured with the reduced 10 item, two minute version of the letter set task, which was validated for consistency with the full version in the pre-

test. To measure product evaluations, participants reported their willingness to pay (one item), perceived authenticity (one item), and overall attitude (study $\alpha = .944$) toward the socks or graphic tees. These three outcome measures are used in study 3, in comparison to the several others used in prior studies, to simplify the number of outcome variables, yet still measure the same outcome variables that prior research on marketer-supplied cues (and more specifically, spokesfigures) have used (Folse et al. 2012). The same questions for these dependent variables, as used in studies 1 and 2, were again used here in study 3.

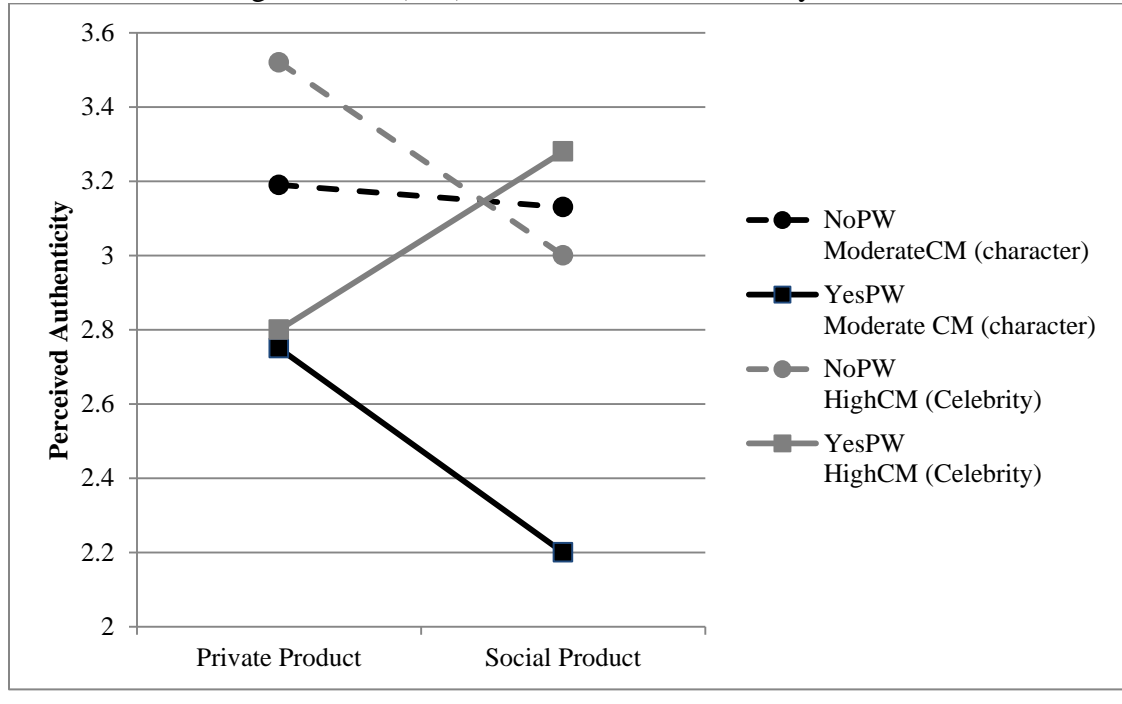
Results

Similar to studies 1 and 2, cue manipulateness significantly influences product evaluations, although this influence is dependent upon the social versus individual nature of the product. Multivariate analysis with overall attitude, willingness to pay, and perceived authenticity as dependent variables shows a significant two-way interaction between cue manipulateness and evaluation context, $F(3, 205) = 6.49, p < .001$, Wilk's $\Lambda = 0.91$. For both willingness to pay, $F(1, 207) = 4.56, p = .034$, and overall attitude, $F(1, 207) = 17.24, p < .001$, cue manipulateness has little influence on a non-social product (i.e., socks). In contrast, for a social product (i.e., graphic tees), using high cue manipulateness (celebrity) rather than lower cue manipulateness (character) leads to a higher willingness to pay and higher overall attitude toward the product. See table 4.3 for means and standard deviations.

Additionally, there was a significant multivariate main effect of persuasive wording presence, $F(3, 205) = 4.34, p = .005$, Wilk's $\Lambda = 0.94$. Participants in the persuasive wording conditions perceived less authenticity, $F(1, 207) = 6.85, p = .010$, and had lower overall attitude toward the product, $F(1, 207) = 9.76, p = .002$, than participants in the no persuasive wording conditions. For authenticity, there was a significant three-way interaction between cue manipulateness, evaluation context, and use of manipulation, $F(1, 207) = 4.60, p = .033$. In the no persuasive wording conditions, high cue manipulateness (celebrity) had a positive influence on the perceived authenticity of a non-social product but a negative influence on a social product. In contrast, in the persuasive wording conditions, low cue manipulateness (character) led to higher perceived authenticity for a non-social product in comparison to a social product whereas high cue manipulateness (celebrity) led to higher perceived authenticity for a social product in comparison to a non-social product; see figure 4.4.

In other words, when the evaluation context is social and persuasive wording is present, a marketer-supplied cue with more manipulative capabilities (e.g., a celebrity spokesperson) positively influences product evaluations, likely a result of one's cognitive abilities not being activated and used to evaluate the cue. When the evaluation context is private, however, cue manipulateness has a much less pronounced effect in comparison to the effect of persuasive wording. This is reasonable given the use of cognitive abilities much more than reliance on heuristic cues in a private context. In addition, this basis in cognitive abilities leads to a greater reliance on advertising skepticism, which then leads to lower product evaluations when persuasive wording is present.

Figure 4.4. Interaction between Cue Manipulativenes (CM), Evaluation Context, and Persuasive Wording Presence (PW) for Perceived Authenticity



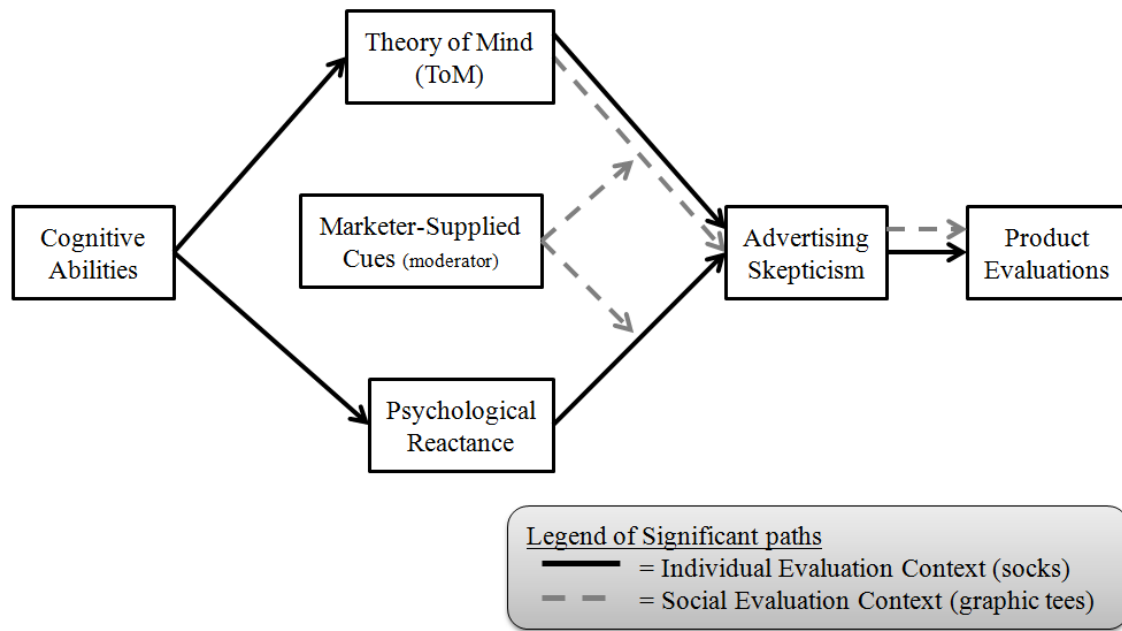
SEM using AMOS 18.0 was used to examine the differential influence of evaluation context (i.e., private and social products) on the individual and social priming perspectives. The data were analyzed in two groups: private (socks) and social (graphic tees). Five thousand bootstrapped samples with bias-corrected confidence intervals were conducted to provide a more accurate estimate of effects given the size of the sample. A latent variable was used to represent product evaluations, which consisted of willingness to pay, overall attitude, and perceived authenticity ($\alpha = .585$). According to Hu and Bentler's (1999) SEM fit recommendations, fit for the full model was very good with $\chi^2(64) = 76.58, p = .135, SRMR = .068, CFI = .970,$ and $RMSEA = .030$. See figure 4.5 and table 4.4 for a summary of results.

Table 4.3. Descriptive Statistics for Cue Manipulativenness (CM), Evaluation Context, and Persuasive Wording Presence

<i>CM</i>	Moderate (Character)				High (Celebrity)			
<i>Evaluation Context</i>	Private		Social		Private		Social	
<i>Persuasive Wording</i>	No	Yes	No	Yes	No	Yes	No	Yes
Overall Attitude	3.79 (.20)	3.66 (.21)	3.13 (.20)	2.28 (.22)	3.65 (.22)	3.35 (.22)	4.05 (.22)	3.44 (.22)
Willingness to Pay	2.90 (.38)	3.01 (.40)	4.35 (.38)	3.62 (.43)	2.81 (.43)	3.27 (.43)	5.42 (.43)	5.24 (.43)
Perceived Authenticity	3.19 (.23)	2.75 (.24)	3.13 (.23)	2.20 (.25)	3.52 (.25)	2.80 (.25)	3.00 (.25)	3.28 (.25)

Note: This study used two evaluation contexts: private (socks) and social (graphic tees). Cells display means (and standard deviations).

Figure 4.5. Structural Model of Individual and Social Antecedents to Product Evaluations Differentiated by Evaluation Context



Note: Marketer-supplied cues are listed as a moderator to the paths between theory of mind and advertising skepticism as well as between psychological reactance and advertising skepticism because of the manipulative nature of the cues. Although advertising skepticism is a trait measure, prior research has shown that even stable traits can be manipulated (Lowery et al. 2007).

For the private product, higher performance on the letter task set (i.e., a surrogate for cognitive abilities) was antecedent to reduced theory of mind and psychological reactance. Lower theory of mind and psychological reactance led to lower advertising skepticism, and in turn, lower advertising skepticism then led to more positive product evaluations. Given the evaluation context (i.e., private nature of the product), this inverse relationship was expected between cognitive abilities (an individual characteristic) and theory of mind and psychological reactance (social characteristics). Indirect effects show that, for the private product, high cognitive abilities, as measured by the letter set task, were inversely related to advertising skepticism but positively related to product

Table 4.4. SEM Results by Evaluation Context (Private, Social)

	<i>Evaluation Context</i>	
	Private	Social
Direct Effects		
Letter Score → ToM	-.144* (.074)	.057 (.076)
Letter Score → PsyReactance	-.047* (.023)	-.017 (.501)
PsyReactance → AdSkep	.288* (.132)	.002 (.865)
ToM → AdSkep	.112** (.042)	.088* (.040)
AdSkep → Product Evaluations	-.299 ^D (.168)	-.275* (.109)
Persuasive Wording → Product Evaluations	-.285 (.310)	-.366* (.172)
CM → Product Evaluations	.005 (.987)	.517** (.191)
Indirect Effects		
Letter Score → Product Evaluations	.009 (.008)	-.001 (.003)
PsyReactance → Product Evaluations	-.086 (.085)	-.006 (.037)
ToM → Product Evaluations	-.034 (.032)	-.024** (.022)

Note: Cells represent unstandardized estimates (and standard errors). Paths are significant at $p < .05$ *, $p < .01$ **, $p < .001$ ***, ^D = directional significance at $p < .10$. ToM = theory of mind. PsyReactance = psychological reactance. AdSkep = advertising skepticism. *Product Evaluations* is a latent variable consisting of willingness to pay, overall attitude, and perceived authenticity. Persuasive Wording is a dummy variable where 1 = persuasive wording and 0 = no persuasive wording. Celebrity is a dummy variable where 1 = celebrity and 0 = character. *CM (cue manipulateness)* is a dummy variable where 1 = high CM (celebrity) and 0 = moderate CM (character). Letter Score represents the total score on the letter set task.

evaluations. Neither persuasive wording presence nor cue manipulateness significantly influenced product evaluations.

As expected, cognitive abilities did not significantly influence product evaluations for the social product. Instead, as suggested by the social priming perspective, theory of mind was the root antecedent for priming effects for a social product. High theory of mind led to high advertising skepticism. This heightened advertising skepticism then led to lowered product evaluations. In addition, both persuasive wording and cue manipulateness significantly influenced product evaluations, although the interaction between these conditions was not a significant determinant of product evaluations.

Participants in the persuasive wording condition reported lower product evaluations in comparison to the no persuasive wording condition, and participants in the high cue manipulateness (celebrity) condition reported higher product evaluations in comparison to the low cue manipulateness (character) condition. Also, bootstrapped results showed a significant and negative indirect effect from theory of mind to product evaluations.

Discussion

Consumers are more influenced by marketer-supplied cues when evaluating socially-oriented products in comparison to individually-oriented products where consumers rely more on cognitive abilities, thereby supporting hypothesis 5. In other words, contextual cues (e.g., the evaluation context) greatly influence use and activation of a priming perspective model, which also influences whether marketer-supplied cues influence product evaluations. For the social product, use of a marketer-supplied cue with high manipulative capabilities (e.g., a celebrity spokesperson) in comparison to a cue with fewer manipulative capabilities (e.g., a character spokesperson) leads to a higher willingness to pay and overall attitude. It is possible this occurs because consumers believe the claims made by the manipulative cue and thus do not use their cognitive abilities to further assess the validity of the cue. Further research is needed to verify this conjecture, however. Also, for social products, introducing persuasive wording leads to lower product evaluations, thereby supporting hypothesis 1a, although these effects differ by type of marketer-supplied cue. In other words, these marketer-supplied cues implicitly prime consumers, which then influences product evaluations.

Confirming the findings in study 2, advertising skepticism continues to mediate the relationship between cognitive abilities and product evaluations whereby high advertising skepticism leads to lower product evaluations, thereby supporting hypotheses 2a and 2b. Whether cognitive abilities are measured through a working memory capacity task (study 2) or a letter set task (study 3), the same effects occur, thereby suggesting the pervasiveness of the influence of cognitive abilities in product evaluations, especially for evaluation contexts that are non-social in nature. Because cognitive abilities and advertising skepticism are used in evaluation of private products, hypothesis 4a is supported. Contextual cues (e.g., evaluation context) influence use and activation of priming perspective, whereby consumers generally use mechanisms of the individual priming perspective for evaluation of private goods.

However, there is more interrelationship than expected between the individual and social priming perspectives with regards to evaluation context. For example, when the evaluation context is private in nature, cognitive abilities are shown to lead to a lessened influence of theory of mind and psychological reactance. Although at first this may seem in contradiction to the theorized individual and social priming perspectives, these findings actually provide validation for these theoretical perspectives. When cognitive abilities are activated (as is the case with private products), consumers are much less likely to rely on social intuitions, which, according to the social priming perspective, are measured through theory of mind and psychological reactance. Thus, we would expect there to be an inverse relationship between activation and use of mechanisms of the individual priming perspective (e.g., cognitive abilities) and

mechanisms of the social priming perspective (e.g., theory of mind), thereby supporting hypotheses 4a and 4b.

While theory of mind is a core determinant for evaluation of social products, as expected by hypothesis 3a and 4b, theory of mind is shown to lead to advertising skepticism rather than psychological reactance, thus not supporting hypothesis 3b. Perhaps this is a result of psychological reactance's foundation in restricted freedom (Brehm 1966; Clee and Wicklund 1980; Donnell et al. 2001). Because graphic tees are in ample supply and freedom to purchase the tees was not perceived as restricted, consumers may rely more on general advertising skepticism rather than psychological reactance. Future research should investigate the influence of psychological reactance on private and social products specifically in situations where freedom is clearly restricted, such as with a limited time special, limited quantities available for purchase, or restricted purchase qualifications. Further research should also investigate believability of the advertising claim to see if freedom is believed to be restricted.

General Discussion

We find that marketer-supplied cues can implicitly prime consumers, thereby influencing product evaluations. Not only do cues in isolation prime consumers, but these cues also interact with one another leading to implicit primes that a marketer may be unaware of. More specifically, the manipulativeness of a marketer-supplied cue greatly influences product evaluations, although these effects are highly dependent upon other marketer-supplied cues, such as persuasive wording, complexity, and the evaluation

context. For example, we find that manipulative marketer-supplied cues (e.g., celebrity spokesfigures) produce the highest perceived authenticity and overall attitude in situations of high complexity and presence of persuasive wording, whereas less-manipulative marketer-supplied cues (e.g., spokescharacters) produce the lowest perceived authenticity and overall attitude in situations of high complexity and persuasive wording. Meyers-Levy and Malaviya (1999) suggest that consumers can become cognitively overloaded in situations of high complexity leading to poorer evaluations of a company's manipulative intent. In this case, highly manipulative marketer-supplied cues are evaluated more positively than non-manipulative cues in situations of high complexity. In contrast, we find that product evaluations were generally lower for highly manipulative cues when complexity was low, suggesting that the consumer has more cognitive resources available to attend to and evaluate such cues.

We also find that contextual cues relating to evaluation context (e.g., private or social product) greatly influences priming effects. Marketer-supplied cues have a greater influence on social products that are consumed in a socially visible manner (e.g., rain jacket, coffee mug, sports drink) in comparison to private products that are consumed primarily outside of the view of others (e.g., bed sheets, laptop battery, cotton swabs). These findings are likely a result of reliance on activation of contextual processing where social evaluation procedures are used for a social product leading to a focus on symbolic cues (O'Cass and Frost 2002), in comparison to using more individual cognitive evaluation procedures for a private product.

More importantly, we explored holistic models of consumer information processing. We compared and provided evidence for two competing theories of priming,

one rooted in individual mechanisms and another rooted in social mechanisms (Wright 2002). We show that in the context of social products, consumers rely more on theory of mind (i.e., the ability to understand the intentions of others), while in the context of private products, consumers rely more on cognitive abilities (measured through working memory capacity and a fluid intelligence task).

Although our research has been conducted with application to spokesfigures, our results can be applied to evaluation of all marketer-supplied cues. For example, packaging color may play a more prominent role in influencing product evaluations in the context of social products where consumers are more actively engaging theory of mind (i.e., evaluating the company's intentions with color choice) as well as assessing attitudes toward what the consumers' peers would think of them purchasing the product. As another example, Keebler's recent cause-marketing partnership with the American Red Cross may engage a consumer's theory of mind more than the consumer's cognitive abilities, given the general consumption of cookies in a social situation, leading the consumer to focus on critiquing the intentions of the brand in partnership with the cause. In contrast, if this same partnership was employed with a private product (e.g., underarm deodorant), we might expect the consumer to instead focus on cognitive evaluations including partnership details and the qualities of the cause. However, further research needs to validate these conjectures and show that the individual and social priming perspectives proposed here also apply to other contexts.

Future research should also explore when psychological reactance is activated. We expect that because there are no limits to freedom given the perceived abundance of social clothing products (graphic tees, in particular), psychological reactance was not

activated. The literature on psychological reactance suggests that reactance is only employed when freedom is felt to be restricted (Brehm 1966; Hong and Page 1989). Further research would benefit from exploring the differential influence of psychological reactance when freedom is restricted (e.g., in the case of a limited time promotion or quantity purchase limit) versus when freedom is not restricted (e.g., no time or quantity restrictions).

Given a consumer's reliance on cognitive abilities when evaluating products in a private context, this research suggests that consumers may be more vulnerable to complex social manipulations for private products and thereby less capable of understanding why the marketer is using a certain celebrity or donating a portion of their proceeds to a cause. Consumers evaluating private products need to be alerted to not only rely on facts and figures but also reach further to understand why information is being placed on product packaging and in marketing communications. In contrast, consumers evaluating social products need to be alerted to not rely purely on social cues but also use cognitive abilities, especially when making high involvement purchases. A consumer relying on social cues could purchase an item as an act of status consumption only to find it to be inferior quality and not serve the purpose it was meant for (e.g., a poor quality handbag). Prior research has shown that consumers face a dilemma between purchasing real and counterfeit goods during status consumption (Geiger-Oneto et al. 2013). Perhaps if consumers were reminded of the need to evaluate such social goods using cognitive abilities, consumers would be less likely to purchase counterfeit goods and instead purchase a longer-lasting product that would provide satisfaction beyond just social status.

Conclusion

This research examined how marketer-supplied cues can act as implicit primes to influence product evaluations. We explored the mechanisms influencing consumers' use of these implicit primes, thereby building on a large body of literature comparing competing theories of individual and social influence (Earley and Ang 2003; Herrmann et al. 2007; Wright 2002). We show two distinct priming perspectives, individual and social, that influence product evaluations. Under the individual priming perspective, cognitive abilities and advertising skepticism are most influential in product evaluations. In comparison, under the social priming perspective, theory of mind and psychological reactance are most influential.

We also show that activation and use of these priming perspectives is dependent upon contextual cues (e.g., evaluation context). Evaluation of products in a private context engages more of individual priming mechanisms, while evaluation of products in a social context engages more of social priming mechanisms. In addition, we find an interrelationship between these perspectives coalescing around advertising skepticism when freedom is not limited and therefore not activating use of psychological reactance. Thus, we show that marketer-supplied cues can implicitly prime consumers, and individual and social perspectives of priming are key to understanding processing of such cues as well as consumers' resulting product evaluations.

CHAPTER V
REVIEWING THE COHESIVE CONTRIBUTION OF ESSAY 1, ESSAY 2, AND
ESSAY 3

Each of the essays in this dissertation touched on a different topic of priming. To start off, essay 1 built a strong conceptual understanding of the field of priming in marketing and developed a model to easily understand the types of priming used by researchers today. Essay 2 built on essay 1 by conducting experiments aimed at understanding collateral communication primes (i.e., primes relating to non-product-centric information). The results of essay 2 show that theory of mind and advertising skepticism are core antecedents to consumer priming effects. Therefore, essay 3 built on essay 2 to explore how theory of mind and advertising skepticism interacted with other pivotal consumer processing constructs to influence consumer response to primes. Two competing models were compared, one rooted in individual mechanisms (cognitive abilities and advertising skepticism) and another rooted in social mechanisms (theory of mind and psychological reactance), with results showing that individual and social mechanisms work together in a holistic model of consumer reaction to marketer-supplied cues. All three essays contribute to our understanding of priming as well as related literature bases in consumer processing, cueing, memory, and marketing communications.

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