



FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION

# **The Role of Knowledge Accessibility in Consumer Behavior**

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## DOCTORAL JURY

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## NEDERLANDSTALIGE SAMENVATTING

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Beslissingen van consumenten zijn doorgaans slechts gebaseerd op een klein gedeelte van alle informatie die ze ter beschikking hebben. Daarenboven baseren ze hun keuzes vaak niet zozeer op de meest relevante of meest betrouwbare elementen; eerder baseren ze zich op die elementen die ze gemakkelijk kunnen ophalen uit hun geheugen. Dit proefschrift omvat 3 empirische hoofdstukken die dieper ingaan op de invloed die de toegankelijkheid van een concept in het geheugen heeft op de keuzes die consumenten maken.

In het eerste empirische hoofdstuk wordt dieper ingegaan op hoe de toegankelijkheid van concepten wordt beïnvloed door de motivaties (d.i., de doelen die mensen zich stellen en de concretere plannen die ze maken om deze doelen te bereiken) die consumenten hebben. Dagelijks stellen consumenten zich bepaalde doelen of maken ze plannen over hun toekomstige aankopen. Bijvoorbeeld, iemand kan 's ochtends plannen om na het werk langs de supermarkt te gaan om daar de ingrediënten voor het avondeten te kopen. Voor consumenten heeft het enkel zin om deze plannen of intenties te maken als ze die ook daadwerkelijk kunnen uitvoeren. Voorwaarde hiervoor is dat ze hun intenties kunnen onthouden. Indien ze 's avonds vergeten langs de supermarkt te gaan, of indien ze niet meer weten wat ze nodig hebben heeft het weinig zin om daar op voorhand plannen voor te maken. Gelukkig, heeft het vormen van aankoopintenties wel vaak zin omdat intenties ondersteund worden door een specifiek mechanisme dat een invloed heeft op het gemak waarmee iets kan opgehaald worden uit het geheugen, of de toegankelijkheid van concepten. Specifiek, wanneer concepten het onderwerp van een bepaald doel of een bepaalde intentie (of enig andere motivatie) zijn, worden ze toegankelijker waardoor ze een grotere invloed hebben op de beslissingen van consumenten. In dit hoofdstuk tonen we aan dat dit specifiek mechanisme op gang gebracht kan worden door simpelweg een intentievraag te beantwoorden. Daarenboven zorgt dit mechanisme ervoor dat de kans dat consumenten hun gedrag gaan herhalen verkleint. Dit blijkt echter ook het geval te zijn in situaties waarin de preventie van repetitief gedrag niet noodzakelijk is.

In het tweede empirische hoofdstuk bestuderen we of en wanneer het meer toegankelijk maken van 1 bepaald merk de keuzes die consumenten maken verandert.

Meer bepaald gaan we na of selectief meer aandacht geven aan een niet meest geprefereerd merk ervoor kan zorgen dat de consument voor dit merk en niet voor z'n meest geprefereerde merk kiest. Onderzoek heeft reeds aangetoond dat dit inderdaad zo is. Posavac e. a. (2002) lieten consumenten een keuze maken uit alternatieven. Juist voor ze deze keuze moesten maken, brachten ze de respondenten een alternatief onder de aandacht waarvan ze wisten dat het niet de voorkeur wegdroeg van de respondenten. Het selectief focussen op (i.e. aandacht geven aan) een niet meest geprefereerd alternatief vergrootte de kans dat dit alternatief gekozen werd. De vraag is echter of dit steeds het geval is. Recent vonden Coates e.a. (2004) dat selectief focussen op een niet meest geprefereerd alternatief er enkel voor zorgt dat meer consumenten dit alternatief in overweging gaan nemen, maar niet dat ze het daadwerkelijk ook gaan kiezen. De resultaten van ons onderzoek tonen aan dat de mate van betrokkenheid van de consument het effect van selectieve aandacht op de uiteindelijk keuze modereert. Door aan te tonen dat selectief aandacht geven aan een niet meest geprefereerd merk enkel de keuzes van laag betrokken consumenten beïnvloedt, kunnen we de tegenstrijdige bevindingen die gerapporteerd werden in voorgaand onderzoek met elkaar verzoenen. Daarenboven vinden we dat het focale alternatief slechts oppervlakkig verwerkt dient te worden om de keuze te beïnvloeden.

Het toegankelijk maken van een bepaald concept kan een invloed hebben op de toegankelijkheid van gerelateerde concepten. Bijvoorbeeld, het zien van een hond kan ook concepten als leiband, kat, huisdier, etc. toegankelijker maken. Hoe uitgebreid die verspreiding van activatie onder gerelateerde concepten precies is kan beïnvloed worden door verschillende factoren. Zo tonen we in het derde hoofdstuk aan dat omlaag kijken zorgt voor een beperkte verspreiding van activatie terwijl omhoog kijken leidt tot een uitgebreidere verspreiding van activatie. Daarenboven vinden we de mate van verspreiding van activatie een invloed heeft op de keuzes van consumenten



# CHAPTER I: INTRODUCTION

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## CHAPTER I: INTRODUCTION

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Imagine yourself standing in the grocery store in front of a shelf stacked with packages of candy bars, deciding which of the presented brands you want to purchase.

- Before entering the store, you are asked to fill out a questionnaire on your purchase intention for snack bars. Would the simple act of expressing your purchase intention beforehand affect the choice you subsequently make? And, assuming you unexpectedly make a second choice in the snack bar category, would the likelihood of choosing again for the same brand depend on whether you have a priori expressed your purchase intentions?
- Would your brand choice be influenced if before entering the store your attention had been grabbed by an advertisement for another snack bar brand than your most preferred brand? Would your choice depend on how deeply you processed the information provided in the ad, and/or on how important you consider the decision.
- Or, would your choice be different when the candy bars are stacked on a high or on a low shelf? Would merely having to look up or look down on the assortment affect the brand you ultimately choose?

It may never have occurred to you that responding to a questionnaire, being exposed to an ad or simply having to look up or down when deciding which brand to buy, may exert a significant influence on such a simple decision as purchasing a candy bar, yet the research reported in this doctoral dissertation suggests that the answer to all of the above questions is affirmative.

This doctoral dissertation contributes to answering each of these questions by relying on knowledge accessibility theory. In essence, knowledge accessibility theory departs from the fact that people's judgments and decisions are typically based on only a small subset of the knowledge they could potentially rely on (Wyer, 2008). From all the information people have stored in memory only a small part is likely to be retrieved when forming a judgment or making a choice. Knowledge accessibility refers to the ease with which information can be retrieved from memory (Feldman & Lynch, 1988). Knowledge accessibility theory is a framework well-researched in psychology and widely used to account for findings in the consumer behavior domain. Purchase decisions, like

judgments and decisions more generally, are often based on whatever constructs happen to be accessible at that time (Wyer, 2008).

In what follows we briefly introduce the knowledge accessibility framework by discussing (1) what knowledge is, (2) how it is represented in memory, (3) what are the most important determinants of knowledge accessibility and inhibition, and (4) how accessible knowledge affects judgments and decisions. Afterwards, we describe how the studies of this doctoral dissertation use knowledge accessibility theory as a framework to predict the behavior of consumers in certain situations.

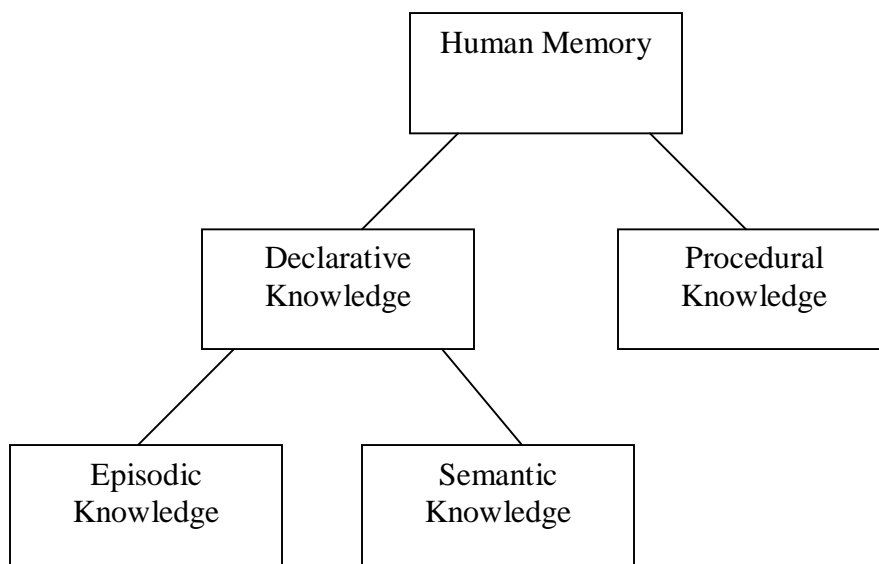
## 1. KNOWLEDGE ACCESSIBILITY FRAMEWORK

### 1.1 What is Knowledge?

Generally, two broad types of knowledge are stored in memory: declarative knowledge and procedural knowledge (see Figure 1). Declarative knowledge “concerns the referents of everyday life experiences” (Wyer, 2008, p. 32). This type of knowledge comprises a broad variety of constructs, such as knowledge on persons, objects and events; representations of specific experiences we have had; personal goals, values and opinions; and prototypic sequences of events that occur frequently (Wyer & Xu, 2010). In sum, declarative knowledge represents coherent information about specific constructs and categories. That is, information about a specific individual object or event, or information on a class of objects, events or properties may be stored (Higgins & King, 1981). Based on these levels of specificity of information, a distinction between two types of declarative knowledge can be made. Episodic declarative knowledge refers to the memory for concrete personal events and the temporal-spatial relations among these events (e.g., my trip to the United States, the first time I ate out at a Mexican restaurant), whereas semantic memory represents more abstract, context-free knowledge (e.g., vacation trips, restaurant visits). It represents organized knowledge that a person possesses about words, their meaning and referents, about relations among them, and about rules and algorithms for the manipulation of symbols, concepts and their relations (Tulving, 1972).

A second broad type of knowledge stored in memory concerns procedural knowledge, which refers to “sequences of actions that one performs in pursuit of a particular goal” (Wyer, 2008, p. 32), or ‘procedures’ (Wyer & Xu, 2010). Such procedures consist of a number of cognitive or motor actions that are normally performed sequentially in pursuit of the objective at hand (Wyer & Xu, 2010). For example, we know how to make a cup of coffee, to set the table, and to drive a car. These procedures are generally stored in memory as part of declarative knowledge and can be deliberately retrieved and consulted. Once a procedure is well-learned, however, it may often be applied automatically (Wyer, 2008; Wyer & Xu, 2010).

Figure 1. Types of Knowledge



As the research in this dissertation is solely concerned with declarative knowledge, the next section will focus on how declarative knowledge is stored in memory. Next, we proceed with a description of a set of principles that guide the activation processes of declarative knowledge.

## 1.2 How is Knowledge Represented in Memory?

With respect to declarative knowledge, an associative model formulation is a widely accepted conceptualization of memory structure (Anderson, 1983; Wyer & Srull, 1989). For example, the associative network memory model views knowledge as consisting of a set of nodes and links. Nodes are stored information connected by links that vary in strength (Keller, 1993). The associative network model of memory is also a common way for consumer researchers to conceptualize the organization of brands and brand-related information in memory (Mantonakis, Whittlesea & Yoon, 2008; Nedungadi, 1990). Hence, brand knowledge can be conceptualized as consisting of a brand node in memory to which a variety of associations are linked. Specifically, brand associations are the informational nodes that are linked to the brand node and contain the meaning of the brand for consumers, such as attributes, benefits and brand attitudes (Keller, 1993).

## 1.3 Determinants of Knowledge Accessibility

One major aspect in the work on knowledge accessibility has been identifying factors that increase or decrease the accessibility of certain memory representations. Across several years, attention and memory researchers have argued that besides activation processes, inhibitory processes are an equally fundamental part of human cognitive processes<sup>1</sup> (e.g., Anderson & Bell, 2001; Anderson, Bjork & Bjork, 1994; Healey et al., 2010, Storm & Nestojko, 2010). Hence, not only factors that increase a construct's accessibility, but also factors that actively decrease a construct's accessibility can be discerned. In what follows, we will discuss the factors that result in increased activation, and identify those determinants that may exert an inhibitory effect. In addition, we demonstrate the importance of knowledge accessibility in guiding consumer behavior by providing examples on how each of the discussed determinants affects consumer behavior.

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<sup>1</sup> The existence of inhibitory processes is not (yet) unequivocally accepted, as more parsimonious explanations can often account for findings ascribed to inhibitory processes. Yet, a growing body of research focuses on providing direct evidence for the role of active suppression in certain memory retrieval processes (e.g., Anderson & Bell, 2001; Anderson & Spellman, 1995; Healey et al., 2010).

Overall, construct accessibility is a function of three main determinants: (1) The strength of a construct's activation, (2) the strength of association between a construct and other active constructs, and (3) the availability of retrieval cues. In addition to these three major determinants of construct activation, a fourth determinant, generally referred to as the conceptual scope of attention, can be discerned. Research on the conceptual scope of attention has been limited, yet investigating its antecedents and implications for consumer behavior is equally important as studying the other determinants of accessibility.

### 1.3.1 The Strength of a Construct's Activation

The strength of a construct's activation is a function of the recency, frequency, and salience of the construct (Nedungadi, 1990). Higgins and King (1981) include motivation as an additional determinant of construct accessibility. First, the *recency* of activation refers to the time since the most recent activation of a construct (Higgins & King, 1981, Wyer & Srull, 1986). A study of Nedungadi (1990) nicely illustrates that a recent exposure to a brand affects consumers' decision making. Recently primed brands are more likely to be included in and chosen from a consumer's consideration set.

Second, also the *frequency* of activation of a construct heightens a construct's accessibility (Higgins & King, 1981; Wyer & Srull, 1986). It has been shown that merely answering attitude questions increases attitude accessibility and that repeated measurement of an attitude leads to even greater accessibility (e.g., Chapman, 2001; Downing, Judd & Brauer, 1992; Fazio, Chen, McDonel & Sherman, 1982; Powell & Fazio, 1984; Roese & Olson, 1994). Specifically, Fazio et al. (1982) report shorter response latencies for respondents whose attitudes were measured only once. Not only does frequency of activation impact brand latencies, it can also affect purchase behavior. These repeated incidental consumer brand encounters have been shown to increase the choice of the focal brand (Ferraro, Bettman & Chartrand, 2009).

In addition, repetitive activation of constructs has also been suggested to have an inhibitory effect. Specifically, retrieval induced forgetting refers to the fact that repeated practice of recalling some members of a category impairs later recall of other members of

that class, but not members of other classes (Anderson, Bjork & Bjork, 1994; Mantonakis, Whittlesea & Yoon, 2008). The notion is that repeated practice of some members of a class requires inhibition or suppression of unpracticed members of that category. Inhibition persists and prevents later recall of the unpracticed members. The result is that subjects are less likely to recall unpracticed items from practiced categories than items from non-practiced categories. Importantly, other categories are unaffected. Hence, having subjects think about one or more particular brands may not only increase the likelihood that these brands are considered for purchase, but can also inhibit the accessibility of other product category members that otherwise would be candidates for purchase (Alba & Chattopadhyay, 1985, 1986; Miniard, Unnava & Bhatla, 1989; Hastak & Mitra, 1996). This may be a reason to engage in comparative advertising in which a brand is compared to inferior brands while ignoring superior brands. A similar finding has also been demonstrated for recall of product attributes (Alba & Chattopadhyay, 1985). More specifically, marketers can determine the product dimensions on which they want to be judged and, at the same time, inhibit consideration of alternative dimensions on which their competitors are superior. Several studies in marketing have already demonstrated how marketers could use advertising and point-of-purchase displays to activate these inhibitor mechanisms in memory in order to gain a competitive advantage (e.g., Burke & Srull, 1988).

Third, the accessibility of a construct is also affected by its *salience* in memory (Higgins & King, 1981), which depends upon the prominence (a function of intensity, complexity and vividness) and distinctiveness (determined by uniqueness) (Schmidt, 1991) of the construct. Most research on prominence has focused on the salience of stimuli in the environment, such as the brand prominence in sponsoring (e.g., Johar & Pham, 1999), in advergames (e.g., Cauberghe & De Pelsmacker, 2010), of product placements (e.g., Cowley & Barron, 2008; Van Reijmersdal, 2009), or of in-store marketing attempts (e.g., Chandon, Hutchinson, Bradlow, & Young, 2009). Only little research deals with the accessibility of constructs derived from their prominence in memory. Brand distinctiveness in memory has been shown to have implications in the marketing domain though. Warlop, Ratneshwar and van Osselaer (2005), for example, demonstrated that distinctive brand names and a distinctive packaging often increase the



accuracy of consumers' memory-based product evaluations. Distinctive brand names are more likely to evoke the concomitant prior brand experiences rather than prior experiences with other brands.

Fourth, Higgins and King (1981) also include *motivations* (e.g., needs, values, goals, plans) as determinants of construct accessibility. Social and cognitive psychological motivation theories support this notion that motivation enhances the accessibility of motivation-related constructs (Goschke & Kuhl, 1993; Förster, Liberman & Higgins, 2005). For instance, Goschke and Kuhl (1993) demonstrated an increased accessibility of words as coffee, table, spoon, etcetera when an intention to set the table was formed. They argued that the intentional status is encoded in memory by tagging an intended activity with a 'commitment marker' (Förster, Liberman & Higgins, 2005).

Research on the mental representation of motivational constructs not only suggests that motivation enhances accessibility of motivation-related constructs; it also suggests inhibition of competing motivational states (competing needs, goals or intentions) (Kruglanski et al. 2002). Motivational states are believed to require shielding from distraction in order to attain goals or complete intentions (Gollwitzer, 1999). For instance, Bayuk, Janiszewski and LeBoeuf (2010) demonstrated that activating a plan encourages the execution of the plan while it discourages the execution of alternative, out-of-plan behaviors. More specifically, they showed that adopting the plan to reduce cholesterol by eating fewer eggs decreases the likelihood of exercising more to reduce cholesterol. Another manifestation of motivational induced inhibition can be observed upon fulfillment of the motivation (Liberman & Förster, 2000; Marsh, Hicks & Bink, 1998; Marsh, Hicks & Bryan, 1999; Förster, Liberman & Higgins, 2005). That is, having completed a certain goal or intention decreases the accessibility of related information in memory. This post-fulfillment inhibition has been suggested to occur in order to facilitate the pursuit of the next motivational state in line. Inhibiting concepts related to a completed intention would avoid its repetition (Marsh, Hicks & Bink, 1998).

An important issue in memory accessibility research, related to these determinants of knowledge activation, is the *enduring* character of states of heightened activation or inhibition. The described determinants differ in whether their resulting change in activation is likely to be momentary or prolonged. For instance, the influence of recency

of activation on accessibility is often momentary in the sense that its effect rapidly decays over time. An increase in construct accessibility evoked by a recent activation is likely to dissipate within more or less 15 minutes (Forbach, Stanners & Hochhaus, 1974). However, characteristics of the information itself determine the rate of decay in the respondent's ability to retrieve it. The recent activation of a more distinctive or prominent (i.e., salient) construct is likely to decay slower compared to the activation of more trivial constructs (Reyes, Thompson, & Bower, 1980). Also, the frequent activation of constructs can cause increased accessibility to persist longer. Hence, the effect of recency rapidly decays over time, whereas the effect of frequency and saliency tends to decay slower (Wyer, 2008).

Other than accessibility resulting from recency, frequency or saliency of activation is that accessibility from motivational sources persists as long as the motivation is active (Goschke & Kuhl, 1993; Bargh, Gollwitzer, Lee-Chai, Barndollar, and Trotschel, 2001). For example, Goschke & Kuhl (1993) showed that constructs that are related to an active intention remain increasingly accessible for as long as the intention is active. The heightened state of activation persists up until the intention is completed (or cancelled). In a similar vein, Bargh et al. (2001) showed that activation of an achievement goal increased performance on an anagram task. Performance facilitation appeared to be more pronounced after a delay compared to immediate performance facilitation. The persistence of accessibility of unfulfilled goals and intentions until fulfillment is functional as it helps to establish effective goal pursuit. Similarly, inhibition of constructs competing with an active motivational construct persists as long as the motivation is active (Veling & Van Knippenberg, 2006, 2008). The post-fulfillment inhibition is thought of as temporary, which would rapidly decay over time (Goschke & Kuhl, 1993). However, when the post-fulfillment inhibition in itself is functional in view of a new active motivation, it is likely to persist up until completion of this motivation (Förster, Liberman & Higgins, 2005).

### 1.3.2 The Strength of Association between Concepts

A second major determinant of knowledge accessibility is the strength of association between the knowledge to be accessed and other, already accessible constructs (Higgins & King, 1981; Wyer, 2008). For instance, activating knowledge on a brand increases the probability of retrieving this brand from memory, but simultaneously also increases the probability of retrieving other brands in the same product category. The activation of one brand is likely to spread to other related brands in the network. This effect is most pronounced for the most accessible, major brands after a minor, initially less accessible brand is activated (Nedungadi, 1990). This is in line with the suggestion that the strength of the association between a brand and other active brands is an important determinant of knowledge accessibility. The spreading of activation is affected by the position of the brand within the product category (Nedungadi & Hutchinson, 1985). A brand that is strongly linked to a product category, such as prototypical brands (i.e., brands that are considered to be most representative of the product category, such as Coca Cola for soft drinks, Heinz for ketchup, the iPhone for smart phones etcetera), is more likely to be activated from memory upon consideration of the product category, which has an influence on brand choice (Sutherland & Galloway, 1981; Krugman, 1965). Fazio, Herr and Powell (1992) introduced mystery ads as an effective means to create strong category-brand associations.

When considering the strength of association between concepts as a determinant of knowledge accessibility, it is important to recognize that strengths of association may be asymmetric. Specifically, it may be highly likely that thinking about a particular situation will evoke a particular brand (e.g., something to drink while watching a romantic movie, Cécémel hot chocolate comes to mind), but thinking of the brand will not necessarily evoke that situation (Holden & Lutz, 1992). Similarly, categorization research has long recognized that the strength of the link from an instance to a category is not necessarily related to the strength of the category to instance link. The finding that minor brands in a category are likely to lead to evocation of a major brand, but major brands are not likely to lead to evocation of minor brands can be interpreted as providing evidence of

asymmetries in the strength of associate-to-brand links versus brand-to-associate links (Nedungadi, 1990).

### 1.3.3 The Availability of Retrieval Cues

Further, the availability of retrieval cues in the environment affects what can be recalled at a certain moment. Hence, differences in physical and social circumstances tend to cause differences in the accessibility of particular constructs for any person in the situation (Higgins & King, 1981). For instance, Berger and Fitzsimons (2008) demonstrated that even the activation of a construct (e.g., dogs) that is merely conceptually or perceptually related to a specific brand (e.g., Puma) may increase this brand's accessibility. In turn, this increased accessibility influences product evaluation and choice, which are shown to vary directly with the frequency of exposure to conceptually related cues.

### 1.3.4 The Scope of Conceptual Attention

Finally, a consumer's scope of conceptual attention is likely to play an important role in both knowledge activation and inhibition. The scope of conceptual attention refers to the breadth of activation of mental concepts. This activation may be restricted to the mental representation of focal, highly activated concepts or may be extended to semantically related concepts (Anderson & Neely, 1996; Förster, Friedman, Özelsel & Denzler, 2006; Rowe, Hirsh & Anderson, 2007). For example, the spreading of activation from an active brand to a target brand is not only determined by the strength of association between the two brands, but also the scope of conceptual attention might have an effect. In certain situations the activation of mental representations may remain restricted to those with the highest accessibility. In other instances, the range of activation may be broader and spread to additional mental representations with lower a priori accessibility (Förster et al., 2006). For example, upon activating the construct 'pet' consumers with a narrow scope of conceptual attention will be most likely to think only of the most representative category exemplars such as dogs and cats, whereas individuals

with a broad scope of attention could also think of less typical exemplars such as minks. This limited or extended spreading of activation has been referred to as the scope of conceptual attention, which can be either narrow or broad. Hence, the scope of conceptual attention refers to the extent of the internal activation of concepts upon attending a focal object (Anderson & Neely, 1996; Förster et al., 2006; Rowe, Hirsh & Anderson, 2007).

The scope of conceptual attention affects the extent of spreading of activation, and may also lead to the inhibition of unattended concepts. Specifically, the retrieval of target items from memory involves conceptually focused selective attention, in which the internal spotlight of attention is directed to the mental representations of sought after items (Anderson & Neely, 1996; Anderson & Spellman, 1995). This narrowing of the scope of conceptual attention and the direction of attention to these target items leads to the inhibition of items not in the spotlight of attention (Förster et al., 2006).

Research on the conceptual scope of attention has been limited, yet mood states, and performing approach or avoidance behaviors have been suggested to affect the conceptual scope of attention (Förster et al., 2006; Friedman & Förster, 2010). Whereas a large body of consumer behavior research draws upon spreading of activation as a theoretical explanation for the reported findings, this body of research has largely neglected that the extent of spreading of activation is not only a function of the strength of association between concepts, but also depends on consumers' scope of conceptual attention.

#### 1.4 Incorporating Accessible Knowledge in Judgments and Decisions

The described determinants may all influence the accessibility of constructs in memory. The question is how the accessibility of certain constructs affects subsequent decision making.

First, people rarely retrieve and use more knowledge than is necessary to attain their objective. When each knowledge representation is sufficient to attain an objective on its own, the first representation that comes to mind is most likely to be applied (Wyer, 2008). Hence, a judgment is a function of the accessibility or ease with which something

can be retrieved from memory and the diagnosticity or the sufficiency of an input for a judgment or choice task (Feldman & Lynch, 1988). This accessibility-diagnosticity principle can explain the use of competing memory inputs and the use of memory versus contextual information in judgment (Menon, Raghubir & Schwarz, 1995). This indicates that knowledge accessibility can play an important role in both memory-based and stimulus-based decision making. Specifically, in a memory-based choice, that is when a consumer chooses a brand from a product category on the basis of information retrieved from memory, easily retrieved memory inputs will be used when they are also diagnostic. Hence, when none of the alternatives are physically present (e.g., when composing a shopping list or choosing a restaurant), but also when not all competitors can be found at the same location (e.g., car dealers), accessibility may help brands to gain a competitive advantage.

Furthermore, also in a stimulus-based choice decision, in which information relevant to the decision is readily available in the physical environment, consumers may retrieve information from memory as input to their decision (Lee, 2002). Relying on information readily presented in the environment alone to make a choice would often be too time-consuming and overwhelming in today's complex choice environment. Even when all alternatives are visually present, recall and inhibition of recall play an important role. Hence, a stimulus-based choice situation often results in a decision based on mixed information, whereby information available in the environment and information retrieved from memory is combined (Alba, Hutchinson & Lynch, 1991). Which mixture of information is used depends on the diagnosticity of the contextually available and easily from memory retrieved information.

Second, whether information, available in the environment or retrieved from memory, is sufficient depends on the time and effort one is willing and able to devote to judgment formation and decision making (e.g., Kokkinaki & Lunt, 1997). When motivation and/or ability are low, the threshold to judge a knowledge input as sufficient will be lower compared to when motivation and ability are high (Keller, 1993).

Furthermore, a distinction can be made between retrieval from explicit and implicit memory. This distinction refers to the differential role of consciousness in the retrieval of information (Mantonakis, Whittlesea & Yoon, 2008). Consumers use implicit memory

when retrieving information from memory without conscious recollection of its source, whereas conscious retrieval of information arises from explicit memory (Samu & Krishnan, 2010). Hence, implicit memory occurs without intentional retrieval, rather the brand name seems familiar and is automatically activated in memory (Holden & Vanhuele, 1999). This experience of familiarity an sich (i.e., processing fluency) (Winkielman & Cacioppo, 2001; Alter & Oppenheimer, 2009), or even the experience of ease of retrieving knowledge (i.e., retrieval fluency) (Fitzsimons et al., 2002; Winkielman, Schwarz & Belli, 1998; Schwarz, 1998; Schwarz et al., 1991; Wänke, Schwarz & Bless, 1995), apart from the actual retrieved knowledge or content, can also be incorporated in subsequent judgments and choices. For instance, when participants were asked to recall 12 examples of assertive behaviors, they rated themselves as less assertive than when they were asked to recall only six examples (Schwarz et al., 1991). Similarly, when an ad invites recipients to name either one reason or 10 reasons for (against) choosing a BMW over a Mercedes, the participants experienced the retrieval of one reason as easier than the retrieval of 10 reasons. Participants subsequently evaluated BMW more (less) favorably and Mercedes less (more) favorably when the retrieval ease was easy rather than difficult (Wänke, Böhner & Jurkowitsch, 1997).

In sum, a large body of research has demonstrated the role of knowledge accessibility in consumer behavior. It is not the goal of this dissertation to give an exhaustive overview of the literature. Instead, each chapter focuses on a specific topic and discusses the relevant literature. The next part provides an overview of the topics that will be discussed in the subsequent chapters of this dissertation.

## 2. DISSERTATION OUTLINE

Knowledge accessibility is a phenomenon that is well-addressed in consumer behavior research. Although it has been shown to have a profound influence on numerous aspects related to consumer behavior, several issues are still unclear and demand further investigation. For example, the role of the conceptual scope of attention has hardly been addressed in prior investigations of consumer behavior. This dissertation encloses three

chapters that demonstrate and extend our knowledge on the pervasive influence of declarative knowledge accessibility in consumer's decision making.

Chapter II, *A Motivational Account of the Question-Behavior Effect*, focuses on motivations in general and intentions in specific as determinants of knowledge accessibility. It describes the pattern of activation and inhibition of brands after responding to an intention question. Specifically, responding to an intention question leads to increased accessibility of the most preferred brand and a simultaneous inhibition of other well-preferred, competing brands. When the intention is completed, that is when a brand choice is made, the increased accessibility of the most preferred brand turns into an opposite reversed state of inhibition. Furthermore, it demonstrates the motivational nature of this accessibility pattern by identifying 'functionality' rather than 'the passing of time' as an important property of activation and inhibition in this situation. The reported findings are suggested to underlie the question-behavior effect, which describes the change in behavior that arises after responding to an intention question (Sprott et al., 2006).

Chapter III, *Combined Influence of Selective Focus and Decision Involvement for Memory-based Choices*, fine-tunes knowledge on the interplay between the well-researched concepts of recency of activation (referred to as selective focus) and processing motivation (i.e., decision involvement) in their influence on consideration set composition and memory-based choice decisions. Specifically, marketers often use salient stimuli to draw consumers' attention to a specific brand in the hope that a selective focus on the own brand increases the sales of this brand. However, previous studies are inconsistent concerning the impact of selectively focusing on a specific brand for a subsequent brand choice. To offer an explanation for these inconsistent results, decision involvement is introduced as a moderator of the relation between selective focus and brand choice. Two studies indicate that selectively focusing on a not most preferred alternative indeed alters choice decisions, but only when decision involvement is low. Study 1 further shows that this interaction effect between selective focus and involvement takes place in the selection rather than the brand consideration stage. By introducing level of processing next to decision involvement, Study 2 shows that the interaction effect emerges even in limited processing conditions. The study also reconciles different



explanations for the negative effect of selective focus on attitude-behavior consistency. Selectively focusing on a not preferred choice option when consumers are low involved and use limited processing seems to lead to inconsistent choices because of an increased accessibility of the focal option, whereas selective focus on a not preferred option when consumers are low involved and use deep processing lead to inconsistent choices because of attitude polarization.

Chapter IV, *Looking Down is the Way Up: The Influence of the Vertical Direction of Attention on the Evoked Processing Style*, contributes to the overall aim of this dissertation by identifying the vertical direction of attention as an effective manipulation of the conceptual scope of attention. Specifically, four studies demonstrate that inducing participants to look down (up) narrows (broadens) the scope of conceptual attention. As looking down or looking up to products placed in a lower or higher vertical position is suggested to evoke a narrower or broader processing style, this chapter demonstrates that the vertical direction in which attention is directed instigates differences in consumers' access to competing brands (Study 1), their categorization of brands (Studies 2 and 3), brand choices and preference-decision correspondence (Study 4).

Table 1. Overview of the Experimental Studies

Chapter/Study	Determinant of Knowledge Activation	Other Independent Variables	Dependent Variables	Research Context (Product)
Chapter II				
Study 1	Motivation		Brand accessibility Brand choices	Snack bars (fictitious)
Study 2	Motivation		(Two subsequent) Brand choices	Snack bars (fictitious)
Study 3	Motivation	Time lag	Brand choices	Snack bars (fictitious)
Chapter III				
Study 1	Recency	Involvement	Brand consideration Brand choice	Charities (existing)
Study 2	Recency	Involvement Depth of processing	Brand choice Attitude change	Charities (existing)
Chapter IV				
Study 1	Conceptual Scope		Brand accessibility	Chocolate brands (existing)
Study 2	Conceptual Scope		Brand prototypicallity ratings	Snack bars (existing)
Study 3	Conceptual Scope		Product categorization	Retail items (existing)
Study 4	Conceptual Scope		Brand choice	Chocolate brands (existing)

### 3. REFERENCES

- Alba, J. W. & Chattopadhyay, A. (1985). Effects of context and part-category cues on recall of competing brands, *Journal of Marketing Research*, 22(3), 340-349.
- Alba, J. W. & Chattopadhyay, A. (1986). Salience effects in brand recall, *Journal of Marketing Research*, 23(4), 363-369.
- Alba, J. W., Hutchinson, J. W. & Lynch, Jr., J.G. (1991). Memory and decision making. In T. S. Robertson and H. H. Kassarian (Eds.), *Handbook of Consumer Behavior* (pp. 1-49). Englewood Cliffs, NJ: Prentice-Hall.
- Alter, A. L. & Oppenheimer, D. M. (2009). Uniting the tribes of fluency to form a metacognitive nation, *Personality and Social Psychology Review*, 13(3), 219-235.
- Anderson, J. R. (1983). A spreading activation theory of memory, *Journal of Verbal Learning and Verbal Behavior*, 22, 261-295.
- Anderson, M. C. & Bell, T. (2001). Forgetting our facts: The role of inhibitory processes in the loss of propositional knowledge, *Journal of Experimental Psychology: General*, 130(3), 544-570.
- Anderson, M. M. C., Bjork, R.A. & Bjork, E. L. (1994). Remembering can cause forgetting: Retrieval dynamics in long-term memory, *Journal of Experimental Psychology: Learning, Memory & Cognition*, 20, 1063-1087.
- Anderson, M. C. & Neely, J. H. (1996). Interference and inhibition in memory retrieval, *Memory*, 22, 237-313.
- Anderson, M. C. & Spellman, B. A. (1995). On the Status of Inhibitory Mechanisms in Cognition: Memory Retrieval as a Model Case, *Psychological Review*, 102(1), 68-100.
- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K. & Trötschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals, *Journal of Personality and Social Psychology*, 81(6), 1014-1027.
- Bayuk, J. B., Janiszewski, C. & Leboeuf, R. A. (2010). Letting good opportunities pass us by: Examining the role of mind-set during goal pursuit, *Journal of Consumer Research*, 37(4), 570-583.
- Berger, J. & Fitzsimons, G. (2008). Dogs on the street, pumas on your feet: How cues in

- the environment influence product evaluation and choice, *Journal of Marketing Research*, 45(1), 1-14.
- Burke, R. R. & Srull, T. K (1988). Competitive Interference and Consumer Memory for Advertising, *Journal of Consumer Research*, 15(1), 55-68.
- Cauberghe, V. & De Pelsmacker, P. (2010). Advergams: The impact of brand prominence and game repetition on brand responses, *Journal of Advertising*, 39(1), 5-18.
- Chandon, P., Hutchinson, J. W., Bradlow, E. T. & Young, S. H. (2009). Does in-store marketing work? Effects of the number and position of shelf facings on brand attention and evaluation at the point of purchase, *Journal of Marketing*, 73(6), 1-17.
- Chapman, K. J. (2001). Measuring intent: There's nothing "mere" about mere measurement effects, *Psychology & Marketing*, 18(8), 811-841.
- Cowley, E. & Barron, C. (2008). When product placement goes wrong – the effects of program liking and placement prominence, *Journal of Advertising*, 37(1), 89-98.
- Downing, J. W., Judd, C. M. & Brauer, M. (1992). Effects of repeated expressions on attitude extremity, *Journal of Personality and Social Psychology*, 63(1), 17-29.
- Fazio, R. H., Chen, J., McDonel, E. C. & Sherman, S. J. (1982). Attitude accessibility, attitude-behavior consistency, and the strength of the object-evaluation association, *Journal of Experimental Social Psychology*, 18(4), 339-357.
- Fazio, R. H., Herr, P. M. & Powell, M. C. (1992). On the development and strength of category-brand associations in memory: the case of mystery ads, *Journal of Consumer Psychology*, 1(1), 1-13.
- Feldman, J. M. & Lynch, J. G. (1988). Self-generated validity and other effects of measurement on belief, attitude, intention, and behavior, *Journal of Applied Psychology*, 73(3), 421-435.
- Ferraro, R., Bettman, J. R. & Chartrand, T. L. (2009). The power of strangers: The effect of incidental consumer brand encounters on brand choice, *Journal of Consumer Research*, 35(5), 729-741.
- Fitzsimons, G. J., Hutchinson, W., Williams, P., Alba, J. W., Chartrand, T. L., Huber, J., Kardes, F. R., Menon, G., Raghurir, P. & Russo, E. (2002). Non-conscious Influences on consumer choice, *Marketing Letters*, 13(3), 269-279.

- Forbach, G. B., Stanners, R. F. & Hochhaus, L. (1974). Repetition and practice effects in a lexical decision task, *Memory & Cognition*, 2(2), 337-339.
- Förster, J., Friedman, R. S., Özelsel, A. & Denzler, M. (2006). Enactment of approach and avoidance behavior influences the scope of perceptual and conceptual attention, *Journal of Experimental Social Psychology*, 42(2), 133-146.
- Förster, J., Liberman, N. & Higgins, E. T. (2005). Accessibility from active and fulfilled goals, *Journal of Experimental Social Psychology*, 41(3), 220-239.
- Gollwitzer, P. M. (1999). Implementation intentions: Strong effects of simple plans, *American Psychologist*, 54(7), 493-503.
- Goschke, T. & Kuhl, J. (1993). Representation of intentions: Persisting activation in memory, *Journal of Experimental Psychology: Learning, Memory & Cognition*, 19(5), 1211-1226.
- Hastak, M. & Mitra, A. (1996). Facilitating and inhibiting effects of brand cues on recall, consideration set and choice, *Journal of Business Research*, 37(2), 121-126.
- Healey, M. K., Campbell, K. L., Hasher, L. & Osher, L. (2010). Direct evidence for the role of inhibition in resolving interference in memory, *Psychological Science*, 21(10), 1464-1470.
- Holden, S. J. S. & Lutz, R. J. (1992). Ask not what the brand can evoke – ask what can evoke the brand, *Advances in Consumer Research*, 19, 101-107.
- Holden, S. J. S. & Vanhuele, M. (1999). Know the name, forget the exposure: Brand familiarity versus memory of exposure context, *Psychology & Marketing*, 16(6), 479-496.
- Howard, M. W. & Kahana, M. J. (1999). Contextual Variability and serial position effects in free recall, *Journal of Experimental Psychology: Learning, Memory & Cognition*, 25(4), 923-941.
- Higgins, E. T. & King, G. (1981). Accessibility of Social constructs: Information-processing consequences of individual and contextual variability.' In N. Cantor and J. Kihlstrom (Eds.), *Personality, Cognition, and Social Interaction*. Hillsdale, NJ: Erlbaum.
- Johar, G. V. & Pham, M. T. (1999). Relatedness, prominence, and constructive sponsor identification, *Journal of Marketing Research*, 36(3), 299-312.
- Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity, *Journal of Marketing*, 57(1), 1-22.

- Kokkinaki, F. & Lunt, P. (1997). The relationship between involvement, attitude accessibility and attitude-behaviour consistency, *British Journal of Social Psychology*, 36, 497-509.
- Krugman, H. E. (1965). The impact of television advertising: Learning without involvement, *Public Opinion Quarterly*, 29(3), 349-356.
- Kruglanski, A. W., Shah, J. Y., Hishbach, A., Friedman, R., Chun, W. Y. & Sleeth-Keppler, D. (2002). A theory of goal systems, *Advances in Experimental Social Psychology*, 34, 331-378.
- Lee, A. Y. (2002). Effects of implicit memory on memory-based versus stimulus-based brand choice, *Journal of Marketing Research*, 39(4), 440-454.
- Liberman, N. & Förster, J. (2000). Expression after suppression: A motivational explanation of postsuppressional rebound, *Journal of Personality and Social Psychology*, 79(2), 190-203.
- Mantonakis, A., Whittlesea, B. W. A. & Yoon, C. (2008). Consumer memory, fluency, and familiarity. In Haugtvedt, C., Kardes, F. & Herr, P. (Eds.), *Handbook of Consumer Psychology* (p.77-102), Mahwah, NJ: Erlbaum.
- Marsh, R. L., Hicks, J. L. & Bink, M. L. (1998). Activation of completed, uncompleted, and partially completed intentions, *Journal of Experimental Psychology: Learning, Memory & Cognition*, 24(2), 350-361.
- Marsh, R. L., Hicks, J. L. & Bryan, E. S. (1999). The activation of unrelated and canceled intentions, *Memory & Cognition*, 27(2), 320-327.
- Menon, G., Raghubir, P. & Schwarz, N. (1995). Behavioral frequency judgments: An accessibility diagnosticity framework, *Journal of Consumer Research*, 22(2), 212-228.
- Miniard, P. W., Unnava, H. R. & Bhatla, S. (1989). Inhibiting brand name recall: A test of the salience hypothesis, *Advances in Consumer Research*, 16, 264-270.
- Nedungadi, P. (1990). Recall and consumer consideration sets: Influencing choice without altering brand evaluations, *Journal of Consumer Research*, 17(3), 263-276.
- Nedungadi, P. & Hutchinson, J. W. (1985). The prototypicality of brands: Relationships with brand awareness, preference and usage, *Advances in Consumer Research*, 12, 498-503.

- Powell, M. C. & Fazio, R. H. (1984). Attitude accessibility as a function of repeated attitudinal expression, *Personality and Social Psychology Bulletin*, 10(1), 139-148.
- Reyes, R. M., Thompson, W. C. & Bower, G. H. (1980). Judgmental biases resulting from differing availabilities of arguments, *Journal of Personality and Social Psychology*, 39(1), 2-12.
- Roese, N. J. & Olson, J. M. (1994). Attitude importance as a function of repeated attitude expression, *Journal of Experimental Social Psychology*, 30(1), 39-51.
- Rowe, G., Hirsh, J. B. & Anderson, A. K. (2007). Positive affect increases the breadth of attentional selection, *Proceedings of the National Academy of Sciences of the United States of America*, 104(1), 383-388.
- Samu, S. & Krishnan, H. S. (2010). Brand related information as context: The impact of brand name characteristics on memory and choice, *Journal of the Academy of Marketing Science*, 38(4), 456-470.
- Schmidt, S. R. (1991). Can we have a distinctive theory of memory, *Memory & Cognition*, 19(6), 523-542.
- Schwarz, N. (1998). Warmer and more social: Recent developments in cognitive social psychology, *Annual Review of Sociology*, 24, 239-264.
- Schwarz, N., Bless, H., Strack, F., Klumpp, G., Rittenauerschatka, H. & Simons, A. (1991). Ease of retrieval as information: Another look at the availability heuristic, *Journal of Personality and Social Psychology*, 61(2), 195-202.
- Sprott, D. E., Spangenberg, E. R., Block, L. G., Fitzsimons, G. J., Morwitz, V. G. and Williams, P. (2006). The question-behavior effect: what we know and where we go from here, *Social Influence*, 1(2), 128-37.
- Storm, B. C. & Nestojko, J. F. (2010). Successful inhibition, unsuccessful retrieval: Manipulating time and success during retrieval practice, *Memory*, 18(2), 99-114.
- Sutherland, M. & Galloway, J. (1981). Role of advertising: Persuasion or agenda setting, *Journal of Advertising Research*, 21(5), 25-29.
- Tulving, E. (1972). Episodic and semantic memory. In E. Tulving & W. Donaldson (Eds.), *Organization of memory*, (pp. 381–403). New York: Academic Press.
- Van Reijmersdal, E. (2009). Brand placement prominence: Good for memory! Bad for attitudes? *Journal of Advertising Research*, 49(2), 151-153.

- Veling, H. & Van Knippenberg, A. (2006). Shielding intentions from distraction: Forming an intention induces inhibition of distracting stimuli, *Social Cognition*, 24(4), 409-425.
- Veling, H. & Van Knippenberg, A. (2008). Intention formation induces episodic inhibition of distracting stimuli, *Acta Psychologica*, 128(1), 45-55.
- Wänke, M., Böhner, G. & Jurkowitsch, A. (1997). There are many reasons to drive a BMW: Does imagined ease of argument generation influence attitudes? *Journal of Consumer Research*, 24(2), 170-177.
- Wänke, M., Schwarz, N. & Bless, H. (1995). The availability heuristic revisited: Experienced ease of retrieval in mundane frequency estimates, *Acta Psychologica*, 89(1), 83-90.
- Warlop, L., Ratneshwar, S. & van Osselaer, S. M. J. (2005). Distinctive brand cues and memory for product consumption experiences, *International Journal of Research in Marketing*, 22(1), 27-44.
- Winkielman, P. & Cacioppo, J. T. (2001). Mind at ease puts a smile on the face : Psychophysiological evidence that processing facilitation elicits positive affect, *Journal of Personality and Social Psychology*, 81(6), 989-1000.
- Winkielman, P., Schwarz, N. & Belli, R. F. (1998). The role of ease of retrieval and attribution in memory judgments: Judging your memory as worse despite recalling more events, *Psychological Science*, 9(2), 124-126.
- Wyer, R. S. (2008). The role of knowledge accessibility in cognition and behavior: Implications for consumer information processing. In Haugtvedt, C., Kardes, F. & Herr, P. (Eds.), *Handbook of Consumer Psychology* (p.31-76), Mahwah, NJ: Erlbaum.
- Wyer, R. S. & Srull, T. K. (1986). Human cognition in its social context, *Psychological Review*, 93(3), 322-359.
- Wyer, R. S. & Srull, T. K. (1989). *Memory and cognition in its social context*. Hillsdale, NJ: Erlbaum.
- Wyer, R. S. & Xu, A. J. (2010). The role of behavioral mind-sets in goal-directed activity: conceptual underpinnings and empirical evidence, *Journal of Consumer Psychology*, 20 (2), 107-125.



# **CHAPTER II: A MOTIVATIONAL ACCOUNT OF THE QUESTION-BEHAVIOR EFFECT**

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## CHAPTER II: A MOTIVATIONAL ACCOUNT OF THE QUESTION-BEHAVIOR EFFECT<sup>2</sup>

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The question-behavior effect is about the influence of questioning people on their future behavior on the actual, subsequent performance of that behavior. The present article outlines a theory that sheds another light on the processes underlying the question-behavior effect. Generally, the occurrence of the effect has been attributed to an increase in attitude accessibility, processing fluency, or cognitive dissonance. Here, we look at intentions as motivational states. Three studies suggest that responding to an intention question is likely to affect brand choices through a motivational mechanism, which proposes that (1) a dynamic process of changes in the accessibility of motivation-related and motivation-competing information in memory is enacted, (2) the initial change in the brand choices reverses on an immediate, second brand choice instance, and (3) the behavioral effect is persistent as the delay between the intention question and brand choice instance increases.

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Imagine that someone asks you about your intentions to buy a candy bar. Would merely indicating your intention impact your future purchase behavior? This question has prompted significant research (Dholakia 2010; Sprott et al. 2006), most of which indicates that responding to an intention question indeed alters subsequent consumer purchases (Fitzsimons and Morwitz 1996; Morwitz, Johnson, and Schmittlein 1993). For example, consumers who completed an intentions survey about car purchases appeared more likely to purchase a car later on (Morwitz et al. 1993). Furthermore, respondents who did not own a car when answering the intention question became more likely to purchase a car from a large market share brand, whereas car owners became more likely to repurchase from the currently owned brand (Fitzsimons and Morwitz 1996). Answering intention questions thus appears to influence purchase incidence, as well as brand choice probabilities. This effect has been termed the question-behavior effect.

Several theoretical explanations have been advanced for the question-behavior effect (i.e., cognitive dissonance, attitude accessibility, and response fluency). However, upon taking a closer look at these different explanations, two things are striking. First, each of these theoretical accounts proves to be a valid explanation for some of the reported findings, but none of them by themselves or in combination with the others can explain all the previously observed effects. Second, none of these theoretical accounts starts from the specific characteristics of intentions. Especially the latter seems surprising as starting from the core of intentions could reveal the missing element to more fully understand the question behavior effect. Therefore, this article attempts to advance question-behavior research by investigating what intentions exactly instigate on a cognitive level. Specifically, we propose that responding to an intention question may automatically trigger the activation of an intention. Intentions are motivational states that, once activated, guide behavior in a unique manner (Goschke and Kuhl 1993). Like other motivational states, such as goals and needs, they are specific memorial structures that - once activated - are characterized by a distinct accessibility pattern. Information related to an intention remains in a relatively heightened state of activation for as long as the intention is active (Goschke and Kuhl 1993). After the intended action has been completed though, intention-related information becomes temporarily inhibited (Marsh, Hicks, and Bink 1998). Such changes in the activation of information in memory, may subsequently affect the likelihood of implementing an intention (Chapman 2001).

This article posits that taking a motivational perspective can have an important contribution for explaining why the simple act of answering an intention question actually causes such significant behavioral changes. We argue that merely responding to an intention question may activate an intention. The activation of a motivational state such as goals and intentions is characterized by three main principles: (1) intention-related stimuli increase in accessibility and intention-competing stimuli become less accessible; (2) these changes in relative accessibility persist until the intention is completed; and (3) intention completion temporarily inhibits intention-related stimuli and intention-competing stimuli no longer experience inhibition. A first study shows that answering an intention question leads to differences in the accessibility of the most preferred brand and its closest competitor. These changes in brand accessibilities are in line with the first and third principle that characterize motivational states. The study also shows that these changes in brand accessibility are driving the question-behavior effect. As some of these results can also be explained by other theoretical accounts, a second study takes the question behavior effect to a new context and demonstrates how it develops in a sequential choice setting. Unlike existing explanations, the third principle of the motivational perspective suggests that responding to an intention question leads to an initial increase in the likelihood of choosing for the most preferred brand, followed by a reversal on a subsequent choice occasion. A sequential choice context thus provided an ideal setting to more firmly establish the validity of a motivational perspective as an alternative account of the question-behavior effect. A final experiment investigates the role of time lags between the intention question and the initial brand choice and between the two consecutive brand choices. The results are in line with the second principle of motivational states. Together these studies provide evidence for our central proposition that merely answering an intention question activates an intention.

## 1. THEORETICAL BACKGROUND

### 1.1 The Question-behavior Effect

The question-behavior effect entails the finding that questioning people on their future behavior influences their likelihood of actually engaging in the behavior (Dholakia 2010; Sherman 1980; Sprott et al. 2006). For instance, Williams, Fitzsimons, and Block (2004)

demonstrated an increase in flossing behavior and a decrease in the consumption of fatty foods following an intention question. The occurrence of the effect has been investigated in both laboratory (Fitzsimons and Williams 2000; Levav and Fitzsimons 2006) and field settings (Chandon, Morwitz, and Reinartz 2004, 2005; Greenwald, Carnot, Beach, and Young 1987; Obermiller and Spangenberg 2000). It has also been shown in a wide variety of situations, including socially desirable (e.g., recycling) and undesirable (e.g., cheating) behaviors, and for purchases in various product categories, both durable and nondurable (Chandon, Morwitz, and Reinartz 2004; Morwitz et al. 1993).

Concerning the underlying mechanism, the three most popular processes that have been empirically shown to contribute to the occurrence of the question-behavior effect are (1) attitude accessibility (Morwitz and Fitzsimons 2004), (2) cognitive dissonance (Spangenberg et al. 2003), and (3) response fluency (Janiszewski and Chandon 2007). The attitude accessibility account holds that answering intention questions makes the underlying attitudes towards the target behavior more accessible, which results in a change in the performance of the target behavior in line with the valence of the attitude that became more accessible (Morwitz and Fitzsimons 2004; Fitzsimons and Moore 2008). That is, answering an intention question increases the likelihood that positive, accessible choice options are chosen whereas it decreases the choice likelihood of negative, accessible choice options. The cognitive dissonance account posits that when asked to predict future behavior, cognitions on past behavior and social norms come to mind and may evoke a feeling of dissonance (e.g., ‘I should spend more time with my family, I have promised them, but I worked overtime almost every day the past week’). Alleviating this feeling of dissonance then may become a motivating force to align future behavior with social norms (Spangenberg et al. 2003). Empirical evidence suggests that question-behavior effects are also sensitive to response fluency. Janiszewski and Chandon (2007) show that the cognitive processes that generate a response to an intention question may overlap with the processes associated with deciding whether to engage in a behavior (e.g., ‘do you plan to buy brand x’ and deciding to purchase brand x). This overlap in cognitive processes may create a fluency experience that supports the behavioral tendency, such that the intended behavior becomes more likely to be enacted.

In sum, there is ample evidence that measuring intentions can change consumers’ purchase behavior. Researchers have also provided valid explanations for the reported findings.

Nevertheless, despite the appeal of these explanations, at least two elements suggest an investigation of additional processes that contribute to the question-behavior effect is useful.

First, each of the existing explanations is able to account for some of the previously reported question-behavior findings, but none of the existing theoretical accounts can explain all of the results. For example, responding to an intention question leads to a stronger question-behavior effect than responding to an attitude question (Chapman 2001; Spangenberg et al. 2003; Janiszewski and Chandon 2007). Inasmuch that responding to an intention question does not make an attitude more accessible than responding to an attitude question (Chapman 2001), attitude accessibility cannot account for the incremental effect of responding to intention questions (Janiszewski and Chandon 2007). Cognitive dissonance (Spangenberg 1997; Spangenberg and Greenwald 1999; Spangenberg et al. 2003) operates especially in the domain of socially desirable behaviors. When the questioned behavior does not refer to a socially desirable act, not behaving in line with the predicted behavior is not likely to evoke a feeling of dissonance. Finally, response fluency-driven question-behavior effects are limited to infrequent or novel acts for which respondents possess little substantive information (Janiszewski and Chandon 2007). Indeed, Janiszewski and Chandon (2007, Study 5) showed that the fluency-driven question-behavior effect is mitigated when respondents can rely on diagnostic brand information. Because all of the current theoretical explanations are valid explanations in specific situations, but none of them can account in itself for all the reported question-behavior findings, researchers have suggested considering them as complementary (Spangenberg, Greenwald, and Sprott 2008). However, even if the different theoretical explanations are combined, the previously discussed shortcomings of these theoretical accounts leave at least one type of question-behavior effects unexplained: behavior changes occurring after responding to an intention question related to products that fall outside the domain of socially desirable products in case that people are considering attribute information. This caveat in question-behavior findings explained by existing accounts provides a first reason to look for an additional explanation for the question-behavior effect.

Second and most importantly, the basic premise for a question-behavior effect to occur is responding to an *intention* question. Sherman (1980) stated that when responding to an intention question people project themselves into a future situation and make a statement about what their behavior would be in that situation. Generally, this projection of one's behavior in a hypothetical

future situation should be an important input for and determinant of later actual behavior (Sherman 1980). Indeed, if thinking about future behavior would be irrelevant when performing the actual behavior, there would not be a good reason to foreshadow (Papies, Aarts and de Vries 2009). In general, intentions do transform into actions (Sheeran and Abraham 2003). However, intentions can impact future behavior only if they are accessible in memory at the time an adequate opportunity for their execution occurs (Goschke and Kuhl 1993). This indicates the importance of focusing upon how the accessibility of intention-related concepts is affected by responding to an intention question in providing an explanation for the question-behavior effect. Surprisingly, this fundamental element is only partly incorporated in prior accounts of the question-behavior effect.

To partly fill this gap, this article adopts a motivational framework and considers the question-behavior effect as the outcome of the activation of an intention. More specifically, this article demonstrates the importance of the motivational properties that characterize intentions in the context of the question-behavior effect.

## 1.2 Motivational Consequences of Responding to an Intention Question

Like goals, intentions are stored in memory as motivational states. Whereas goals can be described as desirable states people try to attain or undesirable states that they try to avoid (Baumgartner and Pieters 2008; Custers and Aarts 2005; Dijksterhuis, Chartrand, and Aarts 2007), intentions refer to the specific ways in which a desired state can be accomplished or an undesired state can be avoided. Intentions are the behavioral tendencies one commits to during goal pursuit. Kuhl (1987) describes an intention as “an activated plan to which an actor committed herself or himself” (p. 282). When forming an intention, one commits to performing a certain action. Little is known, however, about how consumer intentions actually come to be selected and pursued (Bagozzi and Dholakia 1999; Chartrand, Huber, Shiv, and Tanner 2008). Research on goal activation has indicated that the activation of a goal can occur unconsciously as well as consciously. Even the mere presence of certain goal cues in the environment can successfully establish goal activation. Chartrand, Huber, Shiv, and Tanner (2008), for example, showed that merely being exposed to prestigious (e.g., Tiffany) or low cost retail brands (e.g., Dollar Store) may unconsciously activate a prestige or thrift goal.



According to Bargh (1990), once a goal is activated, the action associated with that goal should become activated as well and direct subsequent behavior. For example, Aarts and Dijksterhuis (2000) found that the activation of a goal (e.g., the travel goal ‘going to the university’) led to the activation of the specific behaviors previously performed to attain the goal (e.g., ‘take the bus’). Besides activation through goal setting, the direct activation of a specific intended behavior is also a possibility, which in turn might lead to the activation of a related goal (Bayuk, Janiszewski, and Leboeuf 2010; Kruglanski et al. 2002). An example would be priming Lipton Ice tea which could activate the goal of quenching one’s thirst (Karremans, Stroebe and Klaus 2006). Along this line, the present research proposes that responding to an intention question is a subtle manipulation that may engender the activation of an intention. Answering a seemingly innocuous intention question may activate the representation of this intention in memory. In the next section, we discuss what the consequences are of activating intentions.

### 1.3 Accessibility Principles of Motivational Constructs in Memory

The activation of motivational states, such as goals and intentions, is traditionally accompanied by changes in the cognitive set-up that is supportive of the intended behavior (Higgins and King 1981). Several principles characterize the accessibility arising from these motivational states. First, intention-relevant information is likely to be highly activated in order to enable an individual to transform an intention into action. Accordingly, Goschke and Kuhl (1993) demonstrate an increased accessibility of words as coffee, table and spoon when an intention to set the table was formed. In an investigation of whether this relative increase in accessibility stems from a true increase in the activation of intention-related concepts, or from a decreased activation of competing concepts, research has shown that both processes are likely to be at work. Besides facilitating the retrieval of intention-related information, activating an intention is also likely to inhibit the retrieval of information related to competing intentions (Veling and Van Knippenberg 2008).

Hence, research suggests inhibitor links exist between competing goals or between competing intentions (Kruglanski et al. 2002). Both abstract goals and concrete intentions require shielding from competing motivational states in order to complete them (Gollwitzer 1999). For instance, Bayuk, Janiszewski, and LeBoeuf (2010) demonstrate that adopting a plan (e.g., eat

less eggs to reduce cholesterol) encourages the execution of the plan, while it discourages the execution of alternative, out-of-plan behaviors (e.g., also exercise more to reduce cholesterol). Veling and Van Knippenberg (2008) show that information that is competing with intentions gets inhibited. For example, participants who intend to respond to certain exemplars of a category (e.g., fruits: peach, melon, and strawberry) inhibit other exemplars of that category (e.g., grape, plum, and orange) but not unrelated stimuli (e.g., animals: elephant, rabbit, and lion) (Veling and Van Knippenberg, 2006). In sum, a first principle that characterizes the activation of an intention is the relative activation of intention-related information and the relative inhibition of information related to competing intentions.

A second principle that characterizes the accessibility of motivational constructs is that the activation is persistent. The increased level of activation of intention-related, relative to competing and neutral information is suggested to persist until the intention is discarded or enacted upon. Hence, other than accessibility resulting from a recent activation, motivation-induced accessibility persists as long as the motivational state is active (Goschke and Kuhl 1993; Bargh, Gollwitzer, Lee-Chai, Barndollar, and Trötschel 2001). For example, Goschke and Kuhl (1993) investigated the time course of the activation of intention-related memory representations with an interval of approximately 15 minutes between the formation of an intention and its execution. Intention-related concepts, as opposed to equally well-learned neutral concepts, were recognized faster when latencies were measured over a 15-minute interval. In a similar vein, Bargh et al. (2001) showed that activation of an achievement goal increased performance on an anagram task. Performance facilitation appeared to be more pronounced after a delay of 5 minutes compared to immediate performance facilitation. In sum, the second principle concerning intention activation entails that the increased activation of intention-related information is likely to persist or even strengthen in time.

Finally, a third principle that distinguishes the accessibility of motivational constructs as compared to the activation of other constructs is that motivation-related information becomes inhibited upon fulfillment of the motivational state (Liberman and Förster 2000; Marsh, Hicks, and Bink 1998; Marsh, Hicks, and Bryan 1999; Förster, Liberman, and Higgins 2005). For example, when a person sets an intention to purchase the latest CD released by his or her favorite band, then the concept of this CD should become accessible and remain accessible until this CD is bought. Actually purchasing this CD completes the intention, and by the logic of post-

fulfillment inhibition, will reduce the accessibility of the concept of this CD. Once an active motivation is achieved, that motivation should decrease in strength. (Chartrand, Huber, Shiv, and Tanner 2008). This finding of post-fulfillment inhibition is uniquely related to motivational constructs, as accessibilities resulting from a recent activation would predict increased accessibility after purchasing the CD because completing an intention usually involves processing constructs related to the intention (Förster, Liberman & Higgins, 2005). Traditional accessibility theories predict increased accessibility of relevant concepts as attention is brought to them through achievement. This distinction can be referred to as the satiation criterion (Chartrand, Huber, Shiv, and Tanner 2008).

This post-goal fulfillment inhibition can be seen as functional in light of the performance of the next task at hand. Constructs that are related to a completed intention are often irrelevant and could potentially interfere with the next task. Hence, when multiple actions need to be performed consecutively, post-fulfillment inhibition may occur to facilitate the completion of the next intention in line. For instance, when planning to first purchase a CD followed by the purchase of a new shirt, constructs related to the purchase of the CD are likely to be inhibited in order to facilitate the purchase of a new shirt. In this situation post-fulfillment inhibition may be seen as functional, and therefore persistent, up until completion of the second intended action (Li, Lindenberg, Rüniger, and Frensch 2000). However, consumers often do not have to perform a second task when a first intention is completed. In this situation, constructs relating to the initial task are not likely to interfere with a subsequent, unrelated task. Therefore, inhibition of these constructs is not necessary, unless to avoid a repetition of the completed intention (Marsh, Hicks, and Bink, 1998). In this situation, post-choice inhibition is likely to rapidly decay over time rather than being persistent (Marsh, Hicks, and Bryan 1999). In addition, competing information is likely to lose its inhibitory status upon satiation of the active motivational state (Veling and Van Knippenberg 2008). So, to conclude, the third principle that characterizes the activation of a motivational state is that motivation-related information becomes inhibited as soon as the intention is completed.

#### 1.4 The Operation of Motivation Induced Accessibility in the Question-behavior Effect

This paper posits that the operation of the question-behavior effect might reflect the activation of an intention and the cognitive features typically associated with motivational states. As described in the previous section, the activation of motivational states entails three main principles: (1a) Intention-related stimuli are relatively more accessible than neutral stimuli, whereas (1b) intention-competing stimuli are relatively less accessible than neutral stimuli prior to intention completion (i.e., prior to posing the intended behavior); (2) this relative accessibility advantage of intention-related stimuli is persistent in time up until the moment of intention completion; and (3a) after intention completion, intention-related stimuli become relatively less accessible than neutral stimuli, whereas (3b) intention-competing stimuli no longer experience inhibition.

Translating these activation principles to a consumer purchase setting in which we can investigate the question-behavior effect, immediately raises the question which brands can be considered as intention-related and which ones as intention-competing. We argue that the most preferred brand is most likely to get an intention-related status, whereas competing brands, that is other well-liked brands, are expected to be flagged as intention-competing. Indeed, with respect to the former, Davis and Warshaw (1991) showed that people are most likely to form a specific intention targeted at their most preferred option when responding to an intention question in which no reference is made to a specific option. In addition, with respect to the latter, Veling and Van Knippenberg (2008) suggest that only well-preferred, competing brands are likely to be inhibited because the degree to which a brand is inhibited depends on the degree to which the brand detracts attention from the intention-related brand. The level of competition is likely to depend on a brand's position in the preference ranking.

The foregoing leads us to propose that, upon answering an intention question, the most preferred brand becomes more accessible, while other well-preferred brands become less accessible. This increased activation of the most preferred brand is likely to persist when the time lag between the intention question and the choice situation is extended. After making a brand choice, the most preferred brand is likely to be temporarily inhibited, while previously inhibited competing brands are likely to retrieve their neutral level of activation. As accessibility has frequently been shown to have a pervasive influence on consumer behavior (Nedungadi,

Chattopadhyay, and Muthukrishnan 2001; Thelen and Woodside 1997), these changes in relative brand activation are likely to translate in brand choices. Consequently, we expect a question-behavior effect that unfolds as follows: responding to an intention question is likely to increase the choice for the most preferred brand. However, this relative advantage of the most preferred brand as compared to its competing brands reverses in case consumers have to make an immediate, subsequent choice.

## 2. RESEARCH OVERVIEW

Three studies are set up to illustrate the added value of adopting a motivational perspective to explain question-behavior findings by showing that the question-behavior effect develops in line with predictions that are based on the unique accessibility principles that are associated with the activation of motivational states. The main objective of study 1 is to demonstrate how responding to an intention question at first increases the accessibility of the most preferred brand (principle 1a), but inhibits other well-preferred brands (principle 1b). However, after making a brand choice, this pattern changes into inhibition of the most preferred brand (principle 3a), and neutral activation of the other well-preferred brands (principle 3b). A second objective of the study is to illustrate by means of a mediation analysis that these differential brand accessibilities indeed drive the changes in brand choice caused by answering an intention question. Although an increased activation of the most preferred brand could also be explained by the attitude accessibility account, the inhibition of other well-preferred brands before brand choice and of the most preferred brand after brand choice cannot. Neither could they be explained by response fluency or cognitive dissonance. Therefore, this study intends to already provide initial support for the added value of taking a motivational perspective on answering intention questions.

Study 2 tries to corroborate the findings of study 1 – that is, the accessibility advantage of the intention-related brand (i.e., the most preferred brand) prior to an initial choice and the subsequent accessibility deficit of this brand affecting subsequent brand choice - in a different setting. More specifically, we investigate what the impact is of answering an intention question, not only on the subsequent brand choice, but also on an immediate second brand choice. How responding to an intention question alters downstream brand choice behavior has not been addressed in prior research. Consequently, empirical studies documenting the validity of the

existing explanations for the question-behavior effect have only focused on initial rather than subsequent brand choices. Chandon et al. (2004) suggested that question-behavior effects were unlikely to affect future purchases beyond the initial purchase. Only a carryover of the initial purchase to a subsequent purchase was anticipated. In contrast, if the question-behavior effect reflects the motivational nature of intentions and their associated cognitive features, then the influence of responding to an intention question is not likely to be limited to the initial choice situation. Specifically, answering an intention question is expected to increase the choice for the most preferred brand at an initial choice instance, while a decreased choice for this brand at a second choice instance may be anticipated. Consequently, addressing how the question-behavior effect operates in a sequential brand choice setting provides an excellent test case to demonstrate the value of an additional explanation for the question-behavior effect.

Whereas study 1 and study 2 focus on finding evidence for principles 1 and 3 in two different contexts, the objective of study 3 is to investigate the proposed motivational account for the question-behavior effect by addressing the persistence of the effect over time (principle 2). To this end, we manipulate the time delay between the intention question and the initial and subsequent brand choice. Persistence in effect sizes as time intervals increase are generally ascribed to motivational sources (Bargh, Gollwitzer, Lee-Chai, Barndollar, and Trötschel 2001; Chartrand, Huber, Shiv, and Tanner 2008).

### 3. STUDY 1

The objective of study 1 is twofold. The first and most important objective is to provide initial evidence for a motivational account of the question-behavior effect by showing that responding to an intention question results in increased activation of the most preferred brand prior to decision making (principle 1a), but decreased activation after decision making (principle 3a). A motivational perspective on answering intention questions also predicts that competing brands will be inhibited before brand choice (principle 1b), but return to a neutral activation level after brand choice (principle 3b). To test these hypotheses, we use a setting in which respondents first answer either an intention question or an attitude question, and next make a brand choice. The attitude question condition serves as a control condition. We choose for an attitude question in the control condition (instead of having another question or no question), because showing

that the expected changes in activation and inhibition occur after answering an intention question, but not after answering an attitude question delivers even more convincing evidence than when we would compare it to a “no question” condition. Indeed, asking an attitude question has been suggested to provide a stringent test-case for the question-behavior effect before (Chapman, 2001).

This study employs a choice set including five brands. A pretest is used to find out how many of these brands are on average preferred and how many are on average included in the participants’ consideration set. Brands that are preferred can be considered as competing with the most preferred brand. Only for these brands we expect that answering an intention question will lead to inhibition.

A second objective is to provide evidence that the changes in brand activation, instigated by responding to an intention measure, drive the mere measurement effect. By means of a mediation analysis, we show that these relative differences in brand activation– as measured by a response latency task - between the most preferred and competing brands indeed are responsible for the behavioral effects of responding to an intention question. Veling and Van Knippenberg (2006) show that facilitating and inhibitory effects do not necessarily occur independently. Intention-related stimuli can be in a heightened state of activation, potentially interfering stimuli may be in a lowered state of activation, or a combination may take place. The key element is the relative difference between intention-related stimuli and potentially interfering stimuli. To establish that differences in brand activation serve as a mediator between brand choices, pre-choice brand accessibilities and brand choices are measured within-subjects. The experiment includes an additional condition, in which the brand accessibilities are not measured prior to brand choices. The reason for including this condition is that such an experimental set-up allows to assess whether measuring brand accessibility a priori distorts subsequent brand choices.

### 3.1 Pretest

A pretest (27 students, 11 women) investigated the fictitious brands and their attributes to identify the number of preferred alternatives included in the choice set. In this pretest, the participants first received the attribute information of the five brands (see table 1), then they were instructed to rank order the presented brands according to their preferences.

Table 1. Attribute Scores for the Brands Used in Study 1

Brand Name	Taste	Grams of fat	Calories	Shelf life
Mauna Loa	8	4.8	350	100
Skor	7.5	11.0	340	110
Granola	7	7.0	335	105
Abba Zaba	10	8.0	350	105
Mamba	9	6.6	345	100

Next, they were asked to indicate which brands they would actually consider purchasing. Hence, they were asked to report their consideration set. Finally, they responded to two items designed to assess the number of brands (and which brands) they judged as more direct competitors. Specifically, the number of competing brands was identified with two items: “If I was intending to choose [name of the most preferred brand], there is/are \_\_\_\_ (fill in a number) brand(s) that could make me doubt whether to purchase [name of the most preferred brand]” and “If I was to make a purchase decision for one of the five candy bar brands, it would come down to a choice between \_\_\_\_ (fill in a number) of the brands I prefer.” Each item was followed by a request to indicate the brands that matched the query.

The results of this pretest demonstrate the following mean preference ranking of the participants for five candy bars: Abba Zaba ( $M = 1.41$ ,  $SD = .89$ ), Mamba ( $M = 1.93$ ,  $SD = .47$ ), Mauna Loa ( $M = 2.89$ ,  $SD = .64$ ), Skor ( $M = 4.33$ ,  $SD = .55$ ), and Granola ( $M = 4.44$ ,  $SD = .89$ ). The mean number of brands in the consideration set is 1.78 ( $SD = .69$ ). Based on this we can assume that one brand competes with the most preferred brand. Averaging the responses to the two items designed to determine the number of competing brands more directly also indicates that most participants view only the second most preferred brand as a competing brand ( $M_{\text{Number\_competing}} = 1.18$ ,  $SD = .62$ ). Thus the pretest measures consistently indicate that only the second most preferred brand in this assortment is likely to be a competitor and thus experience inhibition.



### 3.2 Participants and Design

In total, 179 students (70 men, 109 women), aged between 18 and 29 years ( $M_{\text{Age}} = 22.41$ ,  $SD = 3.39$ ), participated in a  $2 \times 2$  between-subjects experiment. As a first factor we manipulated whether the participants responded to an intention or attitude question. The participants in the intention condition responded to a category-level intention question (“How likely or unlikely would you be to try the presented candy bars if they were available to you?”) on a seven-point Likert scale with endpoints of -3 (“very unlikely”) and +3 (“very likely”). A category-level intention question was used as this type of question is most likely to activate only an intention targeted at the most preferred brand, rather than activating multiple intentions targeted at different brands (Davis and Warshaw 1991). This set-up, in which no explicit reference is made to one specific option in the intention question, facilitates the prediction of which intention will become activated, namely an intention for the most preferred brand. The participants in the attitude condition served as the control group and answered one attitude question (“How positive or negative are you about the presented candy bars becoming available to you?”), also on a seven-point Likert scale with endpoints of -3 (“very negative”) and +3 (“very positive”). The attitude question in the control condition ensured that these participants paid equal attention to the product category as did participants in the intention condition. Consequently, any differences between the two conditions (intention versus attitude question) cannot be attributed to a differential attention to the product category.

The conditions also varied in the measured dependent variables, such that half the participants first completed a response latency task, then made a choice decision, and next completed a second response latency task. The other half of the participants made a brand choice and next completed a response latency task. So, in contrast to the former respondents, they completed only one response latency task. The data gathered from the first group of participants provide the input for the mediation analysis, whereas those from the second group provide verification of whether measuring brand latencies prior to the choice task affects that choice task. If no differences between these two groups emerge, we can confidently assume that measuring brand latencies before respondents make a choice does not distort this brand choice.

### 3.3 Procedure

Participants first considered attribute information (on the attributes taste, grams of fat, calories and shelf life) about the five unknown brands of candy bars (as was the case in the pretest). Also these participants were told that the candy bars were available in a neighboring country and that the manufacturer was thinking of introducing them in the domestic market. Next, participants reported their relative attitudes toward the presented brands by rank ordering them from least to most preferred. Subsequently, half the participants answered an intention question, and the other half answered an attitude question. After they completed several filler questions, half the participants responded to a choice task that indicated the manufacturer would distribute samples of candy bars to participants, and to enter to win, respondents had to fill in the name of the brand they would prefer to receive. The other half completed a response latency task after the filler questions and before making a choice decision. For both groups of participants the experiment concluded with a response latency task, immediately following respondents' choice decision. The response latency task served as a measure of the brand accessibilities. To assess response latencies, the names of the five target brands, five existing candy bar brands and ten brands from other product categories appeared, one by one, on a computer monitor in random order. In this product category identification task, participants were instructed to press a button labeled "snack bar" for brands of snack bars or a button labeled "non-snack bar" for other products.

### 3.4 Results

The analysis of the choices made by participants who did not complete a response latency task indicates a question-behavior effect. Significantly more participants who answered an intention versus an attitude question chose their most preferred brand (76.4% vs. 56.8%,  $\chi^2(92) = 3.94$ ,  $p = .047$ )<sup>3</sup>. A similar difference emerged in the choice share of the most preferred brand when participants completed a response latency task before making a choice (82.1% vs. 62.5%,  $\chi^2(87) = 4.02$ ,  $p = .045$ ). That is, a comparable number of participants opted for the most

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<sup>3</sup> All  $\chi^2$  values reported throughout the empirical chapters refer to Pearson  $\chi^2$  values, unless explicitly stated differently.

preferred brand after responding to an intention question, whether they completed a response latency task first or not (82.1% vs. 76.4%,  $\chi^2(94) = .44$ ,  $p = .507$ )<sup>4</sup> (see table 2).

Table 2. Overview of Brand Choices by Condition in Study 1

Type of question	Measured pre-choice accessibility	N	Brand 1	Brand 2	Brand 3	Brand 4	Brand 5
Attitude	No	37	56.8%	21.6%	8.1%	8.1%	5.4%
Intention	No	55	76.4%	16.4%	3.6%	1.8%	1.8%
Attitude	Yes	48	62.5%	16.7%	6.3%	8.3%	6.3%
Intention	Yes	39	82.1%	5.1%	2.6%	2.6%	7.7%

The pattern of brand accessibilities prior to decision making matches the expectations based on a motivational perspective (See figure 1 panel A). Contrast analyses confirm increased activation (i.e., lower mean response latencies) of the most preferred brand compared with less preferred brands prior to decision making in the intention question condition ( $t(82) = -3.04$ ,  $p = .003$ ), but not in the attitude question condition ( $t(82) = 1.12$ ,  $p = .267$ ). The difference observed in the intention question condition remains when we compare the accessibility of the most preferred choice option with the second most preferred choice option ( $t(83) = -3.74$ ,  $p < .001$ ). Again this difference does not emerge in the attitude question condition ( $t(83) = 1.24$ ,  $p = .219$ ). These findings provide support for principle 1a of motivational states. In addition, as predicted by principal 1b, the second most preferred brand is inhibited compared with other less preferred brands when participants answered an intention question ( $t(83) = 2.20$ ,  $p = .030$ ), but not when they answered an attitude question ( $t(83) = -.47$ ,  $p = .641$ ).

<sup>4</sup> These results indicate that measuring brand latencies before respondents make a choice does not distort this brand choice. The inclusion of an additional condition in which brand accessibilities are not measured prior to brand choices, however, does not allow assessing how measuring brand accessibilities distorts these brand accessibilities. Yet, it is a straightforward prediction that measuring brand accessibilities influences brand accessibilities. Possibly, measuring brand accessibilities made each brand somewhat more accessible, by which the relative difference in brand accessibilities remained intact and, hence, brand choices were not distorted.

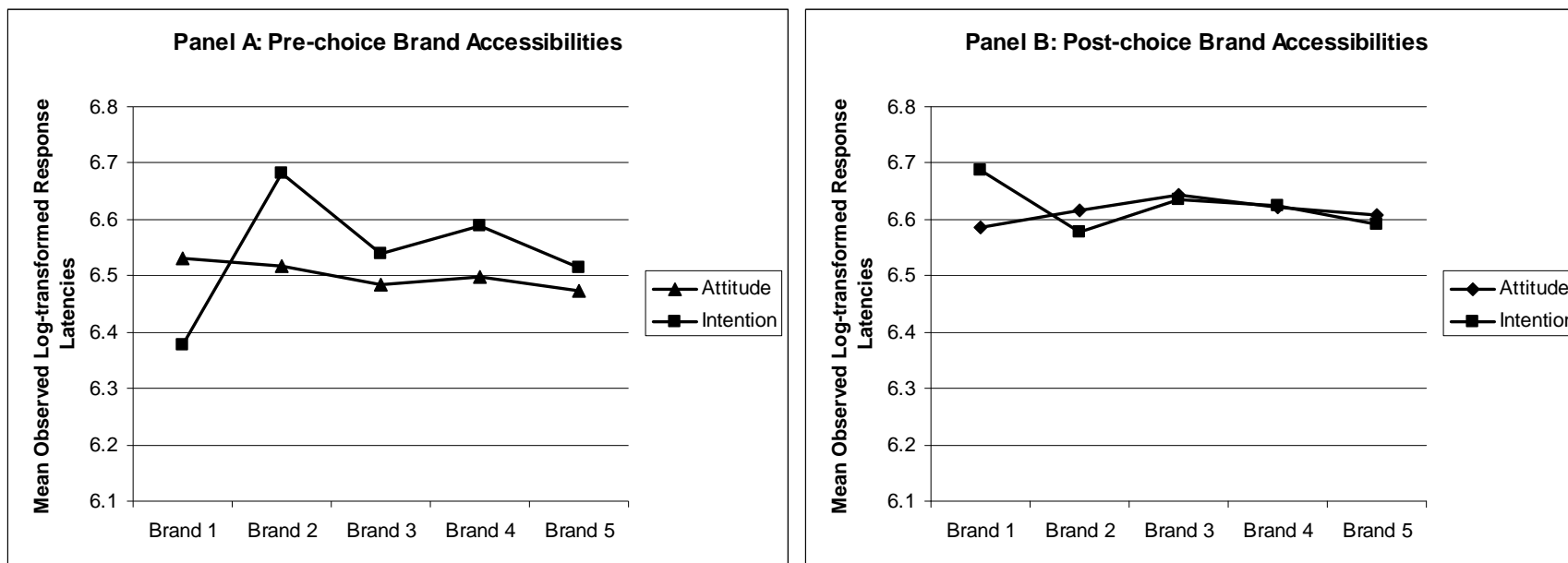
Further, brand accessibility analyses also lend support to principle 3a, which suggests inhibition of intention-related information after intention completion (See figure 1 panel B). Contrast analyses confirm longer latencies for the most preferred brand compared to less preferred brands after decision making in the intention question condition ( $t(171) = 2.14, p = .034$ ), whereas no significant difference in the accessibility of the most preferred brand, compared to less preferred brands, could be detected in the attitude question condition ( $t(171) = -.82, p = .41$ ). The second most preferred brand, which experienced inhibition prior to decision making in the intention question condition, has a post-choice activation level comparable to that of less preferred brands ( $t(171) = -.01, p = .990$ ), providing support for principle 3b. In the attitude question condition, the second most preferred brand remains at an activation level comparable to that of less preferred brands after a choice decision was made ( $t(171) = -.65, p = .517$ ).

Finally, if changes in brand accessibilities underlie the question-behavior effect, then the activation of the most preferred brand, relative to the second most preferred brand, prior to choice should mediate the effect of responding to an intention question on the choice of the most preferred brand<sup>5</sup>. Following Baron and Kenny (1986), this study used a simultaneous logistic regression of brand choice on the type of question and the relative activation of the most preferred brand. The introduction of relative activation in the logistic regression analysis that predicts choice according to the type of question reduces the effect of the type of question from significant ( $\beta = 1.01, t(85) = 1.96, p = .053$ ) to insignificant ( $\beta = .52, t(85) = .94, p = .348$ ), and the relative activation of the most preferred brand becomes a significant predictor ( $\beta = 1.57, t(85) = 2.50, p = .015$ ). The overall significance of this indirect effect can be assessed with a bootstrapping mediation test (Preacher and Hayes 2004; Shrout and Bolger 2002). The bootstrap estimate of this indirect effect and the constructed 95% confidence interval (lower bound 95% CI = .174, upper bound 95% CI = 1.44) show that 0 is not in the 95% confidence interval, so the indirect effect is significant, in further support of successful mediation.

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<sup>5</sup> The relative difference between the most preferred and second most preferred brand was operationalized as the subtraction of both measures. Similar results were obtained for the mediation analysis when defining the relative difference either as the ratio of both measures, or as the ratio of the subtraction and sum addition of both measures. The bootstrap estimate for the former indirect effect, and the constructed 95% confidence interval, show that 0 is not in the 95% confidence interval (lower bound 95% CI = .199, upper bound 95% CI = 1.635). The bootstrap estimate for the latter indirect effect, and the constructed 95% confidence interval, show that 0 is not in the 95% confidence interval (lower bound 95% CI = .180, upper bound 95% CI = 1.505).

Figure 1. Mean Pre-choice and Post-Choice Log-transformed Response Latencies for the Five Brands, Rank Ordered from the Most to Least Preferred



### 3.5 Discussion

The results of study 1 provide initial evidence for the proposed motivational account. Activated intentions tend to be associated with changes in the accessibility of options which influence subsequent brand choices. Study 1 demonstrates that measuring category-level intentions indeed affects brand accessibilities that in turn affect brand choices. Dynamic changes in brand accessibilities occur after responses to a category-level intention measure, in line with a motivational account. The reported findings establish the motivational nature of the question-behavior effect by demonstrating that motivation-related concepts are inhibited upon satiation of the motivation. This inhibition is specifically related to a motivational account and cannot be accounted for by other, existing theoretical accounts of the question-behavior effect. To further demonstrate the usefulness of a motivational account, the following study focuses on the inhibition of intention-related cognitions after completing an intention (principle 3), and shows that this principle as well holds implications for brand choices.

## 4. STUDY 2

The main aim of study 2 is to take the question behavior effect one step further. The question behavior effect has traditionally been investigated as the impact of answering an intention question on a subsequent purchase decision. Study 2 goes one step further and investigates how the question-behavior effect unfolds when two brands are chosen consecutively from a choice set. That is, this study looks into what happens if consumers first answer an intention question, subsequently make a choice decision, and immediately after make a second choice decision in the same product category. In line with previous records of the question-behavior effect, responding to an intention question is likely to affect the choice share of the most preferred brand in the first choice instance. But, what will happen in the second choice decision?

Traditional theoretical accounts would expect the same effect on the second choice decision as on the first choice decision. Indeed, having chosen for a certain brand in the first choice decision makes this brand highly accessible and would therefore be most likely to be chosen again in the second choice decision according to the attitude accessibility account. Response fluency would also be highest for the brand chosen in the first choice instance, making this

choice option most likely in the second choice instance according to response fluency. And for these situations in which cognitive dissonance applies, it can also be expected that if a consumer chooses for a certain option in the first choice option because this option is most congruent with social norms, he or she would choose for the same option again in the second choice option.

In contrast, relying on principle 3a, a motivational perspective would predict a reduced likelihood of choosing again for the most preferred brand in the second choice instance. According to principle 3a, accessibility of intention-related information is actively reduced upon intention completion (Förster, Liberman, and Higgins 2005; Liberman and Förster 2000; Marsh, Hicks, and Bink 1998; Marsh, Hicks, and Bryan 1999). This reduced accessibility of intention-related information, or in other words the reduced accessibility of the most preferred brand, can be expected to result in a reduced choice likelihood of this choice option in the second choice instance. Demonstrating the role of post-fulfillment inhibition in the question-behavior effect further confirms the importance of relying on a motivational perspective in addition to other theoretical accounts of the question-behavior effect.

#### 4.1 Participants and Design

One hundred and twenty-nine university students ( $M_{\text{Age}} = 20.91$ ) participated in this study and were randomly assigned to one of three conditions. To investigate whether answering an intention question affects the pattern of brand choices, the participants in the experimental condition responded to an intention question (“How likely or unlikely would you be to try the presented candy bars if they were available to you?”) whereas those in the control condition either responded to an attitude question (“How positive or negative are you about the presented candy bars becoming available to you?”) or did not respond to a replacing question. Hence, the brand choices in the experimental condition are compared to the brand choices in two control conditions including respectively an attitude question or no control question. Unlike the first study which investigated a traditional question behavior setting, this study uses a new setting, namely a sequential choice setting. For traditional settings, including the most stringent case (namely comparing an intention question to an attitude question) is sufficient because the comparison with a “no question” control condition has already been frequently reported (Janiszewski and Chandon, 2007; Morwitz and Fitzsimons, 2004). For a new setting such as the

current one, we thought it would be good to compare the results of an intention question (1) to a baseline condition (i.e., the no question condition) in order to get an idea of the size of the effect, and (2) to a stringent condition (i.e., the attitude question condition) to get an idea of the relative size of the effect.

## 4.2 Procedure

As in study 1, participants reviewed the ratings of five brands of unknown candy bars on four attributes (i.e., taste, grams of fat, calories and shelf life). Participants rank ordered the brands according to their preferences. Next, the participants were told that these candy bars were available in a neighboring country and that the manufacturer was thinking of introducing them on the domestic market. The experimental manipulation then ensured that participants responded to a category-level intention question, an attitude question or no additional question. After completing a filler task, the participants were informed that the manufacturer intended to distribute samples of candy bars to the participants. Participants then made a decision by clicking the brand of their choice. After making a first choice decision, they were told that the winners of a box of candy bars could receive two boxes. Therefore, on the next page, they clicked the brand of their choice for the second box of candy bars. The experiment explicitly stated that they were completely free to choose whatever brand they desired, including the previously chosen brand if they wished. Thus, all five brands were depicted as available choice options in this second choice instance.

## 4.3 Results and Discussion

The students who participated in this study made two separate choice decisions (see table 3). A separate  $\chi^2$  analysis for the first choice decision indicates that participants who responded to an intention question are more likely to select their most preferred choice option than are participants in the control condition consisting of an attitude question (80.5% vs. 54.8%,  $\chi^2(83) = 6.256$ ,  $p = .012$ ), and in the control condition not including an additional question (80.5% vs. 45.7%,  $\chi^2(87) = 11.174$ ,  $p = .001$ ). This difference is in line with the predictions based on a motivational perspective. For the second choice decision, a reversed pattern emerges:



Participants who responded to an intention question are now significantly less likely to select the most preferred brand than participants in the control condition consisting of an attitude question (14.6% vs. 33.3%,  $\chi^2(83) = 3.966$ ,  $p = .046$ ), or in the control condition not including an additional question (14.6% vs. 30.4%,  $\chi^2(87) = 3.057$ ,  $p = .080$ ).

It could be argued though that this difference between conditions might not be caused by differences in motivational states, but rather reflect a logical consequence of the differences between the conditions in the initial choice decision. To exclude this alternative explanation, a further investigation focuses on the choice share of the most preferred brand in the second choice instance, conditional on the choice of this brand in the first choice instance. These analyses reveal a significant difference between the experimental and control conditions. Whereas 52.2% of the participants in the control condition including an attitude question, and 47.6 % of the participants in the control condition not including an additional question, choosing the most preferred brand in the first instance select this brand again in the second instance, only 18.2% do so in the experimental condition consisting of an intention question ( $\chi^2(56) = 7.180$ ,  $p = .007$ ;  $\chi^2(54) = 5.334$ ,  $p = .021$ ).

Table 3. Overview of Brand Choices by Condition in Study 2

Type of Question	N	Initial Brand Choice	Subsequent Brand Choice	
			Unconditional	Conditional
No Question	46	45.7%	30.4%	47.6%
Attitude	42	54.8%	33.3%	52.2%
Intention	41	80.5%	14.6%	18.2%

The results of this second study demonstrate that there is more to the question behavior effect than only an effect on a first choice decision. More importantly, these results also indicate the deficit of existing theoretical accounts, either combined or in isolation, to explain such an effect. Answering an intention question initially increases the choice for the most preferred, intention-related brand, but in second instance, it decreases the choice for the most preferred brand. This brand choice pattern is in line with the predictions based on a motivational perspective on

responding to intention questions, but run counter to the predictions based on other theoretical accounts of the question-behavior effect. In sum, this second study provides further evidence of the usefulness of incorporating a motivational perspective next to the existing explanations to account for the question-behavior effect.

## 5. STUDY 3

The purpose of study 3 is to replicate the findings of study 2 and provide further support for our motivational account. Manipulating the time interval between the intention question and the initial brand choice, and between the initial and subsequent brand choice, enables us to further establish the motivational nature of the results of study 2. Like post-fulfillment inhibition, demonstrating the persistence of accessibility may distinguish a motivational account from alternative accounts. Accessibility from motivational sources is characterized by a relatively slow decay whereas traditional accessibility theories would suggest a rather rapid decay over relatively slow periods of time (Higgins, Bargh, and Lombardi 1985; Srull and Wyer 1979). In addition, techniques designed to discern motivational from nonmotivational effects have even suggested that motivational effects are likely to increase in strength over time (Bargh et al. 2001; Chartrand, Huber, Shiv, and Tanner 2008). In line with this, we can expect that an activated intention ought to maintain or strengthen its activation when the time interval between the intention question and the subsequent choices increases, maintaining or escalating the effects of intention questions on brand choices.

This maintenance or escalation in altered brand choices is suggested to only occur for the first brand choice. The subsequent decrease in the choice for the most preferred brand on a second brand choice occasion, when an intention question was answered first, is not suggested to persist when the time lag between both choice moments is extended. The active inhibition of the intention-related brand after intention completion would only be functional when it is likely to interfere with the next intention in line. When no related intention is subsequently activated, the concepts related to the previously activated intention are unlikely to interfere (Förster, Liberman, and Higgins 2005). Therefore, the inhibition of these concepts is unlikely to be persistent. Consequently, extending the time lag between the initial and subsequent brand choice is likely to negate the decreased choice for the most preferred brand at the second choice instance.

## 5.1 Participants and Design

Two hundred and thirty-eight participants were randomly assigned to one of the eight conditions in a 2 (type of question: intention vs. attitude)  $\times$  2 (initial time delay: no delay vs. delay)  $\times$  2 (subsequent time delay: no delay vs. delay) between-subjects design. As prior research directed at identifying a motivational effect incorporated time delays ranging from five (Bargh et al. 2001; Fitzsimons, Chartrand, and Fitzsimons 2008; Sela and Shiv 2009) to eight minutes (Chartrand, Huber, Shiv, and Tanner 2008), we used a 10-min time delay to identify whether the question-behavior effect can be ascribed to a motivational source.

## 5.2 Procedure

The procedure paralleled that used in study 2. At the beginning of the experiment, participants read that the research was being conducted in collaboration with a national market research organization for confectionery products. The organization reportedly was interested in estimating the market potential of new brands of candy bars. As indicated in table 4, participants first reviewed the ratings of five brands of unknown candy bars on four attributes. Participants then rank ordered the brands according to their preferences. Next, they responded to a category-level intention question in the intention condition or an attitude question in the control condition. In the condition without an initial delay, the first choice decision followed immediately after the type of question manipulation. In the initial time delay condition, a 10-min filler task was inserted between the question and initial choice decision. In the filler task, participants judged abstract shapes, numbers, colors, and jingles on their attractiveness and similarity. The choice decision presented to the participants informed them that the market research organization would distribute samples of candy bars to participants; they then viewed all the brand names on the computer monitor and revealed their choice by clicking on the preferred brand name. Next to this initial choice decision, participants were asked to make an additional choice decision, preceded by a 10-min filler task in the condition with a time delay between both choice decisions. As in study 2, participants were told they had to make a second choice decision because certain

participants could be lucky to receive two candy bars. All participants made a second choice decision by clicking on one of the five presented brand names.

Table 4. Overview of the Procedure Used in Study 3

Condition	Attribute information	Preference Ranking	Type of Question	Time Delay	Choice	Time Delay	Choice
			Attitude Question				
			Intention Question				
1	✓	✓	✓		✓	✓	✓
2	✓	✓		✓	✓	✓	✓
3	✓	✓	✓		✓	✓	✓
4	✓	✓		✓	✓	✓	✓
5	✓	✓	✓	✓	✓		✓
6	✓	✓		✓	✓		✓
7	✓	✓	✓		✓		✓
8	✓	✓		✓	✓		✓

### 5.3 Results and Discussion

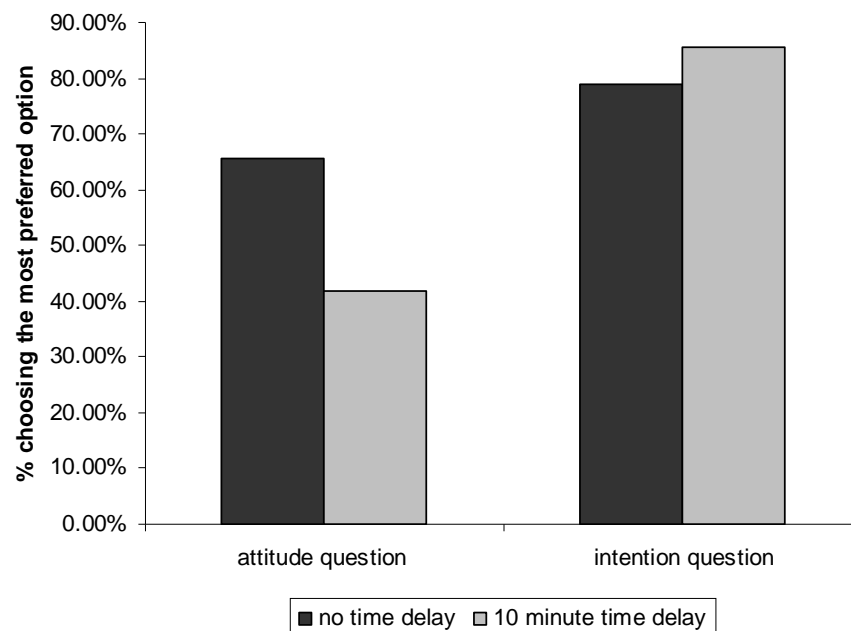
*Initial Brand Choice.* Table 5 presents the choice share of the five brands in each condition at the first choice instance.

Table5. Overview of Initial Brand Choices by Condition in Study 3

Type of question	Initial Time Lag	N	Brand 1	Brand 2	Brand 3	Brand 4	Brand 5
Attitude	Low	61	65.6%	18.0%	11.5%	3.3%	1.6%
Intention	Low	62	79.0%	19.4%	1.6%	0%	0%
Attitude	High	60	41.7%	41.7%	11.7%	3.3%	1.7%
Intention	High	55	85.5%	12.7%	0%	1.8%	0%

In line with our expectations, and as shown in figure 2, a logistic regression analysis estimating the choice for the most preferred brand at the initial choice moment revealed a significant interaction effect between type of question (intention vs. attitude question) and time lag (absent or present) between the question and the first choice (Wald  $\chi^2 = 5.275$ ,  $p = .022$ ). Specifically, the most preferred choice option was chosen more often in the intention question condition (82.1 %) than in the attitude question condition (53.7 %) ( $\chi^2 (238) = 21.817$ ,  $p < .001$ ). In the attitude question condition, the most preferred brand was chosen less often in case a time lag between the attitude question and the initial brand choice was present (41.7 %) versus absent (65.6 %) ( $\chi^2 (121) = 6.954$ ,  $p = .007$ ). In contrast, in the intention question condition, the most preferred brand was chosen more often in case there was a time lag between the intention question and the initial brand choice (85.5 %) compared to when the initial brand choice immediately followed the intention question (79.0 %). This difference was not significant ( $\chi^2 (117) = .816$ ,  $p = .255$ ), though.

Figure 2. Effect of Time Delay and Type of Question on Initial Choice of the Most Preferred Brand



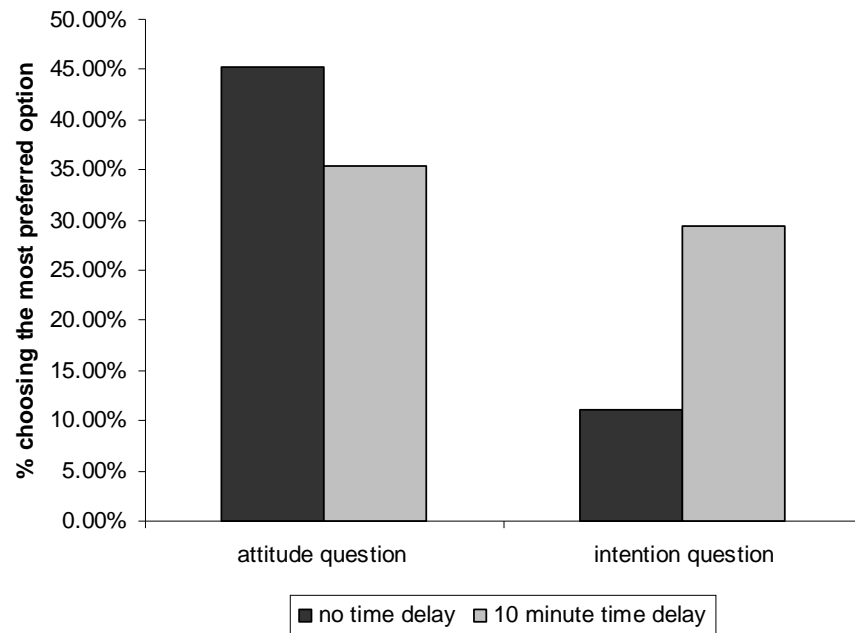
*Subsequent Brand Choice.* Table 6 presents the choice share of the five brands in each condition at the second choice instance. Moreover, as shown in figure 3, a logistic regression

estimating the choice for the most preferred brand (conditional upon the choice for this brand at the first choice instance) at the second choice instance also revealed a significant interaction between type of question (intention versus attitude) and time lag (present versus absent) (Wald  $\chi^2 = 4.514$ ,  $p = .034$ ). Specifically, in the absence of a time lag between the two choice instances, respondents who chose their most preferred brand at the first choice instance were significantly less likely to reselect this brand at the second choice instance if they previously answered an intention question (11.1 %) as compared to an attitude question (45.2 %) ( $\chi^2 (76) = 11.350$ ,  $p = .001$ ). If there was a time lag between both choice instances, no difference in the choice likelihood of the most preferred brand was observed between the intention question condition and the attitude question condition (29.4 % vs. 35.3 %;  $\chi^2 = .326$ ,  $p = .368$ ). In other words, a decrease in the choice share of the most preferred brand in the intention question condition is only observed when there is no time delay between the two choice moments.

Table 6. Overview of Subsequent Brand Choices by Condition in Study 3

Type of question	Subsequent Time Lag	N	Brand 1	Brand 2	Brand 3	Brand 4	Brand 5
Attitude	Low	61	44.3%	39.3%	13.1%	1.6%	1.6%
Intention	Low	62	27.4%	59.7%	11.3%	0%	1.6%
Attitude	High	60	48.3%	26.7%	18.3%	5.0%	1.7%
Intention	High	55	27.3%	56.4%	10.9%	3.6%	1.8%

Figure 3. Effect of Time Delay and Type of Question on the Subsequent Choice of the Most Preferred Brand Conditional on its Initial Choice



The results of study 3 provide further support for the notion that merely responding to an intention question may activate this intention, which instigates behavior aligned with this motivational state. Consistent with a motivational account, we find a persistent occurrence of the question behavior effect as the time interval between the intention question and the brand choice increases. Also consistent with the proposed motivational account is the reversal in the choice pattern at the second choice instance, at least when the second choice task immediately follows the first one. As the time interval between the two choice tasks increases, the choice share of the most preferred brand returns to a level comparable to that of the control condition.

## 6. GENERAL DISCUSSION

### 6.1 Summary of Findings

This article investigates why measuring intentions has such a profound influence on subsequent behavior. The results of three studies confirm that when a consumer responds to an intention question, an intention becomes activated and cognitive processes initiate to ensure the intended action gets executed. Study 1 confirms that when a consumer responds to an intention

question, cognitive processes initiate. It establishes that a brand related to a particular intention remains in a heightened state of activation until the choice is made. Thereafter, a reverse pattern emerges, and brands related to a completed intention experience inhibition. Furthermore, brands that are most competing with the completion of an intention get inhibited until the intention completion takes place. Study 1 also demonstrates directly that changes in brand activation drive the question-behavior effect. As such, this study provides initial evidence that the fundamental principles of a motivational perspective on answering intention questions applies to the question-behavior effect.

Study 2 provides further evidence for a motivational account of the question-behavior effect by showing how the effect develops in a sequential choice setting. Unlike predictions based on existing theoretical accounts such as attitude accessibility, response fluency and cognitive dissonance, predictions derived from a motivational perspective (i.e., a pre-choice accessibility advantage and a post-choice accessibility deficit of the most preferred brand) suggest that the question behavior effect may extend beyond immediate choices. Specifically, a motivational account suggests a dynamic pattern of brand accessibilities regarding the most preferred brand and predicts a continuation of this dynamic pattern in consumers' choices. The results of study 2 demonstrate that increased activation of intention-related brands prior to behavioral enactment and their inhibition after behavioral enactment translates into consumers' choice decisions. Specifically, we find a unique choice pattern of an initial increase and subsequent decrease in the choice of the most preferred brand when brand choices follow an intention question.

Study 3 lends further support to a motivational account of the question-behavior effect by demonstrating a larger effect when a time lag is introduced between the intention question and the initial brand choice behavior. This is in line with the predicted motivational account, because persistence is an interesting property of the changes in the relative activation of concepts in memory. In contrast with traditional accessibility theories, which argue that the accessibility of cognitions declines with the passage of time (Higgins 1996), the accessibility of intention-related concepts depends on their intentional status (uncompleted vs. completed), rather than time elapsed. In contrast with information unrelated to an intention, intention-related information likely remains active up until the enactment of the intention. Increased accessibility thus persists as long as the intention is active (Förster, Liberman, and Higgins 2005). This prediction differs from the type of accessibility acquired through semantic priming, which produces decay over



relatively short periods of time (Higgins, Bargh, and Lombardi 1985; Srull and Wyer 1979). Moreover, combining the current findings with semantic priming concepts creates some interesting research opportunities. When a primed concept becomes the object of an intention, behavioral consequences of priming may last longer. If a brand gets primed prior to responses to an intention question, and this brand successfully becomes the object of a purchase intention, it may lead to altered purchase behavior, even weeks after the priming.

Overall, the reported studies indicate that responding to an intention question activates an intention. In all three studies the intention question is hypothetical as it asks respondents to report what their behavior would be assuming that the candy bars are available to them. Yet, we find that responding to hypothetical intention questions has comparable effects than responding to real intention questions. This might suggest that consumers merely discard the hypotheticality of the intention questions. This proposition is in line with prior research findings on the effects of hypothetical questions which already showed that responding to purely hypothetical questions has a substantial biasing effect on consumers' behavior (Fitzsimons & Shiv, 2001).

The finding that competing choice options are inhibited after responding to an intention question also may transfer to brand choices. That is, responding to an intention question inhibits well-preferred, distracting brands, so if a most preferred option is out-of-stock, consumers may choose a less preferred brand if they have previously answered an intention question, due to the inhibition of their well-preferred, distracting brands. Therefore, it may be important for manufacturers to ensure well-preferred brands appear on the retail floor to override this inhibition. Additional studies should investigate the consequences of the specific accessibility pattern associated with motivational behavior for consumers' purchase behavior.

## 6.2 Limitations and Directions for Further Research

Although this research sheds new light on the operation of the question-behavior effect, these results cannot account for behavioral changes induced by satisfaction measures. Considerable research demonstrates the behavioral effects of satisfaction measures (Borle et al. 2007; Dholakia and Morwitz 2002); for example, Dholakia and Morwitz (2002) find that measuring satisfaction in a financial services setting influences not only single purchases but also customers' relational behaviors over an extended period of time. The proposed motivational

perspective relates specifically to the consequences of answering intention questions and thus cannot provide insight into these findings. However, perhaps satisfaction measures serve “as the basis for attitude formation, which then serves as the most salient basis for the development of an intention” (Feldman and Lynch 1988, 423). If responding to a satisfaction measure instigates spontaneous intention formation, the properties of motivational states may play a role in the question-behavior effect caused by a satisfaction measure. Further research should investigate the mechanisms that drive the behavioral effects of reporting satisfaction.

Furthermore, we expect the motivational account to contribute to a wide array of question-behavior effects. While several explanations have already been proposed to account for the question-behavior effect, they can all only account for a part of the reported question-behavior manifestations. For instance, attitude accessibility does not predict a behavior change when brand attitudes are equally accessible at the time of responding to an intention question (Morwitz and Fitzsimons 2004). Response fluency is most likely to have an influence when people fail to consider attribute information, but not when consumers know a considerable amount about the product (Janiszewski and Chandon 2007), and the cognitive dissonance account is limited to explaining changes in socially desirable behaviors.

While a motivational account is likely to play a role in a vast array of question-behavior effects, a motivational mechanism is less likely to be operating in certain instances compared to other explanations. For instance, the proposed motivational perspective requires the formation of an intention toward a specific target for the alteration of brand choices to occur. If consumers merely respond to a category-level intention without tying a specific brand to it, no motivation-driven changes in brand choices should emerge. Therefore, additional research should examine which factors determine the formation of a brand-level intention in response to a category-level intention question.

In addition, the activation of a certain goal may evoke associated behaviors, previously used to achieve the goal. Planning how to achieve a goal has been shown to reduce the likelihood to apply out-of-plan behaviors to reach the goal (Bayuk, Janiszewski, and LeBoeuf 2010). As such, the activation of a goal may prevent the activation of an intention by responding to an intention question when the questioned behavior is not in line with the activated goal.

Finally, further research should examine the moderating factors that may diminish the effects of responding to intention questions, in line with a motivational rationale. For example, power

affects basic cognitive processes (Guinote 2007), such that powerful persons have greater access to task-relevant constructs prior to task performance, whereas after this performance, the accessibility of these constructs declines (Slabu and Guinote 2010). The cognitive processes of activation and inhibition thus appear more influential for powerful compared with powerless persons. Given more distinct changes in the cognitive set-up follow the activation of a motivation for powerful people, powerful people likely exhibit a stronger question-behavior effect than do powerless ones. Specifically, powerful people more readily set goals. They need less time to decide on a desired course of action (Guinote, 2007). Based on this we suggest that powerful individuals may be more likely to set an intention after responding to an intention question. In general, to strengthen the claim that responding to an intention question sets a motivational mechanism into motion further research should demonstrate that factors that have an influence on goal pursuit and intention completion affect the magnitude of the question-behavior effect.

## 7. REFERENCES

- Aarts, Henk and Ap Dijksterhuis (2000), "Habits as Knowledge Structures: Automaticity in Goal-Directed Behavior," *Journal of Personality and Social Psychology*, 78 (1), 53-63.
- Bagozzi, Richard P. and Utpal Dholakia (1999), "Goal Setting and Goal Striving in Consumer Behavior," *Journal of Marketing*, 63 (4), 19-32.
- Bargh, John A. (1990), "Conditional Automaticity," *Bulletin of the Psychonomic Society*, 28 (6), 486-486.
- Bargh, John A., Peter M. Gollwitzer, Annette Lee-Chai, Kimberly Barndollar, and Roman Trochel (2001), "The Automated Will: Nonconscious Activation and Pursuit of Behavioral Goals," *Journal of Personality and Social Psychology*, 81 (December), 1014-27.
- Baron, Reuben M. and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (6), 1173-82.
- Baumgartner, Hans and Rik Pieters (2008), "Goal-Directed Consumer Behavior: Motivation, Volition and Affect," in *Handbook of Consumer Psychology*, ed. Curtis P. Haugtvedt, Paul M. Herr, and Frank R. Kardes, New York: Erlbaum, 367-92.
- Bayuk, Julia Belyavsky, Chris Janiszewski, and Robyn A. Leboeuf (2010), "Letting Good Opportunities Pass Us By: Examining the Role of Mind-set during Goal Pursuit," *Journal of Consumer Research*, 37 (4), 570-83.
- Borle, Sharad, Utpal M. Dholakia, Siddharth S. Singh, and Robert A. Westbrook (2007), "The Impact of Survey Participation on Subsequent Customer Behavior: An Empirical Investigation," *Marketing Science*, 26 (5), 711-26.
- Chandon, Pierre, Vicki G. Morwitz, and Werner J. Reinartz (2004), "The Short- and Long-Term Effects of Measuring Intent to Repurchase," *Journal of Consumer Research*, 31 (3), 566-72.
- Chandon, Pierre, Vicki G. Morwitz, and Werner J. Reinartz (2005), "Do Intentions Really Predict Behavior? Self-generated Validity Effects in Survey Research," *Journal of Marketing*, 69 (2), 1-14.
- Chapman, Kenneth J. (2001), "Measuring Intent: There's Nothing 'Mere' about Mere Measurement Effects," *Psychology and Marketing*, 18 (8), 811-41.
- Chartrand, Tanya L., Joel Huber, Baba Shiv, and Robin J. Tanner (2008), "Nonconscious Goals

- and Consumer Choice,” *Journal of Consumer Research*, 35 (2), 189-201.
- Custers, Ruud and Henk Aarts (2005), “Positive Affect as Implicit Motivator: On the Nonconscious Operation of Behavioral Goals,” *Journal of Personality and Social Psychology*, 89 (2), 129-142.
- Davis, Fred D. and Paul R. Warshaw (1991), “Choice Sets and Choice Intentions,” *Journal of Social Psychology*, 131 (6), 823-30.
- Dholakia, Utpal M. (2010), “A Critical Review of Question-Behavior Effect Research,” *Review of Marketing Research*, 7, 147-199.
- Dholakia, Utpal M. and Vicki G. Morwitz (2002), “The Scope and Persistence of Mere-Measurement Effects: Evidence from a Field Study of Customer Satisfaction Measurement,” *Journal of Consumer Research*, 29 (2), 159-67.
- Dijksterhuis, Ap, Tanya L. Chartrand, and Henk Aarts (2007), “Effects of Priming and Perception on Social Behavior and Goal Pursuit,” in *Social Psychology and the Unconscious: The Automaticity of Higher Mental Processes*, ed. John A. Bargh, Philadelphia: Psychology Press, 51-132.
- Feldman, Jack M. and John G. Lynch Jr. (1988), “Self-Generated Validity and Other Effects of Measurement on Belief, Attitude, Intention, and Behavior,” *Journal of Applied Psychology*, 73 (3), 421-35.
- Fitzsimons, Grainne M., Tanya L. Chartrand, and Gavan J. Fitzsimons (2008), “Automatic Effects of Brand Exposure on Motivated Behavior: How Apple Makes You ‘Think Different’,” *Journal of Consumer Research*, 35 (1), 21-35.
- Fitzsimons, Gavan J. and Sarah G. Moore (2008), “Should We Ask Our Children About Sex, Drugs and Rock & Roll? Potentially Harmful Effects of Asking Questions about Risky Behaviors,” *Journal of Consumer Psychology*, 18 (2), 82-95.
- Fitzsimons, Gavan J. and Vicki G. Morwitz (1996), “The Effect of Measuring Intent on Brand-Level Purchase Behavior,” *Journal of Consumer Research*, 23 (1), 1-11.
- Fitzsimons, Gavan J. and Baba Shiv (2001), “Nonconscious and Contaminative Effects of Hypothetical Questions on Subsequent Decision Making,” *Journal of Consumer Research*, 28, 224-238.

- Fitzsimons, Gavan J. and Patti Williams (2000), "Asking Questions Can Change Choice Behavior: Does It Do so Automatically or Effortfully?" *Journal of Experimental Psychology: Applied*, 6 (3), 195-206.
- Förster, Jens, Nira Liberman, and Tory E. Higgins (2005), "Accessibility from Active and Fulfilled Goals," *Journal of Experimental Social Psychology*, 41, 220-39.
- Gollwitzer, Peter M. (1999), "Implementation Intentions: Strong Effects of Simple Plans," *American Psychologist*, 54 (7), 493-503.
- Goschke, Thomas and Julius Kuhl (1993), "Representation of Intentions: Persisting Activation in Memory," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 19 (5), 1211-26.
- Greenwald, Anthony G., Catherine G. Carnot, Rebecca Beach, and Barbara Young (1987), "Increasing Voting Behavior by Asking People if They Expect to Vote," *Journal of Applied Psychology*, 72 (2), 315-18.
- Guinote, Ana (2007), "Power affects Basic Cognition: Increased Attentional Inhibition and Flexibility," *Journal of Experimental Social Psychology*, 43 (5), 685-697.
- Higgins, Tory E. (1996), "Knowledge Activation: Accessibility, Applicability, and Salience," in *Social Psychology: A Handbook of Basic Principles*, ed. Arie Kruglanski and E. Tory Higgins, New York: Guilford, 133-68.
- Higgins, Tory E., John A. Bargh, and Wendy Lombardi (1985), "Nature of Priming Effects on Categorization," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 11 (1), 59-69.
- Higgins, Tory E. and Gillian A. King (1981), "Accessibility of Accessibility of Social constructs: Information-processing consequences of individual and contextual variability," in *Personality, Cognition, and Social Interaction*, ed. Nancy Cantor and John F. Kihlstrom, Hillsdale, NJ: Erlbaum.
- Janiszewski, Chris and Elise Chandon (2007), "Transfer-Appropriate Processing Response Fluency and the Mere Measurement Effect," *Journal of Marketing Research*, 44 (2), 309-23.
- Karremans, Johan C., Wolfgang Stroebe, and Jasper Claus (2006), "Beyond Vicary's Fantasies: The Impact of Subliminal Priming and Brand Choice," *Journal of Experimental Social Psychology*, 42 (November), 792-98.

- Kruglanski, Arie W., James Y. Shah, Ayelet Fishbach, Ron Friedman, Woo Young Chun and David Sleeth-Keppler (2002), "A Theory of Goal Systems," *Advances in Experimental Social Psychology*, 34, 331-378.
- Kuhl, Julius (1987), "Action Control: The Maintenance of Motivational States," in *Motivation, Intention, and Volition*, ed. Frank Halisch and Julius Kuhl, New York: Springer, 101-28.
- Levav, Jonathan and Gavan J. Fitzsimons (2006), "When Questions Change Behavior: The Role of Ease of Representation," *Psychological Science*, 17 (3), 207-13.
- Li, Karen Z. H., Ulman Lindenberger, Dennis R  nger, and Peter A. Frensch (2000), "The Role of Inhibition in the Regulation of Sequential Action," *Psychological Science*, 11 (4), 343-47.
- Liberman, Nira and Jens F  rster (2000), "Expression After Suppression: A Motivational Explanation of Postsuppressional Rebound," *Journal of Personality and Social Psychology*, 79 (2), 190-203.
- Marsh, Richard L., Jason L. Hicks, and Eric S. Bryan (1999), "The Activation of Unrelated and Canceled Intentions," *Memory and Cognition*, 27 (2), 320-27.
- Marsh, Richard L., Jason L. Hicks, and Martin L. Bink (1998), "Activation of Completed, Uncompleted, and Partially Completed Intentions," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 21 (2), 350-61.
- Morwitz, Vicki G. and Gavan J. Fitzsimons (2004), "The Mere Measurement Effect: Why Does Measuring Intentions Change Actual Behavior?" *Journal of Consumer Psychology*, 14 (1-2), 64-74.
- Morwitz, Vicki G., Eric Johnson, and David Schmittlein (1993), "Does Measuring Intent Change Behavior?" *Journal of Consumer Research*, 20 (1), 46-61.
- Nedungadi, Prakash, Amitava Chattopadhyay and A. V. Muthukrishnan (2001), "Category Structure, Brand Recall, and Choice," *International Journal of Research in Marketing*, 18 (3), 191-202.
- Obermiller, Carl and Eric Spangenberg (2000), "Improving Telephone Fundraising by Use of Self-prophecy," *International Journal of Nonprofit and Voluntary Sector Marketing*, 5 (4), 365-72.
- Papies, Esther K., Henk Aarts and Nanne K. de Vries (2009), "Planning is for Doing: Implementation Intentions Go Beyond the Mere Creation of Goal-directed Associations," *Journal of Experimental Social Psychology*, 45 (5), 2009.



- Penningroth, Suzanna L. (2005), "Free Recall of Everyday Retrospective and Prospective Memories: The Intention-Superiority Effect Is Moderated by Action Versus State Orientation and by Gender," *Memory*, 13 (7), 711-24.
- Preacher, Kristopher J. and Andrew F. Hayes (2004), "SPSS and SAS Procedures for Estimating Indirect Effects in Simple Mediation Models," *Behavior Research Methods Instruments and Computers*, 36 (4), 717-31.
- Sela, Aner and Baba Shiv (2009), "Unraveling Priming: When Does the Same Prime Activate a Goal Versus a Trait?," *Journal of Consumer Research*, 36 (3), 418-33.
- Sheeran, Paschal and Charles Abraham (2003), "Mediator of Moderators: Temporal Stability of Intention and the Intention-Behavior Relation," *Personality and Social Psychology Bulletin*, 29 (2), 205-15.
- Sherman, Steven J. (1980), "On the Self-Erasing Nature of Errors of Prediction," *Journal of Personality and Social Psychology*, 39 (2), 211-21.
- Shrout, Patrick E. and Niall Bolger (2002), "Mediation in Experimental and Nonexperimental Studies: New Procedures and Recommendations," *Psychological Methods*, 7 (4), 422-45.
- Slabu, Letitia and Ana Guinote (2010), "Getting What You Want: Power Increases the Accessibility of Active Goals," *Journal of Experimental Social Psychology*, 46 (2), 344-349.
- Spangenberg, Eric R. (1997), "Increasing Health Club Attendance through Self-prophecy," *Marketing Letters*, 8 (1), 23-31.
- Spangenberg, Eric R. and Anthony G. Greenwald (1999), "Social Influence by Requesting Self-prophecy," *Journal of Consumer Psychology*, 8 (1), 61-89.
- Spangenberg, Eric R. and Anthony G. Greenwald, and David E. Sprott (2008), "Will You Read This Article's Abstract? Theories of the Question-behavior Effect," *Journal of Consumer Psychology*, 18 (2), 102-106.
- Spangenberg, Eric R., David E. Sprott, Bianca Grohmann, and Ronn J. Smith (2003), "Mass Communicated Prediction Requests: Practical Application and a Cognitive Dissonance Explanation for Self-Prophecy," *Journal of Marketing*, 67 (3), 47-62.
- Sprott, David E., Eric R. Spangenberg, Lauren G. Block, Gavan J. Fitzsimons, Vicki G. Morwitz, and Patti Williams (2006), "The Question-Behavior Effect: What We Know and Where We Go from Here," *Social Influence*, 1 (2), 128-37.
- Srull, Thomas K. and Robert S. Wyer Jr. (1979), "The Role of Category Accessibility in the



Interpretation of Information about Persons: Some Determinants and Implications,” *Journal of Personality and Social Psychology*, 37 (10), 1660-72.

Thelen, Eva M. and Arch G. Woodside (1997), “What Evokes the Brand or Store? Consumer Research on Accessibility Theory Applied to Modeling Primary Choice,” *International Journal of Research in Marketing*, 14 (2), 125-145.

Velting, Harm and Ad Van Knippenberg (2006), “Shielding Intentions from Distraction: Forming an Intention Induces Inhibition of Distracting Stimuli,” *Social Cognition*, 24 (4), 409-25.

Velting, Harm and Ad Van Knippenberg (2008), “Intention Formation Induces Episodic Inhibition of Distracting Stimuli,” *Acta Psychologica*, 128 (1), 45-55.

Williams, Patti, Gavan J. Fitzsimons, and Lauren G. Block (2004), “When Consumers Do Not Recognize Benign Intention Questions as Persuasion Attempts,” *Journal of Consumer Research*, 31 (3), 540-50.

Zhao, Xinshu, John G. Lynch Jr., and Qimei Chen (2010), “Reconsidering Baron and Kenny: Myths and Truths about mediation analysis,” *Journal of Consumer Research*, 37 (2), 197-206.



# **CHAPTER III: THE COMBINED INFLUENCE OF SELECTIVE FOCUS AND DECISION INVOLVEMENT ON MEMORY-BASED DECISION MAKING**

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### **CHAPTER III: THE COMBINED INFLUENCE OF SELECTIVE FOCUS AND DECISION INVOLVEMENT ON MEMORY-BASED DECISION MAKING<sup>6</sup>**

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Marketers often use salient stimuli to draw consumers' attention to a specific brand in the hope that a selective focus on the own brand increases the sales of this brand. However, previous studies are inconsistent concerning the impact that selectively focusing on a specific brand has on final brand choice. To offer an explanation for these inconsistent results, this paper introduces decision involvement as a moderator of the relation between selective focus and attitude-decision consistency. Two studies indicate that selectively focusing on a not most preferred alternative indeed alters choice decisions, but only when decision involvement is low. Study 1 further shows that this interaction effect between selective focus and involvement takes place in the selection rather than the brand consideration stage. By introducing level of processing next to decision involvement, Study 2 shows that the interaction effect emerges even in limited processing conditions. The study also reconciles different explanations for the negative effect of selective focus on attitude-behavior consistency. Selectively focusing on a not preferred choice option when consumer are low involved and use limited processing seems to lead to inconsistent choices because of an increased accessibility of the focal option, whereas selective focus on a not preferred option when consumers are low involved and use deep processing lead to inconsistent choices because of attitude polarization.

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The objective of many marketing actions is to change people's attitudes towards certain brands, products or behaviors. Marketers do this in the assumption that inducing a positive attitude towards a brand will turn out in attitude-consistent buying behavior and increased sales (Chattopadhyay & Nedungadi, 1990; Brown & Stayman, 1992). However, a multitude of studies have already shown that behavior is often not in line with the reported attitudes (e.g., De Cannière, De Pelsmacker, & Geuens, 2009; Fazio et al. 1982; Sivacek & Crano, 1982; Smith & Swinyard, 1983; Kraus, 1995; Glasman & Albarracin, 2006). For instance, a consumer with positive attitudes towards sustainable products may not buy them because of the low perceived availability of these products, whereas consumers with negative attitudes may buy them because of social pressure (Vermeir & Verbeke, 2006).

Although changing consumers' choice decisions by changing their brand attitudes can be a fruitful approach, there is also evidence that brand choices can be significantly altered simply by making a brand more salient than its competitors in the decision context (Nedungadi, 1990). Previous research shows that enhancing a brand's salience increases the consideration of this brand (Alba & Chattopadhyay, 1986; Nedungadi, 1990), as well as the choice for this focal brand (Nedungadi, 1990; Posavac, Sanbonmatsu, & Ho, 2002). For example, Posavac, Sanbonmatsu, and Ho (2002) show that selectively focusing on the second most preferred choice option sways choice in favor of that option and away from the option that was initially most preferred. Hence, attitude-decision consistency decreases when the selective focus is on a not most preferred choice alternative.

In contrast to the foregoing, Coates, Butler, and Berry (2004) found that selective focus had an influence on brand consideration, but in none of their three studies did this effect extend to choice itself. Given these inconsistent results, a first objective of the current research is to extend prior knowledge on the conditions under which the effect of selective focus on choice behavior can be expected by introducing decision involvement as a moderator. In view of the pervasive influence of choice involvement on consumers' information processing and decision making (cfr., ELM, HSM), it is indeed conceivable that the impact of selectively focusing on a certain product alternative will be different in a low versus high involvement decision situation.

In addition, the current research also addresses at which stage in the decision process this moderation takes place. Because selective focus and decision involvement may exert their

influence in the brand consideration and/or brand selection stage, investigating the level at which these factors moderate the attitude-behavior relation is a second objective of this study.

Finally, this research also investigates the level of processing of the focal brand that is necessary for the selective focus effect to emerge. Consumers can attend to the focal brand in a shallow or deep way. Previous studies on the role of selective focus did not acknowledge differences in processing styles and most often they used conditions of forced, focused attention and elaborate processing of the focal brand (Nedungadi, 1990; Posavac et al., 2002; Del Missier, Ferrante, & Constantini, 2007). Given the expectation that selective attention is more effective to alter the choice decisions of low involved consumers, it is necessary to investigate whether this effect also occurs when the focal brand is processed superficially. Thus, this research attempts to address three key questions:

- (1) Does decision involvement moderate the influence of selective focus on choice decisions?
- (2) At what stage in the decision process does this interaction take place? In other words, how is the process of decision making affected by selective focus and decision involvement?
- (3) Is a shallow, superficial level of processing of the focal brand sufficient in order to attain an effect of selective focus on decision making?

By investigating these questions, the current research makes the following contributions: First, investigating the effect of paying attention to marketing stimuli, presented in the decision context, on decision making helps managers in their development of effective communication strategies. By identifying a boundary condition for the effect, communication managers can more effectively decide whether generating a most liked or generating a most prominent brand is more essential. Second, this research adds to the knowledge on selective focus and decision making, on the one hand by identifying involvement as a moderator and investigating at what stage in the decision making process the interaction effect emerges and, on the other hand, by investigating the necessary level of cognitive processing of the focal brand. The latter is especially important because selective focus is most likely to affect choices of low involved consumers. These consumers are not motivated to carefully process decision-relevant marketing stimuli. This contrasts sharply with the induced elaborate processing in previous studies on selective focus.

## 1. THEORETICAL FRAMEWORK

### 1.1 Combined Influence of Selective Focus and Decision Involvement on Attitude-Behavior Consistency

Consumers are, literally, surrounded by numerous marketing stimuli, such as advertisements, commercials, direct mails, and point-of-purchase materials, all competing for the consumers' attention (Lee & Lee, 2007). To help manage this volume of information, consumers control their own information processing and engage in selective attention, which leads to processing only a limited number of communication stimuli and ignoring many others (Posavac et al., 2002; Taylor, Franke, & Bang, 2006). How this selective attention for contextual marketing stimuli has an effect on consumers' behavior is critical knowledge for marketers in order to design effective marketing communications (Holden & Vanhuele, 1999).

Posavac et al. (2002) showed that selectively focusing on certain alternatives may indeed have an influence on choice and thereby also on attitude-behavior consistency. Selectively focusing on a brand prior to choice may result in a different decision. Consequently, attitude-decision consistency may increase or decrease, depending on the initial position in the preference ranking of the focal brand. If consumers attend to their most preferred choice option, attitude-decision consistency may increase because the highlighted option may be particularly likely to be chosen. However, if consumers attend to a not most preferred choice option, attitude-decision consistency may decrease because the likelihood that the focal option is chosen increases, which decreases the likelihood that the most preferred option is chosen (Posavac et al., 2002). However, selectively focusing on a specific choice alternative does not always have the previously described effect. Coates, Butler, and Berry (2004) indicate that selectively attending to a certain brand may affect brand consideration, but not brand choice. Their work suggests that simply focusing on a not most preferred alternative prior to choice may only in some instances be sufficient to alter brand choice. Therefore, the current paper introduces the level of involvement with the choice decision as a potential moderator of the influence of selective focus on attitude-decision consistency.

Zaichkowsky (1985, p. 342) defined involvement as 'a person's perceived relevance of the object based on inherent needs, values, and interests'. This concept of involvement, applied to



decision research, pertains to ‘the perceived relevance or importance of the decision to an individual’. Generally, the level of involvement with purchase decisions is associated with systematic variations in the extensiveness of information search and information processing. The more involved individuals are, the more cognitive effort and time they will allocate to decision making in order to arrive at a valid decision (Petty, Cacioppo, & Schumann, 1983; Krosnick, 1988). Hence, the more involved individuals are with a decision, the more systematic they will be in their decision making, and the less susceptible they will be to peripheral cues. Several studies already indicated, in line with the assumptions of the Elaboration Likelihood Model (Petty & Cacioppo, 1986) and the Heuristic-Systematic Model (Chaiken, 1980), that high involved individuals’ behavior is more attitude-consistent than the behavior of their low involved counterparts (Kokkinaki & Lunt, 1997). Building on the foregoing, an interaction effect between selective focus and decision involvement seems likely (see Table 1).

Table 1. Hypothesized Attitude-Decision Consistency as a Function of Decision Involvement and Selective Focus

Decision Involvement	Selective Focus	
	Most Preferred Alternative	Not Most Preferred Alternative
Low	High	Low
High	High	High

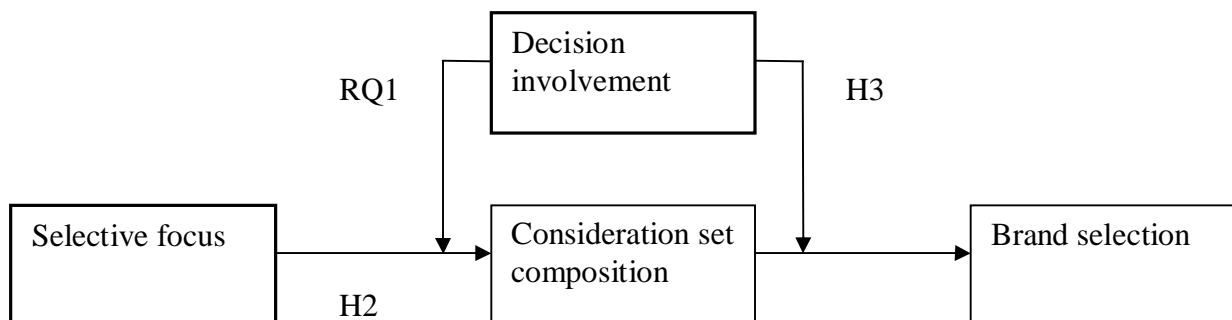
Selectively focusing on a certain alternative prior to decision making, will only influence brand choice when subjects are uninvolved with the decision. More specifically, selectively focusing on a not most preferred choice alternative will only reduce the degree of attitude-behavior consistency when involvement is low. When individuals are highly involved and fully evaluate each alternative, they will end up choosing the alternative to which they hold the most positive attitude. Thus,

H1. Decision involvement moderates the effect of selective focus on the attitude-decision relationship. When involvement is low and selective focus is on a not most preferred attitude-decision consistency will be lower than when involvement is high and/or selective focus is on the most preferred alternative.

## 1.2 A Two-Stage Decision Process

This article focuses on memory-based choice situations, which means that the choice options are not displayed in the decision context (Lynch & Srull, 1982; Posavac, Herzstein, & Sanbonmatsu, 2003). For example, when thinking of a nice restaurant to make reservations for the evening dinner, it is not plausible you have a list of all possible restaurants at your disposal. Instead, it is much more likely that you have to recall the restaurants you know and then you can select one to visit this evening. When choice is memory-based, it is clear that consumers have to do more than simply assess the different choice alternatives or behavioral options and pick the one they prefer the most. Possible choice options first have to be constructed or retrieved from memory (Posavac et al., 2003). Therefore, it is important to take possible consideration set effects on brand choice probabilities into account. From this point of view, it is advisable to divide the choice model in two stages: a brand consideration stage and a brand selection stage (e.g., Bronnenberg & Vanhonacker, 1996; Nedungadi, 1990; Urban, Hulland, & Weinberg, 1993). Figure 1 depicts the hypothesized influences of selective focus and decision involvement on brand consideration and brand selection.

Figure 1. Overview of the Conceptual Background and Hypotheses (Study 1)



### 1.2.1 Influence of Selective Focus and Decision Involvement on Brand Consideration

In the brand consideration stage consumers put their consideration set together. ‘Consideration set’ as used here, refers to ‘the set of brands brought to mind on a particular choice occasion’<sup>7</sup> (Nedungadi, 1990). The composition of the consideration set depends on the memorability of the choice options. In order to consider an alternative, it is a precondition that this alternative is accessible from memory (Nedungadi, 1990).

Usually, the strength and favorability of an attitude towards a brand correlates positively with its accessibility. Therefore, more liked alternatives generally have a greater chance of consideration than disliked alternatives (Posavac, Sanbonmatsu, & Fazio, 1997). In addition, strongly liked brands have a greater chance of consideration than weakly liked (or disliked) brands (Priester et al., 2004). It is, however, not guaranteed that all consumers retrieve their most preferred brands from memory, because it is not always the case that the most preferred options are the most accessible ones (Posavac et al., 1997). Recent exposure to a particular brand increases its ‘salience’ (defined as ‘the prominence or level of activation of a brand in memory’) and thereby increases a consumer’s ability to recall this brand (Alba & Chattopadhyay, 1986). For instance, social or marketing interventions in the context of the decision making process may increase the salience of a not most preferred brand and may make this brand more accessible, relative to other, more preferred, choice options. Therefore, selectively focusing on a particular brand can alter the composition of the consideration set. Inducing a consumer to selectively focus on a brand prior to decision making may increase the chance on retrieval of this brand regardless of the fact that the focal brand is the most preferred or a not most preferred one.

H2: Selectively focusing on a brand positively influences the presence of this brand in the consideration set

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<sup>7</sup> This conceptualization of a consideration set may not be the most conventional one. In recognizing that consumers may use more than two stages to simplify decision making, certain prior studies have made a distinction between the retrieval set (i.e., a subset of all brands a consumer is aware of that one can access from memory) and the consideration set (i.e., a subset of brands in the retrieval set that are scrutinized carefully on a particular choice occasion) (Shocker et al., 1991). In this respect, our conceptualization of a consideration set might be seen as more closely related to that of a retrieval set.

Given the overall expectation of an interaction effect between selective focus and decision involvement on attitude-decision consistency, it is possible that this interaction already originates at the brand consideration level. Support for this proposition can be found in the fact that high involved consumers' latitudes of acceptance for alternative brands are generally rather narrow (Rothchild & Houston, 1977). Their willingness to consider less preferred alternatives is smaller. Selectively focusing on a not most preferred brand may consequently be less effective in terms of brand consideration when involvement is high versus low. In contrast, involvement motivates consumers to consider and process more brands for final choice in order to diminish the perceived risk of excluding an optimal choice from the consideration set (Gronhaug, 1973; Chakravarti & Janiszewski, 2003; Konstandoulaki & Kokkinaki, 2009). Therefore, selectively focusing on a not most preferred brand may increase the admittance of the focal brand in the consideration set when involvement is high versus low. Given these two opposite lines of reasoning, selectively focusing on a not most preferred brand may turn out to be more, less or equally effective in altering the composition of the consideration set of both low and high involved consumers.

RQ1: What is the impact of selectively focusing on a not most preferred brand on consideration of this focal brand for low and high involved consumers?

### 1.2.2 Influence of Selective Focus and Decision Involvement on Brand Selection

Furthermore, accounting for the expected interaction effect of selective focus and decision involvement on attitude-decision consistency, this interaction may not only be produced at the brand consideration level (*RQ1*), but also at the brand selection level. In this second stage of the decision process, the brand selection stage, consumers turn to assessing the brands they included in the consideration set and one brand is selected for purchase (Nedungadi, 1990). To arrive at a final choice, consumers can use a variety of decision rules. A general assumption is that, irrespective of the precise choice process, consumers will select the most positively evaluated brand included in the consideration set. Attitude-consistent choice then requires accessing the attitudes towards the considered alternatives, and choosing the most favored option.

Thus, an increased chance of retrieving a choice option does not automatically transfer into an increased choice of this brand. The current research proposes that decision involvement may affect this transfer of brand consideration to brand selection, by exerting an influence on the extensiveness of brand evaluations. Respondents may devote more effort on the evaluation of different choice alternatives when decisions are perceived as highly consequential. And, to the extent that consumers devote effort to the assessment of alternatives, the attitudes towards the alternatives are more likely to determine the choice decision (Posavac et al., 2003). In contrast, when decision involvement is low, consumers may not want to allocate much time and effort to decision making and consequently they may choose the option that came to mind first or they may misattribute the salience of the brand to brand liking (cf. mere exposure) (Zajonc, 1980). It is in this circumstance that an increase in retrieval probability of a not most preferred choice option, due to selective focus, may lead to brand choice.

H3: The increased admittance of a not most preferred choice option in the consideration set will be more likely to result in an inconsistent choice decision when decision involvement is low (versus high)

Taken together, distinguishing between a brand consideration and a brand selection stage enables an investigation of the processes that underlie brand consideration and brand selection. Brand choice influencing factors can have a different level of importance in these two stages in the choice process (Nedungadi, 1990). According to the predictions in this research, selective focus and decision involvement can both alter the composition of the consideration set. However, it is unclear whether selective focus is equally likely to alter the composition of the consideration set for both low and high involved individuals. Further, this research predicts the level of involvement to moderate the influence of selective focus in the brand selection stage. When consumers are highly involved, consumers may spend more time and effort on decision making. And thus, admittance of a not most preferred brand in the consideration set does not cause a decrease in attitude-decision consistency. Inclusion in the consideration set is not a sufficient condition for brand choice. An increase in the retrieval probability of a not most preferred choice option may only transfer to brand choice under low involvement conditions. Hence, besides investigating the combined influence of involvement and selective focus on

attitude-decision consistency, the objective of Study 1 is also to address at which stage in the decision process these factors moderate the attitude-behavior relation.

## 2. STUDY 1

### 2.1 Method

The first study consists of two moments of data collection, separated from each other by one week. In the first phase, the respondents reported their attitudes towards 14 different charities, i.e., the focal object of this research. The second phase began with the selective focus manipulation. Subsequently, the participants were induced to choose one charity to receive a donation, after which the level of involvement with the choice decision was measured. The experiment was a 2 x 2 between-subjects design, with a manipulation of selective focus at two levels (focus on the most preferred brand vs. focus on the fourth most preferred brand), and a distinction between two levels of involvement (low involvement vs. high involvement).

#### 2.1.1 Participants

A sample of 846 students received an e-mail with an invitation to participate in the experiment in exchange for a movie ticket. In the first phase 346 respondents voluntarily filled in the questionnaire. In total 254 (113 men and 141 women) of these participants (73.4%) also completed the second questionnaire.

#### 2.1.2 Procedure and Manipulations

*Pretest.* A pretest was run to get an overview of the charities people are aware of. More specifically, the goal of this pretest was to identify those charitable organizations that people are most likely to retrieve from memory spontaneously. Given that this study wants to determine whether participants make memory-based choices that are consistent with their attitudes, it was necessary to define a set of charities that is 1) limited enough to make a concise questionnaire, but 2) at the same time extensive enough to capture the majority of the charitable organizations

that participants will mention in the memory-based choice decision task. In this pretest, about 40 students listed all the charities they knew. Only nationally operating charities that were mentioned by at least five students were retained. This resulted in a list of 14 well-known charities.

*First Experimental Phase.* In the first data collection phase respondents filled in a web-based questionnaire that contained basic demographic questions, questions with respect to their buying behavior in general and the degree to which they were familiar with buying products in four different categories. Subsequently, respondents received lists of brands/organizations, which reside within these four categories, with the task of rank ordering these brands/organizations according to their preferences, starting with their most preferred brand/organization. By means of this rank ordering task, an indication of the relative favorableness of participants' attitudes was obtained, with lower values indicating greater favorableness (Posavac et al., 2003). This indication of the relative preference of each participant for the 14 charitable organizations was then used to determine the most and fourth most preferred charity (i.e., the focal charities) for each individual. Besides charitable organizations, participants also had to rank order different brands of soft drinks, mobile phones, and newspapers. These distracter categories were included in the questionnaire to obscure the fact that charitable organizations were the focus of this research. Further, attitudes towards each object were not only measured in a relative, but also in an absolute sense, by a 1-item 7-point Likert scale (e.g., How would you describe your attitude towards the [charity]? with -3 = very negative and +3 = very positive).

*Second Experimental Phase.* The participants received a second questionnaire one week after they completed the first one. In this questionnaire the researchers informed the participants they needed more data on each brand in all four categories, but that each respondent only had to answer more detailed questions on one brand. This was done to make the participants less suspicious of the research goal, but in reality this was the selective focus manipulation. Following Posavac et al. (2002), the manipulation consisted of six attitudinal questions, either on their most preferred charitable organization or on their fourth most preferred charitable organization (e.g., How much do you know about the [focal charity]? How important do you consider the functions served by the [focal charity]?). Posavac et al. (2002) have illustrated the adequacy of asking multiple attitudinal questions as a manipulation of selective focus. Following the selective focus manipulation, participants decided on a charitable organization to receive a

donation of 250 euro. Subsequently, the level of involvement with the choice decision participants had to make was measured. Participants indicated the perceived importance of the decision on a 1-item 7-point scale (How important was the selection of the charity to you? with -3 = very unimportant and +3 = very important). Participants were then split in two groups, based on the median of the perceived importance of the decision ( $M_{\text{low}} = -1.11$ ,  $M_{\text{high}} = 1.64$ ,  $t(252) = -20.39$ ,  $p < .001$ ). Next, the participants listed the other charities they could retrieve in a descending order (from more to less preferred). Afterwards, they reported again their (absolute) attitudes towards each charity on the same 1-item 7-point Likert scale as in the first phase. Besides this, the participants also indicated how much attention they had paid to each charity on a 1-item 7-point Likert scale (How much attention did you pay to [focal charity] while filling in the questionnaire? with -3 = very little and +3 = very much). Participants that selectively focused on their most preferred choice option reported to have paid more attention to this focal option compared to participants that selectively focused on their fourth most preferred choice option ( $M_{\text{focus\_option\_1}} = 1.93$ ,  $M_{\text{focus\_option\_4}} = 1.53$ ,  $t(255) = 2.55$ ,  $p = .011$ ). Participants that selectively focused on their fourth most preferred choice option reported to have given more attention to this focal option compared to participants that selectively focused on their most preferred choice option ( $M_{\text{focus\_option\_1}} = .72$ ,  $M_{\text{focus\_option\_4}} = 1.17$ ,  $t(255) = -2.77$ ,  $p = .006$ ). This finding indicates that the selective focus manipulation was successful. At the end of the questionnaire, respondents were probed for suspicion. None of the respondents realized what the real goal of the study was.

## 2.2 Results

### 2.2.1 Attitude–Decision Consistency

Attitude–decision consistency was defined here as a binary variable that indicates whether the option that was most preferred in the first phase was also selected in the second phase. First, it appears that overall the low involved participants make significantly more inconsistent choices compared to the high involved participants (62.9% vs. 42.3%,  $\chi^2(1, N = 252) = 9.76$ ,  $p = .002$ ). In addition, those who focused on the most preferred choice option make significantly less inconsistent choices compared to those who focused on the fourth most preferred brand (42.5% vs. 56.8%,  $\chi^2(1, N = 252) = 5.14$ ,  $p = .023$ ). More importantly, a  $\chi^2$ -test investigated the



hypothesis regarding the moderating impact of involvement on the effect of selective focus on attitude-behavior consistency under the condition that decision involvement is low (*H1*). Results show that significantly more attitude-inconsistent choices were made when low involved participants focused on a not most preferred choice option (74.5%) compared to high involved participants (46.2%) ( $\chi^2(1, N = 125) = 9.58, p = .002$ ). When the focus was on the most preferred choice option, low and high involved participants were equally likely to make an attitude-inconsistent choice (50.0% vs. 38.8%,  $\chi^2(1, N = 127) = 1.44, p = .231$ ). These results lend support to *H1*. The following analyses can now verify at what stage in the decision process these two choice influencing factors (selective focus & involvement) exert an influence and cause this interaction effect.

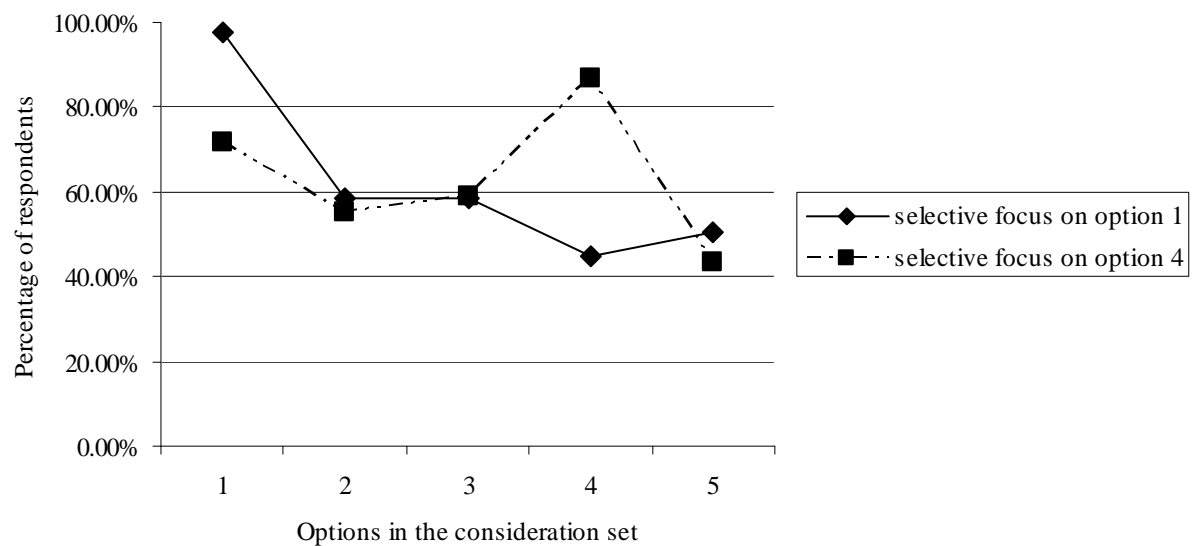
### 2.2.2 Brand Consideration Stage

In order to perform the appropriate analyses regarding the effect of selective focus on brand consideration, five dependent variables were constructed. These five dichotomous variables indicate whether a charity, that made it to the top five in the first phase, was retrieved from memory in the second phase. The first variable gives an indication of whether or not the charity, that was most preferred in the first phase, was retrieved from memory in the second phase. The second, third, fourth and fifth variable indicate the same, but then for the rest of the charities that constituted the top five in the first phase.

First,  $\chi^2$ -tests examined whether selectively focusing on a brand led to a higher chance of brand retrieval (*H2*). The tests reveal significant differences between the two selective focus conditions in the number of respondents that took the most preferred option into consideration ( $\chi^2(1, N = 253) = 33.32, p < .001$ ) and in the number of respondents that took the fourth most preferred option into consideration ( $\chi^2(1, N = 252) = 46.18, p < .001$ ). As many as 97.6% of the participants in the condition with the selective focus on the most preferred option took this most preferred choice option into consideration, versus only 71.4% of the participants in the condition with the selective focus on the fourth most preferred choice option. On the other hand, the proportion of participants that considered the fourth most preferred choice option was much higher in the condition that selectively focused on this option (86.5%), compared to the condition that selectively focused on the most preferred choice option (46.0%). In line with expectations,

no significant differences between the two selective focus conditions in the consideration of the second ( $\chi^2(1, N = 252) = 0.38, p = .611$ ), third ( $\chi^2(1, N = 251) = .00, p = 1.000$ ), and fifth ( $\chi^2(1, N = 250) = 1.03, p = .375$ ) most preferred choice option were perceived. In line with *H2*, retrieval of the most preferred choice option (the fourth most preferred choice option) was significantly higher when participants had selectively focused upon this most preferred choice option (fourth most preferred choice option) (see Figure 2).

Figure 2. Percentage of Respondents that considers their Five Most Preferred Choice Options According to the Selective Focus Condition



Another  $\chi^2$ -test examined whether selectively focusing on a not most preferred brand led to a higher, lower or equal chance of brand consideration for high versus low involved individuals (*RQ1*). The test reveals that both high and low involved participants were equally likely to consider the fourth most preferred choice option after they were induced to selectively focus on this option (83.3% vs. 91.7%,  $\chi^2(1, N = 126) = 1.77, p = .184$ ). This finding indicates that selectively focusing on a not most preferred choice option affects brand consideration set composition, irrespective of the level of involvement.

In summary, selective focus significantly influences brand consideration. Selectively focusing upon a certain brand increases the chance that this brand will be retrieved from memory prior to choice. Furthermore, the increased admittance of a not most preferred, focal brand in the

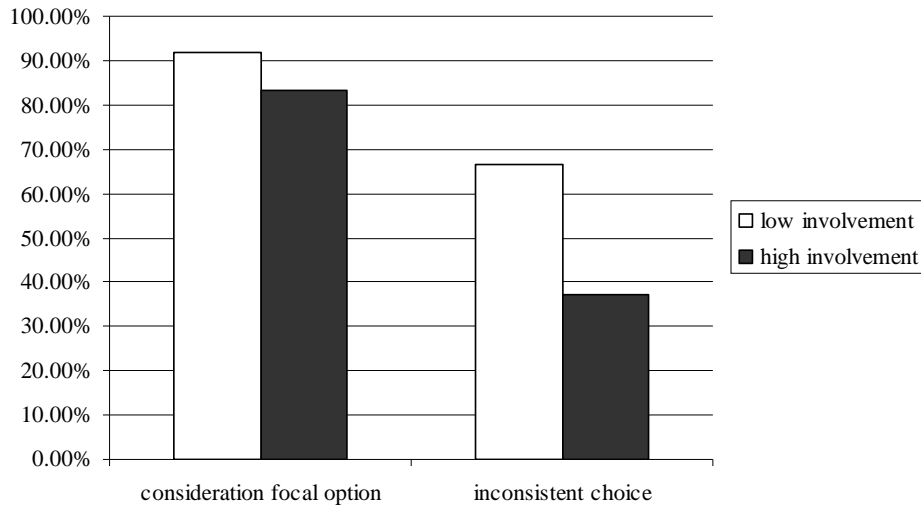
consideration set is equally likely for both low and high involved participants. The interaction between involvement and selective focus, confirmed in *H1*, does not take place in the consideration stage.

### 2.2.3 Brand Selection Stage

So far, the data indicate that selectively focusing on a not most preferred brand influences brand retrieval probabilities, irrespective of the level of decision involvement. But, to reduce attitude-decision consistency, participants not only have to consider a not most preferred choice option, they should also choose this option. Decision involvement can play a significant role in this brand selection phase, as hypothesized in *H3*.

*H3* assumes that the increased admittance of a not most preferred choice option in the consideration set is more likely to transfer to brand choice when decision involvement is low (versus high). The analysis to test this proposition included only participants that selectively focused on their fourth most preferred choice option and also subsequently considered this option. A  $\chi^2$ -test shows that the selected participants in the low involvement condition were more likely to finally make an inconsistent choice decision (74.4%) compared to the selected participants in the high involvement condition (44.6%). The difference between the two decision involvement conditions is significant ( $\chi^2(1, N = 108) = 9.35, p = .002$ ). Figure 3 graphically presents this finding that the interaction effect between selective focus and decision involvement takes place in the brand selection stage, and not in the brand consideration stage.

Figure 3. Percentage of Respondents that Considers the Focal Option and Makes an Inconsistent Choice after Focusing on a Not Most Preferred Choice Option According to the Level of Involvement



### 2.3 Discussion

The results of this experiment indicate that merely selectively focusing on a not most preferred brand alters the consideration set composition and can also affect the subsequent choice decision. The latter is more likely when decision involvement is low (versus high). Hence, when involvement is low, simply increasing the accessibility of a not most favored brand might lead to a final choice of this brand. On the other hand, irrespective of brand focus, when decision involvement is high, consumers are very likely to retrieve their most preferred brand and to rely on their previously formed attitudes to select the brand they really like the most.

Given this finding that selective focus has an effect on choice for low-involved consumers, it would be a non sequitur to assume profound processing of the focal brand. Consumers may interpret stimuli with different processing styles, depending on the level of their motivation (Obermiller, 1985). Low-involved consumers are often not motivated to carefully process decision relevant marketing stimuli (Coates, Butler, & Berry, 2004). Stating that merely selectively focusing on a certain brand in the decision context can alter brand choices when decision involvement is low is only a useful finding for marketers when this effect is also bound

to occur when the focal brand is only superficially attended. Therefore, Study 2 addresses how the depth of processing of the selectively presented brand affects our findings of Study 1.

### 3. STUDY 2

Study 2 is designed to 1) validate the occurrence of an interaction between involvement and selective focus, and 2) extend this finding by investigating what level of cognitive processing of the focal brand is necessary for the effect under study to occur.

Several psychological studies have already investigated the effect of the depth of processing on memory and recall (e.g., Craik & Lockhart, 1972; Craik & Tulving, 1975; Challis, Velichkovsky, & Craik, 1996). In general, the level of processing can affect (brand) retrieval, but it especially has an influence on the duration of the effect. Although a deeper level of processing has a more enduring effect on brand retrieval, even a lower level of processing should affect brand memory (Craik & Lockhart, 1972). This paper focuses especially on the influence of selectively focusing on a brand immediately prior to decision making. Therefore, limited processing of the focal brand may still have an effect on brand retrieval. The same saliency and processing biases arguments that were used to develop the hypotheses for Study 1, lead to the expectation that limited processing of the focal brand will not only have an effect on brand retrieval but that this effect will also transfer through to brand choice under conditions of low involvement. Thus,

H4: Limited processing of a not most preferred, focal brand decreases attitude-decision consistency, but only when decision involvement is low (vs. high)

Further, when elaborate processing of the focal brand occurs, the choice behavior of low involved participants may also change. However, the mechanism by which this occurs may be different as compared to a limited processing situation. Inducing a person to think about one's attitude may produce beliefs that are evaluatively consistent with the prior attitude and this may lead to more polarized attitudes (Tesser & Conlee, 1975). Therefore, deep cognitive elaboration on the attitude towards a certain brand, may instigate a change in the attitude towards this brand. If an attitude is positive, it may become more positive by selectively focusing on this option and

therefore the chance that this option will be chosen may also increase (Posavac et al., 2002). Brand preferences are especially likely to alter when involvement is low. Highly involving attitudes are less likely to succumb to the influence of situationally accessible beliefs, while less involving attitudes are to a relatively greater extent based on beliefs made contextually accessible (Krosnick & Schuman, 1988; Lavine et al. 1998). Based on this reasoning, the authors expect that choice decisions will be altered when decision involvement is low, due to extensive processing of the focal, not most preferred brand. While this expectation regarding the effect of selective focus on choice after extensive processing is comparable to our expectation in the case of limited processing, the attitudinal processes that underlie this effect may be different. Extensive processing of the focal brand makes the attitude more extreme, and does not merely increase the accessibility of the attitude toward the focal alternative. In short,

H5a: Elaborate processing of a not most preferred, focal brand decreases attitude-decision consistency significantly more when decision involvement is low (vs. high)

H5b: The decrease in attitude-decision consistency when involvement is low (vs. high), due to elaborate focusing on a not most preferred brand, is caused by a change in the attitude toward the focal option

This, of course, brings us back to the often-studied evaluative route to behavior change.

### 3.1 Method

Study 2 consisted of two phases, separated from each other by a 15-minute filler task. The respondents started off with reporting their attitudes (towards the 14 charities) and their level of involvement with decision making among charities. For the participants in the experimental conditions, the second phase began with a selective focus manipulation, accompanied by instructions on how to process the focal brand (limited vs. extensive). No selective focus manipulation, and therefore also no processing instructions, were presented to the participants in the control condition. Subsequently, all participants chose one charity to receive a donation. The experiment was a 2 x 2 (+ control conditions) between-subjects design, with a manipulation of

the level of processing at two levels (limited vs. extensive), and a distinction between two levels of involvement (low involvement vs. high involvement).

### 3.1.1 Participants

To recruit participants for this study, 1000 participants of the university's on-line panel received an invitation to participate. In total 500 men ( $M_{\text{Age}} = 36.6$ ) and 500 women ( $M_{\text{Age}} = 37.9$ ), were contacted. Of these 184 participants, 70 men (response rate = 14%;  $M_{\text{Age}} = 35.14$ ) and 114 women (response rate = 22.8%,  $M_{\text{Age}} = 35.80$ ), completed the on-line questionnaire. In exchange for participating in the study they could win a movie ticket.

### 3.1.2 Procedure and Manipulations

The procedure was by and large the same as in Study 1. Again the experiment consisted of two experimental phases, but these were now separated from each other by a 15-minute filler task in stead of one entire week.

*First Experimental Phase.* In the first part of the questionnaire all participants were addressed with questions about their past donation behavior, their attitude towards charitable organizations in general and their level of involvement with decision making among charities. In order to measure decision involvement, participants had to respond to the 10-items from the Revised Personal Involvement Inventory (Zaichkowsky, 1994). The median of the mean scores on this measurement scale was further on used to divide the participants in a low and high involvement group. Afterwards, participants indicated to which degree they knew each of the 14 charities under study (that were also used in Study 1) and how positive or negative their attitude was towards each of these charities on a 1-item 7-point Likert scale. Next, each participant composed a top-3 of most preferred charities. To this end all 14 charities appeared on the screen and participants had to click on their most preferred charity. On the next page the 13 remaining charities appeared on the screen and participants were asked to click on their second most preferred charitable organization. The same procedure was repeated one more time in order to make a selection of the third most preferred charity. Afterwards, the participants answered to a number of filler questions, which took them 15 minutes on average.

*Second Experimental Phase.* Immediately after the filler task, the two experimental manipulations took place. First, the computer program randomly assigned two third of the participants to the experimental condition that received a selective focus manipulation, and assigned the other third of the participants to the control condition. Subsequently, the computer program split the experimental group, which received the selective focus manipulation, up in two subgroups based on a manipulation of the degree of processing (limited vs. extensive). This resulted in an experimental design with three conditions, i.e., a control condition, an experimental condition with a limited level of processing of the focal brand and a condition with an extensive level of processing of the focal brand. To this end, the participants in the experimental conditions received the information that this research was not only investigating the attitudes towards donation behavior and the different charities, but also the charities' advertising effectiveness. The instructions for the participants stated that a large number of existing print ads were selected for each charity under investigation, but that each participant only had to look at three ads for one charity. At this moment the participants in the experimental conditions in fact received a selective focus manipulation in the form of a series of ads that depicted their second most preferred charitable organization. They all looked at three fictitious ads, which only varied across participants with respect to the organization name that was depicted. All three ads are unrelated to the functions served by each charitable organization. For instance, one ad promoted the 'charity gift certificate', which enables the receiver to donate the value of the gift certificate to a charity of his/her preference. This ad then simply indicates that the focal ad can receive donations through the use of this 'charity gift certificate'. The participants in the control condition skipped this part of the questionnaire and were not addressed with any selective focus manipulation. Hence, this study contained a more realistic manipulation of selective focus, which increases the value of the findings for practical applications.

Furthermore, the participants in the experimental conditions also received instructions on how to look at the information in the ads. At this moment the 'degree of processing' manipulation was inserted. This holds that half of the participants in the experimental condition with extensive processing of the focal brand received the instructions to look at each ad carefully and then report all the associations (at least 5) that popped up in their head while looking at the ad. The participants in the other experimental condition were asked to count the number of times the letter 'a' was depicted in the ad, and to select one of the three possible answers as fast as



possible (Coates, Butler, & Berry, 2004). The manipulations for a ‘structural’ (a form of limited processing) and ‘associative’ (a form of extensive processing) level of processing, that were used by Obermiller (1985), served as a reference for the manipulations of the degree of processing used in this study. Immediately after these manipulations, participants choose one charity that was going to receive a substantial amount of money. Therefore, they typed in the name of the charity, which they would like to receive the donation in the box that was depicted on the page. Next, the participants in the experimental conditions who saw the ads, reported on the likeability of the ads. This was assessed on a 3-item 7-point semantic differential scale, anchored by the following adjectives: ‘not attractive-attractive’, ‘not appealing-appealing’, ‘bad-good’ ( $\alpha_{Ad\_1} = .86$ ;  $\alpha_{Ad\_2} = .89$ ;  $\alpha_{Ad\_3} = .81$ ). Next, the participants again responded to the 14 items that measured the attitude towards each of the charities. At the end, respondents were thanked for their participation and probed for suspicion. None of the respondents realized what the real goal of the study was or expressed any suspicion with respect to the presented ads.

## 3.2 Results

### 3.2.1 Preliminary analyses

Prior to analyzing the participants’ choice decisions, the time participants in the ‘limited level of processing’ condition spent looking at the ads was investigated. The time spent, in milliseconds, counting the occurrence of the letter ‘a’ in the advertisements was recorded for the participants in the ‘limited level of processing’ condition, while the time participants spent listing associations was recorded for the participants in the ‘extensive level of processing condition’. Participants in the ‘limited level of processing’ condition spent significantly less time looking at each of the three advertisements, compared to the participants in the ‘extensive level of processing condition’ ( $M_{ad1\_limited} = 10198.26$  vs.  $M_{ad1\_extensive} = 41525.06$ ,  $t(128) = -6.49$ ,  $p < .001$ ;  $M_{ad2\_limited} = 15977.42$  vs.  $M_{ad2\_extensive} = 33686.34$ ,  $t(128) = -3.912$ ,  $p < .001$ ;  $M_{ad3\_limited} = 6782.59$  vs.  $M_{ad3\_extensive} = 21912.88$ ,  $t(128) = -5.09$ ,  $p < .001$ ).

Further, a binary variable ‘decision involvement’ was constructed in order to distinguish the low from the high involved participants. To this end, the mean score for each participant on the 10 items of the Revised Personal Involvement Inventory ( $\alpha = .92$ ) was calculated (Zaichkowsky,

1994). A participant was subsequently defined as being ‘lower involved’ when the mean score was below the median and as ‘higher involved’ when the mean score was above the median ( $M_{\text{lower\_involvement}} = 4.33$  vs.  $M_{\text{higher\_involvement}} = 5.99$ ,  $t(190) = -19.87$ ,  $p < .001$ )<sup>8</sup>.

### 3.2.2 Attitude–Decision Consistency

First, we investigated whether the results of Study 1, concerning the interaction between involvement and selective focus, could be replicated. A  $\chi^2$ -test checked whether selective focus alters attitude-decision (in)consistency when decision involvement is low, and not when decision involvement is high. In effect, more participants made inconsistent choices due to the selective focus manipulation when decision involvement was low ( $\chi^2(1, N = 79) = 7.45$ ,  $p = .006$ ) versus high ( $\chi^2(1, N = 87) = .62$ ,  $p = .433$ ). Remarkably, in the control condition without a selective focus manipulation, the high involved participants made slightly less consistent choices compared to the low involved participants. This finding is in opposition with how decision involvement generally affects choice consistence, it is not significant though. Table 2 presents an overview of the percentages of inconsistent choices as a function of selective focus and decision involvement.

Table 2. The Percentage of Participants Making Inconsistent Choices as a Function of Decision Involvement, Selective Focus and the Degree of Processing (Study 2)

Decision Involvement	Selective Focus			
	No Selective Focus	Selective Focus on the Second Most Preferred Alternative		
		Overall	Limited Brand Processing	Extensive Brand Processing
Low	17.9 %	49.0 %	50.0 %	48.4 %
High	25.8 %	33.9 %	34.3 %	33.3 %

<sup>8</sup> The mean level of involvement for the ‘low involved’ participants is higher than the mean of the measurement scale. Although, this is not surprising given the product category under study is ‘charitable organizations’, it is more appropriate to distinguish between a ‘lower’ and a ‘higher’ involvement group in this study than to refer to a low vs. high involvement group.

After establishing the validity of this finding, it was tested whether *H4* could be confirmed by the collected data. Does focusing on the second most preferred choice option also increase the number of inconsistent choices for low involved participants, even if the attention given to the focal brand was limited? The data appear to confirm this hypothesis. 50.0% of the low involved participants in the limited brand processing condition made an inconsistent decision, while only 17.9% percent of the low involved participants in the control condition made an inconsistent decision ( $\chi^2(1, N = 48) = 5.61, p = .018$ ). An equal number of high involved participants in the control condition and in the experimental condition made an inconsistent decision (25.8% vs. 34.3%,  $\chi^2(1, N = 66) = .56, p = .454$ ). These findings confirm *H4*.

*H5a* expresses the expectation that the number of inconsistent choices will also increase for low involved participants when the focal brand was processed extensively. Hence, two more  $\chi^2$ -tests investigate whether an increased number of inconsistent choices can be perceived in the low involvement group when a not most preferred brand is focused upon extensively prior to decision making. The results indicate that also *H5a* can be confirmed. Low involved participants make more inconsistent choices, after focusing their attention extensively on the second most preferred brand (48.4%), compared to the low involved participants in the control condition (17.9%) ( $\chi^2(1, N = 59) = 6.12, p = .013$ ). This while there is no difference in inconsistency for high involved participants that did, or did not, process three ads for their second most preferred choice option extensively (33.3% vs. 25.8%,  $\chi^2(1, N = 52) = .35, p = .557$ ).

Although the predicted outcome for limited and extensive processing of the focal brand in terms of inconsistent choices was the same, this paper predicted the intervening processes to be different. Extensively focusing on a not most preferred brand should not only increase the accessibility of the attitude toward the focal alternative, but also the favorability of the focal brand. This implies that respondents in the elaborate processing condition do not necessarily act inconsistently by deciding on a previously not most favored choice option, when this option was prompted to be selectively considered. Indeed, this choice option can have gained relative standing in the consideration set. Consequently, respondents may be inconsistent with their previously owned attitudes, but consistent with their recently obtained attitudes. In order to further test this proposition, stated in *H5b*, a model in which the attitude toward the second most preferred brand at the first and second choice instance was estimated based on the depth of

processing and level of involvement, and the interaction of both variables. Overall, the attitude toward the second most preferred brand does not change ( $F(1,185) = .94, p = .333$ ). Yet, pairwise comparisons that compare the initial absolute attitude towards the second most preferred choice option to the second measurement of this attitude, and this for each group of participants formed by a combination of the level of involvement (low vs. high) and the degree of processing (control condition, limited processing and extensive processing) show that the attitude toward the second most preferred brand did become more positive when low involved participants focused extensively on this brand ( $F(1,185) = 4.65, p = .032$ ). None of the other pairwise comparisons was significant. Next, we estimated the absolute attitude toward the most preferred and second most preferred brand at the second measurement moment, based on the depth of processing and the level of involvement, and the interaction between both. Overall, the attitude toward the most preferred brand does not significantly differ from the attitude toward the second most preferred brand at the second measurement moment ( $F(1,185) = .00, p = .994$ ). Yet further pairwise comparisons do indicate that the second most preferred brand is evaluated significantly more positively than the most preferred brand only when low involved participants focused extensively on this brand ( $F(1,185) = 18.83, p < .001$ ). In accordance with expectations, these findings suggest that significant changes in the attitude toward the focal brand could have lead to an increase in inconsistent choice only for low involved participants that processed this focal brand extensively.

### 3.3 Discussion

The results of this second experiment confirm the initial finding that both selective focus and involvement interact in their influence on consumers' choice decisions. A simple selective focus manipulation alters the choice decisions of low involved participants, but not of high involved participants. Furthermore, Study 2 extends the findings of the Study 1 by taking into account the level of processing of the focal brand that is necessary in order to establish an alternate choice decision. The findings indicate that elaborate processing of the focal brand is not a prerequisite for a change in the choice decision to occur. Even a limited level of processing of the focal brand can alter choice decisions. The underlying process by which this change is brought about, however, is different in the limited versus elaborate processing situations. The results indicate

that the focal brand is valued more positively, compared to the initial evaluation, after extensive processing of the three ads for this brand. This finding is in line with the explanation for the influence of selective focus on decision making that was proposed by Posavac et al. (2002). They proposed and found evidence for the fact that respondents do not act inconsistently by deciding on a previously not most favored choice option, when this option was prompted to be selectively focused upon, because this choice option can have gained relative standing in the consideration set. The results of this study can confirm their finding, but at the same time also nuance it, because this process explanation does not hold for the participants that used limited processing of the focal brands. Limited processing of the three ads for the focal brand did not lead to a change in the preferences for this focal brand. This finding is in line with the findings of Nedungadi (1990). In contrast with Posavac et al. (2002), Nedungadi (1990) showed that choice decisions may be altered, without altering brand evaluations, through variation in the consideration of brands. Study 2 reconciles the findings of both Posavac et al. (2002) and Nedungadi (1990). A change in the choice behavior of low involved participants, due to selective focus, can occur through two distinct mechanisms. When the focal brand is extensively processed, the attitude towards this brand increases and this may result in an increased choice for this brand. However, when the focal brand is only processed in a limited manner, brand choice is also significantly altered, but this happens outside the traditional evaluation-based route.

## 4. GENERAL DISCUSSION

### 4.1 Theoretical Contributions

The results of the two reported experiments clearly demonstrate that selective focus, together with decision involvement, has important implications for the choices consumers make. The results of prior studies on selective focus were not consistent. While some studies showed a clear influence of selective focus on choice decisions, others found that the effect was limited to an alteration of the consideration set (Posavac et al. 2002; Coates et al. 2004). Introducing decision involvement as a possible moderator leads to a clearer understanding on how decision making is influenced by selective focus. When involvement is low, simply focusing on a not most favored brand can lead to a final choice of this brand. On the other hand, irrespective of brand focus,

when decision involvement is high, consumers are very likely to retrieve their most preferred brand and to rely on their previously formed attitudes to select the brand they really like the most.

Further, the consumer choice literature has frequently characterized the decision-making process as involving at least two distinct stages, a brand consideration and a brand selection stage (e.g., Nedungadi, 1990; Shocker et al., 1991; Suh, 2009). Given the attention devoted to consideration sets in the consumer choice literature, it is important to assess the influence of selective focus and decision involvement for both the brand consideration and brand selection stage separately. In line with our expectations, the results showed that highly involved participants, compared to less involved ones, were more likely to retrieve their most preferred brand from memory. Further, results also revealed that selectively focusing on an alternative, prior to choice, alters the composition of the consideration set. More specifically, selectively focusing on a brand is likely to increase the chance that this brand will be retrieved from memory, irrespective of the level of involvement with the decision. But, this effect of selective focus will only transfer to brand selection in certain cases of decision involvement. Only when decision involvement is low, the accessibility of an attitude may gain the upper hand over the favorability of an attitude in the selection of a choice option.

Finally, the Study 2 also investigated whether a more profound level of processing of the focal brand was a precondition for the influence of selective focus to transfer through to brand choice. The results indicate that both a lower and a deeper level of processing of the focal brand can alter the choice decisions of low involved consumers. Although limited and extensive processing of the focal brand lead to the same changes in the choice decisions, they do so by different attitudinal mechanisms. While merely superficially attending the focal brand alters choice decisions without changing the actual attitudes consumers hold, profound processing of the focal brand is more likely to exert its influence on decision making by improving the preferences for the focal brand. Consequently, in the latter instance, respondents can be regarded as inconsistent with their previously owned attitudes, but consistent with their recently obtained attitudes.

## 4.2 Managerial Implications

First, investigating the effect of paying attention to marketing stimuli, presented in the decision context, on decision making helps managers in their development of effective communication strategies. Generating a positively valued brand has long time been the main focus of marketing communications. Based on these findings, it is clear that generating a more prominent brand may also be essential and have direct consequences for decision making, especially when decision involvement is low. By merely being present in the consumers' decision context, and attracting a limited level of attention, low involved consumers' decision making may be altered. Our findings also coincide with the 'recency planning' idea (Ephron, 1997). Ephron (1997) indicated that effective media planning is not only a case of 'how many times' a consumer has to be reached, but also 'when' does a consumer have to be reached. The results confirm that there is indeed a window of advertising opportunity preceding each purchase. Most importantly, placing advertisements close to the point of sale may especially be beneficial to alter the choice decisions of low involved consumers. Because of this, means of communication that hold the potential of being placed close to or in the point of sale, such as billboards and in-store floorboards etc., become very important in this respect (Taylor, Franke, & Bang 2006).

## 4.3 Limitations and Future Research

The two conducted experiments used existing charitable organizations to enhance the external validity. Consequently, the level of involvement was measured and not manipulated. For future research, it may be interesting to see whether our findings can be replicated by manipulating, rather than measuring, decision involvement.

Second, in the reported experiments a 'not most preferred' choice option was still a 'favored' option. It might be taking it a bridge too far supposing that a disliked alternative may end up getting chosen under conditions of low decision involvement, just because it is the most accessible alternative. Slight indications in this direction can be found in Posavac et al. (2002). They did not obtain an effect of selective focus when the initial attitude toward the focal alternative was negative. But, they did not make a distinction between high and low decision

involvement. Hence, further research is also needed to find out how far the influence of selective focus on a not favored brand might reach under differential conditions of decision involvement.

Further, in order to control the selective exposure and the level of attention paid to the focal brand the propositions were tested in two experiments. In fact, much of the current theoretical work on low involvement processing and low attention advertising effects is based on experimental findings (Grimes, 2008). Therefore, along with Grimes (2008) the authors plead for an exploration of this emerging and important area with applied consumer research of all types.



## 5. REFERENCES

- Alba, J. W., & Chattopadhyay, A. (1986). Salience effects in brand recall. *Journal of Marketing Research*, 23, 363-369.
- Bronnenberg, B. J., & Vanhonacker, W. R. (1996). Limited choice sets, local price response, and implied measures of price competition. *Journal of Marketing Research*, 33, 163-173.
- Brown, S. P., & Stayman, D. M. (1992). Antecedents and consequences of attitude toward the ad – a metaanalysis. *Journal of Consumer Research*, 19(1), 34-51.
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, 39, 752-766.
- Chakravarti, A. & Janiszewski, C. (2003). The influence of macro-level motives on consideration set composition in novel purchase situations. *Journal of Consumer Research*, 30(2), 244-258.
- Challis, B. H., Velichkovsky, B. M., & Craik, F. I. M. (1996). Levels-of-processing effects on a variety of memory tasks: New findings and theoretical implications. *Consciousness and cognition*, 5(1-2), 142-164.
- Chattopadhyay, A., & Nedungadi, P. (1990). Ad affect, brand attitude, and choice – the moderating roles of delay and involvement. *Advances in Consumer Research*, 17, 619-620.
- Coates, S. L., Butler, L. T., & Berry, D. C. (2004). Implicit memory: a prime example for brand consideration and choice. *Applied Cognitive Psychology*, 18, 1195-1211.
- Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing – Framework for memory research, *Journal of Verbal Learning and Verbal Behavior*, 11(6), 671-684.
- Craik, F. I. M., & Tulving, E. (1975). Depth of processing and retention of words in episodic memory. *Journal of Experimental Psychology – General*, 104(3), 268-294.
- De Cannière, M. H., De Pelsmacker, P. & Geuens, M. (2009). Relationship Quality and the Theory of Planned Behavior Models for Behavioral Intentions and Purchase Behavior. *Journal of Business Research*, 62(1), 82-92.
- Del Missier, F., Ferrante, D., & Constantini, E. (2007). Focusing effects in predecisional

- information acquisition. *Acta Psychologica*, 125(2), 155-174.
- Ephron, E. (1997). Recency planning. *Journal of advertising*, 37(4), 61-65.
- Fazio, R. H., Chen, J., McDonel, E. C., & Sherman, S. J. (1982). Attitude accessibility, attitude behavior consistency, and the strength of the object evaluation association. *Journal of Experimental Social Psychology*, 18(4), 339-357.
- Glasman, L. R., & Albarracin, D. (2006). Forming attitudes that predict future behavior: A meta-analysis of the attitude-behavior relation. *Psychological Bulletin*, 132, 778–822.
- Grimes, A. (2008). Towards an integrated model of low attention advertising effects – A perceptual-conceptual framework. *European Journal of Marketing*, 42(1-2), 69-86.
- Gronhaug, K. (1973). Some factors influencing size of buyers evoked set. *European Journal of Marketing*, 7(3), 232-241.
- Holden, S. J. S., & Vanhuele, M. (1999). Know the name, forget the exposure: Brand familiarity versus memory of exposure context. *Psychology & Marketing*, 16, 479-496.
- Kokkinaki, F., & Lunt, P. (1997). The relationship between involvement, attitude accessibility and attitude-behaviour consistency. *British Journal of Social Psychology*, 36, 497-509.
- Konstandoulaki, K., Kokkinaki, F. (2009). The effect of involvement on the relative size of the consideration set. In Helfer, J. & Nicolas, J. (Eds.) *Marketing and the core disciplines: rediscovering references*, Proceedings of the 38<sup>th</sup> annual conference of the European Marketing Academy.
- Kraus, S. J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. *Personality and Social Psychology Bulletin*, 21, 58-75.
- Krosnick, J. A. (1988). The role of attitude importance in social evaluation: A study of policy preferences, presidential candidate evaluations and voting-behavior. *Journal of Personality and Social Psychology*, 55, 196-210.
- Krosnick, J. A., & Schuman, H. (1988). Attitude intensity, importance, and certainty and susceptibility to response effects. *Journal of Personality and Social Psychology*, 54(6), 940-952.
- Lavine, H., Huff, J. W., Wagner, S. H., & Sweeney, D. (1998). The moderating influence

- of attitude strength on the susceptibility to context effects in attitude surveys. *Journal of Personality and Social Psychology*, 75(2), 359-373.
- Lee, B. K., & Lee, W. N. (2007). Decreasing advertising interference: the impact of comparable differences on consumer memory in competitive advertising environments. *Psychology & Marketing*, 24, 919-945.
- Lynch, J. G. Jr., & Srull, T. K. (1982). Memory and attentional factors in consumer Choice: Concepts and research methods. *Journal of Consumer Research*, 9, 18-37.
- Nedungadi, P. (1990). Recall and consumer consideration sets: Influencing choice without altering brand evaluations. *Journal of Consumer Research*, 17, 263-276.
- Obermiller, C. (1985). Varieties of mere exposure – the effects of processing style and repetition on affective response. *Journal of Consumer Research*, 12(1), 17-30.
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 19, 123-205). New York: Academic Press.
- Petty, R. E., Cacioppo, J. T., & Schumann, D. (1983). Central and peripheral routes to advertising effectiveness: The moderating role of involvement. *Journal of Consumer Research*, 10, 135-146.
- Posavac, S. S., Herzstein, M., & Sanbonmatsu, D. M. (2003). The role of decision importance and the salience of alternatives in determining the consistency between consumers' attitudes and decisions. *Marketing Letters*, 14, 47-57.
- Posavac, S. S., Sanbonmatsu, D. M., & Fazio, R. H. (1997). Considering the best choice: Effects of the salience and accessibility of alternatives on attitude-decision consistency. *Journal of Personality and Social Psychology*, 72, 253-261.
- Posavac, S. S., Sanbonmatsu, D. M., & Ho, E. A. (2002). The effects of the selective consideration of alternatives on consumer choice and attitude-decision consistency. *Journal of Consumer Psychology*, 12, 203-213.
- Priester, J. R., Nayakankuppam, D., Fleming, M. A., & Godek, J. (2004). The A<sup>2</sup>SC<sup>2</sup> model: The influence of attitudes and attitude strength on consideration and choice. *Journal of Consumer Research*, 30, 574-587.
- Rothchild, M. L. & Houston, M. J. (1977). The consumer involvement matrix: some preliminary findings. *Contemporary Marketing Thought*. Chicago: American

Marketing Association.

Shocker, A. D., Moshe, B., Boccara, B.-A., & Nedungadi, P. (1991). Consideration set influences on consumer decision making and choice: Issues, models and suggestions. *Marketing Letters*, 2, 181-197.

Sivacek, J., & Crano, W. D. (1982). Vested interest as a moderator of attitude behavior consistency. *Journal of Personality and Social Psychology*, 43(2), 210-221.

Smith, R. E., & Swinyard, W. R. (1983). Attitude-behavior consistency – the impact of product trial versus advertising. *Journal of Marketing Research*, 20(3), 257-267.

Suh, J. C. (2009). The role of consideration sets in brand choice: the moderating role of product characteristics. *Psychology & Marketing*, 26(6), 534-550.

Taylor, C. R., Franke, G. R., & Bang, H.-K. (2006). Use and effectiveness of billboards. *Journal of Advertising*, 35(4), 21-34.

Tesser, A., & Conlee, M. C. (1975). Some effects of time and thought on attitude polarization. *Journal of Personality and Social Psychology*, 31(2), 262-270.

Urban, G. L., Hulland, J. S., & Weinberg, B. D. (1993). Premarket forecasting for new consumer durable goods: Modeling categorization, elimination, and consideration phenomena. *Journal of Marketing*, 57, 47-63.

Vermeir, I., & Verbeke, W. (2006). Sustainable food consumption: exploring the consumer “attitude – behavioral intention” gap. *Journal of Agricultural & Environmental Ethics*, 19(2), 169-194.

Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research*, 12, 341-352.

Zaichkowsky, J. L. (1994). The personal involvement inventory – reduction, revision, and application to advertising. *Journal of Advertising*, 23(4), 59-70.

Zajonc, R. (1980). Feeling and thinking: preferences need no inference. *American Psychologist*, 35, 151-171.

# **CHAPTER IV: LOOKING DOWN IS THE WAY UP – THE INFLUENCE OF THE VERTICAL DIRECTION OF ATTENTION ON THE EVOKED PROCESSING STYLE**

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## **CHAPTER IV: LOOKING DOWN IS THE WAY UP – THE INFLUENCE OF THE VERTICAL DIRECTION OF ATTENTION ON THE EVOKED PROCESSING STYLE**

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As nearby objects tend to be available in the lower visual field, whereas distant objects tend to be available in the upper visual field, people generally look down to attend to nearby objects and look up to attend to objects further away. In addition, according to Construal Level Theory, people construe spatially near objects in a more concrete sense, whereas spatially distant objects are construed in a broader, abstract sense. In line with an embodied view on cognition this paper posits that the association between the looking down or up and the level at which the perceived objects are construed may have become overgeneralized, leading to objects being construed at a lower level when looking down and at a higher level when looking up. Four experiments demonstrate that the vertical direction of attention affects outcomes that generally tend to vary with the level of construal. Specifically, looking down leads to slower product category-identification latencies of competing brands (Experiment 1), more inclusive (Experiment 2) and broader (Experiment 3) product categorizations and a higher level of preference-decision correspondence (Experiment 4).

Assume that one store displays the brands of your choice set on a high shelf and another store displays the same brands on a low shelf. Would this difference in shelf height affect which brand you ultimately choose? Would you pay differential attention to an ad that is placed on the store floor as compared to this same ad being attached to the store ceiling? Or, would your purchases from an on-line retail store be influenced by the height at which your computer monitor is placed? We argue that this is indeed the case. By means of four studies this paper develops an initial understanding of how processing stimuli placed in lower vertical positions differs from processing stimuli in higher vertical positions.

Attending to low versus high placed products implies looking down versus up. Because nearby objects are generally situated in the lower visual field while distant objects are generally situated in the upper visual field (Previc, 1990), people are more used to looking up to process distant objects than nearby objects, and they are more used to looking down to process nearby objects than distant objects. Consequently, due to their frequent co-occurrence, looking up and distance, and looking down and proximity may be strongly associated in people's minds. According to the embodied cognition perspective, bodily movements (i.e., looking down/up) and bodily sensations along with their associations may serve as important inputs in cognition and may instigate a different processing strategy (Beilock & Holt, 2007; Labroo & Nielsen, 2010; Meyers-Levy, Zhu & Jiang, 2010; Niedenthal, Barsalou, Winkielman, Krauth-Gruber & Ric, 2005).

Concerning processing styles, Construal Level Theory suggests that distant stimuli are represented by higher-level, abstract conceptual construals because they are processed with a broader conceptual scope, whereas proximate stimuli are represented by lower-level, concrete conceptual construals because they are processed with a narrower conceptual scope (Förster, 2009; Trope & Liberman, 2010). Prior research on Construal Level Theory illustrates that this distance concept is multi-faceted and that spatial distance, temporal distance, social distance and hypotheticality, all exert a similar influence on the level of conceptual construal (Trope & Liberman, 2003, 2010; Trope, Liberman & Wakslak, 2007).

This paper proposes that also the placement of objects in vertical space induces a broader or more focused type of processing. More specifically, we argue that because of the association between looking up and distance, looking up may automatically activate a higher, more abstract level of construal. Hence, merely looking up may broaden the scope of conceptual processing.



Alternatively, looking down might narrow the scope of conceptual processing, because this type of processing is generally associated with a more concrete level of construal and is generally seen as more appropriate to process nearby objects.

Embracing an embodied view on cognition and drawing on Construal Level Theory, this paper proposes that the association between the perception of nearby (distant) objects in the lower visual field and a narrow (broad) processing strategy may have become overgeneralized, giving rise to an association between merely looking down (up) and a narrow (broad) processing style. In support of our central hypothesis that merely attending to products placed in a lower as compared to a higher vertical position evokes in itself a different processing style, this paper illustrates that having respondents look up or down instigates a difference in consumers' access to competing brands (Study 1), leads to a different categorization of brands (Studies 2 and 3), and results in different brand choices and preference-decision correspondence (Study 4).

## 1. THEORETICAL BACKGROUND

An emerging stream of literature on situational cognition emphasizes that a multitude of contextual elements influences the accessibility and use of information (Schwarz, 2006). In line with this, the embodied cognition perspective suggests that bodily sensations, as an example of situational cognition, may serve as an important informative input (Markman & Brendl, 2005). Specifically, inducing a bodily movement is likely to evoke those cognitions normally associated with the bodily movement. These cognitions are subsequently likely to guide evaluative judgments. For instance, people generally approach what feels positive and avoid what feels negative. Therefore, in people's mind, approach behavior may be inherently tied to positive stimuli whereas avoidance behavior may be inherently tied to the negativity of stimuli. Due to the existence of these associations, merely performing approach movements (e.g., arm flexions) may result in more positive attitudes regarding a stimulus whereas performing avoidance movements (e.g., arm extensions) can lead to a more negative attitude (Cacioppo, Priester & Berntson, 1993). Approaching positive environmental stimuli or avoiding negative environmental stimuli is one of the most fundamental of human behaviors (Higgins, 1997). However, research has also shown that less fundamental, culturally learned bodily movements can be embodied. For example, people who extended their middle finger subsequently rated an

ambiguously hostile target as more aggressive than did people who extended their index finger (Chandler & Schwarz, 2009). Overall, the activation of bodily movements sends bodily feedback that informs individuals.

Besides influencing people's evaluative judgments (Labroo & Nielsen, 2010), bodily sensations may also impact the evoked processing style (Friedman & Förster, 2000, 2002; Förster, Friedman, Özelsel & Denzler, 2006). Bodily movements may inform individuals about the processing requirements of a situation. Hence, bodily movements are likely to be associated with certain processing styles. For example, arm flexion (vs. arm extension) informs individuals that a situation is benign (vs. problematic), leading to the adoption of a carefree, heuristic processing style rather than a perseverant systematic processing style (Friedman & Förster, 2000). Hence, just as internal affective states as happiness and sadness inform individuals about the nature of their current situations and the responses that are appropriate in these situations, so do bodily sensations. By means of association, these sensations have become to convey to individuals the processing requirements of the current situation.

This embodied cognition perspective also suggests that different processing styles may be evoked by attending to objects placed lower versus higher on the vertical dimension of space, because low placed objects often require different processing than high placed objects. Specifically, objects placed lower in the visual field tend to be proximate, whereas objects situated in the upper visual field tend to be more distant. Construal Level Theory suggests that objects that are psychologically distant are conceptualized in a more abstract manner, whereas psychologically proximate objects are conceptualized in a more concrete manner. Several studies within the framework of CLT have already demonstrated this effect. For instance, Kardes, Cronley and Kim (2006) manipulated distance by showing respondents either brands that were physically present or pictures of these same brands. They found that the mere presence of a set of target brands at the time a choice is made encourages consumers to represent the brands in memory in terms of concrete lower-level construals. The representation that is formed of the brands is therefore likely to contain many important contextual details. Because judgments based on a large amount of greater contextual detail are held with greater confidence (Gill, Swann & Silvera, 1998), lower level construals of brand preferences were suggested to be more stable over time. Indeed, preference stability and preference-behavior consistency appeared higher when the

brands in the choice set were physically present, rather than being merely presented by means of a picture (Kardes, Cronley & Kim, 2006).

Cognitive psychologists have shown that differences in people's scope of attention tend to produce these different levels of construal in response to psychological distance (Förster, 2009; Förster, Liberman & Kuschel, 2008). The scope of attention has both a perceptual and conceptual component. First, the scope of *perceptual* attention, refers to the breadth of attention directed to external visual stimuli (i.e., the extent to which attention is focused upon central as opposed to peripheral environmental cues). A narrower scope of visual attention is selective, filtering out irrelevant stimuli and attending more to perceptual details, whereas a broader scope of attention is likely to impair the selectivity of perceptual attention, leading to increased attending to different (distracting) external elements and to the global perceptual structure of objects (Rowe, Hirsh & Anderson, 2007). The scope of perceptual attention tends to be broader with increasing psychological distance. For instance, when people are presented with a large letter that is composed of smaller representations of a different letter (e.g., a large letter H made up of several small letters L), people can more easily detect global perceptual elements (i.e., the large letter H) after being primed with spatial distance. At the same time, this prime impedes the perception of local elements (i.e., the small letters L) (Liberman & Förster, 2009).

Second and more importantly, changes in psychological distance also tend to trigger changes in the scope of conceptual attention (Liberman & Förster, 2009). The scope of conceptual attention then refers to the extent of the internal semantic search upon attending to a focal object (Anderson & Neely, 1996; Förster, Friedman, Özelsel & Denzler, 2006; Rowe, Hirsh & Anderson, 2007). The scope of conceptual attention is conceived of as the breadth of semantic access. Hence, a narrower scope of conceptual attention restricts the activation of mental representations to those with the highest accessibility in a given context (e.g., the primed category and its dominant semantic associates; such as a car and a bus as types of transport), whereas a broader scope of conceptual attention is conceived of as expanding the range of activation to additional target representations with lower a priori accessibility (e.g., remote semantic associates; such as a camel as a type of transport) (Förster, Friedman, Özelsel & Denzler, 2006). This paper will focus on the conceptual scope of attention and how it is influenced by the vertical direction of attention.

Specifically, this paper proposes that looking up or down is likely to be associated with a different scope of conceptual attention because these movements typically go together with observing and processing objects that are either distant or proximate. Essentially, we posit that merely directing attention up- or downward may come to serve as an associative prime, eliciting attentional broadening or narrowing that is otherwise only triggered when processing objects at different distances. This proposition is investigated by registering the influence of looking up versus down on a diverse set of dependent variables that are likely to be influenced by the scope of conceptual attention. Specifically, a series of four studies illustrates that whether inducing participants to look down rather than up leads to (1) inhibition of competing brands (Study 1); (2) less inclusive brand categorizations, meaning that less brands are considered as representative for the product category (Study 2); (3) narrower brand categorizations in the sense that brands are categorized in larger number of smaller categories (Study 3), and (4) a higher level of preference-behavior consistency (Study 4).

## 2. STUDY 1: LOOKING DOWN AS AN INHIBITOR OF COMPETING BRANDS

Study 1 investigates if looking down (up) while processing a target brand inhibits (increases) the accessibility of other brands in the same product category. When a target item is conceptually focused upon, the internal spotlight of attention is momentarily narrowed upon the representation of the focal item, which has been suggested to lead to the inhibition of semantically related items not in the spotlight of this attention (Anderson & Spellman, 1995). Processing information on a target brand with a narrow conceptual scope activates richer and more elaborate representations of the specific brand which suppresses the retrieval of brands that are not presented (Kardes, Cronley & Kim, 2006). Inhibition suppresses related concepts and makes them more difficult to retrieve from memory (Anderson, 2003). Inasmuch as looking down to process information on a target brand is likely to evoke a narrow processing style, we expect that this may result in a decreased accessibility of other brands in the same product category. Alternatively, processing information on a target brand with a broad conceptual scope is likely to increase access to other brands in the product category.

This hypothesis was evaluated using product category-identification latencies. We predicted that category-identification latencies would be longer for related brands when the target brand

was presented in a low (versus eye-level) vertical position. Alternatively, we predicted category-identification latencies to be shorter for related brands when the target brand was presented in a high (versus eye-level) vertical position. To test these predictions, the category-identification latencies obtained from participants that processed the target brand when it was presented at eye-level, served as the standard of comparison.

## 2.1 Method

Participants consisted of 93 (39 men and 54 women) undergraduates. A between-subjects design with three conditions (Presentation height of the target brand: Low vs. Medium vs. High) was employed. Participants were told that the purpose of the study was to examine how people perceive different brands. Participants then received information about the target brand Lindt Swiss Chocolate. This information was conveyed by a slideshow with pictures of the packaging of different varieties and several slogans and ads. This slideshow was either projected on a low, middle, or high position on the white wall in front of the participants.

A computer-based product category-identification task was subsequently administered, and participants were asked to press a button labeled 'chocolate brand' for brands of chocolate products and to press a button labeled 'non-chocolate brand' for other products. Speed and especially accuracy were emphasized and response latencies were recorded by the computer. The following brand names were presented on the computer monitor in a random order: Cote d'or, Jacques, Callebaut, Milka, Toblerone, Levi's, Ford, Adidas, Samsung, and Dreft.

## 2.2 Results and Discussion

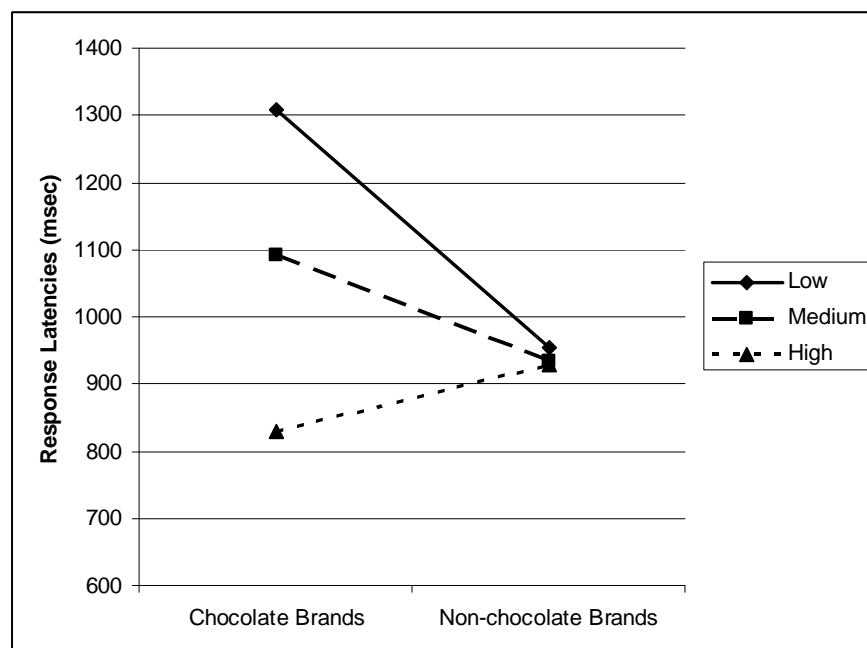
Because the measurement of the brands' accessibilities is nested within participants, a multilevel regression analysis, with the presentation height and product category (chocolate brands versus non-chocolate brands) as the independent variables and the response latencies as the dependent variable, was run. Analyzing the data with a multilevel regression model accounts for individual-level differences in response speed. The mean estimated product category-identification latencies are presented in Table 1 as a function of the product category and presentation height.

Table 1. Mean Estimated Product Category-identification Latencies (in Milliseconds) as a Function of Product Category and Presentation Height

Product Category	Presentation Height		
	Low	Medium	High
Chocolate Brand	1307.69	1092.06	830.08
Non-chocolate Brand	955.36	933.67	929.37

The multilevel model indicates a significant main effect of the product category ( $F(1,837) = 10.427$ ,  $p = .001$ ), and a marginally significant main effect of presentation height ( $F(2,93) = 2.591$ ,  $p = .080$ ). More importantly, it also suggests a significant interaction effect between the presentation height and the product category ( $F(2,837) = 9.781$ ,  $p < .001$ ) (see Figure 1).

Figure 1. Interaction Effect between Presentation Height and Product Category



Simple effect tests indicate a significant difference between presentation height conditions, within the chocolate product category ( $F(2,136.32) = 7.689, p = .001$ ), but not within the non-chocolate product category ( $F(2,136.32) = .026, p = .974$ ). Further pairwise comparisons indicate that for the chocolate brands response latencies tended to be longer when the target brand information was presented on a low versus medium height ( $M_{\text{Diff\_Low\_Medium}} = 215.64, SE = 124.029, p = .084$ ), whereas response latencies tended to be shorter when the target brand information was presented on a high versus medium height ( $M_{\text{Diff\_Medium\_High}} = 261.978, SE = 125.886, p = .039$ ). The time to classify non-chocolate bars, however, did not differ when the target brand information was presented on a low versus medium height ( $M_{\text{Diff\_Low\_Medium}} = 21.695, SE = 124.029, p = .861$ ), nor when the information was presented on a high versus medium height ( $M_{\text{Diff\_Medium\_High}} = 4.295, SE = 125.886, p = .973$ ). These findings show that processing brand information presented in the lower versus higher visual field inhibits the retrieval of brands related to the target brand, but does not influence the retrieval of non-related brands from a different product category.

This pattern suggests that lower brand presentations suppress the activation of related brands. The second and third study elaborate on these findings by showing that the effect of the presentation height of target information is not limited to differences in activation, but also instigates a difference in the categorization process. Differences in the construction of narrow versus broad product categories have been shown to play an important role in brand choice, perceived decision difficulty, decision time, satisfaction with the assortment, and consumption quantity (Ülkümen, Chakravarti, and Morwitz, 2010). Consequently, investigating how different processing styles, associated with looking up or down, may influence the consumers' categorization process is of great importance.

### 3. STUDY 2: DEGREE OF PROTOTYPICALITY OF LESS PROTOTYPICAL BRANDS WITHIN A PRODUCT CATEGORY

Broadening the scope of conceptual attention is likely to result in a stronger degree of perceived relatedness among stimuli. In particular, activation of a product category typically spreads to the most similar and most prototypical brands within a product category (Hutchinson, 1983; Gruenewald & Lockhead, 1980; Nedungadi & Hutchinson, 1985). When the conceptual

scope of attention broadens, spreading of activation is expanded. Consequently, the likelihood that less prototypical brands receive activation increases. An increased level of activation of less prototypical brands that results from accessing a category increases the probability that these brands will be classified in the category (Lajos, Katona, Chattopadhyay & Sarvary, 2009). Consequently, atypical brands may be more likely to be judged as belonging to a certain product category. In contrast, narrowing the scope of conceptual attention is likely to prevent activation of relatively inaccessible features shared between fringe exemplars and other category members; reducing the ability to detect similarities between less prototypical and more prototypical exemplars (Mikulincer, Kedem & Paz, 1990). Several studies drawing upon Construal Level Theory have already indicated that the inclusion of fringe examples into categories is more likely when construal-level is broad rather than narrow. Thinking more concretely or abstractly, however, should not affect ratings of typical exemplars (Wakslak, Trope, Liberman & Alony, 2006). Consequently, the main aim of study 2 is to show that looking down or up has an influence on the likelihood that atypical items will be designated as members of a product category. Specifically, study 2 was designed to test whether presenting information in the upper versus lower visual field increases the likelihood that less prototypical brands are accepted as members of a product category

### 3.1 Method

Subjects were the same 93 undergraduate students that participated in Study 1. Subjects were randomly assigned to one of three conditions. As in Study 1, the position on the vertical dimension at which the target information was presented was the manipulated factor in this study. Participants were asked to rate the prototypicality of brands for a product category, by scoring them on a 9-point Likert scale, when the brands were projected on a low, medium or high position on the white wall in front of the participants. Hence, participants were induced to look down, look up or straight ahead when attending to the focal information. Pictures of 15 brands were one by one projected on the positions corresponding with their respective conditions. Prior to projecting the brands, the participants were presented with a standard description of the product category 'candy bars'. They read that candy bars are "a form of confectionery, usually packaged in a bar or log form, often coated with chocolate, and sized as a

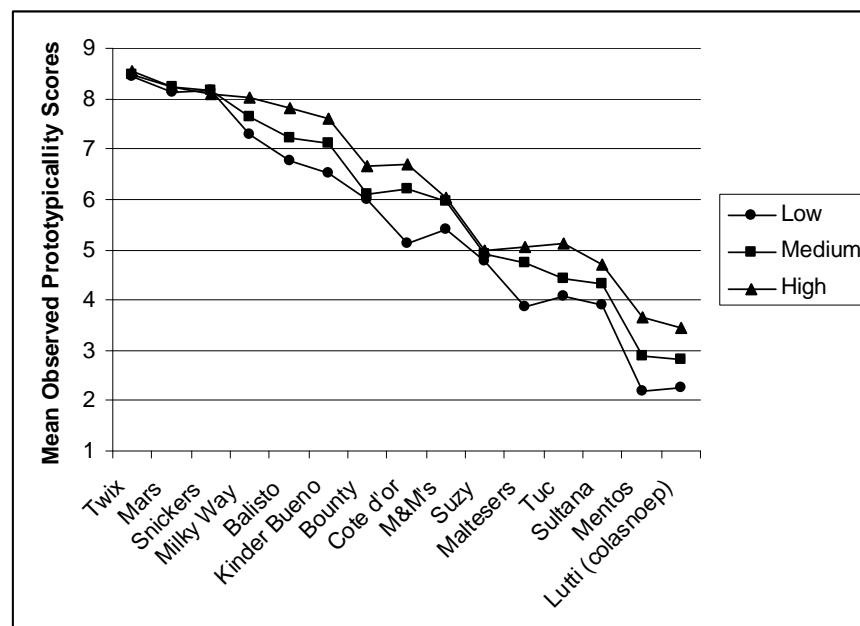


snack for one person. But within this term, a wide variety of products exists.” The presented brands ranged from traditional chocolate candy bars over granola bars, chocolate bars, single-packaged cookies, to other sweets.

### 3.2 Results and Discussion

To investigate whether looking up (down) indeed broadens (narrows) the scope of conceptual attention, which leads to including more (less) atypical brands into a product category, we first investigate the prototypicality scores for each brand. Figure 2 depicts these average scores for each brand, separately for each condition, with the brands rank ordered from the highest to the lowest prototypicality scores. The brands Twix, Mars, Snickers, Milky Way, Balisto, Kinder Bueno and Bounty are perceived as more prototypical of the product category ‘candy bars’ than the brands Cote d’or, M&M’s, Suzy, Maltesers, Tuc, Sultana, Mentos and Lutti. This perception confers with the definition of candy bars as those brands seen as prototypical all comprise the typical elements of a candy bar (i.e., a bar or log form, coated with chocolate, and sized as a snack for one person). Those brands seen as less prototypical fail on at least one criterion.

Figure 2. Mean Observed Prototypicality Scores According to Presentation Height



Looking at Figure 2 clarifies that whereas no differences in the prototypicality scores can be observed for those brands that are seen as highly prototypical, the scores significantly differ across conditions for less prototypical brands. A repeated measures anova, with the brand prototypicality scores as a within-subjects variable, and the presentation height as a between-subjects variable, points to a significant interaction effect ( $F(28) = 1.496$ ,  $p = .032$ ). The results of the pairwise comparisons, comparing the low presentation height to the medium presentation height and the medium to the high presentation height for every brand are presented in Appendix 1. Comparing the mean scores across all brands clarifies that the scores significantly differ between conditions. For less prototypical brands goes that looking up leads to significantly higher scores than looking ahead, whereas looking down leads to significantly lower scores compared to looking ahead. The ratings of highly prototypical brands do not differ according to presentation height. These findings provide additional evidence for the fact that looking down might narrow the conceptual scope of attention while looking up might broaden it.

#### 4. STUDY 3: CATEGORIZATION OF ITEMS

The scope of conceptual attention is also likely to affect how consumers categorize brands, that is in how many different product categories they classify a given set of brands. As the main goal of categorization is to create a categorical structure that maximizes the similarity of objects within each category while simultaneously minimizing the similarity with objects from different categories (Lajos, Katona, Chattopadhyay & Sarvary, 2009), narrower product categories are likely to be construed when the attentional scope is narrow. Fewer features shared between category members are likely to be activated, reducing the ability to detect similarities between brands. Therefore, fewer brands are likely to receive activation when searching for similar brands. Hence, less inclusive categorization is likely to emerge when the conceptual scope of attention is narrowed because working memory access to shared exemplar features is constrained (Isen & Daubman, 1984). In line with this reasoning, prior research has already shown that construing concepts in broader, abstract terms leads to more inclusive categorization processes (Liberman, Sagistrano & Trope, 2002; Wakslak, Trope, Liberman & Alony, 2006).

Hence, study 3 further investigates whether the outcome of the categorization process differs according to the presentation height of the to-be-categorized items in the upper or lower visual

field. Specifically, categorization is expected to be narrower, that is brands are expected to be assigned to more product categories when brands are positioned in the lower rather than upper visual field.

#### 4.1 Method

One hundred and seven undergraduate students at a large European University (32 men, 75 women) participated in the study in exchange for partial course credit. As in the previous studies, the only manipulated variable was the placement of the target stimuli on the vertical dimension. In the present experiment, the presentation height was varied by adjusting the height of the desk on which the computer monitor was placed. Either the computer screen was placed below or above eye-level of the seated participants. The angle from which participants looked up or down was comparable in both conditions. Upon entering the laboratory, participants were seated in an isolated cubicle in front of the computer screen. The screen depicted 20 pictures of items generally found in retail stores and instructed the participants to categorize the items by assigning each item to a category. Twenty empty boxes, each representing a category, were presented on the screen. The participants then assigned items to groups by placing them in a box. The participants were informed they could assign the depicted items to as much categories as they wanted. Hence, they were explicitly instructed to group items together in as many categories as they deemed appropriate.

#### 4.2 Results and Discussion

Merely counting the number of product categories that were construed by the participants points to substantial differences. When looking up, the mean number of categories to which the items were assigned was 5.84, whereas the mean number of categories amounted to 7.24 when participants looked down while performing the task ( $t(105) = 3.530$ ,  $p = .001$ ). This finding confirms that a manipulation as simple as inducing participants to look up or down results in a broader versus narrower categorization process.

## 5. STUDY 4: BRAND CHOICE FROM LOW VERSUS HIGH SHELVES

Brand choices are likely to be influenced by attentional focusing. When attention is narrow-focused during choice, brands are likely to be represented with rich contextual detail – including specific attributes and benefits; affective, cognitive and behavioral responses associated with the brand; and the contexts in which these responses occur. These representations, as opposed to broader, more superficial representations, are more likely to reflect consumers' initial preferences (Kardes, Cronley & Kim, 2006). Consequently, greater preference-behavior consistency should be observed when brands are placed in a lower rather than higher position. Furthermore, lower placed brands should also elicit more intense behavioral responses. Preferences based on a large amount of contextual detail are likely to be held with greater confidence (Gill, Swan & Silvera, 1998). Hence, when conceptual attention is narrow, that is when brands are placed in a lower position, brand choices are likely to be more outspoken, whereas when conceptual attention is broad, brand choices may be spread out more evenly across all choice alternatives. To investigate whether looking up or down affects the degree of preference-decision consistency and the spreading of choices across choice alternatives, all products were either placed on a high or low shelf and participants were instructed to choose a brand from the shelf. Hence, study 4 investigates real choice behavior in a final test of the influence of looking up or down on consumer behavior.

### 5.1 Method

Participants consisted of 115 undergraduate students. Students participated in a 50 minutes experimental session and received seven euro in return for their participation. This experimental session comprised several tasks, of which only the first and the last are of interest to this study. Upon entering the laboratory, participants were seated in isolated cubicles in front of a computer of which the screen was placed at eye-level. In the first task, participants were asked to rank order 5 well-known confectionery brands (i.e., M&M's, Maltesers, Mars, Tic Tac, Smarties) according to their preferences. They were asked to place their most preferred brand at the first and their least preferred brand at the fifth position.

After completing a number of unrelated questionnaires, the participants were asked to complete a final choice task. In this choice task participants were placed in front of three shelves. The middle shelf was at eye-level and always empty. The confectionery treats were placed on the highest shelf and five types of soft drinks were placed on the lowest shelf, or vice versa. Participants were informed that they could choose one of the presented products. To decide from which shelf they were to choose, they had to draw an envelope containing a number. The participants were led to believe that they had an equal chance of drawing number one, two or three. In reality, however, the envelopes always contained the number of the shelf on which the confectionery treats were placed. This was done to cover up the fact that we wanted to investigate the influence of the vertical positioning of brands. Hence, the experimental design comprises two conditions: participants chose a confectionery brand when all confectionery brands were displayed either on the lowest or the highest of three shelves. At the end of the experiment participants were asked to report their length. This was done because a participants' length may restrain the influence of looking up or down. Specifically, large participants may have to look up to a shelf under a different angle than small participants.

The participants' brand choices are used as a dependent variable in two manners. First, this study investigates how choosing from a low or high shelf influences preference-behavior correspondence. Preference-behavior correspondence is defined as the proportion of participants who selects the same brand at the choice stage that they had reported preferring at the preference formation stage. Choice dispersion serves as a second dependent variable. Choice dispersion refers to the variability in brand choices and is found by computing a coefficient of unalikeability. Specifically, the concept of unalikeability focuses on how often observations differ from one another (Kader & Perry, 2007) and reflects the proportion of possible pairings of two observations which are unlike. Specifically, when more responses are alike (in the same category) then the variability in categorical choices is low, whereas when responses are spread out more evenly across choice options variability tends to increase.

## 5.2 Results and Discussion

The proportion of participants who selected the same brand at the choice stage that they had reported preferring initially is (marginally) significantly influenced by the placement of the

brands at a high or low shelf. Preference-behavior correspondence was greater when participants chose from a product category that was presented on a low (49.2%) rather than a high shelf (33.3%) (Wald  $\chi^2 = 3.24$ ,  $p = .072$ ). The length of the respondents did not confound this result as it was an insignificant covariate (Wald  $\chi^2 = .68$ ,  $p = .409$ ). This finding indicates that processing lower-placed stimuli leads to more consistent behavioral responses.

In addition, participants' brand choices are spread out more evenly across all brands when participants choose from a high, rather than a low shelf, as is shown in Table 2. By computing a coefficient of unalikeability we determine the variability in the choice decisions in both conditions (see Appendix 2 for a more detailed description of this coefficient of unalikeability). The diversity in the preferences for the five brands, or the percentage of unlike choices, does not initially differ between the low (24.67%) and high (24.69%) presentation height conditions ( $z = -.12$ ,  $p = .45$ ). Comparing both proportions of unlike choices in the final choice decisions, however, indicates a larger diversity in the responses of respondents in the high presentation height condition (77.71%) compared to those in the low presentation height condition (67.06%). These proportions of unlike responses are significantly different from each other ( $z = -6.70$ ,  $p < .001$ ).

Table 2. Confectionery Market Shares by Presentation Height

Shelf Height	N	M&M's	Maltesers	Smarties	Mars	Tic Tac
Low	61	47.5%	27.9%	9.8%	6.6%	8.2%
High	54	31.5%	22.2%	18.5%	16.7%	11.1%
Total	115	40.0%	25.2%	13.9%	11.3%	9.6%

## 6. GENERAL DISCUSSION

This article identified differences in consumer responses to low versus high placed brands. Four studies show that attending to brands while looking down prompts consumers to process these brands in a more narrow sense. A narrower scope of conceptual attention leads to a more in-depth focus on the target brand, which results in inhibition in the retrieval of competing

brands (Study 1). Furthermore, the narrower conceptualization of lower placed brands affects consumers' categorization process. They judge brands as being less prototypical of a product category (Study 2) and assign brands to more different, less inclusive product categories (Study 3). As a narrower conceptualization facilitates preference activation (Kardes, Cronley & Kim, 2006), looking down versus up also has consequences for brand choices. Specifically, a final study shows that choosing from products placed on a lower shelf differs from choosing from products placed on a higher shelf. Preference-behavior correspondence is higher when looking down during brand choice. Choices are also less equally dispersed across choice options when participants choose a brand from a low compared to a high shelf.

While prior research addressing vertical position effects largely focused on differential levels of attention paid to objects in different vertical positions (Goodrich, 2010), these results highlight the importance of conceptual construal and the scope of conceptual processing in addressing vertical position effects. Specifically, prior research departs from the premise that people have a natural tendency to look down. They are likely to devote greater attention to stimuli in the lower visual field than in the upper visual field. In line with this proposition, Goodrich (2010) examined the effect of on-line ad location and demonstrated that lower page placement significantly increased ad attention. However, increased attention alone often is not sufficient to affect consumers' choices (Chandon, Hutchinson, Bradlow & Young, 2009). Therefore the reported results are important because processing stimuli in a more narrow or broad sense is likely to alter brand choices.

The reported results also highlight the importance of the conceptual scope of attention for understanding the extent of activation and inhibition processes. This article focuses on investigating the conceptual scope of attention, a concept which has been largely ignored by consumer behavior researchers as a vital element in studies relying on spreading on activation as a theoretical framework. Given that a large body of consumer behavior research relies on accessibility theory and spreading of activation from one concept to another to account for numerous findings, the reported results are important and the conceptual scope of attention should be accounted for in future research. For instance, two of these well-researched findings relating to brand accessibility are the indirect priming effect (Nedungadi, 1990) and part-category inhibition (Alba & Chattopadhyay, 1985). The indirect priming effect refers to the increased likelihood of retrieving a competing brand from the same subcategory as the primed

brand. When priming a brand name, not only the brand name becomes more accessible, but activation spreads to the subcategory node and activates the major brands within this subcategory (Nedungadi, 1990). Part-category cuing inhibition, on the other hand, describes how presenting a subset of brands may result in inhibited recall of the remaining brands (Alba & Chattopadhyay, 1985). We propose that a broader conceptual scope, evoked by inducing people to look up rather than down, may reinforce the indirect priming effect and attenuate part-category cuing inhibition.

Taken together, the reported studies provide substantial evidence that consumer behavior can differ markedly depending on whether attention is directed up- or downward. These findings are of considerable practical importance. Based on the reported findings, we identified advantages that are associated with lower shelf placement. Brand choices are more in line with brand preferences, and market share of the market leader is likely to be higher, when the brands are presented in low rather than high positions. Other considerations, however, such as the amount of attention devoted to objects dependent on their position on the shelf, and the position-based inferences of consumers when attending low versus high placed brand, should also be taken into account when deciding upon the position of a brand on the shelf.

Our findings regarding the vertical placement of objects may not only be relevant in decisions relating to the position of a brand on the shelf, but may also be important in internet commerce settings. When making on-line purchases, consumers are seated in front of a computer screen. As our studies have shown the height at which a computer monitor is placed may have an influence on consumers' conceptual scope of attention, purchase decisions may differ according to the height of consumers' computer screen. In addition, our results also suggest difference in the effectiveness of in-store ads attached to the store ceiling, versus floorboards that are attached to the store floor. Building on the current findings, floor-level advertising might be more effective as the activation of the advertised brand may lead to the inhibition of competing brands.

Further, our findings may also have practical implications for researchers. At some stages of our work a broader scope of attention might be more appropriate than a narrow scope of attention. For instance, when brainstorming about a novel project researchers may benefit from adopting a broader scope of attention, while a narrow scope may be more appropriate when proofreading a paper prior to submission. Hence, researchers are advised to lean back in their chairs and look up when contemplating on new research ideas. They might lower their computer screen to look down on their work when revising it prior to submission.



## 8. REFERENCES

- Alba, Joseph W. and Amitava Chattopadhyay (1985), "Effects of Context and Part-Category Cues on Recall of Competing Brands," *Journal of Marketing Research*, 22, 340-49.
- Anderson, Michael C. (2003), "Rethinking Interference Theory: Executive Control and the Mechanisms of Forgetting," *Journal of Memory and Language*, 49 (4), 415-45.
- and James H. Neely (1996), "Interference and Inhibition in Memory Retrieval," in *Memory*, ed. Elizabeth L. Bjork and Robert A. Bjork, San Diego: Academic Press, 237-313.
- and Barbara A. Spellman (1995), "On the Status of Inhibitory Mechanisms in Cognition: Memory Retrieval as a Model Case," *Psychological Review*, 102 (1), 68-100.
- Beilock, Sian L. and Lauren E. Holt (2007), "Embodied Preference Judgments: Can Likeability Be Driven by the Motor System?" *Psychological Science*, 18 (1), 51-7.
- Cacioppo, John T., Joseph R. Priester and Gary G. Bernston (1993), "Rudimentary Determinants of Attitudes II: Arm Flexion and Extension have Differential Effects on Attitudes," *Journal of Personality and Social Psychology*, 65, 5-17.
- Chandler, Jesse and Norbert Schwarz (2009), "How Extending Your Middle Finger Affects Your Perception of Others: Learned Movements Influence Concept Accessibility," *Journal of Experimental Social Psychology*, 45 (1), 123-28.
- Chandon, Pierre, Wesley J. Hutchinson, Eric T. Bradlow and Scott H. Young (2009), "Does In-Store Marketing Work? Effects of the Number and Position of Shelf Facings on Brand Attention and Evaluation at the Point of Purchase," *Journal of Marketing*, 73 (6), 1-17.
- Förster, J. (2009), "Relations Between Perceptual and Conceptual Scope: How Global Versus Local Processing Fits a Focus on Similarity Versus Dissimilarity," *Journal of Experiment Psychology: General*, 138 (1), 88-111.
- , Ronald S. Friedman, Amina Özelsel and Markus Denzler, "Enactmen of Approach and Avoidance Behavior Influences the Scope of Perceptual and Conceptual Attention," *Journal of Experimental Social Psychology*, 42 (2), 133-46.
- , Nira Liberman and Stefanie Kuschel (2008), "The Effect of Global Versus Local Processing Styles on Assimilation Versus Contrast in Social Judgment," *Journal of Personality and Social Psychology*, 94 (4), 579-99.
- Friedman, Ronald S. and Jens Förster (2000), "The Effects of Approach and Avoidance Motor

- Actions on the Elements of Creative Insight,” *Journal of Personality and Social Psychology*, 79 (4), 477-92.
- and ——— (2002), “The Influence of Approach and Avoidance Motor Action on Creative Cognition,” *Journal of Experimental Social Psychology*, 38 (1), 41-55.
- Gill, Michael J., William B. Swann Jr. and David H. Silvera (1998), “On the Genesis of Confidence,” *Journal of Personality and Social Psychology*, 75, 1101-14.
- Goodrich, Kendall (2010), “What’s Up? Exploring Upper and Lower Visual Field Advertising Effects,” *Journal of Advertising Research*, 50 (1), 91-106.
- Gruenewald, Paul J. and Gregory R. Lockhead (1980), “The Free Recall of Category Examples,” *Journal of Experimental Psychology: Human Learning and Memory*, 6 (3), 225-40
- Higgins, Tory E. (1997), “Beyond Pleasure and Pain,” *American Psychologist*, 52 (12), 1280-1300
- Hutchinson, Wesley J. (1983), “Expertise and the Structure of Free Recall,” *Advances in Consumer Research*, 10, 585-89
- Isen, Alice M. and Kimberly A. Daubman (1984), “The Influence of Affect on Categorization,” *Journal of Personality and Social Psychology*, 47 (6), 1206-17
- Kader, Gary D. and Mike Perry (2007), “Variability for Categorical Variables”, *Journal of Statistics Education*, 15 (2).
- Kardes, Frank R., Maria L. Cronley and John Kim (2006), “Construal-Level Effects on Preference Stability, Preference-Behavior Correspondence, and the Suppression of Competing Brands,” *Journal of Consumer Psychology*, 16 (2), 135-44.
- Labroo, Aparna A. and Jesper H. Nielsen (2010), “Half the Thrill Is in the Chase: Twisted Inferences from Embodied Cognitions and Brand Evaluation,” *Journal of Consumer Research*, 37 (1), 143-58.
- Lajos, Joseph, Zsolt Katona, Amitava Chattopadhyay and Miklos Sarvary (2009), “Category Activation Model: A Spreading Activation Network Model of Subcategory Positioning When Categorization Uncertainty is High,” *Journal of Consumer Research*, 36 (1), 122-136.
- Liberman, Nira and Jens Förster (2009), “The Effect of Psychological Distance on Perceptual Level of Construal,” *Cognitive Science*, 33 (7), 1330-41.
- , Michael D. Sagistrano and Yaacov Trop (2002), “The Effect of Temporal Distance on Level of Mental Construal,” *Journal of Experimental Social Psychology*, 38 (6), 523-34.

- Markman, Arthur B. and C. Miguel Brendl (2005), “Constraining Theories of Embodied Cognition,” *Psychological Science*, 16 (1), 6-10.
- Meyers-Levy, Joan, Rui Zhu and Lan Jiang (2010), “Context Effects from Bodily Sensations: Examining Bodily Sensations Induced by Flooring and the Moderating Role of Product Viewing Distance,” *Journal of Consumer Research*, 37 (1), 1-14.
- Mikulincer, Mario, Peri Kedem and Dov Paz (1990), “Anxiety and Categorization I: The Structure and Boundaries of Mental Categories,” *Personality and Individual Differences*, 11 (8), 815-21.
- Nedungadi, Prakash (1990), “Recall and Consumer Consideration Sets: Influencing Choice Without Altering Brand Evaluations,” *Journal of Consumer Research*, 17, 263-76
- and Wesley J. Hutchinson (1985), “The Prototypicality of Brands: Relationships with Brand Awareness, Preference and Usage,” *Advances in Consumer Research*, 12 (1), 498-503.
- Niedenthal, Paula M., Lawrence W. Barsalou, Piotr Winkielman, Silvia Krauth-Gruber and François Ric (2005), “Embodiment in Attitudes, Social Perception, and Emotion,” *Personality and Social Psychology Review*, 9 (3), 184-211.
- Previc, Fred H. (1990), “Functional Specialization in the Lower and Upper Visual-Fields in Humans: Its Ecological Origins and Neurophysiological Implications,” *Behavioral and Brain Sciences*, 13 (3), 519-541.
- Rowe, G., J. B. Hirsh and A. K. Anderson (2007), “Positive Affect Increases the breadth of Attentional Selection,” *Proceedings of the National Academy of Sciences of the United States of America*, 104 (1), 383-88.
- Schwarz, Norbert (2006), “Feelings, Fit, and Funny Effects: A Situated Cognition Perspective,” *Journal of Marketing Research*, 43 (1), 20-23.
- Trope, Yaacov and Nira Liberman (2003), “Temporal Construal,” *Psychological Review*, 110 (3), 403-21
- and ——— (2010), “Construal-Level Theory of Psychological Distance,” *Psychological Review*, 117 (2), 440-63.
- , ——— and Cheryl Wakslak (2007), “Construal Levels and Psychological Distance: Effects of Representation, Prediction, Evaluation and Behavior,” *Journal of Consumer Psychology*, 17 (2), 83-95.
- Ülkümen, Gülden, Amitav Chakravarti and Vicki G. Morwitz (2010), “Categories Create Mind-

Sets: The Effect of Exposure to Broad Versus Narrow Categorizations on Subsequent, Unrelated Decisions,” *Journal of Marketing Research*, 47 (4), 659-671.

Wakslak, Cheryl J, Yaacov Trope, Nira Liberman and Rotem Alony (2006), “Seeing the Forest when Entry is Unlikely: Probability and the Mental Representation of Events,” *Journal of Experimental Psychology: General*, 135 (4), 641-53.

## 8. APPENDICES

Appendix 1. Pairwise Comparisons of the Three Presentation Height Conditions for Each Brand's Mean Estimated Prototypicality

Brands	Mean		Difference (I-J)	Std. Error	p-Value
	Presentation Height (I)	Presentation Height (J)			
Twix	Low	High	-.094	.173	.589
	Low	Medium	-.028	.176	.873
	Medium	High	-.066	.179	.714
Mars	Low	High	-.105	.201	.604
	Low	Medium	-.120	.205	.559
	Medium	High	.015	.208	.940
Snickers	Low	High	.055	.168	.745
	Low	Medium	-.004	.171	.983
	Medium	High	.058	.173	.737
Milky Way	Low	High	-.713	.257	<b>.007</b>
	Low	Medium	-.318	.262	.227
	Medium	High	-.395	.265	.139
Balisto	Low	High	-1.049	.391	<b>.008</b>
	Low	Medium	-.449	.398	.261
	Medium	High	-.599	.404	.140
Kinder Bueno	Low	High	-1.098	.404	<b>.008</b>
	Low	Medium	-.588	.411	.155
	Medium	High	-.509	.417	.224
Bounty	Low	High	-.645	.286	<b>.027</b>
	Low	Medium	-.103	.291	.723
	Medium	High	-.542	.296	.070
Cote d'Or	Low	High	-1.588	.377	<b>&lt; .001</b>
	Low	Medium	-1.086	.384	<b>.005</b>
	Medium	High	-.503	.390	.200

Brands	Mean		Difference (I-J)	Std. Error	Sig.
	Presentation Height (I)	Presentation Height (J)			
M&M's	Low	High	-.638	.289	<b>.030</b>
	Low	Medium	-.572	.294	.055
	Medium	High	-.067	.298	.823
Suzy	Low	High	-.180	.295	.543
	Low	Medium	-.107	.300	.718
	Medium	High	-.071	.305	.816
Maltesers	Low	High	-1.068	.432	<b>.015</b>
	Low	Medium	-.876	.481	.072
	Medium	High	-.340	.489	.488
Tuc	Low	High	-.801	.351	<b>.025</b>
	Low	Medium	-.353	.440	.424
	Medium	High	-.715	.446	.112
Sultana	Low	High	-.401	.357	.264
	Low	Medium	-.401	.357	.264
	Medium	High	-.399	.363	.274
Mentos	Low	High	-1.463	.427	<b>&lt; .001</b>
	Low	Medium	-.715	.435	.104
	Medium	High	-.749	.441	.093
Lutti	Low	High	-1.209	.333	<b>&lt; .001</b>
	Low	Medium	-.585	.339	.088
	Medium	High	-.624	.344	.073

## Appendix 2. Unalikeability Measure used in Study 4

For the case of a finite number of observations ( $n$ ), a finite number of categories ( $m$ ) and a finite number of objects,  $k_i$ , within Category  $i$ , the coefficient of unalikeability can be expressed as:

$$u_2 = 2 \sum_{i < j} p_i p_j \quad \text{where } p_i = \frac{k_i}{n}.$$

The interpretation of  $u_2$  is that it represents the proportion of possible comparisons (pairings) which are unlike. Consider the following data for which we compute  $u_2$  as an example:

Ten respondents were asked to choose one out of three possible candy bars (bar A, B, or C); two of them choose candy bar A, three choose candy bar B, and five choose candy bar C. Setting out all possible pairings of responses in a table in which table entries are either 1 or 0 to indicate whether the responses are unlike or alike, respectively, results in the following table:

Incidence of Differences for the Outcomes of a Categorical Variable

	A	A	B	B	B	C	C	C	C	C
A	0	0	1	1	1	1	1	1	1	1
A	0	0	1	1	1	1	1	1	1	1
B	1	1	0	0	0	1	1	1	1	1
B	1	1	0	0	0	1	1	1	1	1
B	1	1	0	0	0	1	1	1	1	1
C	1	1	1	1	1	0	0	0	0	0
C	1	1	1	1	1	0	0	0	0	0
C	1	1	1	1	1	0	0	0	0	0
C	1	1	1	1	1	0	0	0	0	0
C	1	1	1	1	1	0	0	0	0	0

The sum of the 1's in this table can be determined by:

$$(2*3 + 2*5) + (3*2 + 3*5) + (5*2 + 5*3) = 2(2*3 + 2*5 + 3*5)$$

Thus:

$$u_2 = 2 \cdot \left( \frac{2}{10} \cdot \frac{3}{10} + \frac{2}{10} \cdot \frac{5}{10} + \frac{3}{10} \cdot \frac{5}{10} \right)$$





## **CHAPTER V: CONCLUSIONS, CONTRIBUTIONS AND FUTURE RESEARCH**

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## CHAPTER V: CONCLUSIONS, CONTRIBUTIONS AND FUTURE RESEARCH

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The main objective of this dissertation is to improve our understanding of the role of knowledge accessibility in consumer behavior by focusing on different determinants of knowledge accessibility and their associated properties. In what follows, we first provide an overview of how the investigated determinants of knowledge accessibility affect different behavioral responses by summarizing the core findings of each chapter. Afterwards, we distil general conclusions across all chapters by providing a reflective view on the implications of our findings for consumer behavior and identifying limitations and opportunities for further research.

### 1. RECAPITULATION OF FINDINGS

Chapter II focused on motivational states as a determinant of knowledge accessibility. Motivation-induced changes in brand accessibilities are shown to contribute to the explanation of the question-behavior effect, a well-researched effect in both consumer behavior and social psychological research. Specifically, the results provide direct evidence for the fact that responding to an intention question activates an intention which instigates a specific pattern of increased activation and inhibition among the evaluated brands. Study 1 demonstrates that responding to an intention question increases the activation of the most preferred brand, while it decreases the activation of the second most preferred brand. After intention completion the most preferred brand is temporarily inhibited. Study 3 provides further support for the notion that merely responding to an intention question may activate this intention, which instigates behavior aligned with this motivation. Consistent with a motivational account, the occurrence of a question-behavior effect persists as the time interval between the intention question and the initial brand choice increases. Study 2 then demonstrates that responding to an intention question not only affects the initial, but also the subsequent brand choice. Specifically, answering an intention question increases the choice for the most preferred on an initial choice instance, but decreases the choice for the most preferred brand in second instance. Showing this specific pattern in the brand choice behavior of consumers that respond to an intention question delivers indirect evidence for a motivational account as an underlying explanation for the question-behavior effect, because previously suggested explanations for the question-behavior effect can

not account for these findings. Overall, these findings contribute to our knowledge on the properties of concept activation that is evoked by a motivational state. We demonstrate the occurrence of alternating states of activation and inhibition that occur after responding to an intention question and performing the intended action.

Chapter III focuses on the consequences of the recent activation of a brand. This chapter reconciles opposing findings reported in prior research by demonstrating that a recent exposure increases the likelihood that a brand is considered irrespective of the level of involvement. The likelihood that this brand is eventually selected, however, only increases when decision involvement is low. Experiment 2 demonstrated that a recent exposure may alter brand choices of low-involved participants via two routes. When the depth of processing when attending the presented brand is superficial, brand choices are likely to be altered by a mere increase in brand accessibility. However, when the presented brand is processed extensively, a change in brand choice behavior is suggested to occur through a change in the attitude toward this brand.

The introduction described four major determinants of knowledge accessibility; that is the strength of a construct's activation as a function of frequency, recency, saliency and motivations, the strength of association between constructs, the availability of retrieval cues and the scope of conceptual attention. Chapter IV elaborates on what we termed a fourth major determinant of knowledge accessibility, namely the conceptual scope of attention. More specifically, in this chapter we focused on the vertical direction of attention as an element that affects the breadth of consumers' conceptual scope of attention. Because people generally look down to process nearby objects and because nearby objects tend to be processed in a narrow sense, people may have become to associate looking down with a narrow processing strategy. Hence, looking down is shown to induce consumers to process target information with a narrow scope of conceptual attention. As not only the strength of association between brand nodes, but also the conceptual scope of attention affects the extent of spreading of activation, we find that looking down affects the accessibility of brands. In addition, we also show that looking down increases the number of categories to which consumers assign retail items, decreases the perceived prototypicality of less prototypical brands and leads to increased preference-decision correspondence.

## 2. THEORETICAL IMPLICATIONS

Chapters II, III and IV investigate the role of knowledge accessibility in consumer behavior by assessing how it influences a diverse set of outcome variables. First, in line with prior research the activation of constructs has been assessed by response latency tasks (cf., Chapter II and Chapter IV) as they are seen as a critical measure demonstrating increased or decreased accessibility (Jewell & Unnava, 2003). More importantly, the reported studies also show the influence of knowledge accessibility on judgments such as attitude toward the brand (cf., Chapter III), and on consideration set composition (cf., Chapter III), memory-based brand choices (in which participants are asked to select a choice option using an open-ended question; cf., Chapter III), stimulus-based brand choices (in which participants chose from a comprehensive list of all options; cfr., Chapter II, IV), and multiple (sequential) brand choices (cf., Chapter II). Across all chapters we establish that knowledge accessibility can play a major role in multiple behavioral responses.

Further, different chapters also advance our understanding of the properties of knowledge activation. As lined up in the introduction, knowledge activation can be instigated by different determinants. Knowledge accessibility is likely to be characterized by different properties dependent on the determinant that evoked the accessibility, which has implications for its influence on consumer behavior. Hence, knowledge accessibility may operate differently dependent on its origin.

In Chapter II, we provide support for our thesis that merely answering an intention question activates an intention which brings the consumers in a motivational state. The enduringness of accessibility governed by motivational states tends to deploy a distinct pattern. Specifically, rather than showing a decay in accessibility over time, motivation-induced accessibility is shown to persist up until the completion of the target behavior. Hence, other than accessibility resulting from a recent activation, we show that changes in brand activation that result from responding to an intention question persist for as long as the intention is active. Hence, the reported findings are in line with prior findings on the persistence of motivation-induced accessibility (Goschke and Kuhl 1993; Bargh, et al., 2001). In addition, accounting for the enduringness of knowledge activation is important as it determines its role in consumer behavior over time. Specifically, the activation of a concept through a recent semantic prime is likely to have implications for

immediate subsequent consumer behavior only. When the time lag between the priming of a concept and the target behavior one wants to alter is extended, priming is less likely to be effective (Higgins, Bargh & Lombardi, 1985). The influence of concepts related to an activated motivation, however, are likely to experience increased activation over a longer period of time (i.e., up until the motivation is completed), which holds that their influence on consumer behavior may last longer.

Another property of knowledge accessibility, which has not been addressed in prior consumer behavior research, is the fact that the spreading of activation may be situation-specific. Chapter IV elaborates on the concept of spreading of activation and demonstrates that this spreading of activation is not solely dependent on the strength of the association between concepts but also situation-specific. Specifically, we demonstrate that merely looking down tends to narrow the scope of conceptual attention, while looking up tends to be associated with a broad scope of conceptual attention. By the identification of the vertical direction of visual attention as an efficient manipulation of the conceptual scope of attention, we identified an important moderator of spreading of activation. As a lot of consumer behavior research uses knowledge accessibility, and spreading of activation and inhibition as a theoretical account, the findings reported in Chapter IV may lead us to nuance a lot of prior reported findings. For instance, prior reported findings on indirect priming of brands can be reinforced or confined by having consumers look up or down during priming. Hence, Chapter IV emphasizes that the role of knowledge accessibility in consumer behavior may depend on the scope of conceptual attention.

Rather than focusing on the properties of knowledge accessibility, Chapter III focuses on the fact that the influence of a recent activation tends to differ according to the manner in which the brand prime was attended. Specifically, both a lower and a deeper level of processing of the primed brand can alter the choice decisions of low involved consumers, albeit via different attitudinal mechanisms. While merely superficially attending the focal brand alters choice decisions without changing the actual attitudes consumers hold, profound processing of the focal brand is more likely to exert its influence on decision making by improving the preferences for the focal brand. In addition, this Chapter also focuses on the conditions in which increased knowledge activation alters subsequent memory-based brand choices. Hence, it identifies factors

that affect the extent of the influence of knowledge activation on brand choices and shows that knowledge accessibility is more likely to affect brand choices when decision involvement is low.

### 3. PRACTICAL IMPLICATIONS

In general, the findings reported in the Chapters II, III and IV include valuable suggestions for practitioners. Chapter III reports on consumer behavior outcomes in response to recent exposures to stimuli. These findings are especially useful to be applied in in-store communications. Specifically, in-store communication may have a pervasive effect on consumers' choices, merely by increasing a target brand's accessibility. Just by being present in the retail environment a brand name may become more accessible, which is likely to have an effect on brand choices when consumers are low involved with choosing from the product category. Furthermore, when the communication attempt succeeds in instigating a deeper level of processing, the attitude toward the brand may improve. A change in the attitude toward the brand is likely to be a more enduring change, compared to a more temporal increase in a brand's accessibility. Consequently, this brand attitude is likely to guide not only the immediate choice decision, but also the choice on a subsequent instance may be in favor of the advertised brand.

Our findings also suggest that marketers could adapt the vertical positioning of in-store advertising in order to increase advertising effectiveness. Specifically, by using floor-level advertising rather than using advertisements that are attached to the ceiling, the ad may only increase the accessibility of the advertised brand rather than simultaneously increasing the accessibility of competing brands. By this targeted increase in brand accessibility, the ad is likely to boost the choice for the advertised brand rather than creating an increase in product category purchases spread across all available brands.

Chapter II on the other hand describes what happens with intention-related cognitions in terms of accessibility whenever an intention is activated and shows that the changes in accessibility have implications for brand choices. The most interesting property of these changes in accessibility for practitioners is that they are likely to be persistent. Therefore, practitioners could profit from consumers forming an intention to purchase their brand prior to store entrance. Prior research has shown that inducing consumers to make a behavioral prediction can occur through mass media communications (Spangenberg, Sprott, Grohmann & Smith, 2003). Hence,

advertising can have a larger effect on sales by merely including an intention question in the advertisement.

Furthermore, not only the finding that the intention-related option becomes more accessible, but also the finding that distracting choice options are inhibited after responding to an intention question may have implications for brand choices. Specifically, when the brand a consumer intends to choose is out-of-stock, consumers may choose a less preferred brand if they have previously answered an intention question, due to the inhibition of their well-preferred, distracting brands. Therefore, it may be important for manufacturers to ensure well-preferred brands appear on the retail floor to override this inhibition.

#### 4. LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

In spite of the above contributions, future research is needed to deal with the limitations of our studies and to further our understanding on the role of knowledge accessibility in consumer behavior. Below, we will focus on the most important and general limitations and provide suggestions for future research.

Despite the pervasive role played by knowledge accessibility in consumer judgments and decision making, in real-life situations consumer behavior is often the end-product of the interplay of multiple factors. Hence, in almost every situation, all sorts of factors may be present that offset the reported findings. For instance, although motivation-induced changes in brand accessibilities are thought of as very powerful guides of consumer behavior, several elements may offset their impact. Focusing on the influence of motivational states, the question on how multiple higher-level goals and lower-level intentions interact in their guidance of behavior has not yet received a clear answer. Will merely responding to an intention question also result in a change in subsequent behavior when the questioned behavior is clearly in opposition with an active goal? Or, when an intention is tied to an activated goal, will only the intended behavior or also other behaviors in line with the activated goal lead to goal satiation? Although responding to an intention question may be a powerful guide of subsequent consumer behavior, intentions and their associated pattern of changes in accessibilities are not likely to operate in isolation; their impact may be offset or reinforced by other, higher-level motivations. Furthermore, the extent of the influence of motivation-induced brand accessibilities may depend on how it was acquired.



Chapter II investigated changes in brand accessibilities in response to answering an intention question. Changes in brand activation might be even more extreme when the motivational state is self-generated, rather than acquired through a suggestion of another person (Higgins & King, 1981).

The studies reported in Chapter III demonstrate that the impact of recently activated knowledge may be offset when the consumers are highly involved. When consumers are highly involved, they are motivated to consider more information prior to decision making. Further, when processing at encoding is extensive, it is not mere brand accessibility that is likely to alter choice behavior. Rather, choices are altered by a change in attitudes. These findings indicate that consumers rely on knowledge accessibility with varying degrees in shaping their responses in choice situations.

Evidence of spreading-activation effects is omnipresent in the cognitive literature (e.g., Anderson & Pirolli, 1984; Collins & Loftus, 1975; Loftus, 1973) and illustrations of its implications are vast in consumer behavior literature (e.g., Berger & Fitzsimons, 2008; Lajos, Katona, Chattopadhyay & Sarvary, 2008; Nedungadi, 1990; Nenycz-Thiel, Sharp, Dawes & Romaniuk, 2010). Chapter IV shows that the influence of spreading of activation may be constrained by merely having participants look down. Hence, the spreading of activation to semantically related brands can be negated by simply presenting relevant information in the lower part of the visual field.

The studies exclusively report on experimental studies, both with fictitious and existing stimuli. Irrespective of the fact that this method was most adequate in formulating an answer to our research questions and hypotheses, a great opportunity for future research lies in the validation of the reported results in field experiments. Also, addressing the proposed practical implications directly in field experiments would advance the practical relevance of this dissertation. For instance, Chapter III presents a case for the importance of brand exposure in decision making. There have been, however, very few examinations of such effects in real-world contexts (Berger & Fitzsimons, 2008). Also, a field test that compares the effectiveness of floor-level to ceiling-level advertising, or a field study investigating whether on-line purchase behavior tends to differ according to the height at which their computer monitor is placed, would be of great value in strengthening the implications of the findings reported in Chapter IV.

Eye-tracking may play an important role in these field studies. Given that visual attention is prerequisite for increasing accessibility, a comparison of floor-level to ceiling-level advertising should incorporate eye-tracking measures to account for differences in the amount of attention. Specifically, when attributing floorboard effectiveness to a reduced conceptual scope of attention, eye-tracking data can be used to control for the amount of attention that is given to advertisements. Controlling for the amount of attention has the advantage that participants are not forced to give attention to experimental manipulations.

Though the reported studies provide a good overview of the breadth of behavioral responses that can be influenced by knowledge accessibility, one shortcoming of this dissertation certainly is the limited amount of attention that has been paid to the role of consciousness in the retrieval of accessible information and the use of this accessible information in judgments and choice decisions. The properties of knowledge accessibility engendered by different determinants served as a starting point for this dissertation, rather than the manner in which accessibility alters consumer behavior. Hence, regarding the results of the reported studies we simply acknowledge that the influence of accessibility may have a more implicit or explicit origin; we, however, do not explicitly account for this in our papers. Hence, we did not make an explicit distinction between measures that are more likely to be influenced by the conscious or unconscious influence of knowledge accessibility. Nevertheless, based on a combination of the reported findings and the findings reported in prior research, we can state that knowledge accessibility has pervasive effects on consumer judgments and behavior. A large diversity of phenomena may directly and indirectly be influenced by the concepts and knowledge that people happen to have accessible in memory at the time they make a judgment or decision (Wyer, 2008).

## 5. REFERENCES

- Anderson, J. R. & Pirolli, P. L. (1984). Spread of activation, *Journal of Experimental Psychology: Learning Memory and Cognition*, 10(4), 791-798.
- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K. & Trötschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals, *Journal of Personality and Social Psychology*, 81(6), 1014-1027.
- Berger, J. & Fitzsimons, G. (2008). Dogs on the street, pumas on your feet: How cues in the environment influence product evaluation and choice, *Journal of Marketing Research*, 45(1), 1-14.
- Collins, A. M. & Loftus, E. F. (1975). Spreading activation theory of semantic processing, *Psychological Review*, 82(6), 407-428.
- Goschke, T. & Kuhl, J. (1993). Representation of intentions: Persisting activation in memory, *Journal of Experimental Psychology: Learning, Memory & Cognition*, 19(5), 1211-1226.
- Higgins, E. T., Bargh, J. A. & Lombardi, W. (1985). Nature of priming effects on categorization. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 11(1), 59-69.
- Higgins, E. T. & King, G. (1981). Accessibility of Social constructs: Information-processing consequences of individual and contextual variability.' In N. Cantor and J. Kihlstrom (Eds.), *Personality, Cognition, and Social Interaction*. Hillsdale, NJ: Erlbaum.
- Jewell, R. D. & Unnava, H. R. (2003). When competitive interference can be beneficial, *Journal of Consumer Research*, 30(2), 2003.
- Lajos, J., Katona, Z., Chattopadhyay, A. & Sarvary, M. (2008). Category activation model: A spreading of activation network model of subcategory positioning when categorization uncertainty is high, *Journal of Consumer Research*, 36(1), 122-136.
- Loftus, E. F. (1973). Activation of semantic memory, *American Journal of Psychology*, 86(2), 331-337.
- Nedungadi, P. (1990). Recall and consumer consideration sets: Influencing choice without altering brand evaluations, *Journal of Consumer Research*, 17(3), 263-276.
- Nenycz-Thiel, M., Sharp, B., Dawes, J. & Romaniuk, J. (2010). Competition for memory retrieval between private label and national brands, *Journal of Business research*, 63(11), 1142-1147.

Wyer, R. S. (2008). The role of knowledge accessibility in cognition and behavior: Implications for consumer information processing. In Haugtvedt, C., Kardes, F. & Herr, P. (Eds.), Handbook of Consumer Psychology (p.31-76), Mahwah, NJ: Erlbaum.